

Questions on notice – TPG Telecom

Answers to questions taken on notice, public hearing 9 December 2025.

1. Copy of Opening Statement of Iñaki Berroeta, CEO and Managing Director TPG Telecom

Answer:

Provided separately.

2. Number called by End-User in Wentworth Falls incident to dispatch ambulance (National Relay Service)

Answer:

National Relay Service number is 1800 555 727.

3. Copy of all notifications sent to impacted customers (including SMS / emails / letters)

Answer:

See **Attachment A** to this letter.

Attachment A contains a sample of the standard communications, in template form, TPG sent to impacted customers from prior to the 3G network shutdown as well as post 3G network shutdown. The particular message sent depended on the customer's circumstances. The templates provided are those sent by Vodafone, which were adapted for each TPG group brand. Email communications to Kogan and Lebara customers commenced in November 2025.

4. Copy of the correspondence between TPG, the regulator and the Department from 2023 raising concerns about devices that could not access 000 after the 3G closure.

Answer:

A copy of the relevant correspondence has been provided by TPG in response to Question 8. See response to Question 8 and Attachment C to this letter.

5. Full list of model types of the 13,000 devices blacklisted on TPG's network

Answer:

See **Attachment B** to this letter.

Attachment B contains a list of the manufacturers and models associated with the 13,492 TACs that TPG has blocked between December 2024 and December 2025. A Type Allocation Code (**TAC**) is a unique number attached to a particular type of device. A model may have a number of TACs associated with it.

If the Committee wishes to also have each TAC listed please let us know and we can provide this.

- 6. For the 10,000 devices requiring software updates and the 8,000 devices that are incapable of being updated, how many of the devices were purchased through the TPG network or its business partners?**

Answer:

Of the 18,735 devices that could not make a E000 VoLTE call as at 8 December 2025, 2,535 were purchased directly from Vodafone, noting that the TPG Telecom Group only sells devices to consumer customers through Vodafone channels.

- 7. For the 10,000 software upgradeable customers and 8,000 hardware incompatible customers who are currently in the process of being blocked, what is TPG going to do?**

Answer:

Software-upgradeable devices

TPG customers (of any member of the TPG Group) who have devices that require a software update are provided with detailed information about how to update their device – see here information available online: [Update on calling emergency services](#)

TPG customers are also informed that they can contact TPG by phone or by visiting a Vodafone store in person to get help in updating their device. This is available to any customer of the TPG Group.

Hardware incompatible devices

TPG customers (of any member of the TPG Group) who have hardware incompatible devices are informed that they can contact TPG (by phone, or by visiting their nearest Vodafone store) to discuss their options, including alternative low-cost or no-cost mobile phones. This information is also available online: [Update on calling emergency services](#). Any impacted TPG customer who contacts TPG is eligible for a low-cost or no-cost mobile phone.

TPG's Financial Hardship Policy (available here: [Applying For Financial Hardship | Vodafone Australia](#)) also includes a section about mobile phones impacted by the 3G network closure or accessing emergency call services. The Policy confirms that a range of financial hardship assistance options are available, including free, low cost, no cost or subsidised handsets.

All customers

When any customer calls a TPG Group call centre, they are reminded (via a voice message when they are on hold) of the importance of keeping their mobile phone software up to date. An example of this message is set out below.

"Keeping your phone's software up to date is important to help maintain your safety, security, and access to your phone's latest features. Keep a regular eye out for any SMS notifications from us, and the latest software updates. Need help with how? Go to devices dot Vodafone dot com dot au for more info."

8. Copy of all communications between TPG and the 3G Taskforce, Government and the ACMA in relation to Triple Zero issues discussed during TPG's session in the Hearing.

Answer:

See **Attachment C** to this letter.

As the Committee will appreciate, TPG has engaged extensively with the 3G Closure Working Group, Government and the ACMA in relation to the ability of devices to make E000 VoLTE calls following shutdown of the 3G networks in Australia.

The material provided by TPG at Attachment C includes the key formal correspondence which is responsive to Question 8. In so doing, we have not, for example, produced: (i) the 3G Working Group minutes or the emails attaching them; (ii) correspondence in which individual members of the 3G Working Group engage in preliminary discourse about action items that are later resolved in other documentation; or (iii) communications between the Department and TPG in relation to specific customer complaints or particular devices.

TPG has identified at least one attachment to the key formal correspondence contained at Attachment C which has not been provided to the Committee. This attachment has not been produced to the Committee as it is an excel which is voluminous, predominantly contains technical data and is difficult to read following the necessary rendering process.

In relation to correspondence between TPG and the ACMA, TPG notes the ACMA's concern raised in response to the Committee's request to produce information received from Optus in response to s521 notices dated 14 November 2025. On this basis, TPG has not disclosed its engagement with the ACMA in relation to the ACMA's ongoing investigations.

In addition, the material provided by TPG at Attachment C includes limited redactions to personal information (ie, email addresses, telephone numbers, etc.) and confidential information relating to correspondence with third parties that are not captured within the scope of Question 8.

Please let us know if the Committee requires any further information.

9. Of the 18,000 devices of customers that currently cannot call 000, how many of these customers are on plans (paid monthly) versus prepaid?

Answer:

Of the 18,735 devices of customers that could not call 000 as at 8 December 2025:

- 4,662 devices were post paid;
- 14,073 devices were prepaid (noting that 1,070 of these prepaid devices are not customers of TPG but rather customers of MVNOs that operate on the TPG network).

Attachment A: Question 3

Attachment B: Question 5

Attachment C: Questions 4 and 8

1 Customers with devices requiring a software update

Content of Communication
Example Template Communications between October 2024 – November 2024
<p><u>SMS to customers with Samsung and Huawei devices:</u></p> <p>Hi <firstname>, our 3G network has now been shut down. We have identified that the handset you are using, while still able to make standard calls on a 4G/5G network, needs to be updated to the latest software to keep making emergency 000 calls in 4G. For safety reasons, please urgently update your device software to ensure you can continue making emergency 000 calls. Need help with the update? Visit devices.vodafone.com.au, select your device and click on “Basic use”. Alternatively, call us on 1555 or visit your local Vodafone store: <Vodafone.com.au/stores>. Thanks, Vodafone.</p>
<p><u>SMS to customers with Apple devices:</u></p> <p>Hi <firstname>, our 3G network has now been shut down. We have identified that the handset you are using, while still able to make standard calls on a 4G/5G network, needs to be updated to the latest software to keep making emergency 000 calls in 4G. For safety reasons, please urgently update your device software to ensure you can continue making emergency 000 calls. Once the software update is done, check that VoLTE (4G calling) is ON in your device settings under “Mobile Data” and then “Mobile Data options”. Need help with the update? Visit devices.vodafone.com.au, select your device and click on “Basic use”. Alternatively, call us on 1555 or visit your local Vodafone store: <Vodafone.com.au/stores>. Thanks, Vodafone.</p>
Example Template Communications between November 2024 – September 2025
<p><u>SMS to customers with Samsung and Huawei devices:</u></p> <p>[First Name], 3G networks have shut down in Australia and your device is still identified as unable to make emergency 000 calls. It is urgent you update your device software to keep making emergency 000 calls and using your handset. New regulations require devices not compatible with emergency calling on 4G networks to be blocked from using voice, SMS and data services. Update your software now to make emergency 000 calls. Need help with the update? Visit devices.vodafone.com.au, select your device and click on Basic use". Alternatively, call us on 1555 or visit your local Vodafone store: Vodafone.com.au/stores. Thanks, Vodafone.</p>
<p><u>SMS to customers with Apple devices:</u></p> <p>[First Name], 3G networks have shut down in Australia and your device is still identified as unable to make emergency 000 calls. It is urgent you update your device software to keep making emergency 000 calls and using your handset. New regulations require devices not compatible with emergency calling on 4G networks to be blocked from using voice, SMS and data services. Update your software now to make emergency 000 calls. Once the software update is done, check that VoLTE (4G calling) is ON in your device settings under “Mobile Data options”. Need help with the update? Visit devices.vodafone.com.au, select your device and click on Basic use". Alternatively, call us on 1555 or visit your local Vodafone store: Vodafone.com.au/stores. Thanks, Vodafone.</p>
Example Template Communications from September 2025 to present

SMS to customers requiring software update:

Hi <firstname> - Urgent, act today - Your device will be blocked from <barring date> if you do not update your device to the latest software, as it is identified as currently being unable to make emergency 000 calls. Please urgently update your software in your device settings so that emergency 000 calls can be enabled to avoid the device being blocked. The block until removed will stop all data, calls and texts to and from your device.

If your device is already blocked - you must update the software (and have VoLTE (4G Calling) turned ON in your device settings) then complete the form at www.vodafone.com.au/unblock or click link here using WiFi. It may take 24-48 hours to remove the block.

Need help? Visit a Vodafone store in person or give us a call on 1555 (if blocked you can use WiFi calling or a different phone). If you are unable to locate the software update in your device settings, visit devices.vodafone.com.au > device > basic use for instructions.

Thanks, Vodafone

Email to customers with devices requiring software update:

Subject line: Urgent, your device will be blocked from <barring date>.

Preheader: Update your device software to enable emergency 000 calls

Hi <firstname>,

Urgent, act today - Your device will be blocked from <barring date> if you do not update your device to the latest software, as it is identified as currently being unable to make emergency 000 calls. Please urgently update your software in your device settings so that emergency 000 calls can be enabled to avoid the device being blocked. The block until removed will stop all data, calls and texts to and from your device.

If your device is already blocked - you must update the software (and have VoLTE (4G Calling) turned ON in your device settings) then complete the form at www.vodafone.com.au/unblock or click link here using WiFi. It may take 24-48 hours to remove the block.

Need help? Visit a Vodafone store in person or give us a call on 1555 (if blocked you can use WiFi calling or a different phone). If you are unable to locate the software update in your device settings, visit devices.vodafone.com.au > device > basic use for instructions.

Note: do NOT make an emergency 000 call to test your device unless you are facing a genuine emergency.

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SMS with first and second reminders to customers requiring software update:

Hi - Urgent, act now - Your device will be blocked by <barring date> if you fail to update to the latest software, as it is identified as currently being unable to make emergency 000 calls. Please urgently update your software in your device settings to be able to make emergency 000 calls on your handset, and to avoid your device being blocked.

Need help? Visit a Vodafone store in person or give us a call on 1555. If you are unable to locate the software update in your device settings, visit devices.vodafone.com.au > device > basic use for instructions. You may need to update the software multiple times in sequence to get to the latest version.

Thanks, Vodafone

Email with first and second reminders to customers requiring software update:

Subject line: Urgent, act now you are currently unable to make emergency 000 calls

Preheader: Update your device software to enable emergency 000 calls

Hi,

Urgent, act now - Your device will be blocked by <barring date> if you fail to update to the latest software, as it is identified as currently being unable to make emergency 000 calls. Please urgently update your software in your device settings to be able to make emergency 000 calls on your handset, and to avoid your device being blocked.

Need help? Visit a Vodafone store in person or give us a call on 1555 (if blocked you can use Wi-Fi calling or a different phone). If you are unable to locate the software update in your device settings, visit devices.vodafone.com.au > device > basic use for instructions. You may need to update the software multiple times in sequence to get to the latest version.

Customers in financial hardship, vulnerable, or experiencing domestic family violence should contact Vodafone directly to explore solutions or further assistance if they are unable to update their software by <barring date>. Please call CARE on 1555.

Note: do NOT make an emergency 000 call to test your device unless you are facing a genuine emergency.

Vodafone.

SMS with third (ie, final) reminder to customers requiring software update:

Hi, urgent, act today - Your device will be blocked from TOMORROW if you do not update your device to the latest software, as it is identified as currently being unable to make emergency 000 calls. Please urgently update your software in your device settings so that emergency 000 calls can be enabled to avoid the device being blocked. The block until removed will stop all data, calls and texts to and from your device.

If your device is already blocked - you must update the software, then complete the form at www.vodafone.com.au/unblock or click link [here](#) using WiFi. It may take 24-48 hours to remove the block.

Need help? Visit a Vodafone store in person or give us a call on 1555 (if blocked you can use WiFi calling or a different phone). If you are unable to locate the software update in your device settings, visit devices.vodafone.com.au > device > basic use for instructions. You may need to update the software multiple times in sequence to get to the latest version.

Thanks, Vodafone

Email with third (ie, final) reminder to customers requiring software update:

Subject line: Urgent, your device will be blocked from tomorrow

Preheader: Update your device software to enable emergency 000 calls

Hi <firstname>,

Urgent, act today - Your device will be blocked from TOMORROW if you do not update your device to the latest software, as it is identified as currently being unable to make emergency 000 calls. Please urgently update your software in your device settings so that emergency 000 calls can be enabled to avoid the device being blocked. The block until removed will stop all data, calls and texts to and from your device.

If your device is already blocked - you must update the software, then complete the form at www.vodafone.com.au/unblock or click link [here](#) using Wi-Fi. It may take 24-48 hours to remove the block.

Need help? Visit a Vodafone store in person or give us a call on 1555 (if blocked you can use Wi-Fi calling or a different phone). If you are unable to locate the software update in your device settings, visit devices.vodafone.com.au > device > basic use for instructions. You may need to update the software multiple times in sequence to get to the latest version.

Note: do NOT make an emergency 000 call to test your device unless you are facing a genuine emergency.

Vodafone.

SMS to customers requiring software update:

Hi - Urgent, act now - Your device will be blocked by <barring date> if you fail to update to the latest software, as it is identified as currently being unable to make emergency 000 calls. Please urgently update your software in your device settings to be able to make emergency 000 calls on your handset, and to avoid your device being blocked. Need help? Call us on 1300 650 410 or visit your nearest Vodafone store to discuss your options, including information about alternative low cost or no cost mobile phones that can access the emergency call service. Find your nearest store vodafone.com.au/stores

If you are unable to locate the software update in your device settings, visit devices.vodafone.com.au > device > basic use for instructions. You may need to update the software multiple times in sequence to get to the latest version.

Visit <https://www.vodafone.com.au/triple-zero-update> for more info.

Note: Please do NOT make an emergency 000 call to test your device.

Thanks, Vodafone

Email to customers requiring software update:

Subject line: Urgent, act now you are currently unable to make emergency 000 calls

Preheader: Update your device software to enable emergency 000 calls

Hi,

Urgent, act now - Your device will be blocked by <barring date> if you fail to update to the latest software, as it is identified as currently being unable to make emergency 000 calls. Please urgently update your software in your device settings to be able to make emergency 000 calls on your handset, and to avoid your device being blocked.

Phone number of impacted device/s

<MISDN1>

Need help? Call us on 1300 650 410 or visit your nearest Vodafone store to discuss your options, including information about alternative low cost or no cost mobile phones that can access the emergency call service. Find your nearest store here.

If you are unable to locate the software update in your device settings, visit devices.vodafone.com.au > device > basic use for instructions. You may need to update the software multiple times in sequence to get to the latest version.

Customers in financial hardship, vulnerable, or experiencing domestic family violence should contact Vodafone directly to explore solutions or further assistance if they are unable to update their software by <barring date>. Please call CARE on 1555.

Visit <https://www.vodafone.com.au/triple-zero-update> for more info.

Note: Please do NOT make an emergency 000 call to test your device.

Vodafone.

2 Customers with devices requiring replacement

Content of Communication
Example Template Communications between March 2024 – August 2024
<p><u>SMS to customers with 4G/5G devices not compatible with emergency calls:</u></p> <p>Hi <firstname>, as we have previously advised, our 3G network has now been shut down. We have identified that the handset you are using is not compatible with Australian mobile networks and while it can make standard calls on a 4G/5G network, it cannot make emergency 000 calls. For safety reasons, you must urgently change to a compatible device otherwise you will not be able to make emergency 000 calls. See our compatible devices list here: <vodafone.com.au/about/legal/devices>. Need more info? Call us on 1555 or visit your local Vodafone store: <vodafone.com.au/stores>. Thanks, Vodafone.</p>
<p><u>SMS to customers with 3G/4G non-VoLTE devices:</u></p> <p><Firstname>, our 3G network has now shutdown. Your device is not registering as 4G or 5G compatible, which means you cannot make or receive calls on our 4G/5G network. It is not too late to get a compatible device to keep using the Vodafone network. For more information and a list of compatible devices, visit <vodafone.com.au/3Gshut>. Not sure which device to get? Our friendly team can assist you on 1300 650 410 or instore <Vodafone.com.au/stores>. Thanks, Vodafone.</p>
Example Template Communications between August 2024 – October 2024
<p><u>SMS to customers with 4G/5G devices not compatible with emergency calls:</u></p> <p>Hi <firstname> – 3G networks across Australia are due to shut down completely by 1 September. Your current device won't be able to make emergency 000 calls from that date and may also be permanently unable to make any standard calls Australia-wide. For safety reasons, you must urgently change to a compatible device. See our compatible devices list here: <vodafone.com.au/about/legal/devices>. Need more info? Call us on 1555 or visit your local Vodafone store: <vodafone.com.au/stores>. Thanks, Vodafone.</p>
<p><u>SMS to customers with 3G/4G non-VoLTE devices:</u></p> <p>Hi <firstname> - 3G networks across Australia are due to shut down completely by 1 September. Your current device won't be able to make emergency 000 calls from that date and may also be permanently unable to make any standard calls Australia-wide. This is because your current device is not registering as 4G or 5G compatible. For safety reasons, you must urgently change to a compatible device. See our compatible devices list here: <vodafone.com.au/about/legal/devices>. Need more info? Call us on 1555 or visit your local Vodafone store: <vodafone.com.au/stores>. Thanks, Vodafone.</p>
<p><u>SMS to customers with 4G/5G devices not compatible with emergency calls:</u></p> <p>Hi <firstname> – 3G networks across Australia are due to shut down completely by 28 October 2024. Your current device won't be able to make emergency 000 calls from that date and may also be permanently unable to make any standard calls Australia-wide. For safety reasons, you must</p>

urgently change to a compatible device. See our compatible devices list here: <vodafone.com.au/about/legal/devices>. Need more info? Call us on 1555 or visit your local Vodafone store: <vodafone.com.au/stores>. Thanks, Vodafone.

SMS to customers with 3G/4G non-VoLTE devices:

Hi <firstname> - 3G networks across Australia are due to shut down completely by 28 October 2024. Your current device won't be able to make emergency 000 calls from that date and may also be permanently unable to make any standard calls Australia-wide. This is because your current device is not registering as 4G or 5G compatible. For safety reasons, you must urgently change to a compatible device. See our compatible devices list here: <vodafone.com.au/about/legal/devices>. Need more info? Call us on 1555 or visit your local Vodafone store: <vodafone.com.au/stores>. Thanks, Vodafone.

Example Template Communication on 9 October 2024

SMS to customers sent on 9 October 2024 requiring device change (subsequent final notifications were tailored to the customer):

<firstname>, as mandated by the Australian Government, devices not compatible with emergency calling on 4G networks are to be blocked from using voice, SMS and data services in October 2024. This applies across all mobile providers in Australia.

As previously advised, your device has been identified as not fully 4G compatible. We will start to block incompatible devices later this month. We will send a final notification prior to your device losing service. It is urgent you now change to a compatible device to stay connected. Call us on 1300 650 410 or visit your nearest Vodafone store to discuss your options: <vodafone.com.au/stores>. Vodafone.

Example Template Communications from November 2024 – September 2025

Email:

Subject line: Urgent 3G shutdown notice about your device

Preheader: Change to a compatible device now to avoid service interruption

Hi <first name>,

Since October 2024 new regulations require devices not compatible with emergency calling on 4G networks to be blocked from using voice, SMS and data services. This applies across all mobile providers in Australia.

Your device has been identified as not fully 4G compatible. We are advising that your device will be blocked on our network in the next 28 days. It is urgent you now change to a compatible device to stay connected. You can find a list of compatible devices [here](#).

Call us on 1300 650 410 or visit your nearest Vodafone store to discuss your options. Find your nearest store [here](#).

We understand that this might be an unexpected expense. If you are experiencing financial hardship, please contact us for assistance via this link: <http://www.vodafone.com.au/support/notify/financial-hardship> or on 1300 650 410.

Vodafone
<p><u>SMS:</u></p> <p><firstname>, since October 2024 new regulations require devices not compatible with emergency calling on 4G networks to be blocked from using voice, SMS and data services. This applies across all mobile providers in Australia.</p> <p>Your device has been identified as not fully 4G compatible. We are advising that your device will be blocked on our network in the next 28 days. It is urgent you now change to a compatible device to stay connected. Call us on 1300 650 410 or visit your nearest Vodafone store to discuss your options: <vodafone.com.au/stores>. Vodafone.</p>
Example Template Communications from October 2025 to present
<p><u>SMS with first notification to customers requiring a device change:</u></p> <p>Hi <firstname>, new regulations require devices not configured to access emergency 000 calling to be blocked from using voice, SMS and data services. This applies across all mobile providers in Australia. Given uncertainty on the compliance of this device we recently received from the manufacturer, this device type is no longer permitted to be used on our network. Your device will be blocked on our network in the next 28 days. It is urgent that you now change to a configured approved device to stay connected. Call us on 1300 650 410 or visit your nearest Vodafone store to discuss your options: <vodafone.com.au/stores>.</p> <p>Note: do NOT make an emergency 000 call to test your device unless you are facing a genuine emergency.</p> <p>Vodafone.</p>
<p><u>SMS with second and third reminders to customers with Samsung devices requiring a device change:</u></p> <p>Hi, new regulations require devices not configured to access emergency 000 calling to be blocked from using voice, SMS and data services. This applies across all mobile providers in Australia. Given uncertainty on the compliance of this device we recently received from the manufacturer, this device type is no longer permitted to be used on our network. Your device will be blocked on our network on <barring date>. It is urgent that you now change to a configured approved device to stay connected. Call us on 1300 650 410 or visit your nearest Vodafone store to discuss your options: <vodafone.com.au/stores>. Note: do NOT make an emergency 000 call to test your device unless you are facing a genuine emergency. Vodafone.</p>
<p><u>Email with first notification to customers with Samsung devices requiring a device change:</u></p> <p><u>Subject line:</u> Urgent emergency 000 service notice about your device</p> <p><u>Preheader:</u> Change to a compatible device now to avoid blocking</p> <p>Hi <first name>,</p>

New regulations require devices not configured to access emergency 000 calling to be blocked from using voice, SMS and data services. This applies across all mobile providers in Australia. Given uncertainty on the compliance of this device we recently received from the manufacturer, this device type is no longer permitted to be used on our network. Your device will be blocked on our network in the next 28 days. It is urgent that you now change to a configured approved device to stay connected. You can find a list of compatible approved devices here,

Call us on 1300 650 410, visit our website or your nearest Vodafone store to discuss your options, including information about alternative low cost or no cost mobile phones that can access the emergency call service. Find your nearest store here.

We understand that this might be an unexpected expense. If you are experiencing financial hardship, are vulnerable or disadvantaged, please contact us on 1300 650 410 as additional options and assistance are available. <http://www.vodafone.com.au/support/notify/financial-hardship>.

Note: do NOT make an emergency 000 call to test your device unless you are facing a genuine emergency.

Vodafone.

Email to customers requiring a device change and second and third reminders t:

Subject line: Urgent emergency 000 service notice about your device

Preheader: Change to a compatible device now to avoid blocking

Hi,

New regulations require devices not configured to access emergency 000 calling to be blocked from using voice, SMS and data services. This applies across all mobile providers in Australia. Given uncertainty on the compliance of the device/s below, this device type is no longer permitted to be used on our network.

Impacted device/s

Phone number of impacted device	Impacted device
<MISDN1>	<Marketing_Name>

Your device/s will be blocked on our network on <Barring date>. It is urgent that you now change to a configured approved device to stay connected. You can find a list of compatible approved devices here.

Call us on 1300 650 410, visit our website or your nearest Vodafone store to discuss your options, including information about alternative low cost or no cost mobile phones that can access the emergency call service. Find your nearest store here.

We understand that this might be an unexpected expense. If you are experiencing financial hardship, are vulnerable or disadvantaged, please contact us on 1300 650 410 as additional options and assistance are available. <http://www.vodafone.com.au/support/notify/financial-hardship>.

Note: do NOT make an emergency 000 call to test your device unless you are facing a genuine emergency Vodafone.

SMS to customers requiring a device change:

Hi, regulations require devices not configured to access emergency 000 calling to be blocked from using voice, SMS and data services. This applies across all mobile providers in Australia. We have identified this impacts the device you are currently using. This device type is no longer permitted to be used on our network. Your device will be blocked on our network on <barring date>. It is urgent that you now change to an approved device to stay connected. Need help? Call us on 1300 650 410 or visit your nearest Vodafone store to discuss your options, including information about alternative low cost or no cost mobile phones that can access the emergency call service. Find your nearest store <vodafone.com.au/stores. Visit <https://www.vodafone.com.au/triple-zero-update> for more info. Note: Please do NOT make an emergency 000 call to test your device.

Thanks, Vodafone.

Email to customers requiring a device change:

Subject line: Urgent emergency 000 service notice about your device

Preheader: Change to a compatible device now to avoid blocking

Hi,

Regulations require devices not configured to access emergency 000 calling to be blocked from using voice, SMS and data services. This applies across all mobile providers in Australia. We have identified this impacts the device/s below. This device type is no longer permitted to be used on our network.

Impacted device/s

Phone number of impacted device	Impacted device
<MISDN1>	<Marketing_Name>

Your device/s will be blocked on our network on <barring date>. It is urgent that you now change to an approved device to stay connected. You can find a list of approved devices here.

Need help? Call us on 1300 650 410 or visit your nearest Vodafone store to discuss your options, including information about alternative low cost or no cost mobile phones that can access the emergency call service. Find your nearest store here.

We understand that this might be an unexpected expense. If you are experiencing financial hardship, are vulnerable or disadvantaged, please contact us on 1300 650 410 as additional options and assistance are available. <http://www.vodafone.com.au/support/notify/financial-hardship>.

Visit <https://www.vodafone.com.au/triple-zero-update> for more info.

Note: Please do NOT make an emergency 000 call to test your device

Vodafone.

SMS to customers requiring a device change:

Hi, urgent, act now - Your device will be blocked by <barring date> if you fail to change to an approved device. Regulations require devices not configured to access emergency 000 calling to be blocked from using voice, SMS and data services. This applies across all mobile providers in Australia. We have identified this impacts the device you are currently using. This device type is no longer permitted to be used on our network. Your device will be blocked on our network on <barring date>. It is urgent that you now change to an approved device to stay connected. Need help? Call us on 1300 650 410 or visit your nearest Vodafone store to discuss your options, including information about alternative low cost or no cost mobile phones that can access the emergency call service. Find your nearest store <vodafone.com.au/stores>. Visit <https://www.vodafone.com.au/triple-zero-update> for more info and for a list of approved devices.

Note: Please do NOT make an emergency 000 call to test your device.

Thanks, Vodafone.

Email to customers requiring a device change:

Subject line: Urgent emergency 000 service notice about your device

Preheader: Change to a compatible device now to avoid blocking

Hi,

Urgent, act now - Your device will be blocked by <barring date> if you fail to change to an approved device. Regulations require devices not configured to access emergency 000 calling to be blocked from using voice, SMS and data services. This applies across all mobile providers in Australia.

We have identified this impacts the device/s below. This device type is no longer permitted to be used on our network.

Impacted device/s

Phone number of impacted device	Impacted device
<MISDN1>	<Marketing_Name>

Your device/s will be blocked on our network on <barring date>. It is urgent that you now change to an approved device to stay connected. You can find a list of approved devices here.

Need help? Call us on 1300 650 410 or visit your nearest Vodafone store to discuss your options, including information about alternative low cost or no cost mobile phones that can access the emergency call service. Find your nearest store here.

We understand that this might be an unexpected expense. If you are experiencing financial hardship, are vulnerable or disadvantaged, please contact us on 1300 650 410 as additional options and assistance are available. <http://www.vodafone.com.au/support/notify/financial-hardship>.

Visit <https://www.vodafone.com.au/triple-zero-update> for more info and for a list of approved devices.

Note: Please do NOT make an emergency 000 call to test your device.

Vodafone.

Manufacturer	Model_Name	Marketing_Name	Tac_Count
Apple Inc	iPhone 5 (A1429)	Apple iPhone 5 (A1429)	74
Xiaomi Communications Co Ltd	M2006C3LG	Redmi 9A	51
Apple Inc	iPhone 5S (A1457)	Apple iPhone 5S (A1457)	48
Apple Inc	iPhone 4S (A1387)	Apple iPhone 4S (A1387)	41
Apple Inc	A1533	Apple iPhone 5S (A1533)	38
Apple Inc	iPhone 4 (A1332)	iPhone 4 (A1332)	35
Apple Inc	iPhone 5S (A1530)	Apple iPhone 5S (A1530)	34
Samsung Korea	SM-A217F/DSN	Galaxy A21s	32
Samsung Korea	SM-G950U	Samsung SM-G950U	31
Vivo Mobile Communication Co Ltd	V1901A	vivo Y3	30
Guangdong Oppo Mobile Telecommunications Corp Ltd	PBAM00	PBAM00	29
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3231	RMX3231	28
HUAWEI Technologies Co Ltd	SEA-AL10	SEA-AL10	28
Apple Inc	iPhone 5S (A1453)	Apple iPhone 5S (A1453)	27
Samsung Korea	SM-G610F/DS	Samsung SM-G610F/DS	27
Samsung Korea	SM-A105F/DS	Galaxy A10	26
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2083	CPH2083	26
Samsung Korea	SM-G935FD	Samsung SM-G935FD	24
Samsung Korea	SM-G532G/DS	Samsung SM-G532G/DS	24
Samsung Korea	SM-A520F/DS	GALAXY A5 SM-A520F/DS	24
Samsung Korea	SM-J415F/DS	Galaxy J4+	24
Samsung Korea	SM-G930F	Galaxy S7 SM-G930F	24
Samsung Korea	SM-A107F/DS	Galaxy A10s	24
Samsung Korea	SM-J400F/DS	Galaxy J4	24
Samsung Korea	SM-A022F/DS	Galaxy A02	23
Samsung Korea	SM-J250F/DS	Galaxy J2	23
Xiaomi Communications Co Ltd	M2006C3LC	Redmi 9A	23
Apple Inc	iPhone 5S (A1533)	Apple iPhone 5S (A1533)	23
Samsung Korea	SM-G935F	GALAXY S7 EDGE SM-G935F	23
Samsung Korea	SM-J701F/DS	Samsung SM-J701F/DS	23
Samsung Korea	SM-J600G/DS	Galaxy J6	22
Samsung Korea	SM-A013G/DS	Galaxy A01 Core	22
HUAWEI Technologies Co Ltd	MHA-AL00	HUAWEI Mate 9	22
Samsung Korea	GT-I9505	Samsung GT-I9505	22
Samsung Korea	SM-A202F/DS	Galaxy A20e	22
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO A57	OPPO A57	22
Samsung Korea	SM-A217F/DS	Galaxy A21s	22
Samsung Korea	SM-J610F/DS	Galaxy J6+	21
Samsung Korea	SM-A730F/DS	GALAXY A8+ SM-A730F/DS	21
Samsung Korea	SM-A105FN/DS	Galaxy A10	21
Guangdong Oppo Mobile Telecommunications Corp Ltd	PBEM00	PBEM00	21
Samsung Korea	SM-A217M/DS	Galaxy A21s	20
Samsung Korea	SM-A107M/DS	Galaxy A10s	20
Samsung Korea	SM-N960U	Galaxy Note 9	20
Apple Inc	A1429	Apple iPhone5(A1429)	20
Samsung Korea	SM-A205F/DS	Galaxy A20	20
Guangdong Oppo Mobile Telecommunications Corp Ltd	A37f	A37f	19
Honor Device Company Limited	KOZ-AL00	KOZ-AL00	19
Vivo Mobile Communication Co Ltd	vivo 1820	vivo Y91i	19
Samsung Korea	SM-G975F	Galaxy S10+	19
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1923	CPH1923	19
Samsung Korea	SM-G900F	Samsung SM-G900F	18
Vivo Mobile Communication Co Ltd	V2310	vivo Y17s	18
Guangdong Oppo Mobile Telecommunications Corp Ltd	A37tw	A37tw	18
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO A83	OPPO A83	18
Samsung Korea	SM-A720F/DS	GALAXY A7 SM-A720F/DS	18
Guangdong Oppo Mobile Telecommunications Corp Ltd	PACM00	PACM00	18
Samsung Korea	SM-A260G/DS	Galaxy A2 Core	18
HUAWEI Technologies Co Ltd	TAS-AN00	HUAWEI Mate 30 5G	18
Samsung Korea	SM-A022M/DS	Galaxy A02	18
Samsung Korea	SM-A102U	Galaxy A10e	18
Huawei Device Company Limited	ALN-AL00	ALN-AL00	18
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO A37m	OPPO A37m	18
Guangdong Oppo Mobile Telecommunications Corp Ltd	PDVM00	PDVM00	18
Xiaomi Communications Co Ltd	M2006C3MG	Redmi 9C	18
HUAWEI Technologies Co Ltd	HLK-AL00	HLK-AL00	18
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2239	CPH2239	18
Guangdong Oppo Mobile Telecommunications Corp Ltd	A1601	A1601	18
Vivo Mobile Communication Co Ltd	vivo X9	vivo vivo X9	17
HUAWEI Technologies Co Ltd	EML-AL00	HUAWEI P20	17
Samsung Korea	SM-G975F/DS	Galaxy S10+	17
INFINIX TECHNOLOGY LIMITED	X6525	SMART 8	17
Samsung Korea	SM-G955U	Samsung SM-G955U	17
Guangdong Oppo Mobile Telecommunications Corp Ltd	PDBM00	PDBM00	17
Guangdong Oppo Mobile Telecommunications Corp Ltd	PCHM10	PCHM10	17
Xiaomi Communications Co Ltd	M1908C3JG	Redmi Note 8	17
Samsung Korea	SM-A405FN/DS	Galaxy A40	16
Samsung Korea	SM-J730G/DS	Samsung SM-J730G/DS	16
Guangdong Oppo Mobile Telecommunications Corp Ltd	PCAM10	PCAM10	16
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1909	CPH1909	16
Samsung Korea	SM-A105M/DS	Galaxy A10	16
HUAWEI Technologies Co Ltd	VCE-AL00	VCE-AL00	16
Samsung Korea	SM-G610F/DD	Samsung SM-G610F/DD	16
Xiaomi Communications Co Ltd	M1804C3CG	Redmi 6A	16
Samsung Korea	SM-G920F	Samsung SM-G920F	16
Xiaomi Communications Co Ltd	M2102J20SG	POCO X3 Pro	16

HUAWEI Technologies Co Ltd	PAR-AL00	PAR-AL00	16
Vivo Mobile Communication Co Ltd	vivo X20A	vivo vivo X20A	16
Samsung Korea	SM-G955FD	Samsung SM-G955FD	16
Samsung Korea	SM-J200G/DD	Samsung SM-J200G/DD	16
Samsung Korea	SM-J415FN/DS	Galaxy J4+	16
Samsung Korea	SM-A750FN/DS	Galaxy A7 2018	16
Samsung Korea	SM-A013M/DS	Galaxy A01 Core	15
HUAWEI Technologies Co Ltd	HUAWEI NXT-AL10	HUAWEI Mate 8	15
HUAWEI Technologies Co Ltd	ANA-AN00	ANA-AN00	15
Samsung Korea	SM-J700F/DD	Samsung SM-J700F/DD	15
Vivo Mobile Communication Co Ltd	vivo 1606	vivo vivo 1606	15
Apple Inc	iPhone 5S (A1530)	Apple iPhone S (A1530)	15
Samsung Korea	SM-J810M/DS	Galaxy J8 2018	15
Xiaomi Communications Co Ltd	M2006C3LI	Redmi 9A	15
Samsung Korea	SM-A530F/DS	Galaxy A8 (2018)	15
Samsung Korea	SM-A307FN/DS	Galaxy A30s	15
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO R9s	OPPO R9s	14
Samsung Korea	SM-A025F/DS	Galaxy A02s	14
Samsung Korea	SM-J400M/DS	2018 Galaxy J4	14
Samsung Korea	SM-J330F/DS	Samsung SM-J330F/DS	14
Samsung Korea	SM-M105M/DS	Galaxy M10	14
HUAWEI Technologies Co Ltd	STK-AL00	STK-AL00	14
Apple Inc	iPhone 5C (A1507)	Apple iPhone 5C (A1507)	14
HUAWEI Technologies Co Ltd	HWI-AL00	HWI-AL00	14
Xiaomi Communications Co Ltd	23106RN0DA	Redmi 13C	14
Samsung Korea	SM-A750GN/DS	Galaxy A7 2018	14
Samsung Korea	SM-A260F/DS	Galaxy A2 Core	14
Xiaomi Communications Co Ltd		2016100 Redmi NOTE4	14
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1701	CPH1701	13
Guangdong Oppo Mobile Telecommunications Corp Ltd	PDYM20	PDYM20	13
Vivo Mobile Communication Co Ltd	V1818A	vivo Y93	13
Samsung Korea	SM-G920I	Samsung SM-G920I	13
Apple Inc	iPhone 5C (A1456)	Apple iPhone 5C (A1456)	13
Samsung Korea	SM-J530F/DS	Samsung SM-J530F/DS	13
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO R11s	OPPO R11s	13
Samsung Korea	SM-N9005	Samsung SM-N9005	13
HUAWEI Technologies Co Ltd	YAL-AL00	YAL-AL00	13
Apple Inc	iPad 2 A1396	iPad 2 A1396	13
Honor Device Company Limited	NTH-AN00	NTH-AN00	13
HUAWEI Technologies Co Ltd	COL-AL10	COL-AL10	13
HUAWEI Technologies Co Ltd	VTR-AL00	HUAWEI P10	13
Apple Inc	iPhone 5 (A1428) A1428s	Apple iPhone 5 (A1428) A1428s	13
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1853	CPH1853	13
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3834	RMX3834	13
Xiaomi Communications Co Ltd	23129RN51X	Redmi A3	13
Xiaomi Communications Co Ltd	MCI3B	Redmi 5A	13
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO R11	OPPO R11	13
HUAWEI Technologies Co Ltd	BKL-AL20	BKL-AL20	13
Samsung Korea	SM-N9600	Galaxy Note 9	13
Xiaomi Communications Co Ltd	M1903C3EG	Redmi 7A	13
Vivo Mobile Communication Co Ltd	vivo 1820	vivo Y91C	13
Samsung Korea	SM-A125F/DS	Galaxy A12	12
Samsung Korea	SM-A505FN/DS	Galaxy A50	12
Samsung Korea	SM-A207M/DS	Galaxy A20s	12
Samsung Korea	SM-G570F/DS	Samsung SM-G570F/DS	12
Xiaomi Communications Co Ltd	M1804C3CE	Redmi 6A	12
HUAWEI Technologies Co Ltd	LIO-AN00	HUAWEI Mate 30 Pro 5G	12
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1801	CPH1801	12
Samsung Korea	SM-A750F/DS	Galaxy A7 2018	12
HUAWEI Technologies Co Ltd	DUB-AL00	DUB-AL00	12
Apple Inc	iPhone 5C (A1532)	Apple iPhone 5C (A1532)	12
Samsung Korea	SM-G925I	Samsung SM-G925I	12
Xiaomi Communications Co Ltd	M1901F7G	Redmi Note7	12
HUAWEI Technologies Co Ltd	JSN-AL00a	JSN-AL00a	12
Vivo Mobile Communication Co Ltd	vivo X21A	vivo vivo X21A	12
Samsung Korea	SM-J730F/DS	Galaxy J7	12
Apple Inc	iPhone 4 (A1332)	Apple iPhone 4 (A1332)	12
HUAWEI Technologies Co Ltd	EVA-AL10	HUAWEI P9	12
Samsung Korea	SM-J610G/DS	Galaxy J6+	12
Samsung Korea	SM-G955FD	GALAXY S8+ SM-G955FD	12
Samsung Korea	SM-A205G/DS	Galaxy A20	12
Samsung Korea	SM-G965U	Galaxy S9+	12
Samsung Korea	SM-M013F/DS	Galaxy M01 Core	12
Samsung Korea	SM-J210F	Samsung SM-J210F	12
Apple Inc	A1532	Apple iPhone 5C (A1532)	12
Samsung Korea	SM-J720F/DS	Galaxy J7 Duo	12
HUAWEI Technologies Co Ltd	ANE-LX1	HUAWEI P20 lite HUAWEI nova 3e	11
Guangdong Oppo Mobile Telecommunications Corp Ltd	PBBM00	PBBM00	11
Tecno Telecom (HK) Limited	BG6	TECNO SPARK Go 2024	11
Samsung Korea	SM-A307GT/DS	Galaxy A30s	11
HUAWEI Technologies Co Ltd	JKM-AL00b	JKM-AL00b	11
Samsung Korea	SM-G532F/DS	Samsung SM-G532F/DS	11
Guangdong Oppo Mobile Telecommunications Corp Ltd	PCAM00	PCAM00	11
Xiaomi Communications Co Ltd	23129RAA4G	Redmi Note 13	11
Samsung Korea	SM-A305F/DS	Galaxy A30	11
Samsung Korea	SM-J415G/DS	Galaxy J4+	11
HUAWEI Technologies Co Ltd	WLZ-AN00	WLZ-AN00	11

Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO A57t	OPPO A57t	11
Xiaomi Communications Co Ltd	M1908C3IG	Redmi 8	11
Samsung Korea	SM-G960F/DS	Galaxy S9	11
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2269	CPH2269	11
Samsung Korea	SM-M205F/DS	Galaxy M20	11
HUAWEI Technologies Co Ltd	ELS-AN00	HUAWEI P40 Pro	11
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2015	CPH2015	11
Xiaomi Communications Co Ltd	23117RA68G	Redmi Note 13 Pro	11
Huawei Device Company Limited	ALN-AL80	ALN-AL80	11
Xiaomi Communications Co Ltd	23124RA7EO	Redmi Note 13	11
Xiaomi Communications Co Ltd	MAE136	Redmi 4X	11
Samsung Korea	SM-A307G/DS	Galaxy A30s	11
Samsung Korea	SM-G9600/DS	Galaxy S9	11
Xiaomi Communications Co Ltd	M1803E1A	MI 8	11
HUAWEI Technologies Co Ltd	MRD-LX1F	HUAWEI Y6 Prime 2019 HUAWEI Y6 2019	10
Vivo Mobile Communication Co Ltd	V1813A	vivo Z3i	10
HUAWEI Technologies Co Ltd	RNE-L21	HUAWEI Mate 10 lite HUAWEI nova 2i	10
Samsung Korea	SM-J600F/DS	Galaxy J6	10
Samsung Korea	SM-A022M	Galaxy A02	10
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO A83t	OPPO A83t	10
Xiaomi Communications Co Ltd	2016101	Redmi NOTE4X	10
Samsung Korea	SM-G900I	Samsung SM-G900I	10
Xiaomi Communications Co Ltd	M1901F7E	Redmi Note7	10
Samsung Korea	SM-N950U	Samsung SM-N950U	10
Xiaomi Communications Co Ltd	M1804C3CI	Redmi 6A	10
HUAWEI Technologies Co Ltd	AMN-LX9	HUAWEI Y5 2019	10
Samsung Korea	SM-J730GM/DS	Samsung SM-J730GM/DS	10
Samsung Korea	SM-A305FN/DS	Galaxy A30	10
Samsung Korea	SM-J600GT/DS	Galaxy J6	10
Guangdong Oppo Mobile Telecommunications Corp Ltd	PADM00	PADM00	10
Samsung Korea	SM-G930V	Samsung SM-G930V	10
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1723	CPH1723	10
Xiaomi Communications Co Ltd	M2006C3MNG	Redmi 9C NFC	10
Samsung Korea	SM-J320FN	Samsung SM-J320FN	10
HUAWEI Technologies Co Ltd	GLK-AL00	nova 5i	10
Samsung Korea	SM-A505GT/DS	Galaxy A50	10
Vivo Mobile Communication Co Ltd	V1934A	vivo Y5s	10
Guangdong Oppo Mobile Telecommunications Corp Ltd	PBBM30	PBBM30	10
Guangdong Oppo Mobile Telecommunications Corp Ltd	PEHM00	PEHM00	10
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1823	CPH1823	10
HUAWEI Technologies Co Ltd	ASK-AL00x	ASK-AL00x	10
Samsung Korea	SM-N950N	Samsung SM-N950N	10
Samsung Korea	SM-G570M/DS	Samsung SM-G570M/DS	9
HUAWEI Technologies Co Ltd	ELE-AL00	HUAWEI P30	9
Samsung Korea	SM-A305GT/DS	Galaxy A30	9
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3890	RMX3890	9
Xiaomi Communications Co Ltd	MAI132	Redmi 4	9
Samsung Korea	SM-G925F	Samsung SM-G925F	9
Samsung Korea	SM-G950FD	Samsung SM-G950FD	9
Samsung Korea	SM-N9208	Samsung SM-N9208	9
Samsung Korea	SM-J600FN/DS	Galaxy J6	9
Xiaomi Communications Co Ltd	M1803E7SG	Redmi Note5	9
HUAWEI Technologies Co Ltd	HUAWEI MLA-AL10	maimang 5	9
Huawei Device Company Limited	DVC-AN20	DVC-AN20	9
HUAWEI Technologies Co Ltd	POT-LX1	HUAWEI P smart 2019	9
Samsung Korea	SM-M105F/DS	Galaxy M10	9
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3760	RMX3760	9
HUAWEI Technologies Co Ltd	STF-AL10	STF-AL10	9
HUAWEI Technologies Co Ltd	ALP-AL00	HUAWEI Mate 10	9
Samsung Electronics America	Samsung Galaxy Mobile (e.g. A3LSCHI535)	Samsung Galaxy Mobile (e.g. A3LSCHI535)	9
Samsung Korea	SM-J700F/DS	Samsung SM-J700F/DS	9
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2185	RMX2185	9
HUAWEI Technologies Co Ltd	SNE-LX1	HUAWEI Mate 20 lite	9
HUAWEI Technologies Co Ltd	MAR-LX1A	HUAWEI P30 lite	9
Apple Inc	A1532	Apple A1532	9
Honor Device Company Limited	LSA-AN00	LSA-AN00	9
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO R9sk	OPPO R9sk	9
Samsung Korea	SM-N960N	Galaxy Note 9	9
Xiaomi Communications Co Ltd	M1908C3KE	Redmi 8A	9
Samsung Korea	SM-J530F	GALAXY J5 Pro SM-J530F	9
Samsung Korea	SM-M022G/DS	Galaxy M02	9
Vivo Mobile Communication Co Ltd	vivo 1610	vivo vivo 1610	9
Samsung Korea	SM-J260G/DS	Galaxy J2 Core	9
Vivo Mobile Communication Co Ltd	vivo 1906	vivo Y11	9
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3710	RMX3710	9
Xiaomi Communications Co Ltd	M1908C3XG	Redmi Note 8T	9
Xiaomi Communications Co Ltd	2016111	Redmi 4A	9
Samsung Korea	SM-M105G/DS	Galaxy M10	8
Samsung Korea	SM-J320F/DS	Samsung SM-J320F/DS	8
Huawei Device Company Limited	ADY-AL00	ADY-AL00	8
Xiaomi Communications Co Ltd	M1804D2SE	MI 6X	8
Samsung Korea	SM-A600G/DS	Galaxy A6	8
Vivo Mobile Communication Co Ltd	V1809A	vivo X23	8
Samsung Korea	SM-J330G/DS	Samsung SM-J330G/DS	8
Samsung Korea	SM-G950FD	Galaxy S8 SM-G950FD	8
Samsung Korea	SM-J330FN	Samsung SM-J330FN	8
Xiaomi Communications Co Ltd	M1804C3DG	Redmi 6	8

Samsung Korea	SM-A805F/DS	R1	8
HUAWEI Technologies Co Ltd	SPN-AL00	SPN-AL00	8
Apple Inc	iPhone 5S (A1528)	Apple iPhone 5S (A1528)	8
Samsung Korea	SM-A600FN/DS	GALAXY A6 SM-A600FN/DS	8
Samsung Korea	GT-I9195	Samsung GT-I9195	8
Xiaomi Communications Co Ltd	M1908C3JE	Redmi Note 8	8
Samsung Korea	SM-A315G/DSL	Galaxy A31	8
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3263	RMX3263	8
Samsung Korea	SM-J415GN/DS	Galaxy J4+	8
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1609	CPH1609	8
Samsung Korea	SM-J810F/DS	Galaxy J8 2018	8
Xiaomi Communications Co Ltd		2016102 Redmi NOTE4	8
Tecno Telecom (HK) Limited	KE5	SPARK 6 Go	8
Samsung Korea	SM-A022G/DS	Galaxy A02	8
HUAWEI Technologies Co Ltd	JEF-AN00	JEF-AN00	8
HUAWEI Technologies Co Ltd	ART-AL00x	ART-AL00x	8
Samsung Korea	SM-J810Y/DS	Galaxy J8 2018	8
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2159	CPH2159	8
Guangdong Oppo Mobile Telecommunications Corp Ltd	PBAT00	PBAT00	8
Samsung Korea	SM-G970F	Galaxy S10e	8
Samsung Korea	SM-G611MT/DS	Galaxy On7 Refresh	8
Samsung Korea	SM-J510FN/DS	Samsung SM-J510FN/DS	8
Huawei Device Company Limited	MED-LX9	HUAWEI Y6p	8
Xiaomi Communications Co Ltd	MEI7S	Redmi Note5 Pro	8
Samsung Korea	SM-A920F/DS	Galaxy A9 2018	8
Xiaomi Communications Co Ltd	MCE16	MI 6	8
Xiaomi Communications Co Ltd	M1901F7S	Redmi Note7 Pro	8
Honor Device Company Limited	CMA-AN00	CMA-AN00	8
Samsung Korea	SM-G970F/DS	Galaxy S10e	8
Samsung Korea	SM-N950F/DS	Samsung Galaxy Note 8	8
Samsung Korea	SM-G610M/DS	Samsung SM-G610M/DS	8
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1819	CPH1819	8
Samsung Korea	SM-A510FD	Samsung SM-A510FD	8
Samsung Korea	SM-M305M/DS	Galaxy M30	8
HUAWEI Technologies Co Ltd	MRD-LX1	HUAWEI Y6 2019	8
HUAWEI Technologies Co Ltd	LDN-L21	HUAWEI Y7 Prime 2018	8
HUAWEI Technologies Co Ltd	BLA-AL00	HUAWEI Mate 10 Pro PORSCHE DESIGN HUAWEI Mate 10	8
Xiaomi Communications Co Ltd		2016030 A12A	8
Samsung Korea	SM-J530G/DS	Samsung SM-J530G/DS	8
Samsung Korea	SM-A205U	Galaxy A20	8
HUAWEI Technologies Co Ltd	FRD-AL10	FRD-AL10	8
Honor Device Company Limited	ANY-AN00	ANY-AN00	8
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2103	RMX2103	8
HUAWEI Technologies Co Ltd	JSN-AL00	JSN-AL00	7
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1969	CPH1969	7
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2113	CPH2113	7
Xiaomi Communications Co Ltd	MEE7S	Redmi Note5	7
Xiaomi Communications Co Ltd	MEE7	Redmi 5 plus	7
HUAWEI Technologies Co Ltd	BLN-AL10	BLN-AL10	7
Samsung Korea	SM-G930FD	Samsung SM-G930FD	7
Guangdong Oppo Mobile Telecommunications Corp Ltd	PECM30	PECM30	7
Honor Device Company Limited	WDY-AN00	WDY-AN00	7
Xiaomi Communications Co Ltd	MDG1	Redmi 5	7
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3830	RMX3830	7
Samsung Korea	SM-G970U	Galaxy S10e	7
Xiaomi Communications Co Ltd	220233L2C	220233L2C	7
Vivo Mobile Communication Co Ltd	V2332	vivo Y03	7
HUAWEI Technologies Co Ltd	LON-AL00	HUAWEI Mate 9 Pro PORSCHE DESIGN HUAWEI Mate 9	7
Xiaomi Communications Co Ltd	M1903C3EI	Redmi 7A	7
Guangdong Oppo Mobile Telecommunications Corp Ltd	PEGM00	PEGM00	7
INFINIX TECHNOLOGY LIMITED	X688B	HOT 10 Play	7
Huawei Device Company Limited	BRA-AL00	BRA-AL00	7
Samsung Korea	SM-A015F/DS	Galaxy A01	7
Vivo Mobile Communication Co Ltd	V2043	vivo Y20 2021	7
Vivo Mobile Communication Co Ltd	vivo 1601	vivo vivo 1601	7
HUAWEI Technologies Co Ltd	PCT-AL10	PCT-AL10	7
Samsung Korea	SM-J810G/DS	Galaxy J8 2018	7
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH 1717	CPH 1717	7
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3690	RMX3690	7
Guangdong Oppo Mobile Telecommunications Corp Ltd	PBCM10	PBCM10	7
Guangdong Oppo Mobile Telecommunications Corp Ltd	PFGM00	PFGM00	7
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO R9s Plus	OPPO R9s Plus	7
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1725	CPH1725	7
HUAWEI Technologies Co Ltd	DUB-LX1	HUAWEI Y7 Prime 2019	7
Honor Device Company Limited	TFY-AN00	TFY-AN00	7
Huawei Device Company Limited	ADA-AL00	ADA-AL00	7
Xiaomi Communications Co Ltd	MEI7	Redmi Note5	7
HUAWEI Technologies Co Ltd	ANE-LX1	HUAWEI P20 lite HUAWEI nova 3e	7
HUAWEI Technologies Co Ltd	JEF-AN20	nova 7 5G	7
HUAWEI Technologies Co Ltd	PRA-LX1	HUAWEI nova lite HUAWEI P8 lite 2017 HUAWEI P9 lite 2017	7
Samsung Korea	SM-C5000	Samsung SM-C5000	7
Guangdong Oppo Mobile Telecommunications Corp Ltd	PEAM00	PEAM00	7
Samsung Korea	SM-J400F	GALAXY J4 SM-J400F	7
Honor Device Company Limited	RMO-AN00	RMO-AN00	7
Vivo Mobile Communication Co Ltd	vivo Y66	vivo vivo Y66	7
Samsung Korea	SM-A217F	Galaxy A21s	7
INFINIX TECHNOLOGY LIMITED	X6833B	NOTE 30	7

Samsung Korea	SM-A310F	GALAXY A3 2016 SM-A310F	7
Samsung Korea	SM-G9350	Samsung SM-G9350	7
Samsung Korea	SM-A305GN/DS	Galaxy A30	7
Huawei Device Company Limited	MGA-AL00	MGA-AL00	7
Samsung Korea	SM-A805F/DS	Galaxy A80	7
Samsung Korea	SM-J260F/DS	GALAXY J2 CORE	7
HUAWEI Technologies Co Ltd	MYA-L22	HUAWEI Y5 2017	7
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX1941	RMX1941	7
Samsung Korea	SM-G960U	Galaxy S9	7
Apple Inc	A1429	Apple iPhone 5 A1429	7
HUAWEI Technologies Co Ltd	HUAWEI VNS-L31	HUAWEI P9 lite	7
Guangdong Oppo Mobile Telecommunications Corp Ltd	PCHM30	PCHM30	7
Xiaomi Communications Co Ltd		2015112 H3A	7
Xiaomi Communications Co Ltd	M1804C3DE	Redmi 6	7
Apple Inc	iPhone 5C (A1529)	Apple iPhone 5C (A1529)	7
HUAWEI Technologies Co Ltd	INE-AL00	HUAWEI nova 3i	7
HUAWEI Technologies Co Ltd	VKY-AL00	HUAWEI P10 Plus	7
HUAWEI Technologies Co Ltd	DUK-AL20	Honor V9	7
Samsung Korea	SM-A910F/DS	Samsung SM-A910F/DS	7
Samsung Korea	SM-A125U	Galaxy A12	7
Vivo Mobile Communication Co Ltd	vivo 1819	vivo V15	7
Xiaomi Communications Co Ltd	M2001G7AE	Redmi K30 5G	7
Samsung Korea	SM-G955N	Samsung SM-G955N	6
Vivo Mobile Communication Co Ltd	vivo X7	vivo vivo X7	6
HUAWEI Technologies Co Ltd	STF-AL00	STF-AL00	6
Samsung Korea	SM-J400M	2018 Galaxy J4	6
HUAWEI Technologies Co Ltd	AQM-AL00	AQM-AL00	6
Motorola Mobility LLC a Lenovo Company	XT2083-1	Guam+20	6
HUAWEI Technologies Co Ltd	DRA-LX9	HUAWEI Y5p	6
Xiaomi Communications Co Ltd	2209116AG	Redmi Note 12 Pro	6
HUAWEI Technologies Co Ltd	MAR-AL00	nova 4e	6
Xiaomi Communications Co Ltd	23053RN02A	Redmi 12	6
Huawei Device Company Limited	ALT-AL10	ALT-AL10	6
HUAWEI Technologies Co Ltd	FIG-LX1	FIG-LX1	6
HUAWEI Technologies Co Ltd	INE-LX2	HUAWEI nova 3i	6
Vivo Mobile Communication Co Ltd	vivo 1811	vivo Y91	6
Samsung Korea	SM-A8050	Galaxy A80	6
Xiaomi Communications Co Ltd	MDE40	MI MAX2	6
Xiaomi Communications Co Ltd	220233L2G	Redmi 10A	6
Samsung Korea	SM-G600FY	Samsung SM-G600FY	6
Samsung Korea	SM-A8050	R1	6
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3151	RMX3151	6
Vivo Mobile Communication Co Ltd	vivo 1814	vivo Y93	6
INFINIX TECHNOLOGY LIMITED	X6831	HOT 30	6
Samsung Korea	SM-A125F/DSN	Galaxy A12	6
Samsung Korea	SM-C7100	Samsung SM-C7100	6
Samsung Korea	SM-G935A	Samsung SM-G935A	6
Vivo Mobile Communication Co Ltd	vivo 1803	vivo Y81	6
Samsung Korea	SM-J710F/DS	Samsung SM-J710F/DS	6
INFINIX TECHNOLOGY LIMITED	X6528	HOT 40i	6
HUAWEI Technologies Co Ltd	LND-AL30	LND-AL30	6
Vivo Mobile Communication Co Ltd	vivo 1714	vivo vivo 1714	6
HUAWEI Technologies Co Ltd	VIE-AL10	HUAWEI P9 Plus	6
HUAWEI Technologies Co Ltd	CDY-AN00	CDY-AN00	6
Xiaomi Communications Co Ltd	23129RA5FL	Redmi Note 13	6
Huawei Device Company Limited	FIN-AL60	FIN-AL60	6
Vivo Mobile Communication Co Ltd	V1838A	vivo X27	6
HUAWEI Technologies Co Ltd	BND-AL10	BND-AL10	6
Xiaomi Communications Co Ltd	M1805D1SG	MI A2 Lite	6
Xiaomi Communications Co Ltd		2015628 A1	6
Vivo Mobile Communication Co Ltd	vivo 1904	vivo Y12	6
Vivo Mobile Communication Co Ltd	vivo 1812	vivo Y81i	6
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2179	CPH2179	6
Samsung Korea	SM-A320FL	Samsung SM-A320FL	6
Samsung Korea	SM-J720M/DS	Galaxy J7 Duo	6
Samsung Korea	SM-N950U	Galaxy NOTE8	6
Vivo Mobile Communication Co Ltd	vivo 1718	vivo vivo 1718	6
HUAWEI Technologies Co Ltd	HRY-AL00a	HRY-AL00a	6
Samsung Korea	SM-M205G/DS	Galaxy M20	6
HUAWEI Technologies Co Ltd	FRD-AL00	FRD-AL00	6
Samsung Korea	SM-A217M	Galaxy A21s	6
Xiaomi Communications Co Ltd	23100RN82L	Redmi 13C	6
Samsung Korea	SM-M305F/DS	Galaxy M30	6
Xiaomi Communications Co Ltd	MAG138	Redmi 4X	6
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1729	CPH1729	6
HUAWEI Technologies Co Ltd	MRD-AL00	MRD-AL00	6
Tecno Telecom (HK) Limited	KI5q	SPARK 10	6
Huawei Device Company Limited	TEL-AN10	TEL-AN10	6
HUAWEI Technologies Co Ltd	LLD-AL00	LLD-AL00	6
Xiaomi Communications Co Ltd	MDE2	MI 5X	6
Guangdong Oppo Mobile Telecommunications Corp Ltd	PDYT20	PDYT20	6
Samsung Korea	SM-J337A	Galaxy J3 Top	6
Samsung Korea	SM-G610Y/DS	Samsung SM-G610Y/DS	6
Guangdong Oppo Mobile Telecommunications Corp Ltd	PAAM00	PAAM00	6
Samsung Korea	SM-A102U1	Galaxy A10e	6
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO R11st	OPPO R11st	6
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2189	RMX2189	6

Samsung Korea	SM-G9550	Samsung SM-G9550	6
Samsung Korea	SM-G610M	Samsung SM-G610M	6
HUAWEI Technologies Co Ltd	COR-AL10	COR-AL10	6
Honor Device Company Limited	GIA-AN00	GIA-AN00	6
HUAWEI Technologies Co Ltd	OXF-AN00	OXF-AN00	6
Guangdong Oppo Mobile Telecommunications Corp Ltd	PACT00	PACT00	6
Xiaomi Communications Co Ltd	23021RAAEG	Redmi Note 12	6
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO R11t	OPPO R11t	6
Lemobile Information Technology (Beijing) Co Ltd	Le X620	Le X620	6
Samsung Korea	SM-C710F/DS	Galaxy J7+	6
Vivo Mobile Communication Co Ltd	V2247	vivo Y36	6
Xiaomi Communications Co Ltd	M1803E6I	Redmi Y2	6
HUAWEI Technologies Co Ltd	CAM-L21	HUAWEI Y6II	6
Samsung Korea	SM-A205FN/DS	Galaxy A20	6
Tecno Telecom (HK) Limited	BG7	TECNO SPARK 20C	6
Apple Inc	A1387	Apple iPhone 4S (A1387)	6
Samsung Korea	SM-N9500	Samsung SM-N9500	6
Samsung Korea	SM-J701F/DS	Galaxy J7 Core SM-J701F/DS	6
HUAWEI Technologies Co Ltd	YAL-AL10	YAL-AL10	6
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2591	CPH2591	6
Guangdong Oppo Mobile Telecommunications Corp Ltd	PFTM20	PFTM20	6
HUAWEI Technologies Co Ltd	ELS-AN00	Pxx Pro	6
Samsung Korea	SM-C9000	Samsung SM-C9000	6
Motorola Mobility LLC a Lenovo Company	XT2073-2	Titan20	6
Samsung Korea	SM-G611F/DS	Galaxy On 7	6
Samsung Korea	SM-M205FN/DS	Galaxy M20	6
Xiaomi Communications Co Ltd	2016050	B6	6
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2180	RMX2180	6
Samsung Korea	SM-C7000	Samsung SM-C7000	6
HUAWEI Technologies Co Ltd	BLN-AL40	BLN-AL40	6
HUAWEI Technologies Co Ltd	LRA-AL00	LRA-AL00	6
Vivo Mobile Communication Co Ltd	V2054A	vivo Y31s	6
HUAWEI Technologies Co Ltd	DRA-LX2	HUAWEI Y5 Prime 2018	6
Samsung Korea	SM-A305G	Galaxy A30	6
Vivo Mobile Communication Co Ltd	V2002A	vivo Y70s	6
HUAWEI Technologies Co Ltd	LDN-AL00	LDN-AL00	6
Guangdong Oppo Mobile Telecommunications Corp Ltd	PDPM00	PDPM00	6
Samsung Korea	SM-J510F/DS	Samsung SM-J510F/DS	6
Vivo Mobile Communication Co Ltd	vivo X9Plus	vivo vivo X9Plus	6
Xiaomi Communications Co Ltd	M1906G7E	Redmi Note 8 Pro	6
Vivo Mobile Communication Co Ltd	V2204	vivo Y16	6
HUAWEI Technologies Co Ltd	DUB-LX1	HUAWEI Y7 2019	6
Samsung Korea	SM-N950F	GALAXY NOTE8 SM-N950F	6
Vivo Mobile Communication Co Ltd	V2026	vivo Y12s	6
Samsung Korea	SM-J610FN/DS	Galaxy J6+	6
HUAWEI Technologies Co Ltd	ANE-LX3	HUAWEI P20 lite	6
Xiaomi Communications Co Ltd	M1810F6LG	Redmi 7	6
HUAWEI Technologies Co Ltd	HRY-AL00Ta	HRY-AL00Ta	6
Samsung Korea	SM-A105G/DS	Galaxy A10	6
Samsung Korea	SM-G965F	GALAXY S9+ SM-G965F	6
Huawei Device Company Limited	FGD-AL00	FGD-AL00	6
Huawei Device Company Limited	MXW-AN00	MXW-AN00	6
Samsung Korea	SM-A207F/DS	Galaxy A20s	6
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO A59s	OPPO A59s	6
Samsung Korea	SM-A105M	Galaxy A10	6
Xiaomi Communications Co Ltd	M2001J11C	M2001J11C	5
HUAWEI Technologies Co Ltd	TAS-AL00	TAS-AL00	5
Guangdong Oppo Mobile Telecommunications Corp Ltd	PDAM10	PDAM10	5
Samsung Korea	SM-J500G/DS	Samsung SM-J500G/DS	5
Vivo Mobile Communication Co Ltd	V1816A	vivo X23	5
Samsung Korea	SM-G960F/DS	Galaxy S9 SM-G960F/DS	5
HUAWEI Technologies Co Ltd	CDY-AN90	CDY-AN90	5
Samsung Korea	SM-A307G	Galaxy A30s	5
Samsung Korea	SM-G9750	Galaxy S10+	5
Samsung Korea	SM-G887N	Galaxy A9 Pro	5
Samsung Korea	GT-I9506	Samsung GT-I9506	5
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1809	CPH1809	5
Samsung Korea	SM-J710FN/DD	Samsung SM-J710FN/DD	5
Motorola Mobility LLC a Lenovo Company	XT2081-1	Guam20	5
Honor Device Company Limited	CLK-AN00	CLK-AN00	5
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO R9m	OPPO R9m	5
Vivo Mobile Communication Co Ltd	V2046A	vivo X60	5
HUAWEI Technologies Co Ltd	BAC-AL00	HUAWEI nova 2 Plus	5
Guangdong Oppo Mobile Telecommunications Corp Ltd	PCRM00	PCRM00	5
Samsung Korea	SM-J410F/DS	Galaxy J4 Core	5
Samsung Korea	SM-A013M	Galaxy A01 Core	5
Vivo Mobile Communication Co Ltd	vivo X9i	vivo vivo X9i	5
Vivo Mobile Communication Co Ltd	V2036A	vivo Y30	5
INFINIX TECHNOLOGY LIMITED	X655C	HOT 9	5
Vivo Mobile Communication Co Ltd	V2333	vivo Y18	5
Samsung Electronics America	A3LSMG900V A3LSMN910V	Galaxy S5 (A3LSMG900V) Note 4 (A3LSMN910V)	5
Xiaomi Communications Co Ltd	22120RN86C	22120RN86C	5
Samsung Korea	SM-G800F	Samsung SM-G800F	5
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1907	CPH1907	5
Samsung Korea	SM-A260F	Galaxy A2 Core	5
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2030	RMX2030	5
Vivo Mobile Communication Co Ltd	vivo Y85A	vivo vivo Y85A	5

HUAWEI Technologies Co Ltd	EVA-AL00	HUAWEI P9	5
HUAWEI Technologies Co Ltd	WAS-AL00	WAS-AL00	5
Guangdong Oppo Mobile Telecommunications Corp Ltd	RMX1805	RMX1805	5
Xiaomi Communications Co Ltd	23028RNCAG	Redmi A2+	5
Samsung Korea	SM-G973F/DS	Galaxy S10	5
HUAWEI Technologies Co Ltd	COL-AL10	Honor 10	5
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3581	RMX3581	5
Samsung Korea	SM-A107M	Galaxy A10s	5
Guangdong Oppo Mobile Telecommunications Corp Ltd	RMX1801	RMX1801	5
Samsung Korea	SM-A305G/DS	Galaxy A30	5
Xiaomi Communications Co Ltd	M1804C3DI	Redmi 6	5
Samsung Korea	SM-A510F	GALAXY A5 2016 SM-A510F	5
Guangdong Oppo Mobile Telecommunications Corp Ltd	PCGM00	PCGM00	5
Itel Technology Limited	A665L	A70	5
Guangdong Oppo Mobile Telecommunications Corp Ltd	PCNM00	PCNM00	5
Samsung Korea	SM-C900F/DS	Samsung SM-C900F/DS	5
Vivo Mobile Communication Co Ltd	vivo 1807	vivo Y95	5
Huawei Device Company Limited	PPA-LX2	HUAWEI Y7a HUAWEI P smart 2021	5
Vivo Mobile Communication Co Ltd	vivo 1818	vivo V15Pro	5
Samsung Korea	SM-G8870	Galaxy A8s	5
WEIKE Device Technology (Shenzhen) Co Ltd	GAR-AN60	Hi Enjoy 60s 5G	5
Samsung Korea	SM-M307FN	Galaxy M30s	5
HUAWEI Technologies Co Ltd	LLD-AL10	Honor 9 Lite	5
Vivo Mobile Communication Co Ltd	vivo 1811	vivo Y93	5
Vivo Mobile Communication Co Ltd	vivo Y75A	vivo vivo Y75A	5
Guangdong Oppo Mobile Telecommunications Corp Ltd	PCEM00	PCEM00	5
Samsung Korea	SM-G960F	Galaxy S9	5
Samsung Korea	SM-G9700	Galaxy S10e	5
Samsung Korea	SM-M215F/DSN	Galaxy M21	5
Vivo Mobile Communication Co Ltd	V1911A	vivo Z5x	5
Samsung Korea	SM-G9650/DS	Galaxy S9+	5
HUAWEI Technologies Co Ltd	ARS-AL00	ARS-AL00	5
Samsung Korea	SM-A300FU	Samsung SM-A300FU	5
Tecno Telecom (HK) Limited	KC8	TECNO SPARK 4	5
INFINIX TECHNOLOGY LIMITED	X657C	SMART 5	5
Guangdong Oppo Mobile Telecommunications Corp Ltd	PCPM00	PCPM00	5
INFINIX TECHNOLOGY LIMITED	X680B	HOT 9 Play	5
Honor Device Company Limited	VNE-AN00	VNE-AN00	5
Vivo Mobile Communication Co Ltd	vivo 1727	vivo vivo 1727	5
Samsung Korea	SM-N920I	Samsung SM-N920I	5
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO A73	OPPO A73	5
Samsung Korea	SM-A710FD	Samsung SM-A710FD	5
HUAWEI Technologies Co Ltd	HMA-AL00	HMA-AL00	5
Samsung Korea	SM-J810F	GALAXY J8 SM-J810F	5
HUAWEI Technologies Co Ltd	ANE-AL00	HUAWEI nova 3e	5
Xiaomi Communications Co Ltd	M2010J19SC	M2010J19SC	5
Huawei Device Company Limited	TEL-AN00a	TEL-AN00a	5
Xiaomi Communications Co Ltd	M1805D1SE	Redmi 6 pro	5
Samsung Korea	SM-N975F/DS	Galaxy Note10+	5
HUAWEI Technologies Co Ltd	DUA-L22	Honor 7S Honor 7A	5
HUAWEI Technologies Co Ltd	WAS-LX1A	HUAWEI P10 lite	5
Huawei Device Company Limited	PPA-AL20	PPA-AL20	5
HUAWEI Technologies Co Ltd	DRA-LX5	HUAWEI Y5 lite	5
Tecno Telecom (HK) Limited	KD7	TECNO SPARK 5 Pro	5
Samsung Korea	SM-J710FN/DS	Samsung SM-J710FN/DS	5
Xiaomi Communications Co Ltd	M1903F11A	Redmi K20 Pro	5
Vivo Mobile Communication Co Ltd	vivo 1724	vivo vivo 1724	5
Huawei Device Company Limited	CTR-AL20	CTR-AL20	5
HUAWEI Technologies Co Ltd	JER-AN20	nova 7 Pro 5G	5
Samsung Korea	SM-J500FN	Samsung SM-J500FN	5
Samsung Korea	SM-A505FM/DS	Galaxy A50	5
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3939	RMX3939	5
Samsung Korea	SM-G615F/DS	Samsung SM-G615F/DS	5
Vivo Mobile Communication Co Ltd	vivo 2015	vivo Y1s	5
Samsung Korea	SM-G973F	Galaxy S10	5
Xiaomi Communications Co Ltd	M2006C3LVG	Redmi 9AT	5
Xiaomi Communications Co Ltd	2310FPCA4G	POCO C65	5
Vivo Mobile Communication Co Ltd	vivo 1716	vivo vivo 1716	5
HUAWEI Technologies Co Ltd	MRD-LX3	HUAWEI Y6 2019	5
Vivo Mobile Communication Co Ltd	vivo 1908	vivo Y90	5
Samsung Korea	SM-G570F/DD	Samsung SM-G570F/DD	5
Samsung Korea	SM-G930A	Samsung SM-G930A	5
INFINIX TECHNOLOGY LIMITED	X693	NOTE 10	5
Huawei Device Company Limited	KKG-AN00	KKG-AN00	5
Xiaomi Communications Co Ltd	23021RAA2Y	Redmi Note 12	5
Samsung Korea	SM-A505G/DS	Galaxy A50	5
Honor Device Company Limited	FNE-AN00	FNE-AN00	5
HUAWEI Technologies Co Ltd	LIO-AN00m	LIO-AN00m	5
HUAWEI Technologies Co Ltd	HUAWEI TAG-AL00	HUAWEI TAG-AL00	5
Xiaomi Communications Co Ltd	M1902F1A	Mi 9	5
Motorola Mobility LLC a Lenovo Company	XT2041-1	Sofia	5
Samsung Korea	SM-A750G/DS	Galaxy A7 2018	5
Samsung Korea	SM-A015M/DS	Galaxy A01	5
Samsung Korea	SM-A013F/DS	Galaxy A01 Core	5
Huawei Device Company Limited	HBN-AL00	HBN-AL00	5
Samsung Korea	SM-G900A	Samsung SM-G900A	5
Huawei Device Company Limited	OCE-AN10	HUAWEI Mate 40	5

Samsung Korea	SM-J510FN	Samsung SM-J510FN	5
HUAWEI Technologies Co Ltd	LLD-AL20	LLD-AL20	5
Motorola Mobility LLC a Lenovo Company	XT2128-1	Java21	5
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2195	RMX2195	5
Vivo Mobile Communication Co Ltd	V2057A	vivo Y52s	5
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1605	CPH1605	5
Guangdong Oppo Mobile Telecommunications Corp Ltd	PEGM10	PEGM10	5
HUAWEI Technologies Co Ltd	HLK-AL10	HLK-AL10	5
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX1971	RMX1971	5
HUAWEI Technologies Co Ltd	TNY-AL00	TNY-AL00	5
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1989	CPH1989	5
Xiaomi Communications Co Ltd	M2101K9AG	Mi 11 Lite	5
Xiaomi Communications Co Ltd	M2011K2C	M2011K2C	5
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1911	CPH1911	5
Tecno Telecom (HK) Limited	KI7	SPARK 10 Pro	5
Guangdong Oppo Mobile Telecommunications Corp Ltd	PCLM50	PCLM50	5
Xiaomi Communications Co Ltd	M2007J22C	Redmi note 9 5G	4
Samsung Korea	SM-C7010	Samsung SM-C7010	4
Samsung Korea	SM-A207M	Galaxy A20s	4
HUAWEI Technologies Co Ltd	BKK-AL10	BKK-AL10	4
Xiaomi Communications Co Ltd	M1901F7BE	Redmi Note7 Pro	4
HUAWEI Technologies Co Ltd	WLZ-AL10	WLZ-AL10	4
Samsung Korea	SM-N910C	Samsung SM-N910C	4
Vivo Mobile Communication Co Ltd	V2001A	vivo X50	4
HMD Global Oy	TA-1034	Nokia 105 DS	4
Xiaomi Communications Co Ltd	M2006C3MII	Redmi 9	4
Samsung Korea	SM-J400G/DS	2018 Galaxy J4	4
HUAWEI Technologies Co Ltd	HRY-AL00	HRY-AL00	4
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1901	CPH1901	4
HUAWEI Technologies Co Ltd	JKM-AL00	JKM-AL00	4
Xiaomi Communications Co Ltd	MD11	Redmi 5	4
Samsung Korea	GT-S6102	Samsung GT-S6102	4
HUAWEI Technologies Co Ltd	NEM-AL10	HONOR	4
Samsung Korea	SM-A7000	Samsung SM-A7000	4
HUAWEI Technologies Co Ltd	JER-AN10	JER-AN10	4
Vivo Mobile Communication Co Ltd	vivo 1713	vivo vivo 1713	4
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2631	CPH2631	4
Vivo Mobile Communication Co Ltd	vivo 1603	vivo vivo 1603	4
Samsung Korea	SM-G975N	Galaxy S10+	4
HUAWEI Technologies Co Ltd	TRT-AL00A	TRT-AL00A	4
Samsung Korea	SM-G570M	Samsung SM-G570M	4
HUAWEI Technologies Co Ltd	EVA-L09	HUAWEI P9	4
Samsung Korea	SM-A115F/DS	Galaxy A11	4
HUAWEI Technologies Co Ltd	HUAWEI ALE-L21	HUAWEI P8 lite HUAWEI P8 Lite	4
Samsung Korea	SM-A125N	Galaxy A12	4
Samsung Korea	SM-G550FY	Samsung SM-G550FY	4
HUAWEI Technologies Co Ltd	ATU-L31	HUAWEI Y6 Prime 2018	4
HUAWEI Technologies Co Ltd	HUAWEI VNS-L21	HUAWEI P9 lite	4
Samsung Korea	SM-G570Y/DS	Samsung SM-G570Y/DS	4
Samsung Korea	SM-N910U	Samsung SM-N910U	4
Samsung Korea	SM-J415F	GALAXY J4+ SM-J415F	4
Vivo Mobile Communication Co Ltd	V2111A	vivo Y76s	4
Xiaomi Communications Co Ltd	MDC6	Redmi NOTE5A	4
Nokia Corporation	C2-01.5	Nokia C2-01.5	4
Honor Device Company Limited	DIO-AN00	DIO-AN00	4
Samsung Korea	SM-J710GN/DS	Samsung SM-J710GN/DS	4
Vivo Mobile Communication Co Ltd	V2352	vivo Y28	4
INFINIX TECHNOLOGY LIMITED	X689B	HOT 10S	4
Samsung Korea	SM-G900T	Samsung SM-G900T	4
Xiaomi Communications Co Ltd	M2010J19CG	POCO M3	4
Motorola Mobility LLC a Lenovo Company	XT2053-2	Fiji	4
Samsung Korea	SM-A315G/DS	Galaxy A31	4
Xiaomi Communications Co Ltd	M1805E2A	Mi 8 SE	4
HUAWEI Technologies Co Ltd	TRT-LX2	HUAWEI Y7	4
HUAWEI Technologies Co Ltd	MRD-LX2	HUAWEI Y6 Pro 2019	4
HUAWEI Technologies Co Ltd	LLD-L31	Honor 9 Lite	4
Samsung Korea	SM-J810GF/DS	Galaxy J8 2018	4
Samsung Korea	SM-A530F/DS	GALAXY A8 SM-A530F/DS	4
Samsung Korea	SM-J701F/DS	Galaxy J7	4
Samsung Korea	SM-N970U1	Galaxy Note10	4
Samsung Electronics America	Samsung Galaxy	Samsung Galaxy	4
Guangdong Oppo Mobile Telecommunications Corp Ltd	PEFM00	PEFM00	4
Tecno Telecom (HK) Limited	KJ5	TECNO SPARK 20	4
Guangdong Oppo Mobile Telecommunications Corp Ltd	F1f	F1f	4
Xiaomi Communications Co Ltd	M1908C3KI	Redmi 8A	4
Samsung Korea	SM-A600GN/DS	Galaxy A6	4
Xiaomi Communications Co Ltd	M1806E7T1	Redmi Note6 Pro	4
Samsung Korea	SM-G9500	Samsung SM-G9500	4
Samsung Korea	SM-G928I	Samsung SM-G928I	4
Vivo Mobile Communication Co Ltd	vivo X9s	vivo vivo X9s	4
Samsung Korea	SM-M205M/DS	Galaxy M20	4
Samsung Korea	SM-A705N	Galaxy A70	4
Vivo Mobile Communication Co Ltd	V2031A	vivo Y73s	4
Huawei Device Company Limited	BNE-AL00	BNE-AL00	4
HUAWEI Technologies Co Ltd	BLN-L21	honor 6X	4
Samsung Korea	SM-N9608	Galaxy Note 9	4
HUAWEI Technologies Co Ltd	HUAWEI MT7-TL10	HUAWEI Ascend Mate7	4

Vivo Mobile Communication Co Ltd	vivo 1723	vivo vivo 1723	4
Samsung Korea	SM-J530FM/DS	Samsung SM-J530FM/DS	4
Samsung Korea	SM-G398FN/DS	Xcover4s	4
Honor Device Company Limited	ANN-AN00	ANN-AN00	4
Samsung Korea	SM-J730FM/DS	Samsung SM-J730FM/DS	4
Vivo Mobile Communication Co Ltd	vivo 1609	vivo vivo 1609	4
HUAWEI Technologies Co Ltd	JAT-AL00	JAT-AL00	4
Apple Inc	iPhone 5C (A1526)	Apple iPhone 5C (A1526)	4
Samsung Korea	SM-J700H/DS	Samsung SM-J700H/DS	4
Samsung Korea	SM-J810F/DS	SAMSUNG GALAXY J8 SM-J810F/DS	4
Guangdong Oppo Mobile Telecommunications Corp Ltd	PDKM00	PDKM00	4
Xiaomi Communications Co Ltd	M1908C3IC	Redmi 8	4
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2579	CPH2579	4
Guangdong Oppo Mobile Telecommunications Corp Ltd	RMX1811	RMX1811	4
Samsung Korea	SM-J400F/DS	GALAXY J4 SM-J400F/DS	4
Samsung Korea	SM-G930T	Samsung SM-G930T	4
INFINIX TECHNOLOGY LIMITED	X6515	SMART 7	4
Vivo Mobile Communication Co Ltd	V2344	vivo Y03t	4
Samsung Korea	SM-A305N	Galaxy A30	4
Guangdong Oppo Mobile Telecommunications Corp Ltd	PCKM00	PCKM00	4
Xiaomi Communications Co Ltd	2016007	B3	4
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3910	RMX3910	4
Guangdong Oppo Mobile Telecommunications Corp Ltd	A33f	A33f	4
Samsung Korea	SM-A013G/DS	Galaxy A3 Core	4
Vivo Mobile Communication Co Ltd	vivo X7Plus	vivo vivo X7Plus	4
Samsung Korea	SM-J415G	Galaxy J4+	4
Samsung Korea	SM-M022F/DS	Galaxy M02	4
HUAWEI Technologies Co Ltd	FLA-AL10	FLA-AL10	4
Samsung Korea	SM-J410G/DS	Galaxy J4 Core	4
Xiaomi Communications Co Ltd	2404ARN45A	Redmi 13	4
Honor Device Company Limited	CHL-AN00	CHL-AN00	4
Samsung Korea	SM-A920F/DS	Galaxy A9	4
Xiaomi Communications Co Ltd	M2101K6G	Redmi Note 10 Pro	4
Vivo Mobile Communication Co Ltd	V1962A	vivo S6	4
HMD Global Oy	TA-1032	Nokia 3 DS	4
HUAWEI Technologies Co Ltd	JKM-LX3	HUAWEI Y9 2019	4
Xiaomi Communications Co Ltd	23026RN54G	Redmi A2	4
Samsung Korea	SM-A707F/DS	Galaxy A70s	4
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3201	RMX3201	4
Samsung Korea	SM-J730F/DS	Samsung SM-J730F/DS	4
HUAWEI Technologies Co Ltd	LDN-LX2	HUAWEI Y7 Prime 2018 HUAWEI Y7 Pro 2018	4
Guangdong Oppo Mobile Telecommunications Corp Ltd	PBCM30	PBCM30	4
Samsung Korea	SM-G885F/DS	Galaxy A Star	4
Samsung Korea	SM-G903F	Samsung SM-G903F	4
Samsung Korea	SM-A515F/DSM	Galaxy A51	4
Samsung Korea	SM-A320F/DS	GALAXY A3 SM-A320F/DS	4
HUAWEI Technologies Co Ltd	RVL-AL09	RVL-AL09	4
Tecno Telecom (HK) Limited	KJ7	TECNO SPARK 20 Pro+	4
Vivo Mobile Communication Co Ltd	V1818CA	vivo Y93	4
Samsung Korea	SM-J701MT	Samsung SM-J701MT	4
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3491	RMX3491	4
Vivo Mobile Communication Co Ltd	V1965A	vivo Y50	4
HUAWEI Technologies Co Ltd	JNY-AL10	nova 6 SE	4
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2471	CPH2471	4
Vivo Mobile Communication Co Ltd	V2168A	vivo Y10 t1	4
Samsung Korea	SM-A310F/DS	Samsung SM-A310F/DS	4
Guangdong Oppo Mobile Telecommunications Corp Ltd	PFVM10	PFVM10	4
Xiaomi Communications Co Ltd	M1810F6LE	Redmi 7	4
Samsung Korea	SM-G950N	Samsung SM-G950N	4
HUAWEI Technologies Co Ltd	SLA-AL00	SLA-AL00	4
Google Inc	G011C	G011C	4
Samsung Korea	SM-S102DL	Galaxy A10e	4
Xiaomi Communications Co Ltd	M2002J9E	M2002J9E	4
Xiaomi Communications Co Ltd	M2006C3LC	M2006C3LC	4
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1917	CPH1917	4
Huawei Device Company Limited	ANG-AN00	ANG-AN00	4
Xiaomi Communications Co Ltd	M2104K10AC	M2104K10AC	4
Huawei Device Company Limited	BON-AL00	BON-AL00	4
HUAWEI Technologies Co Ltd	RNE-AL00	maimang 6	4
HUAWEI Technologies Co Ltd	AKA-AL10	AKA-AL10	4
Huawei Device Company Limited	WKG-AN00	WKG-AN00	4
Xiaomi Communications Co Ltd	220333QPG	POCO C40	4
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3630	RMX3630	4
HUAWEI Technologies Co Ltd	HUAWEI CAZ-AL10	HUAWEI nova	4
Vivo Mobile Communication Co Ltd	V1829A	vivo X27	4
HUAWEI Technologies Co Ltd	AQM-AL10	AQM-AL10	4
Samsung Korea	SM-N920C	Galaxy Note 5 SM-N920C	4
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2020	RMX2020	4
Xiaomi Communications Co Ltd	M2001J2C	MI 10	4
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO R9tm	OPPO R9tm	4
HUAWEI Technologies Co Ltd	COR-AL00	COR-AL00	4
Samsung Korea	SM-J600G	Galaxy J6	4
Samsung Korea	SM-J530Y/DS	Samsung SM-J530Y/DS	4
LG Electronics Inc.	LM-G820UM	LM-G820UM	4
Vivo Mobile Communication Co Ltd	V2120	vivo Y15s	4
Vivo Mobile Communication Co Ltd	V2020A	vivo S7	4
HUAWEI Technologies Co Ltd	JSN-L21	Honor 8X	4

ZTE Corporation	ZTE A7030	ZTE Blade A71	4
HUAWEI Technologies Co Ltd	JSN-L22	Honor 8X	4
Samsung Korea	SM-G935V	Samsung SM-G935V	4
Guangdong Oppo Mobile Telecommunications Corp Ltd	PBFM00	PBFM00	4
HUAWEI Technologies Co Ltd	BMH-AN10	BMH-AN10	4
Samsung Korea	SM-M022M/DS	Galaxy M02	4
HUAWEI Technologies Co Ltd	KSA-LX9	HONOR 8S HONOR 8S Prime	4
HUAWEI Technologies Co Ltd	SNE-LX3	SNE-LX3	4
Samsung Korea	SM-N9200	Samsung SM-N9200	4
HUAWEI Technologies Co Ltd	COL-L29	Honor 10	4
Vivo Mobile Communication Co Ltd	V1938CT	vivo X30	4
Vivo Mobile Communication Co Ltd	V2031EA	vivo S7e	4
Samsung Korea	SM-A600N	Galaxy A6	4
INFINIX TECHNOLOGY LIMITED	X6837	HOT 40 Pro	4
HUAWEI Technologies Co Ltd	AMN-LX2	HUAWEI Y5 2019	4
HUAWEI Technologies Co Ltd	POT-AL00a	POT-AL00a	4
HMD Global Oy	TA-1029	Nokia 2 DS	4
Vivo Mobile Communication Co Ltd	vivo 1808	vivo Y81	4
Guangdong Oppo Mobile Telecommunications Corp Ltd	PBBT00	PBBT00	4
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3511	RMX3511	4
Guangdong Oppo Mobile Telecommunications Corp Ltd	PCDM10	PCDM10	4
Vivo Mobile Communication Co Ltd	V2322	vivo Y27s	4
Xiaomi Communications Co Ltd	M1908C3KG	Redmi 8A	4
Vivo Mobile Communication Co Ltd	V1831A	vivo S1	4
INFINIX TECHNOLOGY LIMITED	X6853	NOTE 40	4
Apple Inc	iPhone 4S (A1431)	Apple iPhone 4S (A1431)	4
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX1901	RMX1901	4
Xiaomi Communications Co Ltd	2016060	B5	4
HUAWEI Technologies Co Ltd	OXF-AN10	OXF-AN10	4
Samsung Korea	SM-G1650	Samsung SM-G1650	4
Samsung Korea	SM-G6100	Samsung SM-G6100	4
Xiaomi Communications Co Ltd	MDI2	MI A1	4
Xiaomi Communications Co Ltd	M1808D2TG	MI 8 Lite	4
Vivo Mobile Communication Co Ltd	V2020CA	vivo S7	4
HUAWEI Technologies Co Ltd	YAL-AL50	YAL-AL50	4
Samsung Korea	SM-G611F/DS	GALAXY J7 PRIME2 SM-G611F/DS	4
HUAWEI Technologies Co Ltd	LLD-AL10	LLD-AL10	4
HUAWEI Technologies Co Ltd	EBC-AN00	EBC-AN00	4
Samsung Korea	SM-G935T	Samsung SM-G935T	4
INFINIX TECHNOLOGY LIMITED	X657B	SMART 5	4
Xiaomi Communications Co Ltd	MCE8	MI NOTE3	4
Samsung Korea	SM-N920CD	Samsung SM-N920CD	4
Huawei Device Company Limited	HBN-AL80	HBN-AL80	4
Itel Technology Limited	L6006	A48	4
Samsung Korea	SM-A205GN/DS	Galaxy A20	4
Samsung Korea	SM-J530F/DS	Galaxy J5	4
Samsung Korea	SM-N975F	Galaxy Note10+	4
Tecno Telecom (HK) Limited	KJ6	TECNO SPARK 20 Pro	4
Xiaomi Communications Co Ltd	M2007J17C	M2007J17C	4
INFINIX TECHNOLOGY LIMITED	X6731B	ZERO 30	4
Xiaomi Communications Co Ltd	MCG3B	Redmi 5A	4
Motorola Mobility LLC a Lenovo Company	XT2019-2	Doha	4
Samsung Korea	SM-J701MT	Galaxy J7 Neo	4
Samsung Korea	SM-J810M	Galaxy J8 2018	4
Samsung Korea	SM-G920T	Samsung SM-G920T	4
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1931	CPH1931	4
Samsung Korea	SM-J260F/DS	GALAXY J2 CORE SM-J260F/DS	4
Vivo Mobile Communication Co Ltd	V1818CA	vivo Y93s	4
Vivo Mobile Communication Co Ltd	V1932A	vivo S5	4
Samsung Korea	SM-A805F/DSM	Galaxy A80	4
Samsung Korea	SM-J701M/DS	Samsung SM-J701M/DS	4
HMD Global Oy	TA-1053	Nokia 5 DS	4
Motorola Mobility LLC a Lenovo Company	XT2087-1	Odessa20	4
Samsung Korea	SM-J600FN	Galaxy J6	4
HUAWEI Technologies Co Ltd	CAM-AL00	HONOR	4
Xiaomi Communications Co Ltd	2015201	A2	4
Honor Device Company Limited	RKY-AN00	RKY-AN00	4
Xiaomi Communications Co Ltd	M1806E7TG	Redmi Note6 Pro	4
HUAWEI Technologies Co Ltd	HUAWEI TIT-AL00	HUAWEI TIT-AL00 HUAWEI Y6 Pro	4
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2641	CPH2641	4
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO A77	OPPO A77	4
Samsung Korea	SM-A600FN/DS	GALAXY A6	4
Huawei Device Company Limited	FOA-AL00	FOA-AL00	4
Guangdong Oppo Mobile Telecommunications Corp Ltd	PBET00	PBET00	4
Samsung Korea	SM-A115M/DS	Galaxy A11	4
HUAWEI Technologies Co Ltd	TRT-AL00	TRT-AL00	4
Guangdong Oppo Mobile Telecommunications Corp Ltd	X9009	X9009	4
Guangdong Oppo Mobile Telecommunications Corp Ltd	PCKM80	PCKM80	4
Samsung Korea	SM-A105F	Galaxy A10	4
Samsung Korea	SM-J500F/DD	Samsung SM-J500F/DD	3
Huawei Device Company Limited	ALN-AL10	Mate 60 Pro+	3
Xiaomi Communications Co Ltd	M2101K7BNY	Redmi Note 10S	3
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2109	CPH2109	3
Vivo Mobile Communication Co Ltd	V1824A	vivo IQOO	3
HUAWEI Technologies Co Ltd	SNE-AL00	SNE-AL00	3
Samsung Korea	SM-J111F/DS	Samsung SM-J111F/DS	3
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2203	CPH2203	3

INFINIX TECHNOLOGY LIMITED	X657B	SMART 6	3
Tecno Telecom (HK) Limited	KG5j	TECNO SPARK 8C	3
HUAWEI Technologies Co Ltd	DRA-LX3	HUAWEI Y5 2018	3
Guangdong Oppo Mobile Telecommunications Corp Ltd	PKD130	PKD130	3
Tecno Telecom (HK) Limited	LE6	POVA Neo	3
Samsung Korea	SM-M307F/DS	Galaxy M30s	3
Xiaomi Communications Co Ltd	MCE3B	Redmi 5A	3
Vivo Mobile Communication Co Ltd	vivo Y83	vivo vivo Y83	3
HUAWEI Technologies Co Ltd	HUAWEI VNS-AL00	VNS-AL00	3
Vivo Mobile Communication Co Ltd	vivo Y85A	vivo Y85A	3
Vivo Mobile Communication Co Ltd	V1818CA	V1818CA	3
HUAWEI Technologies Co Ltd	LDN-LX3	LDN-LX3	3
Samsung Korea	SM-G935S	Samsung SM-G935S	3
Samsung Korea	SM-J730F	GALAXY J7 Pro SM-J730F	3
Samsung Korea	SM-J320F/DD	Samsung SM-J320F/DD	3
INFINIX TECHNOLOGY LIMITED	X692	NOTE 8	3
Huawei Device Company Limited	JLN-AL00	JLN-AL00	3
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2144	RMX2144	3
Xiaomi Communications Co Ltd	M1912G7BE	M1912G7BE	3
Xiaomi Communications Co Ltd	MDE6	Redmi NOTE5A	3
Samsung Korea	SM-G9250	Samsung SM-G9250	3
Samsung Korea	SM-A025M/DS	Galaxy A02s	3
Tecno Telecom (HK) Limited	CD7	CAMON15	3
HUAWEI Technologies Co Ltd	HRV-LX1	Honor 10 Lite	3
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2629	CPH2629	3
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2121	CPH2121	3
Samsung Korea	SM-A300Y	Samsung SM-A300Y	3
Samsung Korea	SM-A505U	Galaxy A50	3
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2205	CPH2205	3
INFINIX TECHNOLOGY LIMITED	X656	NOTE 7 Lite	3
Xiaomi Communications Co Ltd	2016032	Redmi 3S	3
HUAWEI Technologies Co Ltd	STK-LX1	HONOR 9X	3
ASUSTek Computer Inc	ASUS_I01WD	ASUS ZenFone 6 ZS630KL	3
Honor Device Company Limited	VNE-LX3	VNE-LX3	3
Xiaomi Communications Co Ltd	M2012K10C	M2012K10C	3
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1803	CPH1803	3
Samsung Korea	SM-J5108	Samsung SM-J5108	3
Guangdong Oppo Mobile Telecommunications Corp Ltd	PEAT00	PEAT00	3
Vivo Mobile Communication Co Ltd	V2254	vivo Y02t	3
Samsung Korea	SM-J720F	GALAXY J7 DUO SM-J720F	3
ASUSTek Computer Inc	ASUS_X00TD	ZENFONE Max Pro(M1)	3
Vivo Mobile Communication Co Ltd	vivo 1816	vivo Y91i	3
Samsung Korea	SM-A705MN/DS	Galaxy A70	3
ASUSTek Computer Inc	ASUS_X01BDA	ASUS ZenFone Max Pro ZB631KL	3
Vivo Mobile Communication Co Ltd	V1963A	vivo Z6	3
Samsung Korea	SM-A805N	A80	3
Samsung Korea	SM-A605FN/DS	GALAXY A6+ SM-A605FN/DS	3
Vivo Mobile Communication Co Ltd	V1801A0	Z1	3
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2001	RMX2001	3
LG Electronics Inc.	LG-D821	Nexus 5	3
ZTE Corporation	ZTE Blade A54	ZTE Blade A54	3
Samsung Korea	SM-A515F/DST	Galaxy A51	3
Honor Device Company Limited	RNA-AN00	RNA-AN00	3
HUAWEI Technologies Co Ltd	BND-AL10	Honor 7X	3
Samsung Korea	SM-J610G	Galaxy J6+	3
HUAWEI Technologies Co Ltd	BLL-L22	HUAWEI GR5 2017 HUAWEI Mate 9 lite	3
Guangdong Oppo Mobile Telecommunications Corp Ltd	PESM10	PESM10	3
HUAWEI Technologies Co Ltd	JKM-LX1	HUAWEI Y9 2019	3
Huawei Device Company Limited	NCO-AL00	nova 10	3
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1613	CPH1613	3
HUAWEI Technologies Co Ltd	CLT-AL01	HUAWEI P20 Pro	3
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1859	CPH1859	3
Samsung Korea	SM-M105G	Galaxy M10	3
Tecno Telecom (HK) Limited	KG8	TECNO SPARK 8 Pro	3
HUAWEI Technologies Co Ltd	AUM-AL00	AUM-AL00	3
INFINIX TECHNOLOGY LIMITED	X6525B	SMART 8 Pro	3
Xiaomi Communications Co Ltd	M2004J19PI	POCO M2 Reloaded	3
HUAWEI Technologies Co Ltd	CDY-AN20	nova 7 SE 5G	3
Tecno Telecom (HK) Limited	BF7	SPARK Go 2023	3
Vivo Mobile Communication Co Ltd	vivo Y66L	vivo vivo Y66L	3
Samsung Korea	SM-G891A	Samsung SM-G891A	3
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2101	RMX2101	3
HUAWEI Technologies Co Ltd	PRA-AL00X	Honor	3
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO R9 Plusm A	OPPO R9 Plusm A	3
Lenovo (Beijing) Co Ltd	XT1902-3	Lenovo K Pro	3
LG Electronics Inc.	LM-V600TM	LM-V600TM	3
Vivo Mobile Communication Co Ltd	vivo Y55	vivo vivo Y55	3
Xiaomi Communications Co Ltd	M2001C3K3I	Redmi 8A Dual	3
Vivo Mobile Communication Co Ltd	vivo X9s Plus	vivo vivo X9s Plus	3
Samsung Korea	SM-N910G	Samsung SM-N910G	3
Xiaomi Communications Co Ltd	MEG7	Redmi 5 plus	3
INFINIX TECHNOLOGY LIMITED	X678B	NOTE 30 Pro	3
Vivo Mobile Communication Co Ltd	vivo Y67A	vivo vivo Y67A	3
Samsung Korea	SM-A530N	Samsung SM-A530N	3
HUAWEI Technologies Co Ltd	JMM-AL10	JMM-AL10	3
Samsung Korea	SM-J510GN/DS	Samsung SM-J510GN/DS	3
Vivo Mobile Communication Co Ltd	vivo 1935	vivo Y50	3

Samsung Korea	SM-N9100	Samsung SM-N9100	3
Samsung Korea	SM-A5100	Samsung SM-A5100	3
Vivo Mobile Communication Co Ltd	vivo Y51L	vivo vivo Y51L	3
Vivo Mobile Communication Co Ltd	V1913A	vivo Y7s	3
Samsung Korea	SM-J730G	Samsung SM-J730G	3
Vivo Mobile Communication Co Ltd	V2034A	vivo Y3s	3
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2061	RMX2061	3
Xiaomi Communications Co Ltd	2016051	B6	3
Samsung Korea	GT-I9305	Samsung GT-I9305	3
Xiaomi Communications Co Ltd	2015116	Redmi NOTE3	3
Xiaomi Communications Co Ltd	23028RN4DG	Redmi A2	3
INFINIX TECHNOLOGY LIMITED	X682C	HOT 10	3
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2461	CPH2461	3
Tecno Telecom (HK) Limited	KE5k	SPARK 6 Go	3
HUAWEI Technologies Co Ltd	FLA-AL20	FLA-AL20	3
HUAWEI Technologies Co Ltd	ATU-AL10	ATU-AL10	3
HUAWEI Technologies Co Ltd	FIG-AL10	FIG-AL10	3
Samsung Korea	SM-A500FU	Samsung SM-A500FU	3
Samsung Korea	SM-A022F	Galaxy A02	3
Samsung Korea	SM-A705FN/DS	Galaxy A70	3
ZTE Corporation	ZTE Blade A34	ZTE Blade A34	3
Samsung Korea	SM-A750FN	Galaxy A7 2018	3
INFINIX TECHNOLOGY LIMITED	X669C	HOT 30i	3
Samsung Korea	SM-M307FN/DS	Galaxy M30s	3
Samsung Korea	SM-J701F	GALAXY J7 CORE SM-J701F	3
HMD Global Oy	TA-1174	Nokia 105	3
Vivo Mobile Communication Co Ltd	V2111	vivo Y21	3
Samsung Korea	SM-A505G	Galaxy A50	3
Samsung Korea	SM-A115F/DSN	Galaxy A11	3
HUAWEI Technologies Co Ltd	EDI-AL10	honor Note8	3
Motorola Mobility LLC a Lenovo Company	XT2131-1	Denver	3
Vivo Mobile Communication Co Ltd	V2237	vivo V27e	3
HUAWEI Technologies Co Ltd	PIC-AL00	HUAWEI nova 2	3
Samsung Korea	SM-A510M/DS	Samsung SM-A510M/DS	3
HUAWEI Technologies Co Ltd	BND-AL00	BND-AL00	3
INFINIX TECHNOLOGY LIMITED	X650C	HOT 8	3
Samsung Korea	SM-J337AZ	Galaxy J3 Top	3
Samsung Korea	SM-G890A	Samsung SM-G890A	3
HUAWEI Technologies Co Ltd	DUB-AL20	DUB-AL20	3
ASUSTek Computer Inc	ASUS_X01AD	ASUS ZB633KL ZenFone Max M2	3
Xiaomi Communications Co Ltd	M2004J19C	M2004J19C	3
Motorola Mobility LLC a Lenovo Company	XT2125-4	Tahoe21	3
Xiaomi Communications Co Ltd	MDE5	Mi MIX2	3
Xiaomi Communications Co Ltd	2311DRN14I	2311DRN14I	3
Xiaomi Communications Co Ltd	22126RN91Y	Redmi 12C	3
Vivo Mobile Communication Co Ltd	V2102	vivo Y12A	3
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2043	CPH2043	3
Motorola Mobility LLC a Lenovo Company	XT1962-4	River Moto G (7th Gen)	3
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3636	RMX3636	3
Samsung Korea	SM-A205F	Galaxy A20	3
ZTE Corporation	ZTE Blade A5 2020	ZTE Blade A5 2020	3
Samsung Korea	SM-G610F	GALAXY J7 PRIME SM-G610F	3
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3121	RMX3121	3
Samsung Korea	SM-A205G	Galaxy A20	3
HUAWEI Technologies Co Ltd	SEA-AL00	SEA-AL00	3
Xiaomi Communications Co Ltd	M1910F4G	Mi Note 10	3
HUAWEI Technologies Co Ltd	TRT-L21A	HUAWEI Y7 Prime	3
Huawei Device Company Limited	MOA-AL00	MOA-AL00	3
Samsung Korea	SM-G9287	Samsung SM-G9287	3
Samsung Korea	SM-G930FD	GALAXY S7 SM-G930FD	3
Guangdong Oppo Mobile Telecommunications Corp Ltd	PENM00	PENM00	3
Xiaomi Communications Co Ltd	22127PC95I	22127PC95I	3
Huawei Device Company Limited	STG-AL00	STG-AL00	3
Guangdong Oppo Mobile Telecommunications Corp Ltd	PAFM00	PAFM00	3
Vivo Mobile Communication Co Ltd	V2068A	vivo Y31s	3
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO A59m	OPPO A59m	3
Samsung Korea	GT-N7105T	Samsung GT-N7105T	3
Honor Device Company Limited	CRT-AN00	CRT-AN00	3
Tecno Telecom (HK) Limited	LH8n	TECNO POVA 5 Pro 5G	3
Samsung Korea	SM-G901F	Samsung SM-G901F	3
Vivo Mobile Communication Co Ltd	vivo Y79A	vivo vivo Y79A	3
INFINIX TECHNOLOGY LIMITED	X6812	HOT 11S	3
Tecno Telecom (HK) Limited	CG7	CAMON 17P	3
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX1921	RMX1921	3
HUAWEI Technologies Co Ltd	JSN-L42	Honor 8X	3
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO R11 Plus	OPPO R11 Plus	3
Xiaomi Communications Co Ltd	M2001C3K3I	M2001C3K3I	3
HUAWEI Technologies Co Ltd	DRA-AL00	DRA-AL00	3
INFINIX TECHNOLOGY LIMITED	X660C	S5 Pro	3
Vivo Mobile Communication Co Ltd	vivo 1801	Y71i	3
Samsung Korea	SM-W2019	Lykan	3
Guangdong Oppo Mobile Telecommunications Corp Ltd	PCAT10	PCAT10	3
ZTE Corporation	ZTE Blade A51	ZTE Blade A51	3
Samsung Korea	SM-A700FD	Samsung SM-A700FD	3
Tecno Telecom (HK) Limited	CE8	CAMON 16 Pro	3
Xiaomi Communications Co Ltd	M2001J2C	M2001J2C	3
Tecno Telecom (HK) Limited	K15k	SPARK 10C	3

Xiaomi Communications Co Ltd	21121119SG	Redmi 10 2022	3
HUAWEI Technologies Co Ltd	BND-AL10	HONOR	3
Samsung Korea	SM-J337T	Galaxy J3 Top	3
Samsung Korea	SM-G950W	Samsung SM-G950W	3
Xiaomi Communications Co Ltd	M2004J19G	Redmi 9	3
INFINIX TECHNOLOGY LIMITED	X6835B	HOT 30 PLAY	3
Microsoft Mobile Oy	RM-1074 Lumia 640 LTE	Microsoft RM-1074 Microsoft Lumia 640 LTE	3
LG Electronics Inc.	LM-G710N	LM-G710N	3
Vivo Mobile Communication Co Ltd	vivo X20	vivo vivo X20	3
Samsung Korea	SM-N915G	Samsung SM-N915G	3
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2473	CPH2473	3
Samsung Korea	SM-A9000	Samsung SM-A9000	3
China Mobile Group Device Co Ltd	SP200	SP200	3
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3081	RMX3081	3
INFINIX TECHNOLOGY LIMITED	X6511B	SMART 6	3
HUAWEI Technologies Co Ltd	STK-LX3	HUAWEI Y9 Prime 2019	3
HUAWEI Technologies Co Ltd	ANA-AN00	HUAWEI P40	3
Vivo Mobile Communication Co Ltd	V2249	vivo Y27	3
Huawei Device Company Limited	NAM-AL00	nova 9	3
Vivo Mobile Communication Co Ltd	vivo 1726	Y83 Pro	3
Honor Device Company Limited	CMA-LX2	CMA-LX2	3
Huawei Device Company Limited	DVC-AN00	DVC-AN00	3
Xiaomi Communications Co Ltd	M1908C3II	Redmi 8	3
Xiaomi Communications Co Ltd	M2006C3MI	POCO C 3	3
Samsung Korea	SM-N975U1	Galaxy Note10+	3
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3430	RMX3430	3
Vivo Mobile Communication Co Ltd	vivo 1901	vivo Y15	3
HUAWEI Technologies Co Ltd	MYA-L41	HUAWEI Y6 2017 HUAWEI nova young	3
Sony Mobile Communications	E5823	Xperia Z5 Compact	3
Google Inc	G-2PW2100	G-2PW2100	3
Guangdong Oppo Mobile Telecommunications Corp Ltd	PADT00	PADT00	3
HUAWEI Technologies Co Ltd	TRT-TL10	TRT-TL10	3
Microsoft Mobile Oy Nokia Corporation	RM-974	Lumia 635 RM-974	3
Samsung Korea	SM-J320G/DS	Samsung SM-J320G/DS	3
Vivo Mobile Communication Co Ltd	vivo Y71A	vivo vivo Y71A	3
Motorola Mobility LLC a Lenovo Company	XT2173-1	CorfuLite21	3
Xiaomi Communications Co Ltd	M1908C3JH	Redmi Note 8	3
HMD Global Oy	TA-1024	Nokia 5 SS	3
Samsung Korea	SM-G800Y	Samsung SM-G800Y	3
Xiaomi Communications Co Ltd	M1810F6I	Redmi Y3	3
Vivo Mobile Communication Co Ltd	vivo Y67	vivo vivo Y67	3
Xiaomi Communications Co Ltd	2312BPC51H	2312BPC51H	3
INFINIX TECHNOLOGY LIMITED	X682B	HOT 10	3
Xiaomi Communications Co Ltd	MDI6S	Redmi Y1	3
HUAWEI Technologies Co Ltd	ART-L29	HUAWEI P40 lite E HUAWEI Y7p	3
Huawei Device Company Limited	FRL-AN00a	FRL-AN00a	3
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3269	RMX3269	3
Huawei Device Company Limited	LEM-AL00	LEM-AL00	3
Xiaomi Communications Co Ltd	M1903F10G	MI 9T	3
Tecno Telecom (HK) Limited	KE7	TECNO SPARK 6	3
HUAWEI Technologies Co Ltd	DUB-LX2	HUAWEI Y7 Pro 2019	3
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO R11s Plus	OPPO R11s Plus	3
Samsung Korea	SM-N900	Samsung SM-N900	3
Samsung Korea	SM-J500F	GALAXY J5 SM-J500F	3
Samsung Korea	SM-G532MT	Samsung SM-G532MT	3
Motorola Mobility LLC a Lenovo Company	XT2025-2	Poker+	3
Xiaomi Communications Co Ltd	2016070	B7	3
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3933	RMX3933	3
Xiaomi Communications Co Ltd	M2101K9C	M2101K9C	3
Google Inc	G011A	G011A	3
HUAWEI Technologies Co Ltd	SLA-TL10	SLA-TL10	3
Xiaomi Communications Co Ltd	2016117	Redmi 4A	3
Vivo Mobile Communication Co Ltd	V2109	vivo Y33s	3
LG Electronics Inc.	LM-X430BMW	K40S	3
HUAWEI Technologies Co Ltd	TAS-AL00	HUAWEI Mate 30	3
Samsung Korea	SM-A9200	Galaxy A9 2018	3
Samsung Korea	SM-M105M	Galaxy M10	3
Samsung Korea	SM-J700F	GALAXY J7 SM-J700F	3
HUAWEI Technologies Co Ltd	DLI-AL10	DLI-AL10	3
Honor Device Company Limited	ANY-NX1	ANY-NX1	3
Vivo Mobile Communication Co Ltd	vivo V3	vivo vivo V3	3
Google Inc	G-2PW4100	G-2PW4100	3
Tecno Telecom (HK) Limited	BB4k	SPARK 4 Lite	3
Vivo Mobile Communication Co Ltd	vivo X20Plus A	vivo vivo X20Plus A	3
Samsung Korea	SM-G532F/DS	GALAXY GRAND PRIME+ SM-G532F/DS	3
Xiaomi Communications Co Ltd	M1903C3EC	Redmi 7A	3
Samsung Korea	SM-A307GN/DS	Galaxy A30s	3
Samsung Korea	SM-A125F	Galaxy A12	3
Samsung Korea	SM-J415FN	Galaxy J4+	3
HUAWEI Technologies Co Ltd	DUB-AL00a	DUB-AL00a	3
HUAWEI Technologies Co Ltd	JAT-L29	honor 8A	3
Xiaomi Communications Co Ltd	M1803E6G	Redmi S2	3
INFINIX TECHNOLOGY LIMITED	X688B	HOT 11 Play	3
Sony Mobile Communications	E6653	Xperia Z5	3
Samsung Korea	SM-N910F	Samsung SM-N910F	3
Samsung Korea	GT-S7275R	Samsung GT-S7275R	3
Huawei Device Company Limited	NOH-AN00	HUAWEI Mate 40 Pro	3

Samsung Korea	SM-A115U	Galaxy A11	3
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2200	RMX2200	3
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2217	CPH2217	3
Tecno Telecom (HK) Limited	KF8	TECNO SPARK 7 Pro	3
INFINIX TECHNOLOGY LIMITED	X6826	HOT 20	3
HUAWEI Technologies Co Ltd	BLN-TL10	BLN-TL10	3
Lenovo (Beijing) Co Ltd	Lenovo A7000-a	Lenovo Lenovo A7000-a	3
Motorola Mobility LLC a Lenovo Company	XT2331-1	Penang23	3
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2086	RMX2086	3
Vivo Mobile Communication Co Ltd	V1732A	vivo Y81s	3
Vivo Mobile Communication Co Ltd	vivo X21i A	vivo vivo X21i A	3
Samsung Korea	SM-N976B	Galaxy Note10+ 5G	3
Xiaomi Communications Co Ltd	M2007J22C	M2007J22C	3
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3261	RMX3261	3
Vivo Mobile Communication Co Ltd	vivo 1933	vivo V19	3
Tecno Telecom (HK) Limited	KD6	TECNO SPARK 5 Air	3
Samsung Korea	SM-A3050	Galaxy A40s	3
HUAWEI Technologies Co Ltd	JAT-L29	HUAWEI Y6s	3
Xiaomi Communications Co Ltd	M2003J15SG	Redmi Note 9	3
HUAWEI Technologies Co Ltd	LLD-AL30	LLD-AL30	3
HUAWEI Technologies Co Ltd	DUB-LX1	HUAWEI Y7 Prime 2019 HUAWEI Y7 Pro 2019	3
Xiaomi Communications Co Ltd	M1906F9SC	Xiaomi CC 9e	3
Xiaomi Communications Co Ltd	2310FPCA4I	2310FPCA4I	3
Huawei Device Company Limited	MGA-AL40	MGA-AL40	3
Samsung Korea	SM-G973U	Galaxy S10	3
Xiaomi Communications Co Ltd	MDG6S	Redmi NOTE5A Prime	3
Samsung Korea	SM-G532M	Samsung SM-G532M	3
Motorola Mobility LLC a Lenovo Company	XT1965-2	Lake Moto G Plus (7th Gen)	3
Motorola Mobility LLC a Lenovo Company	XT1952-2	Channel	3
Samsung Korea	SM-G9600	Galaxy S9	3
Samsung Korea	SM-G965F/DS	Samsung SM-G965F/DS	3
Samsung Korea	SM-J200GU/DS	Samsung SM-J200GU/DS	3
Xiaomi Communications Co Ltd	M1803E6E	Redmi S2	3
INFINIX TECHNOLOGY LIMITED	X697	NOTE 11 Pro	3
Tecno Telecom (HK) Limited	LE7	POVA 2	3
Unicom Vsens Communications Co Ltd	VP002	VP002	3
Motorola Mobility LLC a Lenovo Company	XT2027-1	Defender	3
HUAWEI Technologies Co Ltd	LLD-AL20	Honor 9 Lite pro	3
Samsung Korea	SM-J510FN/DD	Samsung SM-J510FN/DD	3
HUAWEI Technologies Co Ltd	FIG-LX3	FIG-LX3	3
Samsung Korea	SM-J7108	Samsung SM-J7108	3
Tecno Telecom (HK) Limited	BF6	POP 7	3
Xiaomi Communications Co Ltd	M2010J19SY	Redmi 9T	3
Vivo Mobile Communication Co Ltd	V1730DA	Z1i	3
Tecno Telecom (HK) Limited	CK7n	CAMON 20 Pro	3
Samsung Korea	SM-A217N	Galaxy A21s	3
Samsung Korea	SM-G960W	Galaxy S9	3
Samsung Korea	SM-N920A	Samsung SM-N920A	3
HUAWEI Technologies Co Ltd	HRY-LX1T	HONOR 10i HONOR 20 Lite	3
Xiaomi Communications Co Ltd	M2004J7AC	M2004J7AC	3
Guangdong Oppo Mobile Telecommunications Corp Ltd	PERM00	PERM00	3
Xiaomi Communications Co Ltd	M2101K6I	Redmi Note 10 Pro Max	3
Xiaomi Communications Co Ltd	M1903C3GG	Redmi Go	3
Guangdong Oppo Mobile Telecommunications Corp Ltd	PDCM00	PDCM00	3
Xiaomi Communications Co Ltd	M1904F3BC	MI CC 9	3
Samsung Korea	SM-G390F	GALAXY XCOVER4 SM-G390F	3
HUAWEI Technologies Co Ltd	FIG-LX1	HUAWEI P smart	3
Samsung Korea	SM-G930P	Samsung SM-G930P	3
HUAWEI Technologies Co Ltd	ATU-L22	HUAWEI Y6 2018	3
Vivo Mobile Communication Co Ltd	vivo 1814	vivo Y91	3
Samsung Korea	SM-G965W	Galaxy S9+	3
Xiaomi Communications Co Ltd	2201116TG	Redmi Note 11 Pro	3
Motorola Mobility LLC a Lenovo Company	XT2025-1	Poker+	3
Samsung Korea	SM-J110H/DS	Samsung SM-J110H/DS	3
HUAWEI Technologies Co Ltd	JKM-TL00	JKM-TL00	3
Xiaomi Communications Co Ltd	M2012K11AC	M2012K11AC	3
HUAWEI Technologies Co Ltd	DRA-L21	HUAWEI Y5 2018	3
Xiaomi Communications Co Ltd	M1908C3IH	Redmi 8	3
Samsung Korea	SM-A750N	Galaxy A7 2018	3
Microsoft Mobile Oy	RM-974	Nokia Lumia 635 RM-974	3
Samsung Korea	SM-G892A	Samsung SM-G892A	3
HUAWEI Technologies Co Ltd	WAS-LX1	HUAWEI P10 lite	3
Samsung Korea	SM-M305M	Galaxy M30	3
Samsung Korea	SM-J260FU/DS	Galaxy J2 Core	2
HUAWEI Technologies Co Ltd	LYA-AL00	HUAWEI Mate 20 Pro	2
Motorola Mobility LLC a Lenovo Company	XT2113-2	Kiev21	2
HUAWEI Technologies Co Ltd	NCE-AL00	Nice-AL00	2
Samsung Korea	SM-A600GN	Galaxy A6	2
Samsung Korea	SM-G930S	Samsung SM-G930S	2
Vivo Mobile Communication Co Ltd	V1732A	Y81s	2
Xiaomi Communications Co Ltd	23129RN51H	23129RN51H	2
INFINIX TECHNOLOGY LIMITED	X652B	S5 Lite	2
LG Electronics Inc.	LG-D855	G3	2
Bullitt Group Limited	S41	S41	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1607	CPH1607	2
Samsung Korea	SM-J600F/DS	GALAXY J6 SM-J600F/DS	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	RMX1807	RMX1807	2

ASUSTek Computer Inc	ASUS_X017DA	ASUS ZenFone 5Q ZC600KL	2
Huawei Device Company Limited	DVC-TN20	DVC-TN20	2
Xiaomi Communications Co Ltd	M1903F2G	MI 9 SE	2
Samsung Korea	SM-G955U1	Galaxy S8+	2
Xiaomi Communications Co Ltd	2016112	Redmi 4A	2
Vivo Mobile Communication Co Ltd	vivo 1725	vivo vivo 1725	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO R7sf	OPPO R7sf	2
Sony Mobile Communications	F8331	Xperia XZ	2
Xiaomi Communications Co Ltd	M2101K6P	Redmi Note 10 Pro	2
Motorola Mobility LLC a Lenovo Company	XT1924-3	EM12415145 Moto E Plus (5th Gen)	2
Samsung Korea	SM-G935K	Samsung SM-G935K	2
HUAWEI Technologies Co Ltd	ATH-AL00	ATH-AL00	2
Huawei Device Company Limited	NEN-LX3	NEN-LX3	2
Samsung Korea	SM-J415GN	Galaxy J4+	2
Samsung Korea	SM-J320ZN	Samsung SM-J320ZN	2
HUAWEI Technologies Co Ltd	HUAWEI VNS-L23	HUAWEI P9 lite	2
Samsung Korea	SM-W2021	Galaxy Z Fold2 5G	2
Huawei Device Company Limited	EVE-LX9	HUAWEI nova Y61	2
Samsung Korea	SM-G610F/DD	GALAXY J7 PRIME SM-G610F/DD	2
Samsung Korea	SM-J111F/DS	GALAXY J1 ACE GALAXY J1 ACE 2016 SM-J111F/DS	2
Samsung Korea	SM-A520W	Samsung SM-A520W	2
Motorola Mobility LLC a Lenovo Company	CC3-41C11	CC3-41C11	2
Lemobile Information Technology (Beijing) Co Ltd	Letv X500	Letv X500	2
Xiaomi Communications Co Ltd	M1901F7C	M1901F7C	2
Samsung Korea	SM-M307F	Galaxy M30s	2
Samsung Korea	SM-J330F/DS	Galaxy J3 Pro	2
ZTE Corporation	ZTE BLADE V0720	ZTE BLADE V7 LITE Blade V6 Plus ZTE BLITZ	2
Samsung Korea	SM-A908Q	Galaxy A90s	2
Samsung Korea	SM-N9608/DS	Galaxy Note 9	2
HUAWEI Technologies Co Ltd	STF-L09	STF-L09	2
Honor Device Company Limited	CMA-AN40	CMA-AN40	2
Honor Device Company Limited	CRT-LX1	CRT-LX1	2
Huawei Device Company Limited	GLA-AL00	nova 10 Pro	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	PEGT00	PEGT00	2
HUAWEI Technologies Co Ltd	JKM-LX2	HUAWEI Y9 2019	2
HUAWEI Technologies Co Ltd	KNT-AL10	KNT-AL10	2
Xiaomi Communications Co Ltd	M2004J19AG	Redmi 9	2
Motorola Mobility LLC a Lenovo Company	XT2093-3	GuamNA 21	2
Xiaomi Communications Co Ltd	2015052	Redmi NOTE 2	2
ZTE Corporation	ZTE Blade A3 2020	ZTE Blade A3 2020 Blade A3 2020	2
Tecno Telecom (HK) Limited	KJ5n	TECNO SPARK 20	2
Xiaomi Communications Co Ltd	M2010J19SG	Redmi 9T	2
Lenovo (Beijing) Co Ltd	Lenovo K53a48	Lenovo K6 NOTE	2
Motorola Mobility LLC a Lenovo Company	XT2027-1	Def	2
ZTE Corporation	ZTE Blade A31 Plus	ZTE Blade A31 Plus	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	PDSM00	PDSM00	2
Xiaomi Communications Co Ltd	2207117BPG	POCO M5s	2
Honor Device Company Limited	LLY-NX1	LLY-NX1	2
Samsung Korea	SM-J810M/DS	Samsung SM-J810M/DS	2
Samsung Korea	SM-G935FD	GALAXY S7 edge SM-G935FD	2
Samsung Korea	SM-A720F	GALAXY A7 SM-A720F	2
Samsung Korea	SM-G160N	Elite	2
Nokia Corporation	1650	1650	2
Xiaomi Communications Co Ltd	2015617	H3Z	2
Xiaomi Communications Co Ltd	M1807E8A	MI 8 Pro	2
Tecno Telecom (HK) Limited	KE5j	SPARK 6 Go	2
OnePlus Technology (Shenzhen) Co Ltd	ONE E1003	ONE E1003	2
China Mobile Group Device Co Ltd	SP100	SP100	2
HTC Corporation	0P9O221	HTC Desire 610	2
HUAWEI Technologies Co Ltd	HUAWEI RIO-L01	HUAWEI G8 HUAWEI GX8 HUAWEI G7 PLUS	2
Samsung Korea	SCV46	Galaxy A10e	2
Samsung Korea	SM-G889G	Galaxy HAECHEI	2
Vivo Mobile Communication Co Ltd	vivo 2019	vivo Y30i	2
HUAWEI Technologies Co Ltd	HUAWEI MT7-TL00	HUAWEI Ascend Mate7	2
OnePlus Technology (Shenzhen) Co Ltd	IN2017	IN2017	2
LG Electronics Inc.	LM-F100VM	LM-F100VM	2
Samsung Korea	SM-J510UN/DS	Samsung SM-J510UN/DS	2
INFINIX TECHNOLOGY LIMITED	X663	NOTE 12	2
China Mobile Group Device Co Ltd	SP210	SP210	2
ZTE Corporation	ZTE 8010	ZTE Blade V2020 Smart	2
Samsung Korea	SM-G611F/DS	Galaxy On7 Refresh	2
Vivo Mobile Communication Co Ltd	V2342	vivo Y100 vivo V30 Lite	2
INFINIX TECHNOLOGY LIMITED	X690B	NOTE 7	2
Samsung Korea	SM-G398FN	Galaxy Xcover4s	2
Xiaomi Communications Co Ltd	2016101	C6	2
Tecno Telecom (HK) Limited	CD6j	CAMON 16 S	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2625	CPH2625	2
HUAWEI Technologies Co Ltd	DUB-LX3	DUB-LX3	2
Samsung Korea	GT-I9100	Samsung GT-I9100	2
Huawei Device Company Limited	TEL-AN00	TEL-AN00	2
Samsung Korea	SM-J410F/DS	GALAXY J4 CORE SM-J410F/DS	2
HUAWEI Technologies Co Ltd	WAS-LX2	HUAWEI P10 lite	2
LG Electronics Inc.	LM-G900UM	LM-G900UM	2
Vivo Mobile Communication Co Ltd	vivo Y51A	vivo vivo Y51A	2
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3122	RMX3122	2
Vivo Mobile Communication Co Ltd	V2047A	vivo X60 Pro	2
Xiaomi Communications Co Ltd	2015161	Redmi NOTE3	2

Xiaomi Communications Co Ltd	22120RN86G	Redmi 12C	2
Huawei Device Company Limited	MOA-AL20	MOA-AL20	2
Samsung Korea	SM-G8858	Galaxy A9 Star	2
Nokia Corporation	820.1 Lumia 820	Nokia 820.1 Lumia 820	2
G-Mobile Devices Private Limited	X6525	SMART 8 HD	2
Honor Device Company Limited	REA-AN00	REA-AN00	2
Samsung Korea	SM-M305M/DS	RIZE 30	2
Apple Inc	A1332	Apple iPhone 4 (A1332)	2
Xiaomi Communications Co Ltd	MEC7S	Redmi Note5	2
Motorola Mobility LLC a Lenovo Company	XT1955-1	Ocean Moto G Power (7th Gen)	2
HUAWEI Technologies Co Ltd	DIG-TL10	DIG-TL10	2
Xiaomi Communications Co Ltd	220733SG	Redmi A1	2
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX1851	RMX1851	2
HUAWEI Technologies Co Ltd	BKL-AL00	BKL-AL00	2
Samsung Korea	SM-J701FB/DS	Galaxy J7	2
Vivo Mobile Communication Co Ltd	V1832A	vivo S1 Pro	2
Motorola Inc.	MC3-41D12	MC3-41D12	2
HUAWEI Technologies Co Ltd	ANE-LX2J	HUAWEI P20 lite HUAWEI nova 3e	2
Samsung Korea	SM-J250G/DS	Samsung SM-J250G/DS	2
HUAWEI Technologies Co Ltd	Che2-L11	honor 4X	2
Xiaomi Communications Co Ltd	M1910F4E	XIAOMI CC 9 Pro	2
HUAWEI Technologies Co Ltd	RNE-L22	HUAWEI nova 2i HUAWEI Mate 10 lite	2
Vivo Mobile Communication Co Ltd	vivo 1910	vivo V17 Pro	2
ASUSTek Computer Inc	ASUS Z01HD	ASUS Zenfone3 Zoom ZE553KL	2
Samsung Korea	SM-G925T	Samsung SM-G925T	2
Samsung Korea	SM-J530S	Samsung SM-J530S	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2161	CPH2161	2
Samsung Korea	SM-S260DL	Galaxy J2	2
Xiaomi Communications Co Ltd	24048RN6CG	Redmi A3x	2
Huawei Device Company Limited	MGA-LX3	HUAWEI nova Y72	2
Xiaomi Communications Co Ltd	2015811	A9	2
Tecno Telecom (HK) Limited	KC3	TECNO CAMON 12 Air	2
HUAWEI Technologies Co Ltd	KIW-L21	honor 5X	2
Samsung Korea	SM-J701M	Samsung SM-J701M	2
Samsung Korea	SM-M405F/DS	Galaxy M40	2
Samsung Korea	SC-42A	Galaxy A21	2
Xiaomi Communications Co Ltd	23053RN02L	Redmi 12	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	PDKT00	PDKT00	2
Huawei Device Company Limited	ADY-AL10	ADY-AL10	2
HUAWEI Technologies Co Ltd	DUA-AL00	DUA-AL00	2
Huawei Device Company Limited	FIN-AL60a	FIN-AL60a	2
Samsung Korea	SM-A315G/L	Galaxy A31	2
Samsung Korea	SM-J730FM/DS	GALAXY J7 PRO SM-J730FM/DS	2
Samsung Korea	SM-J330MT	Samsung SM-J330MT	2
Xiaomi Communications Co Ltd	M2006J10C	Redmi K30 Ultra	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2637	CPH2637	2
Honor Device Company Limited	RKY-LX2	RKY-LX2	2
Honor Device Company Limited	TFY-LX1	TFY-LX1	2
Sony Mobile Communications	C6903 -Xperia Z1	SONY C6903 -Xperia Z1	2
INFINIX TECHNOLOGY LIMITED	X653C	Smart 4	2
Huawei Device Company Limited	BRQ-AN00	BRQ-AN00	2
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3125	RMX3125	2
Samsung Korea	GT-N7105	Samsung GT-N7105	2
Samsung Korea	SM-G965F/DS	Galaxy S9+	2
Samsung Korea	SM-J530YM/DS	Samsung SM-J530YM/DS	2
OnePlus Technology (Shenzhen) Co Ltd	HD1907	HD1907	2
Xiaomi Communications Co Ltd	M2007J3SY	Mi 10T	2
Vivo Mobile Communication Co Ltd	V1809T	vivo X23	2
Samsung Korea	SM-A307FN/DS	Galaxy A30s	2
Honor Device Company Limited	TFY-LX3	TFY-LX3	2
Realme Mobile Telecommunications (Shenzhen) Co Ltd	RMX1821	RMX1821	2
Samsung Korea	SM-J260GU/DS	Galaxy J2 Core	2
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2040	RMX2040	2
Samsung Korea	SM-G920S	Samsung SM-G920S	2
Samsung Korea	GT-S5670	Samsung GT-S5670	2
Google Inc	G-2PW4200	G-2PW4200	2
Huawei Device Company Limited	BAL-AL00	BAL-AL00	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1727	CPH1727	2
HUAWEI Technologies Co Ltd	HUAWEI NXT-TL00	HUAWEI NXT-TL00	2
Xiaomi Communications Co Ltd	M1903F10A	Redmi K20	2
HTC Corporation	0PFJ100	0PFJ100	2
Bullitt Group Limited	S61	S61	2
Honor Device Company Limited	VNE-LX2	VNE-LX2	2
Xiaomi Communications Co Ltd	23030RAC7Y	Redmi Note 12S	2
Xiaomi Communications Co Ltd	M2002F4LG	Mi Note 10 Lite	2
Samsung Korea	GT-S5830i	Samsung GT-S5830i	2
OnePlus Technology (Shenzhen) Co Ltd	BE2013	BE2013	2
Vivo Mobile Communication Co Ltd	vivo Y83A	vivo vivo Y83A	2
Samsung Korea	SM-G1600	Samsung SM-G1600	2
LG Electronics Inc.	LM-V510N	LM-V510N	2
Samsung Korea	SM-A3050	Galaxy A30 CHN	2
Tecno Telecom (HK) Limited	CC7	CAMON 12	2
HUAWEI Technologies Co Ltd	HWI-TL00	HWI-TL00	2
Vivo Mobile Communication Co Ltd	V2180GA	iQOO U5x	2
Tecno Telecom (HK) Limited	KF6p	TECNO SPARK 7T	2
Nokia Corporation	C2-01	Nokia C2-01	2
Xiaomi Communications Co Ltd	M1808D2TE	MI 8 Lite	2

Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3268	RMX3268	2
Samsung Korea	SM-A750GN/DS	Galaxy A7	2
Vivo Mobile Communication Co Ltd	V2236	vivo Y02	2
HMD Global Oy	TA-1093	Nokia 2.1 SS	2
Samsung Korea	SM-G935P	Samsung SM-G935P	2
Huawei Device Company Limited	MGA-LX3	HUAWEI nova Y70	2
Samsung Korea	SM-G5700	Samsung SM-G5700	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2577	CPH2577	2
HUAWEI Technologies Co Ltd	ANA-LX4	HUAWEI P40	2
Samsung Korea	GT-I9301I	Samsung GT-I9301I	2
Samsung Korea	SM-G615F/DS	Samsung Galaxy J7 Max	2
Samsung Korea	SM-G928C	Galaxy S6 edge Plus SM-G928C	2
Sony Mobile Communications	D6653	Xperia Z3	2
Huawei Device Company Limited	TNNH-AN00	TNNH-AN00	2
HUAWEI Technologies Co Ltd	HUAWEI VNS-L22	HUAWEI P9 lite	2
HUAWEI Technologies Co Ltd	KNT-AL20	KNT-AL20	2
Xiaomi Communications Co Ltd	2404APC5FG	POCO M6	2
Samsung Korea	SM-M305F	Galaxy M30	2
HMD Global Oy	TA-1114	Nokia 106 DS	2
Vivo Mobile Communication Co Ltd	V2005A	vivo X50 Pro	2
Huawei Device Company Limited	BLK-AL00	BLK-AL00	2
INFINIX TECHNOLOGY LIMITED	X653	Smart 4	2
Samsung Korea	SM-J110F/DS	GALAXY J1 ACE SM-J110F/DS	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2185	CPH2185	2
Motorola Mobility LLC a Lenovo Company	XT1643	Moto G Plus (4th Gen) AF12705045	2
INFINIX TECHNOLOGY LIMITED	X680	Hot9 play	2
Samsung Korea	SM-A3051	Galaxy A30 TAIWAN	2
Itel Technology Limited	S661L	Vision 3	2
HUAWEI Technologies Co Ltd	H1512	H1512	2
Microsoft Mobile Oy	RM-1127	RM-1127 Microsoft Lumia 550	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO R11 Pluskt	OPPO R11 Pluskt	2
Motorola Mobility LLC a Lenovo Company	XT2013-2	Troika	2
Sony Mobile Communications	D6503	Xperia Z2	2
LG Electronics Inc.	LM-G900N	LM-G900N	2
Samsung Korea	SM-J710MN/DS	Samsung SM-J710MN/DS	2
Tecno Telecom (HK) Limited	KD7h	TECNO SPARK 5	2
Huawei Device Company Limited	MAO-LX9	MAO-LX9	2
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3619	RMX3619	2
Samsung Korea	SM-G388F	Samsung SM-G388F	2
Samsung Korea	SM-A530F	GALAXY A8 SM-A530F	2
Motorola Mobility LLC a Lenovo Company	XT1925-1	BL12427145 Moto G (6th Gen)	2
Samsung Korea	SM-G950W	Galaxy S8	2
LG Electronics Inc.	LM-V409N	LM-V409N	2
Vivo Mobile Communication Co Ltd	vivo X21UD A	vivo vivo X21UD A	2
INFINIX TECHNOLOGY LIMITED	X6512	SMART 6 HD	2
Itel Technology Limited	L6503	S16 Pro(Vision2)	2
Vivo Mobile Communication Co Ltd	V1941A	V1941A	2
HUAWEI Technologies Co Ltd	LYA-L29	HUAWEI Mate 20 Pro PORSCHE DESIGN HUAWEI Mate 20 RS	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO R9st	OPPO R9st	2
HTC Corporation	0PJA100	HTC One M9	2
Vivo Mobile Communication Co Ltd	V2011A	vivo X50 Pro+	2
Samsung Korea	SM-A710F/DS	Samsung SM-A710F/DS	2
Samsung Korea	SM-J600G/DS	2018 J6	2
HUAWEI Technologies Co Ltd	AUM-AL20	AUM-AL20	2
Samsung Korea	SM-E500H/DD	Samsung SM-E500H/DD	2
Samsung Korea	Galaxy S4 Active GT-I9295	Samsung Galaxy S4 Active GT-I9295	2
Vivo Mobile Communication Co Ltd	V1921A	vivo Z5	2
INFINIX TECHNOLOGY LIMITED	X6827	HOT 20S	2
Xiaomi Communications Co Ltd	MDE1	Redmi 5	2
Motorola Mobility LLC a Lenovo Company	XT1941-4	Deen Motorola One	2
Vivo Mobile Communication Co Ltd	vivo Xplay6	vivo vivo Xplay6	2
Xiaomi Communications Co Ltd	M1904F3BG	Mi 9 Lite	2
Samsung Korea	SM-M017F/DS	Galaxy M01s	2
Huawei Device Company Limited	JSC-AN00	JSC-AN00	2
Samsung Korea	SM-G361F	Samsung SM-G361F	2
Xiaomi Communications Co Ltd		2015617 Redmi NOTE 2	2
Xiaomi Communications Co Ltd	M1804C3DH	Redmi 6	2
Motorola Mobility LLC a Lenovo Company	XT1922-5	Jeter Moto G Play (6th Gen)	2
TCL Communication Ltd	5028Y	Alcatel 1S	2
ASUSTek Computer Inc	ASUS_X018D	ASUS ZB570TL	2
Samsung Korea	GT-I9000	Samsung GT-I9000	2
Xiaomi Communications Co Ltd	M1908F1XE	M1908F1XE	2
Huawei Device Company Limited	GFY-AL00	GFY-AL00	2
Motorola Mobility LLC a Lenovo Company	XT2010-1	Parker	2
ASUSTek Computer Inc	ASUS_X008DA	ASUS Zenfone 3 MAX ZC520TL	2
INFINIX TECHNOLOGY LIMITED	X650D	HOT 8	2
HUAWEI Technologies Co Ltd	H1511	H1511	2
Samsung Korea	SM-J330M/DS	Samsung SM-J330M/DS	2
Samsung Korea	SM-G9280	Samsung SM-G9280	2
Xiaomi Communications Co Ltd	M1810F6LI	Redmi 7	2
INFINIX TECHNOLOGY LIMITED	X6816	HOT 12 Play	2
ASUSTek Computer Inc	ASUS_Z01KD	ASUS Zenfone 4 ZE554KL	2
Vivo Mobile Communication Co Ltd	V1836A	V1836A	2
HUAWEI Technologies Co Ltd	EVA-DL00	HUAWEI P9	2
Honor Device Company Limited	WDY-LX2	WDY-LX2	2
HUAWEI Technologies Co Ltd	CDY-TN00	CDY-TN00	2
INFINIX TECHNOLOGY LIMITED	X650B	HOT 8	2

HUAWEI Technologies Co Ltd	HUAWEI RIO-UL00	HUAWEI ASCEND	2
Vivo Mobile Communication Co Ltd	vivo Y21L	vivo vivo Y21L	2
Samsung Korea	SM-J600F	GALAXY J6 SM-J600F	2
Tecno Telecom (HK) Limited	KF6i	TECNO SPARK 7	2
Sony Mobile Communications	E2053	Xperia E4g	2
HUAWEI Technologies Co Ltd	INE-LX2r	HUAWEI nova 3i	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	PDEM10	PDEM10	2
Samsung Korea	SM-J336AZ	Galaxy J3 Top	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1707	CPH1707	2
Smartisan Digital Co Ltd	OS105	OS105	2
Samsung Korea	SM-G611M	Galaxy On7 Refresh	2
HUAWEI Technologies Co Ltd	FLA-TL10	FLA-TL10	2
Huawei Device Company Limited	MED-AL20	MED-AL20	2
Honor Device Company Limited	JDY-AN00	JDY-AN00	2
Samsung Korea	GT-I9515	Samsung GT-I9515	2
Samsung Korea	SM-G973N	Galaxy S10	2
Samsung Korea	SM-J5008	Samsung SM-J5008	2
Samsung Korea	SM-J400G	2018 Galaxy J4	2
Xiaomi Communications Co Ltd	M1804D2SG	MI A2	2
Samsung Korea	SM-N920K	Samsung SM-N920K	2
Honor Device Company Limited	NTN-LX3	NTN-LX3	2
Honor Device Company Limited	TNA-AN00	TNA-AN00	2
Samsung Korea	SM-J330G	Samsung SM-J330G	2
TCL Communication Ltd	T671E	TCL 20 SE	2
Vivo Mobile Communication Co Ltd	vivo 1611	vivo vivo 1611	2
Itel Technology Limited	S665L	S23	2
Xiaomi Communications Co Ltd	M1810E5E	MI MIX3	2
Samsung Korea	GT-I9195I	Samsung GT-I9195I	2
Samsung Korea	SM-J530Y	Samsung SM-J530Y	2
Motorola Mobility LLC a Lenovo Company	XT2155-1	Aruba21	2
Vivo Mobile Communication Co Ltd	vivo 1817	vivo Y91	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	PBDM00	PBDM00	2
Microsoft Mobile Oy	RM-1085	RM-1085 Microsoft Lumia 950 XL	2
Motorola Mobility LLC a Lenovo Company	XT1952-2	Channel Moto G Play (7th Gen)	2
HUAWEI Technologies Co Ltd	TRT-TL10A	TRT-TL10A	2
Samsung Korea	SM-N950U1	Samsung SM-N950U1	2
Motorola Mobility LLC a Lenovo Company	XT2333-4	PenangPlus23	2
Samsung Korea	SM-J610FN	Galaxy J6+	2
HUAWEI Technologies Co Ltd	MAR-LX2J	HUAWEI P30 lite	2
Smartisan Digital Co Ltd	OD105	OD105	2
Samsung Korea	SM-A102N	Galaxy A10e Kids	2
Lenovo (Beijing) Co Ltd	Lenovo L38043	Lenovo K9	2
HUAWEI Technologies Co Ltd	ANE-TL00	HUAWEI nova 3e	2
Xiaomi Communications Co Ltd	M2012K11C	M2012K11C	2
Samsung Korea	SM-G360F	Samsung SM-G360F	2
Huawei Device Company Limited	MED-AL00	MED-AL00	2
Samsung Korea	SM-J810G/DS	Samsung SM-J810G/DS	2
Samsung Korea	SM-A750F/DS	SM-A750F/DS GALAXY A7	2
Samsung Korea	SM-A605F/DS	Samsung Galaxy A6+ SM-A605F/DS	2
Samsung Korea	SM-A3000	Samsung SM-A3000	2
Samsung Korea	SM-M515F/DSN	Galaxy M51	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO A53m	OPPO A53m	2
Samsung Korea	SM-G887F/DS	Galaxy A8s	2
Samsung Korea	SM-J200F/DS	Samsung SM-J200F/DS	2
Samsung Korea	SM-J700F/DH	Samsung SM-J700F/DH	2
Vivo Mobile Communication Co Ltd	vivo 1726	vivo vivo 1726	2
Xiaomi Communications Co Ltd	2312FPCA6G	POCO M6 Pro	2
Samsung Korea	SM-J327V	Samsung SM-J327V	2
LG Electronics Inc.	LM-G850UM	G8X	2
INFINIX TECHNOLOGY LIMITED	X687B	ZERO 8i	2
Xiaomi Communications Co Ltd	2015561	MI4 c	2
Samsung Korea	SM-A920F	Galaxy A9	2
HUAWEI Technologies Co Ltd	EVA-L19	HUAWEI P9	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1893	CPH1893	2
Samsung Korea	SM-N960F/DS	Galaxy Note 9	2
Samsung Korea	SM-G900FD	Samsung SM-G900FD	2
Samsung Korea	SM-N920T	Samsung SM-N920T	2
INFINIX TECHNOLOGY LIMITED	X612B	SMART HD	2
Vivo Mobile Communication Co Ltd	V2031A	vivo Y90s	2
HUAWEI Technologies Co Ltd	TRT-LX3	HUAWEI Y7	2
Samsung Korea	SM-J710FN	Samsung SM-J710FN	2
Samsung Korea	SM-G611M/DS	Galaxy On7 Refresh	2
INFINIX TECHNOLOGY LIMITED	X676C	NOTE 12 2023	2
HMD Global Oy	TA-1181	Nokia 7.2	2
Samsung Korea	SM-J400M/DS	Galaxy J4	2
Vivo Mobile Communication Co Ltd	vivo V3M A	vivo vivo V3M A	2
Xiaomi Communications Co Ltd	M2003J6B2G	Redmi Note 9 Pro	2
Tecno Telecom (HK) Limited	LH7n	POVA 5	2
Samsung Korea	SM-A505F/DS	Galaxy A50	2
Honor Device Company Limited	CMA-LX3	CMA-LX3	2
LG Electronics Inc.	LM-V405UA	LM-V405UA	2
HUAWEI Technologies Co Ltd	PLK-AL10	PLK-AL10	2
HUAWEI Technologies Co Ltd	HRY-AL00T	HRY-AL00T	2
Vivo Mobile Communication Co Ltd	vivo Y71	vivo vivo Y71	2
Samsung Korea	SM-N920S	Samsung SM-N920S	2
Samsung Korea	SM-M115F/DS	Galaxy M11	2
Samsung Korea	SM-A7100	Samsung SM-A7100	2

Samsung Korea	SM-A730F	GALAXY A8+ SM-A730F	2
Samsung Korea	SM-G930L	Samsung SM-G930L	2
Samsung Korea	SM-A750F/DS	GALAXY A7 SM-A750F/DS	2
Samsung Korea	SM-J730F/DS	Galaxy J7 Pro SM-J730F/DS	2
INFINIX TECHNOLOGY LIMITED	X695C	NOTE 10 PRO	2
INFINIX TECHNOLOGY LIMITED	X6516	SMART 7 HD	2
Tecno Telecom (HK) Limited	CD6	CAMON 15 Air	2
Motorola Mobility LLC a Lenovo Company	XT1103 Valocia	Nexus 6 Valocia	2
Motorola Mobility LLC a Lenovo Company	XT1789-05	Moto Z Force (2nd Gen) GE12072145	2
HUAWEI Technologies Co Ltd	HMA-L29	HUAWEI Mate 20	2
Motorola Mobility LLC a Lenovo Company	XT2095-1	Malta20	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO A79t	OPPO A79t	2
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3741	RMX3741	2
G-Mobile Devices Private Limited	X650C	INFINIX HOT 8	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1825	CPH1825	2
Xiaomi Communications Co Ltd	M2102K1AC	M2102K1AC	2
Nokia Corporation		7230	7230
Vivo Mobile Communication Co Ltd	V1930A	vivo Y3	2
Samsung Korea	SM-T385C	Samsung SM-T385C	2
Samsung Korea	SM-A705FN/DSM	Galaxy A70	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	PCAT00	PCAT00	2
Samsung Korea	SM-M305M/DS	RIZE 30 SEA	2
Xiaomi Communications Co Ltd	M2004J19C	Redmi 9	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2477	CPH2477	2
Samsung Korea	SM-G970N	Galaxy S10e	2
HUAWEI Technologies Co Ltd	PRA-LA1	HUAWEI nova lite HUAWEI P8 lite 2017 HUAWEI P9 lite 2017	2
Honor Device Company Limited	VNE-AN40	VNE-AN40	2
Vivo Mobile Communication Co Ltd	V2147	vivo Y15C	2
Huawei Device Company Limited	NEN-LX1	HUAWEI nova 8i	2
INFINIX TECHNOLOGY LIMITED	X683	NOTE 8i	2
Samsung Korea	SM-A500G/DS	Samsung SM-A500G/DS	2
Samsung Korea	SM-M305F	M30	2
HUAWEI Technologies Co Ltd	BLN-L22	honor 6X	2
Xiaomi Communications Co Ltd	M1903C3GI	Redmi Go	2
Samsung Korea	SM-A3058	Galaxy A30 CMCC	2
Xiaomi Communications Co Ltd	21121119SC	21121119SC	2
HMD Global Oy	TA-1099	TA-1099	2
HUAWEI Technologies Co Ltd	LDN-AL20	LDN-AL20	2
HUAWEI Technologies Co Ltd	NCE-AL10	NCE-AL10	2
HUAWEI Technologies Co Ltd	HRY-LX1MEB	HRY-LX1MEB	2
Motorola Mobility LLC a Lenovo Company	XT2227-1	Hawaii22	2
Motorola Mobility LLC a Lenovo Company	XT1952-2	Moto G Play (7th Gen)	2
Samsung Korea	SM-A315F/DS	Galaxy A31	2
HUAWEI Technologies Co Ltd	KIW-CL00	HONOR 5X	2
Samsung Korea	SM-G930K	Samsung SM-G930K	2
Samsung Korea	SM-A6060	Galaxy A60	2
Samsung Korea	SM-G9008V	Samsung SM-G9008V	2
HUAWEI Technologies Co Ltd	STK-LX1	HUAWEI P Smart Z	2
Tecno Telecom (HK) Limited	CC9	CAMON 12Pro	2
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX1911	RMX1911	2
Xiaomi Communications Co Ltd	2302EPCC4I	2302EPCC4I	2
HTC Corporation	2PYB200	2PYB200	2
Sony Mobile Communications	F8131	Xperia X Performance	2
TCL Communication Ltd	5017A	5017A	2
LG Electronics Inc.	LM-X420N	LM-X420N	2
Samsung Korea	SM-G615FU/DS	Samsung SM-G615FU/DS	2
Xiaomi Communications Co Ltd		2016050 B6L	2
HUAWEI Technologies Co Ltd	PRA-AL00X	PRA-AL00X	2
Samsung Korea	SM-A605GN/DS	Samsung SM-A605GN/DS	2
HUAWEI Technologies Co Ltd	HUAWEI GRA-L09	HUAWEI P8	2
Shenzhen Gionee Communication Equipment Co Ltd	GIONEE S10	S10	2
Samsung Korea	SM-A7070	Galaxy A70s	2
HMD Global Oy	TA-1083	TA-1083	2
Samsung Korea	SM-J320A	Samsung SM-J320A	2
Samsung Korea	SM-J720F/DS	GALAXY J7 DUO SM-J720F/DS	2
HUAWEI Technologies Co Ltd	DUB-TL00	DUB-TL00	2
Samsung Korea	SM-G920L	Samsung SM-G920L	2
Xiaomi Communications Co Ltd	M2001J2E	M2001J2E	2
Huawei Device Company Limited	MED-LX9N	HUAWEI Y6p	2
Samsung Korea	SM-A606F/DS	Galaxy A60	2
Sony Mobile Communications	G3312	Xperia L1	2
Xiaomi Communications Co Ltd	MBE6A5	Redmi NOTE4X	2
Samsung Korea	SM-J530GM/DS	Samsung SM-J530GM/DS	2
Sony Mobile Communications	D5503 - Xperia Z1 Compact	Sony D5503 - Xperia Z1 Compact	2
OnePlus Technology (Shenzhen) Co Ltd	ONEPLUS A3000	ONEPLUS A3000	2
Xiaomi Communications Co Ltd	M2003J15SC	M2003J15SC	2
Samsung Korea	SM-G870A	Samsung SM-G870A	2
LG Electronics Inc.	LM-Q630BAW	LM-Q630BAW	2
Samsung Korea	SM-J810YN/DS	Samsung SM-J810YN/DS	2
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3063	RMX3063	2
Xiaomi Communications Co Ltd	M1902F1G	MI 9	2
Samsung Korea	GT-I9100T	Samsung GT-I9100T	2
HUAWEI Technologies Co Ltd	Che2-UL00	Che2-UL00	2
Microsoft Mobile Oy	RM-1104	RM-1104 Microsoft Lumia 950	2
Sony Mobile Communications	M55w D5803	Xperia Z3 Compact	2
Tecno Telecom (HK) Limited	KL4	TECNO SPARK Go 1	2
Motorola Mobility LLC a Lenovo Company	XT2335-1	moto g53 5G	2

Xiaomi Communications Co Ltd		2015711	A7		2
Samsung Korea	SM-N9600/SS		Galaxy Note 9		2
Samsung Korea	SM-J410G		Galaxy J4 Core		2
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2170		RMX2170		2
Shenzhen Sanki Genesis Electronics Co Ltd	C403H		C403H		2
Samsung Korea	SM-N9600/DS		Galaxy Note 9		2
Vivo Mobile Communication Co Ltd	vivo 1816		vivo Y91		2
TCL Communication Ltd	5033E		Alcatel 1		2
Samsung Korea	SM-N935F/DS		Samsung SM-N935F/DS		2
Samsung Korea	SM-A9080		Galaxy A90s		2
INFINIX TECHNOLOGY LIMITED	X657B		HOT 10 lite		2
Vivo Mobile Communication Co Ltd	vivo NEX A		NEX		2
Lenovo (Beijing) Co Ltd	Lenovo K33a42		Lenovo K6 POWER		2
Samsung Korea	SM-G8850		Galaxy A9 Star		2
Samsung Korea	SM-J737T1		Galaxy J7 Top		2
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2119		CPH2119		2
Xiaomi Communications Co Ltd	MEG7		Redmi 5plus		2
Smartisan Digital Co Ltd	OD103		OD103		2
HUAWEI Technologies Co Ltd	VTR-TL00		HUAWEI P10		2
Guangdong Oppo Mobile Telecommunications Corp Ltd	PDNM00		PDNM00		2
Vivo Mobile Communication Co Ltd	V1732T		vivo Y81s		2
HUAWEI Technologies Co Ltd	SCL-AL00		SCL-AL00		2
Vivo Mobile Communication Co Ltd	V2203		vivo Y02s		2
Motorola Mobility LLC a Lenovo Company	XT2091-4		Cebu20		2
Samsung Korea	SM-G950U		Galaxy S8		2
HTC Corporation	2PQ9100		HTC One A9		2
Samsung Korea	SM-J530F/DS		GALAXY J5 Pro SM-J530F/DS		2
Vivo Mobile Communication Co Ltd	vivo 1806		vivo V11		2
Xiaomi Communications Co Ltd		2016001	B3		2
Xiaomi Communications Co Ltd	M1908C3JGG		Redmi Note 8		2
Samsung Korea	SM-J200H		Samsung SM-J200H		2
Huawei Device Company Limited	CET-AL00		CET-AL00		2
Vivo Mobile Communication Co Ltd	vivo 1719		vivo vivo 1719		2
Samsung Korea	SM-A605FN/DS		Galaxy A6+		2
HUAWEI Technologies Co Ltd	VTR-L09		HUAWEI P10		2
Samsung Korea	SM-S357BL		Galaxy J3 TOP		2
Samsung Korea	SM-A908Q/DS		Galaxy A90s		2
Vivo Mobile Communication Co Ltd	V2072A		V2072A		2
Samsung Korea	SM-G360G		Samsung SM-G360G		2
ASUSTek Computer Inc	ASUS_X00QD		ASUS Zenfone 5 ZE620KL		2
Sony Mobile Communications	G8141		Xperia XZ Premium		2
Microsoft Mobile Oy Nokia Corporation	RM-1045 Lumia 930 Nokia 930		RM-1045 Lumia 930 Nokia 930		2
Vivo Mobile Communication Co Ltd	V2318A		V2318A		2
Xiaomi Communications Co Ltd	M2001J2G		Mi 10		2
Samsung Korea	SM-N950FD		Samsung SM-N950FD		2
Samsung Korea	SM-C7108		Samsung SM-C7108		2
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2002		RMX2002		2
Samsung Korea	SM-J330F		GALAXY J3 Pro SM-J330F		2
Samsung Korea	GT-I9060		Galaxy Grand Neo GT-I9060		2
Samsung Korea	SM-A215U		Galaxy A21		2
Honor Device Company Limited	RKY-LX1		RKY-LX1		2
Honor Device Company Limited	KKG-AN70		KKG-AN70		2
Samsung Korea	SM-G610S		Samsung SM-G610S		2
Xiaomi Communications Co Ltd	M1805D1SI		Redmi 6 pro		2
HUAWEI Technologies Co Ltd	VTR-L29		HUAWEI P10		2
Huawei Device Company Limited	CET-AL60		CET-AL60		2
Samsung Korea	SM-A8050		A80		2
Xiaomi Communications Co Ltd	M1912G7BE		Redmi K30		2
Vodafone	VFD 513		Vodafone Smart E8		2
Bullitt Group Limited	B35		B35		2
Samsung Korea	SM-G960U1		Galaxy S9		2
HTC Corporation	2PST110		HTC 2PST110		2
Tecno Telecom (HK) Limited	CE7j		CAMON 16		2
Sony Mobile Communications	TBD		Sony TBD		2
Tecno Telecom (HK) Limited	LE6h		POVA Neo		2
Samsung Korea	SM-A605F/DS		Galaxy A6+		2
ZTE Corporation	ZTE 8045		ZTE Blade V40 Vita		2
Samsung Korea	SM-J330F/DS		GALAXY J3 PRO SM-J330F/DS		2
Xiaomi Communications Co Ltd	23053RN02I		23053RN02I		2
Tecno Telecom (HK) Limited	KE6j		TECNO SPARK 6 Air		2
Sharp Corporation IoT Communication BU	XN-DDBT58		SH-02M		2
HUAWEI Technologies Co Ltd	INE-LX1		HUAWEI nova 3i HUAWEI P smart+		2
Samsung Korea	SM-A530F/DS		GALAXY A8		2
Samsung Korea	SM-A3058		Galaxy A40s		2
TCL Communication Ltd	5028D		Alcatel 1S		2
Samsung Korea	SM-A600F/DS		GALAXY A6 SM-A600F/DS		2
ASUSTek Computer Inc	ASUS_X00PD		ASUS ZB555KL ZenFone Max M1		2
Samsung Korea	SM-G532M/DS		Samsung SM-G532M/DS		2
Samsung Korea	SM-G7102		Samsung SM-G7102		2
Samsung Korea	SM-G611FF/DS		J7 Prime2		2
HUAWEI Technologies Co Ltd	WAS-TL10		WAS-TL10		2
Xiaomi Communications Co Ltd	M1902F1C		MI 9		2
HUAWEI Technologies Co Ltd	ARE-AL00		ARE-AL00		2
Honor Device Company Limited	WOD-LX2		WOD-LX2		2
Honor Device Company Limited	RKY-AN10		RKY-AN10		2
WEIKE Device Technology (Shenzhen) Co Ltd	BAL-AN20		Hi Enjoy 70 Pro 5G		2
Samsung Korea	SM-J701F/DS		Galaxy J7 SM-J701F/DS		2

Samsung Korea	SM-G928F	Galaxy S6 Edge Plus SM-G928F	2
Samsung Korea	SM-A5000	Samsung SM-A5000	2
Honor Device Company Limited	CLK-LX2	CLK-LX2	2
Vivo Mobile Communication Co Ltd	V2205	vivo Y35	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	PAAT00	PAAT00	2
Huawei Device Company Limited	CTR-AL00	CTR-AL00	2
TCL Communication Ltd	5029Y	Alcatel 3L	2
Samsung Korea	SM-A605G/DS	Galaxy A6 Plus	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	PECT30	PECT30	2
Samsung Korea	SM-G955U1	Samsung SM-G955U1	2
Motorola Mobility LLC a Lenovo Company	XT2235-1	Devon22	2
Samsung Korea	SM-J610F/DS	GALAXY J6+ SM-J610F/DS	2
Samsung Korea	SM-G5308W	Samsung SM-G5308W	2
LG Electronics Inc.	LG-M160	LG-M160	2
Samsung Korea	SM-G965U1	Galaxy S9+	2
Itel Technology Limited	it2173	it2173	2
HUAWEI Technologies Co Ltd	VKY-AL00	P10 Plus	2
Samsung Korea	SM-A7050	Galaxy A70	2
Xiaomi Communications Co Ltd	23028RA60L	Redmi Note 12	2
Motorola Mobility LLC a Lenovo Company	XT1721	Moto C Plus	2
Samsung Korea	SM-J500F/DS	Samsung SM-J500F/DS	2
Samsung Korea	SM-G6000	Samsung SM-G6000	2
HMD Global Oy	TA-1196	Nokia 7.2	2
Samsung Korea	SM-G885Y/DS	Galaxy A Star	2
Tecno Telecom (HK) Limited	KG5k	TECNO SPARK 8C	2
Samsung Korea	SM-J510MN/DS	Samsung SM-J510MN/DS	2
HUAWEI Technologies Co Ltd	CUN-AL00	HONOR CUN-AL00	2
HUAWEI Technologies Co Ltd	HLK-AL00	HONOR 9X	2
HUAWEI Technologies Co Ltd	JKM-LX3	HUAWEI Y8s	2
Samsung Korea	SM-J106B/DS	Samsung SM-J106B/DS	2
Bullitt Group Limited	S31	S31	2
LG Electronics Inc.	LM-V350N	LM-V350N	2
Motorola Mobility LLC a Lenovo Company	XT2113-1	Kiev21	2
HUAWEI Technologies Co Ltd	AUM-AL20	Honor 7A	2
LG Electronics Inc.	LM-K410BMW	LM-K410BMW	2
INFINIX TECHNOLOGY LIMITED	X687	ZERO 8	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO A73t	OPPO A73t	2
HUAWEI Technologies Co Ltd	ANE-LX2J	HUAWEI P20 lite	2
Vivo Mobile Communication Co Ltd	V1938CT	V1938CT	2
Honor Device Company Limited	TFY-LX2	TFY-LX2	2
Samsung Korea	SM-N7505	Samsung SM-N7505	2
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3501	RMX3501	2
Samsung Korea	SM-N960F/DS	SM-N960F/DS GALAXY NOTE9	2
HUAWEI Technologies Co Ltd	CLT-AL00	HUAWEI P20 Pro	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO R9 Plustm A	OPPO R9 Plustm A	2
Samsung Korea	SCV43	Galaxy A30	2
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX1931	RMX1931	2
Tecno Telecom (HK) Limited	BD4a	POP 5 LTE	2
Vivo Mobile Communication Co Ltd	V2252	vivo Y02t	2
Google Inc	G-2PW2200	G-2PW2200	2
Samsung Korea	SM-G900H	Samsung SM-G900H	2
HUAWEI Technologies Co Ltd	CDL-AN50	CDL-AN50	2
HUAWEI Technologies Co Ltd	WAS-LX3	HUAWEI P10 lite	2
Vivo Mobile Communication Co Ltd	V2238	vivo Y22	2
Motorola Mobility LLC a Lenovo Company	XT2229-2	HawaiiPlusLite22	2
HUAWEI Technologies Co Ltd	HUAWEI ALE-L21	HUAWEI P8 lite HUAWEI P8 Lite	2
INFINIX TECHNOLOGY LIMITED	X680	HOT 9 Play	2
China Post Communications Equipment Co Ltd	ALH-BD00	Hi nova 10	2
Samsung Korea	SM-C5010	Samsung SM-C5010	2
HUAWEI Technologies Co Ltd	ANE-LX2	HUAWEI P20 lite HUAWEI nova 3e	2
Microsoft Mobile Oy	RM-1154	RM-1154 Microsoft Lumia 650 Dual SIM	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	PEMM20	PEMM20	2
Motorola Mobility LLC a Lenovo Company	XT1941-3	Deen Motorola One	2
Samsung Korea	SM-N9500	Galaxy N8	2
Samsung Korea	SM-J730K	Samsung SM-J730K	2
Xiaomi Communications Co Ltd	M2010J19SC	Redmi note 9	2
Samsung Korea	SM-J3110	Samsung SM-J3110	2
Samsung Korea	SM-J5007	Samsung SM-J5007	2
Honor Device Company Limited	KOZ-AL40	KOZ-AL40	2
Nokia Corporation			1600
Vivo Mobile Communication Co Ltd	V1813A	vivo Y97	2
Tecno Telecom (HK) Limited	PR651	TECNO SPARK 7	2
Tecno Telecom (HK) Limited	KC2	TECNO SPARK 4	2
Samsung Korea	SM-N970U	Galaxy Note10	2
HMD Global Oy	TA-1059	Nokia 8110 4g DS	2
Samsung Korea	SM-A305F	Galaxy A30	2
Samsung Korea	SM-A025G/DSN	Galaxy A02s	2
Honor Device Company Limited	HJC-LX9	HJC-LX9	2
Vivo Mobile Communication Co Ltd	vivo Y51	vivo vivo Y51	2
HUAWEI Technologies Co Ltd	ART-AL00m	ART-AL00m	2
HUAWEI Technologies Co Ltd	JSN-L22	HONOR 9X Lite	2
Itel Technology Limited	A666LN	P55	2
INFINIX TECHNOLOGY LIMITED	X670	NOTE 12	2
HMD Global Oy	TA-1276	TA-1276	2
Xiaomi Communications Co Ltd	M1901F7H	Redmi Note7	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2023	CPH2023	2
Samsung Korea	SM-J720M	Galaxy J7 Duo	2

Sony Mobile Communications	C6603 - Xperia Z	SONY C6603 - Xperia Z	2
Samsung Korea	SM-G532F	GALAXY GRAND PRIME+ SM-G532F	2
HUAWEI Technologies Co Ltd	PLE-703L	PELE	2
Nokia Corporation	X2-02	Nokia X2-02	2
Xiaomi Communications Co Ltd	M1912G7BI	M1912G7BI	2
Samsung Korea	SM-G930W8	Samsung SM-G930W8	2
Honor Device Company Limited	RKY-LX3	RKY-LX3	2
Tecno Telecom (HK) Limited	BG6	TECNO POP 8	2
Samsung Korea	SM-A415F/DSN	Galaxy A41	2
Xiaomi Communications Co Ltd		2016031 Redmi 3S	2
Xiaomi Communications Co Ltd	M1804C3CC	Redmi 6A	2
Samsung Korea	SM-A6050	Galaxy A9 Star lite	2
Motorola Mobility LLC a Lenovo Company	XT1929-6	SL12438445 Moto Z Play (3rd Gen)	2
Sony Mobile Communications	This is a Test IMEI to be used with multiple prototype models. The frequency bands for each model may not match what is listed in this record	This is a Test IMEI to be used with multiple prototype models. The frequency bands for each model may not match what is listed in this record	2
Honor Device Company Limited	LLY-AN00	LLY-AN00	2
HUAWEI Technologies Co Ltd	KOB-L09	HUAWEI MediaPad T3	2
Apple Inc	A1533	A1533	2
Vivo Mobile Communication Co Ltd	V2342	vivo Y100	2
Motorola Mobility LLC a Lenovo Company	XT1792	D012080945 Moto G (5th Gen S)	2
Huawei Device Company Limited	TNN-AN00	TNN-AN00	2
Sony Mobile Communications	TBD	TBD	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1821	CPH1821	2
Samsung Korea	SM-A750FN/DS	GALAXY A7 SM-A750FN/DS	2
Huawei Device Company Limited	MAO-AL00	MAO-AL00	2
Xiaomi Communications Co Ltd	24048RN6CI	24048RN6CI	2
Samsung Korea	SM-G390Y	Samsung SM-G390Y	2
Xiaomi Communications Co Ltd	2201117TL	Redmi Note 11	2
HUAWEI Technologies Co Ltd	BLN-AL20	BLN-AL20	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	PKA110	PKA110	2
Motorola Mobility LLC a Lenovo Company	XT1802	Moto G Plus (5th Gen S) ZA12074445	2
Samsung Korea	SM-N900S	Samsung SM-N900S	2
Honor Device Company Limited	VNE-LX1	VNE-LX1	2
Vivo Mobile Communication Co Ltd	V2234	vivo Y02A	2
OnePlus Technology (Shenzhen) Co Ltd	ONEPLUS A3003	ONEPLUS 3	2
Samsung Korea	SM-A115F	Galaxy A11	2
Tecno Telecom (HK) Limited	CC6	CAMON 12 Air	2
Samsung Korea	SGH-E250	SGH-E250	2
Samsung Korea	SM-J810Y	Galaxy J8 2018	2
INFINIX TECHNOLOGY LIMITED	X6739	GT 10 Pro	2
Samsung Korea	SM-J610F	GALAXY J6+ SM-J610F	2
Honor Device Company Limited	CRT-LX3	CRT-LX3	2
Samsung Korea	SM-A606Y/DS	Galaxy A60	2
Xiaomi Communications Co Ltd	M1901F7BE	M1901F7BE	2
Motorola Mobility LLC a Lenovo Company	XT2015-2	Lima	2
Vivo Mobile Communication Co Ltd	V1945A	vivo Y9s	2
OnePlus Technology (Shenzhen) Co Ltd	CPH2469	CPH2469	2
HUAWEI Technologies Co Ltd	BND-L21	Honor 7X	2
Tecno Telecom (HK) Limited	CG8	CAMON 17 Pro	2
Lenovo (Beijing) Co Ltd	Lenovo A7010a48	Lenovo Lenovo A7010a48 Lenovo A7010	2
Samsung Korea	SM-J701M/DS	Galaxy J7 Neo	2
Sony Mobile Communications	E2303	Xperia M4 Aqua	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	PKD110	PKD110	2
Samsung Korea	SM-J600GF/DS	2018 J6	2
Samsung Korea	SM-N920L	Samsung SM-N920L	2
Tecno Telecom (HK) Limited	KF6k	TECNO SPARK 7	2
HTC Corporation	2PS6200	HTC 10	2
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX1991	RMX1991	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1719	CPH1719	2
Samsung Korea	GT-I9305T	Samsung GT-I9305T	2
HUAWEI Technologies Co Ltd	LYA-L29	HUAWEI Mate 20 Pro PORSCHE DESIGN HUAWEI Mate 20	2
Vivo Mobile Communication Co Ltd	vivo Y66i A	vivo vivo Y66i A	2
Tecno Telecom (HK) Limited	LG6n	POVA Neo 2	2
INFINIX TECHNOLOGY LIMITED	X626B	S4	2
Sony Mobile Communications	D5833	Xperia Z3 Compact	2
Samsung Korea	SM-J610FN/DS	GALAXY J6+ SM-J610FN/DS	2
Samsung Korea	SM-A6058	Galaxy A9 Star lite	2
Samsung Korea	SM-J260M/DS	Galaxy J2 Core	2
Vivo Mobile Communication Co Ltd	V1818CT	vivo Y93s	2
Samsung Korea	SM-J337U	Galaxy J3 TOP	2
Samsung Korea	SM-G550T	Samsung SM-G550T	2
Vivo Mobile Communication Co Ltd	V1981A	iQOO Neo3	2
Xiaomi Communications Co Ltd		2015015 MI 4i	2
Samsung Korea	SM-A605G/DS	Samsung SM-A605G/DS	2
LG Electronics Inc.	LG-D855	LG G3	2
Samsung Korea	SM-J200Y	Samsung SM-J200Y	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	PELM00	PELM00	2
Samsung Korea	SM-A115M	Galaxy A11	2
HUAWEI Technologies Co Ltd	JAT-L41	HUAWEI Y6s	2
Apple Inc	iPhone 4S(A1387)	Apple iPhone 4S (A1387)	2
Samsung Korea	SM-J200M	Samsung SM-J200M	2
Samsung Korea	SM-N9508	Samsung SM-N9508	2
Samsung Korea	SM-M115F/DSN	Galaxy M11	2
Motorola Mobility LLC a Lenovo Company	XT2163-4	moto g pure (2021)	2
Tecno Telecom (HK) Limited	KF7j	TECNO SPARK 7P	2

INFINIX TECHNOLOGY LIMITED	X680F	HOT 9 Play	2
Samsung Korea	SM-M315F/DSN	Galaxy M31	2
Microsoft Mobile Oy	RM-1152	RM-1152 Microsoft Lumia 650	2
Tecno Telecom (HK) Limited	CH6n	CAMON 18	2
Samsung Korea	SM-J120ZN	Samsung SM-J120ZN	2
HMD Global Oy	TA-1116	Nokia 6.1 Plus DS	2
Samsung Korea	SM-G9730	Galaxy S10	2
Samsung Korea	SM-M105Y/DS	Galaxy M10	2
Honor Device Company Limited	ALI-AN00	ALI-AN00	2
Samsung Korea	SM-G920K	Samsung SM-G920K	2
HMD Global Oy	TA-1352	TA-1352	2
Samsung Korea	SM-A9100	Samsung SM-A9100	2
Samsung Korea	GT-I9195T	Samsung GT-I9195T	2
LG Electronics Inc.	LG-D802	LG G2	2
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3195	RMX3195	2
Samsung Korea	SM-J337W	Galaxy J3 TOP	2
HUAWEI Technologies Co Ltd	LDN-L01	HUAWEI Y7 2018	2
Meizu Technology Co Ltd	L681H	m3 note	2
Meizu Technology Co Ltd	M711H	M6	2
Samsung Korea	SM-A015T1	Galaxy A01	2
Samsung Korea	SM-A015G/DS	Galaxy A01	2
Samsung Korea	SM-G530FZ	Samsung SM-G530FZ	2
Vivo Mobile Communication Co Ltd	V2012A	iQOO Z1x	2
Motorola Mobility LLC a Lenovo Company	XT2231-1	moto g22	2
Samsung Korea	SM-C701F/DS	Samsung SM-C701F/DS	2
Samsung Korea	SM-G8850	Galaxy A8 Star	2
Samsung Korea	SM-J701MT/DS	Samsung SM-J701MT/DS	2
OnePlus Technology (Shenzhen) Co Ltd	ONEPLUS A3003	ONEPLUS 3T	2
Vivo Mobile Communication Co Ltd	V2026	vivo Y20i 2021	2
Motorola Mobility LLC a Lenovo Company	XT2333-1	moto g23	2
HUAWEI Technologies Co Ltd	ARE-AL10	ARE-AL10	2
Samsung Korea	SM-N970F/DS	Galaxy Note10	2
Xiaomi Communications Co Ltd	M2001J1C	M2001J1C	2
INFINIX TECHNOLOGY LIMITED	X6851B	NOTE 40 Pro+ 5G	2
Samsung Korea	SM-J737V	Galaxy J7 TOP	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	PEQM00	PEQM00	2
HUAWEI Technologies Co Ltd	FRD-L09	FRD-L09	2
Samsung Korea	SM-A505F	Galaxy A50	2
Samsung Korea	SM-A3051	Galaxy A30	2
Samsung Korea	SM-G887F	Galaxy A8s	2
Motorola Mobility LLC a Lenovo Company	XT2055-2	Blackjack	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	PEHT00	PEHT00	2
Motorola Mobility LLC a Lenovo Company	XT2061-3	motorola edge+	2
HUAWEI Technologies Co Ltd	HUAWEI ALE-L02	HUAWEI P8 lite	2
Vivo Mobile Communication Co Ltd	V1901A	Y3	2
Samsung Korea	SM-J105Y	Samsung SM-J105Y	2
Samsung Korea	SM-J730GM	Samsung SM-J730GM	2
Microsoft Mobile Oy	RM-1153	RM-1153 Microsoft Lumia 650	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1955	CPH1955	2
Samsung Korea	SM-N9008V	Samsung SM-N9008V	2
HUAWEI Technologies Co Ltd	DIG-AL00	DIG-AL00	2
Motorola Mobility LLC a Lenovo Company	XT1944-3	AL12491845 Moto E (5th Gen)	2
HUAWEI Technologies Co Ltd	MAR-LX3Bm	HUAWEI P30 lite HUAWEI P30 lite 2020	2
Samsung Korea	GT-E2252	Samsung GT-E2252	2
HTC Corporation	0PFH200	HTC 0PFH200	2
Samsung Korea	SM-G611F/DS	Galaxy On7	2
ASUSTek Computer Inc	ASUS_X00ID	ASUS Zenfone 4 Max ZC554KL	2
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2117	RMX2117	2
Samsung Korea	SM-G889YB/DS	Galaxy S8	2
LG Electronics Inc.	LM-Q730N	LM-Q730N	2
Vivo Mobile Communication Co Ltd	V2149	vivo Y21A	2
ASUSTek Computer Inc	ASUS_X00HD	ASUS ZenFone4 Max ZC520KL	2
Huawei Device Company Limited	JSC-AL50	JSC-AL50	2
HUAWEI Technologies Co Ltd	LIO-AN00P	LIO-AN00P	2
Vivo Mobile Communication Co Ltd	V2110	vivo Y21s	2
Honor Device Company Limited	WDY-LX1	WDY-LX1	2
Nokia Corporation	X2-00	Nokia X2-00	2
HUAWEI Technologies Co Ltd	FIG-LA1	FIG-LA1	2
Samsung Korea	SM-A025M	Galaxy A02s	2
HUAWEI Technologies Co Ltd	LLD-L21	Honor 9 Lite	2
Samsung Korea	SM-G892U	Samsung SM-G892U	2
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1871	CPH1871	1
HK Tai Fung Technology Limited	9054H	Flare S8 Deluxe	1
Sonim Technologies Inc	XP7s	XP7s	1
HMD Global Oy	TA-1534	TA-1534	1
LG Electronics Inc.	LM-X320APM	LM-X320APM	1
ASUSTek Computer Inc	ASUS_I005DB	ROG Phone	1
Motorola Mobility LLC a Lenovo Company	XT1789-01	Moto Z Force (2nd Gen) GE12989445	1
General Mobile Inc	DISCOVERY II Mini - STAR	GENERAL MOBILE DISCOVERY II Mini - STAR	1
Xiamen Meitu Mobile Technology Co Ltd	MP1603	MP1603	1
TCL Communication Ltd	BBB100-1	BlackBerry BBB100-1	1
LG Electronics Inc.	LM-X420EMW	LM-X420EMW	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	PDYM10	PDYM10	1
Samsung Korea	SM-J727T	Samsung SM-J727T	1
Xiaomi Communications Co Ltd		2015712 Redmi 2 Pro LTE	1
ZTE Corporation	ZTE A2017U	ZTE AXON7	1
Spa Condor Electronics	Infinity i5	Infinity i5	1

P-UP	MD-02P	MD-02P	1
TCL Communication Ltd	T782P	T782P	1
Ashtel Spares LLC	V3	RAVOZ V3	1
China Mobile Group Device Co Ltd	M850	N3	1
Samsung Korea	SM-G920A	Samsung SM-G920A	1
Samsung Korea	SM-A125W	Galaxy A12	1
Smartisan Digital Co Ltd	OE106	OE106	1
Sony Mobile Communications	E5663	Xperia M5 Dual	1
HUAWEI Technologies Co Ltd	COR-L29	Honor Play	1
Doke Communication (HK) Limited	S70 Pro	OSCAL S70 Pro	1
Nokia	RM-669	RM-669	1
Motorola Mobility LLC a Lenovo Company	XT1550 CA12459845	Moto G (3rd Gen) CA12459845	1
Samsung Korea	SM-J710MN	Samsung SM-J710MN	1
TCL Communication Ltd	5044T	PIXI 5	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2151	RMX2151	1
Huawei Device Company Limited	RTE-AL00	RTE-AL00	1
HMD Global Oy	TA-1108	Nokia 5.1 Plus SS	1
A-Link Telecom International Co Limited	X19	CUBOT X19	1
LG Electronics Inc.	LG-M320	X Power2	1
OnePlus Technology (Shenzhen) Co Ltd	GM1913	OnePlus 7 Pro	1
Palm Inc	Treo 650	Treo 650	1
Hong Kong Frog International Limited		511	511
Xiaomi Communications Co Ltd		2015116	3A
KVD International Group Limited	S55	DOOGEE S55	1
HMD Global Oy	TA-1104	Nokia 3.1 Plus DS	1
TCT Mobile Limited	one touch CP100	ALCATEL one touch CP100	1
Sony Mobile Communications	PM-1052-BV	PM-1052-BV	1
Motorola Mobility LLC a Lenovo Company	XT1687	Moto G Plus (5th Gen) CO128983645	1
Samsung Korea	SM-G925L	Samsung SM-G925L	1
ZTE Corporation	Z978	ZTE Zmax3	1
Samsung Korea	SM-J3300	Samsung SM-J3300	1
Sony India PVT Ltd	G2299	SONY G2299	1
Gotron (HK) Electronic Co Limited	Note 13P	Note 13P	1
INFINIX TECHNOLOGY LIMITED	X6517	SMART 7 PLUS	1
Sony Mobile Communications Inc.	H4413	PM-1162-BV	1
HUAWEI Technologies Co Ltd	HUAWEI LYO-L01	HUAWEI Y6 II Compact	1
Huawei Device Company Limited	JLN-LX1	JLN-LX1	1
Nokia Corporation		2690	2690
Toshiba Information Systems (UK) Ltd	TS30 TS608 TS2060	TS30 TS608 TS2060	1
KVD International Group Limited	X98PRO	X98PRO	1
Samsung Korea	SM-G920FD	Samsung SM-G920FD	1
Samsung Korea	GT-S5310B	Samsung GT-S5310B	1
Keysmart (Hong Kong) Limited	PA2310GBB	UMIDIGI A15T	1
Huawei Device Company Limited	GLA-LX3	HUAWEI nova 10 Pro	1
Sony Corporation	PM-1363-BV	PM-1363-BV	1
Vivo Mobile Communication Co Ltd	vivo X20Plus	vivo vivo X20Plus	1
Samsung Korea	SM-J530L	Samsung SM-J530L	1
Samsung Korea	SM-J250F	SM-J250F GALAXY J2 PRO / GALAXY GRAND PRIME PRO	1
Motorola Mobility LLC a Lenovo Company	XT1952-4	Channel	1
Samsung Korea	SM-A013G	Galaxy A3 Core	1
Sony Ericsson Mobile Communications AB	ST17a	Sony Ericsson ST17a	1
Xiaomi Communications Co Ltd	2407FRK8EC	2407FRK8EC	1
Telo Systems Limited	TE590P	TE590PLUS	1
Vmate (PVT) Ltd	NOTE 24	NOTE 24	1
Samsung Korea	SM-N910S	Samsung SM-N910S	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1717	CPH1717	1
INFINIX TECHNOLOGY LIMITED	X689	HOT 10S	1
HTC Corporation	HTC D820h	HTC D820h	1
DL Comercio e Industria de Produtos Eletronicos Ltda	YC-230	YC-230	1
TPV Audio and Visual Technology (Shenzhen) Co Ltd	Philips E6515	Philips E6515 Philips V103 Philips V13	1
HTC Corporation	0P6B630	HTC 0P6B630	1
Microsoft Mobile Oy Nokia Corporation	925.1 925.4 Lumia 925 Nokia 925	Nokia 925.1 925.4 Lumia 925 Nokia 925	1
Huawei Device Company Limited	ADY-AL80	ADY-AL80	1
Motorola Mobility LLC a Lenovo Company	XT2155-6	moto e20	1
Samsung Korea	SM-A600T	Shine	1
TCT Mobile Limited	7048S	Go Play	1
Itel Technology Limited	S681LN	S23+	1
Xiaomi Communications Co Ltd	M1810F6LT	Redmi 7	1
HMD Global Oy	TA-1399	TA-1399	1
HTC Corporation	2Q9F100	HTC U20 5G	1
Samsung Korea	SM-G903W	Samsung SM-G903W	1
Meizu Technology Co Ltd	M792Q	PRO 7	1
Tecno Telecom (HK) Limited	T384	TECNO T384	1
Tecno Telecom (HK) Limited	CL6	TECNO CAMON 30	1
Xiaomi Communications Co Ltd	M1908C3JC	Redmi Note 8	1
HK Elephone Communication Tech Co Limited	E10	E10	1
Motorola Mobility LLC a Lenovo Company	XT2015-2	Moto G Play (8th Gen)	1
Mobiwire SAS	Smart N12	Smart N12	1
Samsung Korea	SM-A015F	Galaxy A01	1
S.H.X Mobile Phone Trading L.L.C	M98	M98	1
Motorola Mobility LLC a Lenovo Company	XT1926-8	TE12413145 Moto G Plus (6th Gen)	1
TCT Mobile Limited	ONE TOUCH 6034R	ALCATEL ONE TOUCH 6034R	1
HK Haren Communication Technology Co Ltd	V320	VS & ME V320	1
Shenzhen City Suoye Excellence Technology Co Ltd	SOYES S10	SOYES S10	1
KVD International Group Limited	MIX 2	DOOGEE MIX 2	1
Xiaomi Communications Co Ltd		2014712	Redmi NOTE 3
HUAWEI Technologies Co Ltd	JSN-AL00a	Honor 8X	1

Tecno Telecom (HK) Limited	AB7	Phantom 9	1
LG Electronics Inc.	LM-V450PM	LM-V450PM	1
HUAWEI Technologies Co Ltd	BGO-DL09	HUAWEI MediaPad T2 7.0	1
HMD Global Oy	TA-1489	TA-1489	1
Samsung Korea	GT-C3011	Samsung GT-C3011	1
Sony Ericsson Mobile Communications AB	C905a	C905a	1
Samsung Korea	SM-A520F	GALAXY A5 SM-A520F	1
Xiamen Meitu Mobile Technology Co Ltd	MP1701	MP1701	1
HTC Corporation	2Q3F200	HTC U11 life	1
Sony Mobile Communications	H4213	Xperia XA2 Ultra	1
Sony Mobile Communications Inc.	XQ-AT42	XPERIA 1 II	1
Honor Device Company Limited	FRI-AN10	FRI-AN10	1
Panasonic Corporation	P55 Max	Panasonic P55 Max	1
BLU Products Inc	J9L	BLU J9L	1
G-Mobile Devices Private Limited	LC8	TECNO SPARK Power 2	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2059	CPH2059	1
LG Electronics Inc.	LM-X410L	LM-X410L	1
Samsung Korea	SM-A105FN	Galaxy A10	1
HTC Corporation	0PJA110	0PJA110	1
Meizu Technology Co Ltd	Y685Q	meilan3s	1
Samsung Korea	SM-C900Y/DS	Samsung SM-C900Y/DS	1
Samsung Korea	Galaxy Express GT-I8730	Samsung Galaxy Express GT-I8730	1
i.safe MOBILE GmbH	M120A01	IS120.1 IS120.2	1
Vivo Mobile Communication Co Ltd	vivo Y85	vivo Y85	1
TCL Communication Ltd	5080X	Alcatel SHINE LITE 5080X	1
DG HomTom Group Co Limited	HT17	HOMTOM HT17	1
HMD Global Oy	TA-1036	TA-1036	1
Doke Communication (HK) Limited	BV4900s	Blackview BV4900s	1
HUAWEI Technologies Co Ltd	CDY-AN95	HONOR 30S	1
HUAWEI Technologies Co Ltd	This is a Test IMEI to be used with multiple prototype models. The frequency bands for each model may not match what is listed in this record	This is a Test IMEI to be used with multiple prototype models. The frequency bands for each model may not match what is listed in this record	1
Motorola Mobility LLC a Lenovo Company	XT1039 M0FA8	Moto G with 4G Motorola M0FA8	1
ZTE Corporation	ZTE C2016	ZTE C2016	1
INFINIX TECHNOLOGY LIMITED	X6711	Infinix NOTE 30 5G	1
KVD International Group Limited	Blade10 Pro	Blade10 Pro	1
Xiaomi Communications Co Ltd	M2003J15SC	Redmi 10 X	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2025	RMX2025	1
HUAWEI Technologies Co Ltd	ARE-L22HN	Honor 8X Max	1
Samsung Korea	SM-J110M/ND	Samsung SM-J110M/ND	1
ZTE Corporation	ZTE BLADE A110	ZTE BLADE A110 BLADE A110 ZTE Blade A110 Blade A110	1
ZTE Corporation	A304ZT	A304ZT	1
KVD International Group Limited	S59	S59	1
Itel Technology Limited	it2060	it2060	1
LOGICOM SA	Five Pro	Five Pro	1
HUAWEI Technologies Co Ltd	JNY-LX1	HUAWEI P40 lite	1
Motorola Mobility LLC a Lenovo Company	XT1926-3	TE12413445 Moto G Plus (6th Gen)	1
HUAWEI Technologies Co Ltd	HUAWEI Y560-L01	HUAWEI Y5	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	A101OP	A101OP	1
Motorola Mobility LLC a Lenovo Company	XT1078 Thea	Moto G with LTE (2nd Generation) Thea	1
HMD Global Oy	TA-1511	TA-1511	1
Sony Mobile Communications Inc.	J8110	PM-1220-BV	1
Sony Mobile Communications	G3125	Xperia XA1	1
HUAWEI Technologies Co Ltd	HUAWEI CAN-L11	HUAWEI nova	1
Samsung Korea	SM-A720K	Samsung SM-A720K	1
Vivo Mobile Communication Co Ltd	V1813T	Z3i	1
TCL Communication Ltd	RJD211LW	BlackBerry RJD211LW	1
Samsung Korea	SCV42	Galaxy S10	1
Xiaomi Communications Co Ltd	22095RA98C	22095RA98C	1
Itel Technology Limited	P681L	P37 Pro(Vision2 Plus)	1
Sony Mobile Communications	G3226	Xperia XA1 Ultra	1
Vivo Mobile Communication Co Ltd	vivo Y69A	vivo vivo Y69A	1
ZTE Corporation	Z5031O	ZTE Z5031O Z5031O X Spirit 2	1
Nokia Corporation	Nokia 3330	Nokia 3330	1
Xiaomi Communications Co Ltd	M2007J3SP	M2007J3SP	1
Tecno Telecom (HK) Limited	CH7	CAMON 18P	1
Bullitt Group Limited	S30	CAT S30	1
Huawei Device Company Limited	ABR-AL60	ABR-AL60	1
Motorola Mobility LLC a Lenovo Company	XT1804	INDR002845	1
Sentar Wireless Technology Co Limited	Q60	Sentar Q60	1
Doke Communication (HK) Limited	BV9600 Pro	Blackview BV9600 Pro	1
INFINIX TECHNOLOGY LIMITED	X605	NOTE 5 Stylus	1
Vertu Corporation Limited	ASTER	ASTER	1
Sharp Corporation IoT Communication BU	SH-M26TW	SH-M26TW	1
Motorola Mobility LLC a Lenovo Company	XT2095-2	Malta20	1
HMD Global Oy	TA-1011	TA-1011	1
Samsung Korea	SM-J120G/DS	Samsung SM-J120G/DS	1
Huawei Device Company Limited	OCE-AL50	HUAWEI Mate 40E	1
LG Electronics Inc (Telematics)	This is a Test IMEI to be used with multiple prototype models. The frequency bands for each model may not match what is listed in this record	This is a Test IMEI to be used with multiple prototype models. The frequency bands for each model may not match what is listed in this record	1
Vivo Mobile Communication Co Ltd	vivo Y79	vivo vivo Y79	1
Huawei Device Company Limited	OMP-AN00	OMP-AN00	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3093	RMX3093	1
Xiaomi Communications Co Ltd	M1803E6H	Redmi S2	1

Palm Ventures Group	PVG100	Palm	1
Honor Device Company Limited	FNE-NX9	FNE-NX9	1
Motorola Mobility LLC a Lenovo Company	XT1926-8	Evert Moto G Plus (6th Gen)	1
Yulong Computer Telecommunication Scientific (Shenzhen) Co.	Coolpad 7290	Coolpad Coolpad 7290	1
HUAWEI Technologies Co Ltd	BKK-LX2	honor 8C	1
Vmate (PVT) Ltd	NEW 22	NEW 22	1
Fully Holdings (HK) Co Limited	WP9	WP9	1
Hong Kong Unihertz E-Commerce Company Limited	TANK MINI 1	TANK MINI 1	1
Sharp Corporation IoT Communication BU	SHV39	AQUOS R	1
HUAWEI Technologies Co Ltd	FLA-LX3	FLA-LX3	1
Huaxing International Communication Equipment Co Limited	MIX2	MIX2	1
Motorola Mobility LLC a Lenovo Company	XT1723	moto c plus LC12988845	1
Motorola Mobility LLC a Lenovo Company	XT2423-1	moto g24	1
INFINIX TECHNOLOGY LIMITED	X695	NOTE 10 PRO	1
Honor Device Company Limited	YOK-AN10	YOK-AN10	1
Hewlett-Packard	HSTNH-F606	HP Elite x3	1
HUAWEI Technologies Co Ltd	HMA-TL00	HUAWEI Mate 20	1
Xiaomi Communications Co Ltd	M1804D2SI	Mi A2	1
Samsung Korea	SM-J530YM	Samsung SM-J530YM	1
HMD Global Oy	TA-1003	TA-1003	1
TCL Communication Ltd	4163D	C20	1
Honor Device Company Limited	LLY-NX3	LLY-NX3	1
Lenovo (Beijing) Co Ltd	Lenovo P2c72	Lenovo Lenovo VIBE P2	1
Motorola Mobility LLC a Lenovo Company	XT1575 C5L1A3R7K	Moto X Pure Edition C5L1A3R7K	1
Shenzhen Huayuneng Communication Technology Co Ltd	ALFA D69	ALFA D69	1
Shenzhen Hejida Technology Co Ltd	SAILF P30pro	SAILF P30pro	1
HMD Global Oy	TA-1178	Nokia 7.2	1
Honor Device Company Limited	RBN-NX1	RBN-NX1	1
Nubia Technology Co Ltd	NX551J	NX551J	1
HUAWEI Technologies Co Ltd	HUAWEI TAG-TL00	HUAWEI TAG-TL00	1
LG Electronics Inc.	LG-M400F	LG-M400F	1
Samsung Korea	SM-A908N	Galaxy A90s	1
INFINIX TECHNOLOGY LIMITED	X551	Infinix HOT Note	1
Vivo Mobile Communication Co Ltd	vivo X6SPlus D	vivo vivo X6SPlus D	1
LG Electronics Inc.	LG-G710PM	LG-G710PM	1
TCL Communication Ltd	T506T	TCL 406s	1
AG-TEL Mex Technology HK Limited	RACER	AG-TEL RACER	1
LG Electronics Inc.	LG-US998	LG-US998	1
LG Electronics Inc.	LM-G900TM	LM-G900TM	1
Motorola Mobility LLC a Lenovo Company	XT1100 Valocia	Nexus 6 Valocia	1
Doro AB	DSB-0400	Doro 8100	1
Xiaomi Communications Co Ltd	M2103K19PY	M2103K19PY	1
Motorola Inc.	MT3-411F11	MT3-411F11	1
TCL Communication Ltd	4013X	ALCATEL ONETOUCH PIXI 3 (4)	1
Samsung Korea	GALAXY S4 GT-I9505	Samsung GALAXY S4 GT-I9505	1
Samsung Korea	SM-N9700	Galaxy Note10	1
Samsung Korea	SM-J810M	Samsung SM-J810M	1
ZTE Corporation	A1R	A1R	1
Samsung Korea	SM-J7008	Samsung SM-J7008	1
TCL Communication Ltd	T506F	TCL 406	1
Motorola Mobility LLC a Lenovo Company	XT2421-12	LionLite24	1
HTC Corporation	2PXH200	2PXH200	1
ZTE Corporation	ZTE A7000	ZTE Blade A7	1
Shenzhen uCloudlink Network Technology Co Ltd	G1701	G1701	1
Sony Mobile Communications	SO-01J	Xperia XZ	1
TCL Communication Ltd	T810S	T810S	1
Samsung Korea	SM-A800YZ	Samsung SM-A800YZ	1
ASUSTek Computer Inc	ASUS_X008	ASUS Zenfone 3 MAX ZC520TL	1
Red Technologies LLC	H1T1000	Hydrogen One	1
ZTE Corporation	T86	T86	1
Samsung Korea	SM-J260M/DS	Galaxy J2 Core PA SELAMI	1
BlackBerry Limited	RHM181LW (STV100-4)	BlackBerry RHM181LW (STV100-4)	1
Honor Device Company Limited	LLY-LX3	LLY-LX3	1
Vivo Mobile Communication Co Ltd	V2412	vivo Y100	1
Samsung Korea	SM-G9650	Galaxy S9	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3041	RMX3041	1
Microsoft Mobile Oy	RM-974 Nokia Lumia 635	Nokia RM-974 Nokia Lumia 635	1
Sony Mobile Communications	E5563	Xperia C5 Ultra Duat	1
LG Electronics Inc.	LG-K520K	LG-K520K	1
HUAWEI Technologies Co Ltd	BKL-AL20	Honor V10	1
Yulong Computer Telecommunication Scientific (Shenzhen) Co.	8681-A01	8681-A01	1
Shenzhen Cheng Fong Digital Tech Limited	PO568	PO568	1
ASUSTek Computer Inc	ASUS_Z00UD	ASUS ZD551KL Zenfone Selfie	1
LG Electronics Inc.	LG-D858HK	LG LG-D858HK	1
LG Electronics Inc.	LM-K420YMW	K42	1
TCL Communication Ltd	BBD100-1	B-Krypton	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	X9079	X9079	1
Motorola Mobility LLC a Lenovo Company	XT2421-3	Lion24	1
OnePlus Technology (Shenzhen) Co Ltd	BE2028	BE2028	1
LG Electronics Inc.	LM-Q720AM	LM-Q720AM	1
Xiaomi Communications Co Ltd		2015211 A4	1
Lenovo (Beijing) Co Ltd	Lenovo A6600d40	Lenovo Lenovo A6600 Lenovo A6600 Plus	1
Xiaomi Communications Co Ltd	22021119KR	22021119KR	1
Motorola Mobility LLC a Lenovo Company	XT2133-1	Lisbon21	1
Xiaomi Communications Co Ltd		2014817 Redmi 2 LTE	1
LG Electronics Inc.	LG-H440v	LG SPIRIT	1
HUAWEI Technologies Co Ltd	WAS-LX2J	HUAWEI P10 lite	1

TCL Communication Ltd	5029E	Alcatel 3	1
Motorola Mobility LLC a Lenovo Company	XT1962-6	River Moto G (7th Gen)	1
Samsung Korea	SM-A750C	Galaxy A7	1
HUAWEI Technologies Co Ltd	HUAWEI Y600-U20	HUAWEI Ascend Y600	1
Vivo Mobile Communication Co Ltd	vivo 1612	vivo vivo 1612	1
Motorola Mobility LLC a Lenovo Company	XT2317-2	Geneva4GNA23	1
Vivo Mobile Communication Co Ltd	vivo 1723	V9 Pro	1
Xiaomi Communications Co Ltd	M1810F6LH	Redmi 7	1
Xinchuangxin International Co. Limited	GX4	GX4	1
Lenovo (Beijing) Co Ltd	Lenovo K10e70	Lenovo Lenovo K10e70	1
G-Mobile Devices Private Limited	KE6	TECNO SPARK 6 Air	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	PFTM10	PFTM10	1
Samsung Korea (PO Box 105 Gyeonggi-Do)	SGH-S400I	SGH-S400I	1
Xiaomi Communications Co Ltd	24115RA8EG	24115RA8EG	1
Motorola Mobility LLC a Lenovo Company	XT1625	Moto G (4th Gen) AF12773545	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	PENM00	PENM00	1
HUAWEI Technologies Co Ltd	ART-L28	HUAWEI Y7p	1
Microsoft Mobile Oy	RM-1150	RM-1150 Microsoft Lumia 650	1
LG Electronics Inc.	LGM-V300L	LGM-V300L	1
Samsung Korea	GT-I8190	Samsung Galaxy S3 Mini GT-I8190	1
Vivo Mobile Communication Co Ltd	vivo X9s L	vivo vivo X9s L	1
LG Electronics Inc.	LG-D838	LG LG-D838	1
Mundo Reader S.L.	Aquaris A4.5	Aquaris A4.5	1
ASUSTek Computer Inc	ASUS_Z017D	ASUS Zenfone 3 ZE520KL	1
Doke Communication (HK) Limited	Tab8	Blackview Tab8	1
LG Electronics Inc.	LM-Q610ZM	LM-Q610ZM	1
Digicom Trading PVT Limited	4G Plus	QSmart 4G Plus	1
ZTE Corporation	ZTE Blade A610	ZTE Blade A610	1
Motorola Mobility LLC a Lenovo Company	XT1920-19	Moto E Play (5th Gen)	1
S Mobile Devices Limited	L5503L	ITEL A46	1
INFINIX TECHNOLOGY LIMITED	PR652B	HOT 10i	1
Bandshine	XTELECOM	XTELECOM	1
Motorola Mobility LLC a Lenovo Company	XT2363-4	Fogo5G23	1
Motorola Mobility LLC a Lenovo Company	XT1663	Moto M INDR003245	1
Samsung Korea	SM-G570Y	GALAXY J5 PRIME SM-G570Y	1
Sony Mobile Communications Inc.	I4213	PM-1190-BV	1
TCL Communication Ltd	5002E	Alcatel 1B	1
Motorola Mobility LLC a Lenovo Company	XT2201-4	Rogue22	1
ZTE Corporation	ZTE B2015	ZTE B2015	1
Samsung Korea	SM-M205N	Galaxy M20	1
Tecno Telecom (HK) Limited	LB8a	Pouvoir 3 Plus	1
Wiko	W-V730	View4 Lite	1
Microsoft Mobile Oy Nokia Corporation	909.1 Lumia 1020	Nokia 909.1 Lumia 1020	1
Unicom Vsens Communications Co Ltd	VP005	VP005	1
HUAWEI Technologies Co Ltd	PAR-TL00	PAR-TL00	1
Samsung Korea	SM-N910A	Samsung SM-N910A	1
KVD International Group Limited	N30	N30	1
OnePlus Technology (Shenzhen) Co Ltd	ONE E1001	ONE E1001	1
Tecno Telecom (HK) Limited	PR651H	TECNO SPARK 7	1
Xiaomi Communications Co Ltd	M1908C3JI	Redmi Note 8	1
Amoi Technology Co Ltd	AMOI0608	AMOI0608	1
Lenovo (Beijing) Co Ltd	Lenovo A7020a48	Lenovo Lenovo A7020a48 Lenovo Vibe K5 Note A7020a48	1
Swift Biz Solutions Pvt Ltd	Digit4G Pro	Digit4G Pro	1
Hytera Communications Corporation Limited	MNC360	MNC360	1
TCL Communication Ltd	5030A	Alcatel 1SE	1
Yulong Computer Telecommunication Scientific (Shenzhen) Co.	C106	C106	1
Samsung Korea	SM-G531F	Galaxy Grand Prime SM-G531F	1
Samsung Korea	SM-G977P	Galaxy S10 5G	1
Blackshark Technologies (Nanchang) Co Ltd	SHARK KSR-A0	Blackshark 4	1
HMD Global Oy	TA-1515	TA-1515	1
LG Electronics Inc.	LG-H860	LG-H860	1
Motorola Mobility LLC a Lenovo Company	XT1925-3	BL12494645 Moto G (6th Gen)	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2099	CPH2099	1
HUAWEI Technologies Co Ltd	TAH-AN00m	HUAWEI Mate Xs	1
LG Electronics Inc.	LG-F400K	LG LG-F400K	1
Beijing Shenqi Technology Co Ltd	Z2121	Z2 Pro	1
LG Electronics Inc.	LM-Q710WA	LM-Q710WA	1
ASUSTek Computer Inc	ASUS_Z01FD	ASUS ZS550KL ZenFone 3 Deluxe	1
Leadsky International Development Limited	AGM X3	AGM X3	1
Mundo Reader S.L.	Aquaris X Pro 4+64	Aquaris X Pro 4+64	1
ZTE Corporation	ZTE A7040	ZTE Blade A72	1
Hammerhead Navigation Inc	Karoo	Karoo	1
HUAWEI Technologies Co Ltd	Hol-U19	Hol-U19	1
Shanghai Zoomsmart Technology Co Ltd	rockie	rockie	1
M/S OPhone	X10 X-20 TV X330 X40 X3000	OPhone X10 X-20 TV X330 X40 X3000	1
Xiaomi Communications Co Ltd		2016111 C3	1
Bluebird Inc	EF500	EF500	1
Corporativo LANIX	ILIUM ALPHA 3	ILIUM ALPHA 3	1
Doke Communication (HK) Limited	N1000	Blackview N1000	1
Qingdao Hisense Communications Co Ltd	HNR320T	A7	1
Blackshark Technologies (Nanchang) Co Ltd	SHARK KLE-A0	SHARK KLE-A0	1
ASUSTek Computer Inc	ASUS_Z00XS	ASUS ZenFone Zoom ZX551ML	1
LG Electronics Inc.	LM-X420BMW	LM-X420BMW	1
Samsung Korea	SM-J110M/NS	Samsung SM-J110M/NS	1
Samsung Korea	SM-E700H/DS	Samsung SM-E700H/DS	1
ZTE Corporation	ZTE BLADE A112	ZTE BLADE A112 BLADE A112 ZTE Blade A112 Blade A112	1
Samsung Korea	SM-J415N	Galaxy J4+	1

Motorola Mobility LLC a Lenovo Company	XT1721	moto c plus LC12016245	1
LG Electronics Inc.	LM-Q610EM	LM-Q610EM	1
LEAGOO INTL CO. LIMITED	KIICAA MIX	LEAGOO KIICAA MIX	1
Samsung Korea	SGH-LC01	SGH-LC01	1
Huawei Device Company Limited	NOH-AL10	HUAWEI Mate 40 Pro	1
Qingdao Hisense Communications Co Ltd	HLTE300T	HLTE300T	1
HUAWEI Technologies Co Ltd	HWV33	HUAWEI P30 lite	1
Wiko Global SASU	W_K101S	Sunny3 Mini	1
HUAWEI Technologies Co Ltd	COR-TL10	COR-TL10	1
HUAWEI Technologies Co Ltd	K4201	HUAWEI Vodafone K4201	1
Tecno Telecom (HK) Limited	LD7	POVA	1
Vivo Mobile Communication Co Ltd	vivo 1723	vivo vivo V9	1
Sharp Corporation IoT Communication BU	SH-01J	SH-01J	1
INFINIX TECHNOLOGY LIMITED	X665B	HOT 12i	1
Samsung Korea	SGH-C160	SGH-C160	1
ASUSTek Computer Inc	ASUS_X00RD	ASUS ZA550KL/ZA551KL ZenFone Live L1	1
LG Electronics Inc.	LG-H870	G6	1
Huawei Device Company Limited	ANG-LX1	ANG-LX1	1
BlackBerry Limited	RHR191LW (SQW100-4)	BlackBerry RHR191LW (SQW100-4)	1
Shenzhen Gionee Communication Equipment Co Ltd	GIONEE GN5005	GN5005	1
LG Electronics Inc.	A001LG	KA2004	1
Xiamen Meitu Mobile Technology Co Ltd	MP1709	MP1709	1
Sichuan Sugar Communication Technology Co Ltd	202N0708	202N0708	1
TCL Communication Ltd	5024F	Alcatel 1S	1
Vivo Mobile Communication Co Ltd	V1981A	iQOO Neo3 Pro	1
Xiaomi Communications Co Ltd	MDE6S	Redmi NOTE5A	1
ZTE Corporation	ZTE A2017	ZTE A2017	1
Nokia Corporation	Nokia N72 N72-5	Nokia N72 N72-5	1
HUAWEI Technologies Co Ltd	U8815-71	HUAWEI U8815-71	1
HUAWEI Technologies Co Ltd	HUAWEI NXT-L29	HUAWEI Mate 8	1
Motorola Mobility LLC a Lenovo Company	XT1033 M0DEB DV12356445	Motorola Moto G XT1033 M0DEB DV12356445	1
Samsung Korea	SM-J111F	Galaxy J1 ACE SM-J111F	1
Sony Mobile Communications	E5803	Xperia Z5 Compact	1
Motorola Mobility LLC a Lenovo Company	XT1922-9	Moto G Play (6th Gen)	1
Xiaomi Communications Co Ltd	M1804C3CH	Redmi 6A	1
Shenzhen Huaifurui Technology Co Ltd	P40	CUBOT P40	1
Shenzhen Jeko Communication Co Limited	BV5800 Pro	BLACKVIEW BV5800 Pro	1
Huawei Device Company Limited	ABR-AL80	HUAWEI P50	1
OnePlus Technology (Shenzhen) Co Ltd	ONE A0001	ONE A0001	1
TCL Communication Ltd	1050D	ALCATEL ONETOUCH 1050D	1
LG Electronics Inc.	LG-H791F	LG-H791F	1
Doke Communication (HK) Limited	BV8100	Blackview BV8100	1
Micromax Informatics Limited	Micromax E6523	Micromax E6523	1
Nokia Corporation	2730c-1 2730c	Nokia 2730c-1 2730c	1
Hong Kong Karasnn Limited	ZP330	ZOPO ZP330	1
LG Electronics Inc.	LG-H873	LG-H873	1
Samsung Korea	SGH-J708	SGH-J708	1
HUAWEI Technologies Co Ltd	COL-TL10	COL-TL10	1
HUAWEI Technologies Co Ltd	INE-LX1r	HUAWEI nova 3i	1
Xiaomi Communications Co Ltd	M1908C3KH	Redmi 8A	1
HUAWEI Technologies Co Ltd	HUAWEI GRA-UL10	HUAWEI P8	1
ASUSTek Computer Inc	ASUS_X00HD	ASUS ZenFone Max ZC520KL	1
Shenzhen Konka Telecommunications Technology Co Ltd	KONKA R8	KONKA R8	1
KVD International Group Limited	X96Pro	X96Pro	1
Sony Mobile Communications	G3311	Xperia L1	1
Samsung Korea	SM-A307FN	Galaxy A30s	1
Samsung Korea	SGH-B130R	SGH-B130R	1
Xiamen Meitu Mobile Technology Co Ltd	MP1710	MP1710	1
HUAWEI Technologies Co Ltd	MYA-L11	HUAWEI Y6 2017 HUAWEI nova young HUAWEI Y5 2017	1
HUAWEI Technologies Co Ltd	ARS-TL00	ARS-TL00	1
Itel Technology Limited	W5005	P15	1
Crosscall	Action-X5	Action-X5	1
Xiaomi Communications Co Ltd	MCT3B	MCT3B	1
HUAWEI Technologies Co Ltd	TAS-L29	HUAWEI Mate 30	1
Motorola Mobility LLC a Lenovo Company	XT2043-4	moto g stylus Sofia+	1
Shenzhen Kule Technology Co Ltd	SanCup C900	SanCup C900	1
HUAWEI Technologies Co Ltd	VOG-L22	VOG-L22	1
ZTE Corporation	ZTE 9047	ZTE Axon 40 SE ZTE Blade V40s	1
HTC Corporation	2Q9U100	HTC Desire 20+	1
Motorola Mobility LLC a Lenovo Company	XT2131DL	Denver	1
Motorola Mobility LLC a Lenovo Company	XT1604	Moto G Play (4th Gen) JU12797645	1
Samsung Korea	SC-03K	Galaxy S9+ STAR2 JPN DCM	1
Samsung Korea	SM-J710FN/DF	Samsung SM-J710FN/DF	1
Samsung Korea	SM-A2070	Galaxy A20s	1
HUAWEI Technologies Co Ltd	AUM-L29	Honor 7A	1
HUAWEI Technologies Co Ltd	EVR-N29	HUAWEI Mate 20 X (5G)	1
Sony Mobile Communications	H3113	Xperia XA2	1
HMD Global Oy	TA-1292	TA-1292	1
Samsung Korea	SM-M015G/DS	Galaxy M01	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO A79kt	OPPO A79kt	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2269	OPPO A16	1
HK Guang Shen Xin Electronics Technology Limited	T98	PULIAN T98	1
HMD Global Oy	TA-1277	TA-1277	1
HTC Corporation	2PRG100	HTC One M9 (Prime Camera Edition)	1
Tecno Telecom (HK) Limited	BG7n	TECNO SPARK 20C	1
HTC Corporation	0P6B120	HTC 0P6B120	1
Microsoft Mobile Oy Nokia Corporation	625	Nokia 625	1

Shenzhen Zhonghe Hongtu Electronics Co Ltd	Q16	QQMEE Q16	1
LG Electronics Inc.	LM-Q630HA	LM-Q630HA	1
Motorola Mobility LLC a Lenovo Company	XT1962-4	Moto G (7th Gen)	1
HUAWEI Technologies Co Ltd	ATU-TL10	ATU-TL10	1
Doke Communication (HK) Limited	BV7200	Blackview BV7200	1
Meizu Technology Co Ltd	M973Q	16s Pro	1
Lemobile Information Technology (Beijing) Co Ltd	Le X528	Le X528	1
Vivo Mobile Communication Co Ltd	vivo 1721	vivo vivo 1721	1
OnePlus Technology (Shenzhen) Co Ltd	ONEPLUS A3010	ONEPLUS 3T	1
Motorola Mobility LLC a Lenovo Company	XT1686	Moto G Plus (5th Gen) INDR002745	1
Digicom Trading PVT Limited	J5	QMobile J5	1
LG Electronics Inc.	LG-H798	LG-H798	1
HUAWEI Technologies Co Ltd	JAT-LX1	HUAWEI Y6s	1
Crosscall	Core-X4	Core-X4	1
Digicom Trading PVT Limited	Super Star Power	QMobile Super Star Power	1
Vivo Mobile Communication Co Ltd	V2034A	vivo Y30	1
HUAWEI Technologies Co Ltd	HUAWEI R960	HUAWEI R960	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3475	RMX3475	1
ASUSTek Computer Inc	ASUS_X00LDB	ASUS ZENFONE 4 SELFIE ZB553KL	1
Samsung Korea	GT-I9300	Samsung GT-I9300	1
Qingdao Hisense Communications Co Ltd	HNR510E	Hisense infinity H60 5G	1
HMD Global Oy	TA-1080	Nokia 2.1 DS	1
Huawei Device Company Limited	CHW-LX1	CHW-LX1	1
ZTE Corporation	T503	T503	1
Shenzhen Sugar Mobile Communication Co Ltd	SUGAR Y12	SUGAR Y12	1
Shenzhen Jeko Communication Co Limited	A20	BLACKVIEW A20	1
Motorola Mobility LLC a Lenovo Company	XT2097-6	Malta	1
Motorola Mobility LLC a Lenovo Company	XT1580	Moto X Force	1
Xiaomi Communications Co Ltd	220733SL	Redmi A1	1
Samsung Korea	SM-A500L	Samsung SM-A500L	1
LG Electronics Inc.	LM-K420HMW	LM-K420HMW	1
Motorola Mobility LLC a Lenovo Company	XT2167-1	Corfu21	1
Samsung Korea	SM-G928S	Samsung SM-G928S	1
Nokia Corporation	Nokia 7610	Nokia 7610	1
Honor Device Company Limited	LLY-LX1	LLY-LX1	1
HUAWEI Technologies Co Ltd	HUAWEI G700-U10	HUAWEI HUAWEI G700-U10	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2681	CPH2681	1
Shenzhen City Suoye Excellence Technology Co Ltd	SOYES MAXo	SOYES MAXo	1
TCL Communication Ltd	6156D	TCL 20Y	1
HUAWEI Technologies Co Ltd	HUAWEI LUA-L21	HUAWEI Y3II	1
Samsung Korea	SM-J737U	J7 TOP	1
HUAWEI Technologies Co Ltd	FRD-L04	FRD-L04	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1933	CPH1933	1
Itel Technology Limited	L6005	Vision1(P36 Play)	1
Vivo Mobile Communication Co Ltd	V1813A	Z3i	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	PCDT10	PCDT10	1
Xiaomi Communications Co Ltd	2015815	A9	1
LG Electronics Inc.	LG-H870DSU	G6+	1
Xiaomi Communications Co Ltd	M2103K19PG	POCO M3 Pro 5G	1
ASUSTek Computer Inc	ASUS_X008DC	ASUS Zenfone 3 MAX ZC520TL	1
HUAWEI Technologies Co Ltd	PRA-TL10	Honor	1
Reliance Communications	RC545L	Orbic Maui	1
Meizu Technology Co Ltd	M882Q	16th	1
Jiangsu Gaotong Technology Industry Co Ltd	GT i88	GT i88	1
Xiaomi Communications Co Ltd	M2002J9G	Mi 10 Lite 5G	1
Intex Technologies (India) Limited	AQUA LIFE III	Intex AQUA LIFE III	1
Swift Biz Solutions Pvt Ltd	Digit4G Energy Max	Digit4G Energy Max	1
LG Electronics Inc.	LM-V405TA	LM-V405TA	1
Huawei Device Company Limited	FOA-AL00	nova 11	1
Shenzhen Royole Technologies Co Ltd	RY1201	RY1201	1
Sony Mobile Communications	G3121	Xperia XA1	1
TG & Co Inc	TG-L800S	TG&Co LUNA Zero	1
KYOCERA Corporation	A001KC	A001KC	1
Lemobile Information Technology (Beijing) Co Ltd	Le X820	Le X820	1
Sony Mobile Communications Inc.	I3312	PM-1202-BV	1
Shenzhen Sanmeng Communications Technology Co Ltd	S198	SANMENG S198	1
Wiko	W-V745	Power U10	1
RoamWiFi Technology (HK) Limited	RW-801	RW-801	1
SHANDONG KAER ELECTRIC CO. LTD	KT10	KT10	1
Avenir Telecom	E2	E2	1
Tecno Telecom (HK) Limited	CL6k	TECNO CAMON 30	1
HUAWEI Technologies Co Ltd	HUAWEI Y635-L21	HUAWEI Y635	1
Qingdao Hisense Communications Co Ltd	HLTE216E	Hisense Rock5	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2065	CPH2065	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	PEMT00	PEMT00	1
LG Electronics Inc.	LG-H930	LG-H930	1
Bellco Trading Company (Private) Limited	B786	B786	1
Century Link General Trading FZCO	GMC-7127M	X20	1
Xiaomi Communications Co Ltd	M1906G7G	Redmi Note 8 Pro	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3988	RMX3988	1
LG Electronics Inc.	LM-F100EMW	Wing	1
Shenzhen Konka Telecommunications Technology Co Ltd	U3	U3	1
Huawei Device Company Limited	TEL-TN00	TEL-TN00	1
HUAWEI Technologies Co Ltd	MAR-LX3Am	HUAWEI P30 lite	1
TCT Mobile Limited	one touch 113	ALCATEL one touch 113	1
Motorola Mobility LLC a Lenovo Company	XT1942-1	RO12493045 Motorola One Power	1
Walton Digi-Tech Industries Limited	Primo S7	Primo S7	1

Honor Device Company Limited	CLK-NX2	CLK-NX2	1
HUAWEI Technologies Co Ltd	S8-306L	MediaPad M1 8.0	1
Xiaomi Communications Co Ltd	M2101K9AI	Mi 11 Lite	1
Samsung Korea	SM-A505U1	Galaxy A50	1
Microsoft Mobile Oy Nokia Corporation	RM-1038 Nokia Lumia 735	RM-1038 Nokia Lumia 735	1
Samsung Korea	SM-G611S	ON7+	1
Samsung Korea	SM-A505W	Galaxy A50	1
Vivo Mobile Communication Co Ltd	V1813BT	vivo Z3	1
Bittium USA Inc.	SD-61	Tough Mobile 2	1
Xiaomi Communications Co Ltd	23128PC33I	23128PC33I	1
Meizu Technology Co Ltd	M872Q	16 X	1
TCL Communication Ltd	5044O	Alcatel U5	1
Sony Ericsson Mobile Communications AB	S500i/c	S500i/c	1
Samsung Korea	SM-G5520	Samsung SM-G5520	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2027	RMX2027	1
SEUJC Technologies Co. Ltd	CRUISE2	CRUISE2 CRUISE2-HC CRUISE2-C	1
Trimble	TDC600_2	TDC600_2	1
Aveicellular Ida	ZTC C320	ZTC C320	1
G-Mobile Devices Private Limited	X6815C	ZERO 5G 2023	1
Sony Mobile Communications	G3412	Xperia XA1 Plus	1
Apple Inc	iPhone 5C (A1516)	Apple iPhone 5C (A1516)	1
Motorola Mobility LLC a Lenovo Company	XT2041-4	moto g power	1
Vivo Mobile Communication Co Ltd	V2085A	vivo X60	1
Fully Holdings (HK) Co Limited	C5	OUKITEL C5	1
HUAWEI Technologies Co Ltd	KIW-UL00	HONOR 5X	1
Realme Mobile Telecommunications (Shenzhen) Co Ltd	RMX1831	RMX1831	1
Vivo Mobile Communication Co Ltd	V1924A	vivo NEX3 5G	1
Huizhou Boshijie Technology Co Ltd	BC76	BC76	1
Huawei Device Company Limited	NAM-LX9	HUAWEI nova 9	1
HTC Corporation	2PVG200	HTC Desire 628	1
Samsung Korea	SM-N950F	Galaxy S8	1
HUAWEI Technologies Co Ltd	LYA-TL00	HUAWEI Mate 20 Pro HUAWEI Mate 20 Pro(UD)	1
Sun Cupid Technology (HK) Ltd.	S2801L	NUU F4L	1
HUAWEI Technologies Co Ltd	PLK-L01	PLK-L01	1
Vivo Mobile Communication Co Ltd	V2212	vivo Y15C	1
Vivo Mobile Communication Co Ltd	vivo 1912	vivo NEX3	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2032	RMX2032	1
Samsung Korea	SM-A320Y/DS	Samsung SM-A320Y/DS	1
Vingroup Joint Stock Company	V420A	JOY2+	1
ZTE Corporation	ZTE T21	ZTE T21	1
TWZ International Limited	W369	TWZ W369	1
Yunji (Hong Kong) Holdings Co Limited	WP18 Pro	WP18 Pro	1
HUAWEI Technologies Co Ltd	STK-L21	HUAWEI P smart Pro	1
LG Electronics Inc.	LG-H815T	LG LG-H815T	1
Rui Er Te (Hong Kong) Technical Development Company Limited	Cagabi One	Cagabi One	1
Vivo Mobile Communication Co Ltd	vivo NEX A	vivo vivo NEX A	1
Wingtech Mobile Communications Co Ltd	TMAF035G	REVL 6 Pro	1
Samsung Korea	SM-A305GN	Galaxy A30	1
Motorola Mobility LLC a Lenovo Company	XT2055-4	moto g(8) power lite	1
HUAWEI Technologies Co Ltd	PRA-AL00	PRA-AL00	1
Sony Corporation	XQ-BE52	PM-1370-BV	1
HUAWEI Technologies Co Ltd	HUAWEI VNS-TL00	VNS-TL00	1
Sony Mobile Communications Inc.	I4312	PM-1201-BV	1
Vivo Mobile Communication Co Ltd	V2059	vivo Y73	1
G Five Mobile (Private) Ltd.	President Gold 9	President Gold 9	1
Samsung Korea	SM-N920W8	Samsung SM-N920W8	1
Xiaomi Communications Co Ltd	M1805E2A	M1805E2A	1
Motorola Mobility LLC a Lenovo Company	XT1970-1	Motorola One Vision Kane	1
Tecno Telecom (HK) Limited	KF6	TECNO SPARK 7	1
Samsung Korea	SM-J530G	Samsung SM-J530G	1
HMD Global Oy	TA-1000	TA-1000	1
Samsung Korea	SM-A805N	R1	1
HUAWEI Technologies Co Ltd	HUAWEI CRR-UL20	HUAWEI Mate S HUAWEI Mate s	1
Samsung Korea	SM-A215W	Galaxy A21	1
Earl Shenzhen Jin Technology Co Ltd	TM1	TM1	1
Meizu Technology Co Ltd	M571U M571H	m2 note	1
Mulberry Tech Group LLC	F26	FIG FLIP	1
Beijing Shenqi Technology Co Ltd	Z2131	Z2	1
Xiaomi Communications Co Ltd	23028RN4DI	23028RN4DI	1
3FeetSolutions Pty Ltd	SmartJX	SmartJX	1
InFocus Corporation	IF9001	IF9001	1
Micromax Informatics Limited	E6533	E6533	1
OnePlus Technology (Shenzhen) Co Ltd	KB2003	KB2003	1
Alcatel Business Systems	OT 333	OT 333	1
HUAWEI Technologies Co Ltd	BND-AL00	Honor	1
Vingroup Joint Stock Company	V640	Live 4	1
Samsung Korea	SM-J327W	Samsung SM-J327W	1
Nokia Corporation	6700c	6700c	1
Vivo Mobile Communication Co Ltd	V2217	vivo Y02	1
HMD Global Oy	TA-1386	TA-1386	1
TCL Communication Ltd	T766U	TCL 10 SE	1
HMD Global Oy	TA-1183	Nokia 2.2	1
HTC Corporation	2PYR120	HTC Desire 650	1
LG Electronics Inc.	LM-K610IM	LM-K610IM	1
HMD Global Oy	TA-1539	TA-1539	1
Hong Kong Drotex International Limited	A72	A72	1
iRay Technology Co Ltd	InfIRay PX1	InfIRay PX1	1

Ericsson Mobile Comms AB	T18sc	T18sc	1
Sony Mobile Communications Inc.	H8296	Xperia XZ2	1
Tecno Telecom (HK) Limited	LG8n	TECNO POVA 4 Pro	1
Sharp Corporation IoT Communication BU	FS8032	HH1	1
Yunji (Hong Kong) Holdings Co Limited	WP32	WP32	1
TCL Communication Ltd	4017X	Pixi 4(3.5)	1
Umi Network Technology Co Limited	One	One	1
Samsung Korea	SM-J106H/DS	Samsung SM-J106H/DS	1
Fujitsu Ltd	TONE m17	TONE m17	1
HMD Global Oy	TA-1047	Nokia 1	1
Samsung Korea	SM-E700F/DS	Samsung SM-E700F/DS	1
Samsung Korea	SM-A750F	SM-A750F GALAXY A7	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2111	RMX2111	1
Sonim Technologies Inc	XP8800(PC4025)	XP8	1
Samsung Korea	SM-J510F	Galaxy J5 2016 SM-J510F	1
Walton Digi-Tech Industries Limited	primo NF5	primo NF5	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2643	CPH2643	1
Motorola Mobility LLC a Lenovo Company	XT2331-2	moto g13	1
Pote Communication Technology (Private) Limited	G7	HELLO TECH G7	1
Samsung Korea	GALAXY S3 GT-I9305	Samsung GALAXY S3 GT-I9305	1
HUAWEI Technologies Co Ltd	HUAWEI MLA-AL00	HUAWEI G9 Plus	1
Motorola Mobility LLC a Lenovo Company	XT1789-06	Moto Z Force (2nd Gen) GE12282245	1
TCL Communication Ltd	5080F	Alcatel SHINE LITE 5080F	1
Xiaomi Communications Co Ltd	220733SPH	POCO C50	1
Anica Intelligent Technology (Dongguan) Co Ltd	NB2022-05L	NB2022-05L	1
LG Electronics Inc.	LG-K430TR	LG K10 LTE	1
Huawei Device Company Limited	BNE-LX1	HUAWEI nova 12 SE	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2109	OPPO Reno4 Pro	1
Mundo Reader S.L.	Aquaris X Pro 4+128	Aquaris X Pro 4+128	1
Shenzhen Wujun Time Technology Co Ltd	WG-98	WG-98	1
Micromax Informatics Limited	E6746	Micromax E6746	1
Mara Phones Limited	Mara Z d	Mara Z	1
Lidaxin Technology Limited	RF052V	glida RF052V	1
Meizu Technology Co Ltd	M682Q	meilan X	1
Vodafone	VFD 120	Vodafone Smart A9 Vodacom Vibe	1
Shenzhen Huaifurui Technology Co Ltd	NOTE 7	CUBOT NOTE 7	1
HUAWEI Technologies Co Ltd	TNY-TL00	TNY-TL00	1
Shenzhen Dongzhixingya Communication Technology Co Ltd	CMI i6	CMI i6	1
Tecno Telecom (HK) Limited	BD4	POP 5 LTE	1
LG Electronics Inc.	LM-G850QM	G8X	1
Umi Network Technology Co Limited	C note	UMIDIGI C note	1
Wiko France SAS	LGN-AN00	Hi Enjoy 60 Pro 5G	1
New-Bund Technology Co Limited	Mars	vernee Mars	1
DG HomTom Group Co Limited	HT7	HOMTOM HT7	1
Tianyi Telecom Terminals Company Limited	TYH601M	Maimang 9	1
3FeetSolutions Pty Ltd	SmartX1	SmartX1	1
Vivo Mobile Communication Co Ltd	V2031	vivo Y51A	1
Ashtel Spares LLC	Z6 Lite	RAVOZ Z6 Lite	1
Samsung Korea	SM-G570F/DD	GALAXY J5 PRIME SM-G570F/DD	1
HTC Corporation	HTC E9pw	HTC E9pw	1
Vivo Mobile Communication Co Ltd	vivo 1918	vivo Z1Pro	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO R11 Plusk	OPPO R11 Plusk	1
INFINIX TECHNOLOGY LIMITED	X6731	ZERO 30 5G	1
Tecno Telecom (HK) Limited	KD6a	TECNO SPARK 5 Air	1
HUAWEI Technologies Co Ltd	POT-AL00	POT-AL00	1
Tecno Telecom (HK) Limited	IN1 Pro	CAMON iSky2	1
TCL Communication Ltd	3080G		3080
Vivo Mobile Communication Co Ltd	V1945A	S5e	1
DDM Brands LLC	ENERGY S550	ENERGY S550	1
Sony Mobile Communications	E6553	Xperia Z3+	1
HMD Global Oy	TA-1413	TA-1413	1
Meizu Technology Co Ltd	M611H	M5	1
3FeetSolutions Pty Ltd	BigButton X	BigButton X	1
BlackBerry Limited	P9982 Porsche Design RGE111LW	BlackBerry P9982 RGE111LW	1
Tianyi Telecom Terminals Company Limited	TYH611M	MaiMang	1
ZTE Corporation	ZTE A2022PG	ZTE Axon 30 Ultra 5G	1
Loca Telekomunikasyon Elektronik San.Ve Tic Sti	K5	IXPERIA K5	1
Motorola Mobility LLC a Lenovo Company	XT1804	INDR003550	1
HMD Global Oy	TA-1176	Nokia 800	1
HUAWEI Technologies Co Ltd	HUAWEI NXT-AL10	HUAWEI NXT-AL10	1
TCL Communication Ltd	MT40U	MOVETIME Family Watch	1
OnePlus Technology (Shenzhen) Co Ltd	ONE A2005	ONE A2005	1
Vivo Mobile Communication Co Ltd	vivo 2004	vivo X50	1
Motorola Mobility LLC a Lenovo Company	XT1955-4	Ocean Moto G Power (7th Gen)	1
Motorola Mobility LLC a Lenovo Company	XT1710-10	Moto Z Play (2nd Gen) INDR002545	1
HUAWEI Technologies Co Ltd	PRA-LA1	Honor 8 Lite	1
TCL Mobile Communication Co Ltd	BBB100-4	BlackBerry KEYone	1
Gotron (HK) Electronic Co Limited	T1	T1	1
Samsung Korea	SM-S337TL	Samsung SM-S337TL	1
HTC Corporation	2PZF200	HTC U Ultra	1
Vivo Mobile Communication Co Ltd	vivo 1802	Y83	1
ZTE Corporation	ZTE BV0701	ZTE BV0701	1
Sharp Corporation IoT Communication BU	DD2761	AQUOS sense3 basic SHV48	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1983	CPH1983	1
China Post Communications Equipment Co Ltd	FIO-BD00	Hi nova 9 SE	1
Cwell Technology Co Limited	V808G	V808G	1
Honor Device Company Limited	ELZ-AN00	ELZ-AN00	1

Shenzhen Alldocube Technology and Science Co Ltd	U51GT U27GT	U51GT U27GT	1
Samsung Korea	SM-J260Y	Galaxy J2 Core	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2565	CPH2565	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3572	RMX3572	1
Lenovo (Beijing) Co Ltd	Lenovo L38011	Lenovo K5 play	1
LG Electronics Inc.	LG-M700Y	Q6	1
Xiaomi Communications Co Ltd	M1901F7E	M1901F7E	1
Tecno Telecom (HK) Limited	CK6n	CAMON 20	1
Sony Mobile Communications	G3221	Xperia XA1 Ultra	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3701	RMX3701	1
HUAWEI Technologies Co Ltd	PCT-TL10	PCT-TL10	1
Samsung Korea	SM-N976N	Galaxy Note 10+	1
Samsung Korea	SM-S215DL	Galaxy A21	1
Lenovo (Beijing) Co Ltd	Lenovo PB1-750M	Lenovo Lenovo PHAB	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2003	RMX2003	1
Samsung Korea	SM-A700YD	Samsung SM-A700YD	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3043	RMX3043	1
HMD Global Oy	TA-1274	TA-1274	1
ZTE Corporation	T81	ZTE T81	1
Lava International Ltd	Z3	Z3	1
Huawei Device Company Limited	LNA-AL00	LNA-AL00	1
Xiaomi Communications Co Ltd		2016090 C5	1
Nextbit Systems Inc	Robin	Robin	1
Qiku Internet Technology (Shenzhen) Co Ltd	1713-A01	1713-A01	1
Meizu Technology Co Ltd	M721H	M6 Note	1
Shenzhen Sugar Mobile Communication Co Ltd	SS129T	SUGAR SS129T	1
Hot Wav Tat Technology (HK) Limited	Note 13 Pro	Note 13 Pro	1
Intel Technology Limited	L5006C	A23 Pro	1
HUAWEI Technologies Co Ltd	TRT-LX1	HUAWEI Y7	1
Samsung Korea	SM-G973C	Galaxy S10	1
LG Electronics Inc.	LM-K420EMW	K42	1
Samsung Korea	SCV35	Samsung SCV35	1
Samsung Korea	SM-W2020	Galaxy Foldable 5G	1
Huawei Device Company Limited	MXW-TN00	MXW-TN00	1
HUAWEI Technologies Co Ltd	RNE-L03	HUAWEI Mate 10 lite	1
HUAWEI Technologies Co Ltd	G510-0200	HUAWEI Ascend G510	1
Samsung Korea	SM-N916K	Samsung SM-N916K	1
Vestel Elektronik Sanayi ve Ticaret A.S.	VENUS E5	VESTEL VENUS E5	1
Samsung Korea	SM-N900A	Samsung SM-N900A	1
HMD Global Oy	TA-1105	Nokia 5.1 DS	1
Gotron (HK) Electronic Co Limited	Note 12P	Note 12P/Note 12	1
HMD Global Oy	TA-1380	TA-1380	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3031	RMX3031	1
Shenzhen Yixu Electron Co Ltd	I6389	Infinity K	1
Gotron (HK) Electronic Co Limited	S1	S1	1
Motorola Mobility LLC a Lenovo Company	XT2451-4	Aura24	1
PT. Maju Express Indonesia		180 MITO 180	1
HMD Global Oy	TA-1086	Nokia 2.1 DS	1
Samsung Korea	SM-A700S	Samsung SM-A700S	1
Digicom Trading PVT Limited	SL200	QMobile SL200	1
Intel Technology Limited	A551L	A27(P17 Pro 4G)	1
LEAGOO INTL CO. LIMITED	M8 Pro	LEAGOO M8 Pro	1
Shenzhen Tinfull Technology Co Ltd	X1	X1	1
Vivo Mobile Communication Co Ltd	V1923A	vivo NEX3	1
Lenovo (Beijing) Co Ltd	Lenovo L78051	Lenovo Z6 Pro	1
Tianyi Telecom Terminals Company Limited	TYH641M	Maimang 30	1
Vivo Mobile Communication Co Ltd	vivo 2006	vivo X50 Pro	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3867	RMX3867	1
Sony Mobile Communications Inc.	H8416	PM-1150-BV	1
Motorola Mobility LLC a Lenovo Company	XT1925-12	BL12460245 Moto G (6th Gen)	1
Samsung Korea	SM-A500M/DS	Samsung SM-A500M/DS	1
Shenzhen Delongxingsheng Trade Co Ltd	haoxuanH11	haoxuanH11	1
LG Electronics Inc.	LM-F100N	LM-F100N	1
LG Electronics Inc.	LGM-G600L	LGM-G600L	1
BlackBerry Limited	STV100-1	BlackBerry STV100-1	1
Motorola Mobility LLC a Lenovo Company	XT1929-17	SP12528145 Moto Z (3rd Gen)	1
Samsung Korea	SM-G925K	Samsung SM-G925K	1
Hongkong IPRO Technology Co Limited	F183S	F183S	1
Vmate (PVT) Ltd	VGOTEL i8	VGOTEL i8	1
Samsung Korea	SM-J337V	J3 Neo SM-J337V	1
Samsung Korea	SM-N935K	Samsung SM-N935K	1
Samsung Korea	SM-G6200	Galaxy A6s	1
Samsung Korea	YGI	Galaxy A10e	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO 3000 OPPO 1100 OPPO R8200 OPPO R7u OPPO A31u	OPPO 3000 OPPO 1100 OPPO R8200 OPPO R7u OPPO A31u	1
Wiko	W-V755	Power U30	1
Samsung Korea	SM-A800F	GALAXY A8 SM-A800F	1
Lenovo (Beijing) Co Ltd	Lenovo S1a40	Lenovo Lenovo Vibe S1	1
Umi Network Technology Co Limited	A1 PRO	A1 PRO	1
Vodafone	VFD 300	Vodafone Smart mini 7 Vodacom Smart mini 7	1
INFINIX TECHNOLOGY LIMITED	X6851	NOTE 40 Pro 5G	1
Sichuan Sugar Communication Technology Co Ltd	SUGAR Y18	SUGAR Y18	1
Huawei Device Company Limited	FRL-TN00	FRL-TN00	1
Motorola Mobility LLC a Lenovo Company	XT1641	XT1641 AF12788245	1
INFINIX TECHNOLOGY LIMITED	X671B	NOTE 12 Pro 5G	1
Sony Corporation	PM-1351-BV	PM-1351-BV	1
TCL Communication Ltd	5024D	Alcatel 1S	1

Xiaomi Communications Co Ltd	M2007J3SC	Redmi K30S Ultra	1
ASUSTek Computer Inc	ASUS_Z00ED	ASUS ZE500K ZENFONE 2 LAZER	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3506	RMX3506	1
Samsung Korea	SM-G355H/DS	Samsung SM-G355H/DS	1
Sony Corporation	XQ-BQ42	PM-1365-BV	1
Yunji (Hong Kong) Holdings Co Limited	C21	C21	1
Motorola Mobility LLC a Lenovo Company	XT2091-3	moto g(9) power	1
Vivo Mobile Communication Co Ltd	V2403A	V2403A	1
Xiaomi Communications Co Ltd	2409BRN2CY	Redmi 14C	1
Sony Mobile Communications	SO-02J	Xperia X Compact	1
HMD Global Oy	TA-1401	Nokia G11	1
HUAWEI Technologies Co Ltd	POT-AL10	POT-AL10	1
Shenzhen Koobee Communication Co. Ltd	koobee A3M	koobee A3M	1
Motorola Mobility LLC a Lenovo Company	XT1680	Moto G Plus (5th Gen) CO12984245	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2687	CPH2687	1
Fully Holdings (HK) Co Limited	C23 Pro	C23 Pro	1
Motorola Mobility LLC a Lenovo Company	XT1941-3	RO12524045 Motorola One	1
HMD Global Oy	TA-1412	Nokia G21	1
LG Electronics Inc.	LM-X510WM	LM-X510WM	1
HUAWEI Technologies Co Ltd	PAR-TL20	HUAWEI nova 3	1
KVD International Group Limited	S95Pro	DOOGEE S95Pro	1
Meizu Technology Co Ltd	M686H	PRO 6 Plus	1
Sony Mobile Communications	C6603 -Xperia Z	Sony C6603 -Xperia Z	1
Qingdao Haier Telecom Co Ltd	H200	H200	1
Samsung Korea	GT-I9507	Samsung GT-I9507	1
Shenzhen Konka Telecommunications Technology Co Ltd	KONKA E2	KONKA E2	1
INFINIX TECHNOLOGY LIMITED	X6850	NOTE 40 Pro	1
Samsung Korea	SM-G889A	Galaxy Haechi	1
Samsung Korea	SM-G360T	Samsung SM-G360T	1
Bellco Trading Company (Private) Limited	E5310	E5310	1
ZTE Corporation	ZTE 9030	ZTE Blade V30	1
Sharp Corporation IoT Communication BU	DD1653	AQUOS sense2 SHV43	1
Xiaomi Communications Co Ltd		2015817 A9A	1
HUAWEI Technologies Co Ltd	MAR-LX3A	HUAWEI P30 lite	1
HUAWEI Technologies Co Ltd	DAV-701L	HUAWEI P8max	1
Tecno Telecom (HK) Limited	CH6i	CAMON 19 Neo	1
Hi-Power (Shenzhen) Technology Co Limited	K1	HIKING K1	1
Samsung Korea	SM-N900K	Samsung SM-N900K	1
HMD Global Oy	TA-1278	TA-1278	1
Nokia Corporation	Nokia 3310	Nokia 3310	1
Hugiga International Co Ltd	V8	V8	1
Sharp Corporation IoT Communication BU	FS8015	S3	1
OnePlus Technology (Shenzhen) Co Ltd	ONE A2003 ONE A2005	ONE A2003 ONE A2005	1
Nokia Corporation		5530 Nokia 5530	1
HUAWEI Technologies Co Ltd	7D-503L T1-823L X1S-703L GEM-703L	HUAWEI 7D-503L HUAWEI MediaPad T1 8.0 Pro HUAWEI MediaPad X1 S HUAWEI MediaPad X2	1
LG Electronics Inc.	LM-K410FMW	LM-K410FMW	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1881	CPH1881	1
Shenzhen Huaifurui Technology Co Ltd	KINGKONG X	CUBOT KINGKONG X	1
LG Electronics Inc.	LG-K350K	LG-K350K	1
Lava International Ltd	LZX414	Yuva 3 Pro O2	1
Tecno Telecom (HK) Limited	T351	T351	1
Honor Device Company Limited	WDY-LX3	WDY-LX3	1
INFINIX TECHNOLOGY LIMITED	X6823	SMART 6 PLUS	1
Sony Mobile Communications	H4133	Xperia XA2	1
Reliance Retail Limited	LS-5015	LYF LS-5015	1
LG Electronics Inc.	LG-H818N	LG LG-H818N	1
Motorola Mobility LLC a Lenovo Company	XT1662	Moto M KF12937145	1
TCL Communication Ltd	4056S	4056S	1
Motorola Mobility LLC a Lenovo Company	XT2005-5	Surf	1
HUAWEI Technologies Co Ltd	LON-L29	HUAWEI Mate 9 Pro PORSCHE DESIGN HUAWEI Mate 9	1
Lemobile Information Technology (Beijing) Co Ltd	Letv X900+	Letv X900+	1
Panasonic Corporation	ELUGA Ray 700	Panasonic ELUGA Ray 700	1
Anya Technology HK Limited	F18	ANYA F18	1
Beijing Tianyu Communication Equipment Co Ltd	K-Touch S6	K-Touch S6	1
Sony Mobile Communications	C6833 -Xperia Z Ultra	SONY C6833 -Xperia Z Ultra	1
Intel Technology Limited	A667L	A50	1
HTC Corporation	One	HTC One	1
Meizu Technology Co Ltd	M721M	meilan Note6	1
Vivo Mobile Communication Co Ltd	V1829A	V1829A	1
LG Electronics Inc.	LM-K520HM	LM-K520HM	1
Meizu Technology Co Ltd	M621Q	meilan Note5	1
OnePlus Technology (Shenzhen) Co Ltd	KB2000	KB2000	1
Hot Wav Tat Technology (HK) Limited	Cyber 13 Pro	Cyber 13 Pro	1
Samsung Korea	SM-G5510	Samsung SM-G5510	1
OnePlus Technology (Shenzhen) Co Ltd	BE2012	BE2012	1
Vivo Mobile Communication Co Ltd	V2418	vivo V40 SE vivo V40 Lite vivo V40 SE 80W	1
KVD International Group Limited	BL7000	DOOGEE BL7000	1
Motorola Inc.	V.66	V.66	1
Tecno Telecom (HK) Limited	KE5	TECNO SPARK Go 2021	1
TCL Communication Ltd	5002H	Alcatel 1B	1
Shenzhen Shijitianyuan Communication Technology Co Ltd	Ctyon-F21	Ctyon-F21	1
INFINIX TECHNOLOGY LIMITED	X660B	S5 Pro	1
Samsung Korea	SM-G850Y	Samsung SM-G850Y	1
Xiaomi Communications Co Ltd		2015051 Redmi Note 2	1
Guizhou Fortuneship Technology Co Ltd	TA200	TA200	1
Xiaomi Communications Co Ltd		2016002 MI MAX	1

Samsung Korea	SM-J330L	Samsung SM-J330L	1
ZTE Corporation	T57	T57	1
HUAWEI Technologies Co Ltd	HUAWEI G629-UL00 HUAWEI SC-UL10	HUAWEI G629-UL00 HUAWEI SC-UL10	1
Shenzhen An Platinum News Industry Technology Development Co Ltd	AB001	AB001	1
Lenovo (Beijing) Co Ltd	Lenovo K52e78	Lenovo K52e78	1
Max Tel FZE	X5	X5	1
HMD Global Oy	TA-1175	Nokia 2720	1
Bellco Trading Company (Private) Limited	E 21	E 21	1
Vodafone	VFD 620	Vodafone Smart N9 lite	1
M3 Mobile Co Ltd	M3 SM15	M3 SM15X M3 SM15N M3 SM15W	1
HUAWEI Technologies Co Ltd	MYA-AL10	MYA-AL10	1
KYOCERA Corporation	S8-KC	S8-KC	1
Vivo Mobile Communication Co Ltd	vivo 1815	vivo Y93	1
Samsung Korea	SM-G350	Samsung SM-G350	1
New-Bund Technology Co Limited	MIX 2	MIX 2	1
Vivo Mobile Communication Co Ltd	vivo V3Max A	vivo vivo V3Max A	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3615	RMX3615	1
TCL Communication Ltd	5030U	Alcatel 1SE	1
Vivo Mobile Communication Co Ltd	V2180A	vivo Y10 t2 /vivo Y32t 8GB+256GB	1
Vivo Mobile Communication Co Ltd	vivo 1606	vivo Y53	1
G-Mobile Devices Private Limited	X663	NOTE 11	1
HUAWEI Technologies Co Ltd	MYA-L02	HUAWEI Y5 2017	1
Lenovo (Beijing) Co Ltd	Lenovo Z90a40	Lenovo VIBE Shot	1
BLU Products Inc	G71L	BLU G71L	1
Samsung Korea	SM-A115W	Galaxy A11	1
Motorola Inc.	V872 - BT3-411B21	V872 - BT3-411B21	1
Selekt Bilgisayar ve İletişim Ürünleri San. Tic. Ltd. Sti	P13 Blue Max	P13 Blue Max	1
TCL Communication Ltd	T766H	TCL 10 SE	1
Hot Wav Tat Technology (HK) Limited	Cyber 15	Cyber 15	1
Samsung Korea	SM-A500Y	Samsung SM-A500Y	1
Samsung Korea	SCV40	Galaxy Note 9	1
Xiaomi Communications Co Ltd	Z3113RKC6C	Z3113RKC6C	1
LG Electronics Inc.	LG-F480S	LG LG-F480S	1
Motorola Mobility LLC a Lenovo Company	XT2053-5	Fiji	1
New-Bund Technology Co Limited	Active	vernee V1	1
Tecno Telecom (HK) Limited	J8	BOOM J8	1
OnePlus Technology (Shenzhen) Co Ltd	HD1925	HD1925	1
BlackBerry Limited	SQR100-2 Q5 RFS121LW	BlackBerry SQR100-2 Q5 RFS121LW	1
Telekom Austria AG	A1 Alpha 20	A1 Alpha 20	1
OnePlus Technology (Shenzhen) Co Ltd	GM1903	OnePlus 7	1
Vestel Elektronik Sanayi ve Ticaret A.S.	VENUS V3 5040	VESTEL VENUS V3 5040	1
Hi Sun Limited	A77	A77	1
ASUSTek Computer Inc	ASUS_I001DB	ROG Phone	1
HTC Corporation	2Q72100	2Q72100	1
HTC Corporation	2PVG200	HTC Desire 628 dual sim	1
Swift Biz Solutions Pvt Ltd	Digit4G-Bold	Digit4G-Bold	1
Samsung Korea	SM-N935F	Samsung SM-N935F	1
Sony Mobile Communications	C6603	SONY C6603	1
Motorola Mobility LLC a Lenovo Company	XT2321-1	Juno23	1
Cell8 Pty Ltd	A45	Aspera A45	1
Sony Mobile Communications Inc.	I3113	PM-1180-BV	1
Motorola Mobility LLC a Lenovo Company	XT1068 INDR000145	Moto G (2nd Generation) XT1068 INDR000145	1
Shenzhen and Gen Da Technology Co Ltd	MGUO C6 MGUO K8	MGUO C6 MGUO K8	1
Xiamen Meitu Mobile Technology Co Ltd	MP1503	MP1503	1
Samsung Korea	SM-A920N	Galaxy A9 2018	1
Samsung Korea	SM-A105N	Galaxy A10	1
Shenzhen Vince Electronic Co Ltd	SMILE E6208 S786	SMILE E6208 S786	1
Suzhou Mobydata Smart System Company Ltd	M52 Luna	M52 Luna	1
Xiaomi Communications Co Ltd	MDE1	MDE1	1
Vivo Mobile Communication Co Ltd	vivo 1806	vivo V11i	1
Motorola Mobility LLC a Lenovo Company	XT2071-3	Odyssey	1
Microsoft Mobile Oy	RM-1064 Lumia 640 XL LTE	RM-1064 Lumia 640 XL LTE	1
Casper Bilgisayar Sistemleri A.S	Casper VIA A1-1	Casper VIA A1-1	1
Vivo Mobile Communication Co Ltd	vivo 1805	NEX	1
Stancom Sart	KFS-Q10	E-Clips Box	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2285	CPH2285	1
LG Electronics Inc.	LM-G820TM	LM-G820TM	1
Shenzhen Huaifurui Technology Co Ltd	MAX 3	CUBOT MAX 3	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO R7sm	OPPO R7sm	1
Qingdao Hisense Communications Co Ltd	E5520	E5520	1
Xiaomi Communications Co Ltd	M1807E8S	MI 8	1
Edison Industries Ltd	G26	Symphony G26	1
Samsung Korea	SM-A700L	Samsung SM-A700L	1
Tecno Telecom (HK) Limited	KC1	TECNO SPARK Go	1
Samsung Korea	CHAMP DELUXE GT-C3310	Samsung CHAMP DELUXE GT-C3310	1
Maxwest Telecom	Gravity 5 GO	Maxwest Gravity 5 GO	1
Lanxun Technology (Hong Kong) Limited	EKO DUO 4.0 A40	DADA EKO DUO 4.0 A40	1
HTC Corporation	HTC M9pw	HTC One M9+	1
Huawei Device Company Limited	HBN-LX9	HUAWEI Pura 70 Pro	1
HMD Global Oy	TA-1066	Nokia 1 DS	1
Motorola Mobility LLC a Lenovo Company	XT1521 ST12424645	Moto E (2nd Gen) with 4G LTE ST12424645	1
HUAWEI Technologies Co Ltd	DRA-LX3	DRA-LX3	1
Sharp Corporation IoT Communication BU	DD2058	SHV45	1
Samsung Korea	SM-N920C	GALAXY NOTE5 SM-N920C	1
Vivo Mobile Communication Co Ltd	vivo X21	vivo X21	1
OnePlus Technology (Shenzhen) Co Ltd	ONEPLUS A3000	ONEPLUS 3	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2183	RMX2183	1

Cwell Technology Co Limited	W888	UNIWA W888	1
HUAWEI Technologies Co Ltd	RNE-L22	HUAWEI nova 2i	1
LG Electronics Inc.	LM-Q850EAW	LM-Q850EAW	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3092	RMX3092	1
Huawei Device Company Limited	STG-LX2	STG-LX2	1
HUAWEI Technologies Co Ltd	GLK-AL00	GLK-AL00	1
Samsung Korea	SM-S326DL	Galaxy A32 5G	1
TP-Link Technologies Co Ltd	TP910A	C7 Y7	1
HUAWEI Technologies Co Ltd	BLL-L21	HUAWEI GR5 2017 HUAWEI Mate 9 lite	1
Motorola Mobility LLC a Lenovo Company	XT1670	Moto G (5th Gen) DA12984745	1
Itel Technology Limited	A662L	A60	1
INFINIX TECHNOLOGY LIMITED	X603B	Zero 5 Pro	1
KYOCERA Corporation	KYG01	KYG01	1
Tecno Telecom (HK) Limited	CK8n	CAMON 20 Pro 5G	1
Tecno Telecom (HK) Limited	CD8j	CAMON 15 Premier	1
HUAWEI Technologies Co Ltd	LDN-LX2	HUAWEI Y7 Prime 2018 HUAWEI Y7 Pro 2018	1
ZTE Corporation	Amazing X6 Plus Beeline Pro ZTE Fit 4G Smart	Amazing X6 Plus Beeline Pro ZTE Fit 4G Smart	1
LG Electronics Inc.	LM-G910HMW	LM-G910HMW	1
Sony Mobile Communications Inc.	I4193	PM-1183-BV	1
ZTE Corporation	ZTE B2017G	AXON 7 mini	1
Samsung Korea	SM-N950F/DS	Galaxy Note 8 SM-N950F/DS	1
Lidaxin Technology Limited	S5	glida S5	1
Xiaomi Communications Co Ltd	2015022	XIAOMI NOTE	1
Samsung Korea	SGH-I337	Samsung SGH-I337	1
Motorola Mobility LLC a Lenovo Company	XT1676	Moto G (5th Gen) INDR003546	1
Motorola Mobility LLC a Lenovo Company	XT2243-1	Tundra22	1
Motorola Mobility LLC a Lenovo Company	XT2005-5	Moto E (6th Gen)	1
Xiaomi Communications Co Ltd	2016116	Redmi 4A	1
LG Electronics Inc.	LG-H961N	LG-H961N	1
Vingroup Joint Stock Company	V530A	ACTIVE 3	1
Samsung Korea	SM-A530W	Galaxy A8 (2018)	1
HUAWEI Technologies Co Ltd	EVR-AN00	HUAWEI Mate 20 X (5G)	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2199	CPH2199	1
Shenzhen Jeko Communication Co Limited	BV9500	Blackview BV9500	1
Gotron (HK) Electronic Co Limited	Armor 6	Armor 6	1
Qingdao Haier Telecom Co Ltd	J2	J2;JF 100	1
Xiaomi Communications Co Ltd	M1901F9E	MI PLAY	1
HUAWEI Technologies Co Ltd	JNY-LX2	HUAWEI P40 lite	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX1992	RMX1992	1
Shenzhen Huadoo Bright Group Limited	Huadoo V2	Huadoo V2	1
HUAWEI Technologies Co Ltd	YAL-L41	HONOR 20 PRO	1
Samsung Korea	GT-S5600H	GT-S5600H	1
BlackBerry Limited	SQC100-1 RHH151LW	BlackBerry SQC100-1 RHH151LW	1
Sharp Corporation IoT Communication BU	XN-MBT58	SH-M12	1
Vivo Mobile Communication Co Ltd	V2131	vivo Y21T	1
Itel Technology Limited	W5505	A36	1
G-Max Communication Sdn Bhd	Eagle Eye	GOMAX Eagle Eye	1
HUAWEI Technologies Co Ltd	ART-TL00x	ART-TL00x	1
Samsung Korea	SM-G977B	Galaxy S10 5G	1
OnePlus Technology (Shenzhen) Co Ltd	KB2007	KB2007	1
Hong Kong Qichang Technology Co Limited	F101 PRO	F101 PRO	1
Sony Mobile Communications Inc.	PM-1225-BV	PM-1225-BV	1
Vertu Corporation Limited	RM-980V	SIGNATURE TOUCH	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3999	RMX3999	1
Motorola Mobility LLC a Lenovo Company	XT2423-5	Fogo24	1
Vivo Mobile Communication Co Ltd	V1914A	vivo iQOO Neo	1
Motorola Mobility LLC a Lenovo Company	XT1965-3	Lake Moto G Plus (7th Gen)	1
Samsung Korea	GT-I9205	Samsung GT-I9205	1
Interactive Trading	MOBICEL ASTRO	MOBICEL ASTRO	1
Huawei Device Company Limited	GOA-AL80	nova 11 Pro	1
Samsung Korea	SM-A015M	Galaxy A01	1
Apple Inc	A1396	iPad 2 A1396	1
Shenzhen Malata	V511	V511	1
Doro AB	DFC-0390	Doro 6880 Doro 6881	1
BLU Products Inc	G90 PRO	BLU G90 PRO	1
Vivo Mobile Communication Co Ltd	V2036_21	vivo Y31	1
Microsoft Mobile Oy Nokia Corporation	909.1 Nokia Lumia 1020	Nokia 909.1 Nokia Lumia 1020	1
LG Electronics Inc.	LM-Q630EA	LM-Q630EA	1
Samsung Korea	SM-G390F	Samsung SM-G390F	1
Edison Industries Ltd	Z47	Symphony Z47	1
HUAWEI Technologies Co Ltd	HUAWEI MLA-L01	HUAWEI nova plus	1
Lab126	SD4930UR	SD4930UR	1
Motorola Mobility LLC a Lenovo Company	XT2115-1	Minsk NA 21	1
Jiangsu Xinyuanda Technology Co Ltd	Q300	Q300	1
HUAWEI Technologies Co Ltd	PRA-LX2	HUAWEI nova lite HUAWEI P8 lite 2017 HUAWEI P9 lite 2017 HUAWEI GR3 2017	1
LG Electronics Inc.	LG-K420ds	LG-K420ds	1
OnePlus Technology (Shenzhen) Co Ltd	ONE A2001	ONE A2001	1
Digicom Trading PVT Limited	View	QSmart View	1
Samsung Korea	SM-G610L	Samsung SM-G610L	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2483	CPH2483	1
Samsung Korea	SM-G3815	Samsung SM-G3815	1
Gotron (HK) Electronic Co Limited	MIX	MIX	1
Samsung Korea	SM-G386T1	Samsung SM-G386T1	1
Xiaomi Communications Co Ltd	M1803E7SH	Redmi Note5	1
TCL Communication Ltd	T408DL	TCL FLIP 2	1

LG Electronics Inc.	LG-D320TR	LG L70	1
BlackBerry Limited	RHT181LW (STV100-2)	BlackBerry RHT181LW (STV100-2)	1
OnePlus Technology (Shenzhen) Co Ltd	BE2011	BE2011	1
LG Electronics Inc.	LM-K300MM	LM-K300MM	1
Gotron Group (HK) Co Limited	Armor X12	Armor X12	1
i.safe MOBILE GmbH	IS520.1	IS520.1	1
Motorola Mobility LLC a Lenovo Company	XT1562 INDR001345	Moto X Play INDR001345	1
LG Electronics Inc.	LG-H870	LG G6	1
Xiaomi Communications Co Ltd	M1806E7TH	Redmi Note6 Pro	1
HUAWEI Technologies Co Ltd	HUAWEI MLA-L11	HUAWEI nova plus	1
BenQ Co Ltd	M63	M63	1
LG Electronics Inc.	LG-D821	LG Nexus 5	1
Xiaomi Communications Co Ltd	M1810E5GG	MI MIX3 5G	1
Motorola Mobility LLC a Lenovo Company	XT2421-1	Lion24	1
Kapsys	KAP04200	MiniVision2+	1
Samsung Korea	SM-J320M/DS	Samsung SM-J320M/DS	1
SEUIC Technologies Co. Ltd	AUTOID9	AUTOID9	1
Shenzhen Protruly Electronics Co Ltd	PROTRULY V10	PROTRULY V10	1
HK Guang Shen Xin Electronics Technology Limited	FIGI	FIGI	1
Vivo Mobile Communication Co Ltd	V1986A	iQOO Z1	1
Blackshark Technologies (Nanchang) Co Ltd	SHARK PRS-A0	Blackshark 4	1
Samsung Korea	SM-G935L	Samsung SM-G935L	1
Meizu Technology Co Ltd	M081Q		17
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2083	RMX2083	1
Lidaxin Technology Limited	F526	F526	1
Huawei Device Company Limited	DNN-LX9	HONOR 10X Lite	1
HUAWEI Technologies Co Ltd	HUAWEI GRA-UL00	HUAWEI P8	1
Apple Inc	iPhone 5 (A1429)	Apple iPhone 5 (A1429)	1
G-Mobile Devices Private Limited	KE5	TECNO SPARK Go 2021	1
MPTech	Hammer Energy 2	Hammer Energy 2	1
Xiaomi Communications Co Ltd	MDT6	MDT6	1
Tecno Telecom (HK) Limited	CI6	CAMON 19	1
Hi-Power (Shenzhen) Technology Co Limited	H6	HiKING H6	1
Gotron Group (HK) Co Limited	Armor X9 Pro	Armor X9 Pro	1
LG Electronics Inc.	LG-M700n	LG Q6	1
Samsung Korea	SM-J100H/DD	Samsung SM-J100H/DD	1
HUAWEI Technologies Co Ltd	SLA-L22	SLA-L22	1
Sony Mobile Communications	LT25i	SONY LT25i	1
HMD Global Oy	TA-1289	TA-1289	1
Shenzhen Xin Kingbrand Technology Development Co Ltd	LMCV1	LMCV1	1
Xiaomi Communications Co Ltd	21061119AG	Redmi 10	1
Samsung Korea	SM-A115A	Galaxy A11	1
Basicom Group Co Ltd	KEBAO B368	KEBAO KEBAO B368	1
G-Mobile Devices Private Limited	X687B	ZERO 8i	1
LG Electronics Inc.	LG-M200n	LG-M200n	1
Samsung Korea	SM-A310F/DS	Galaxy A3 2016 SM-A310F/DS	1
The Profile of Kingtech Smart (Shenzhen) Co Ltd	Golden	Golden	1
Sony Corporation	XQ-BC42	PM-1346-BV	1
Sony Mobile Communications	F3113	Xperia XA	1
INFINIX TECHNOLOGY LIMITED	X556	HOT 4 LTE	1
Vivo Mobile Communication Co Ltd	V1801A0	vivo Z1	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3990	RMX3990	1
Vivo Mobile Communication Co Ltd	V1816T	vivo X23	1
Wiko	W-V680	Y81	1
Huawei Device Company Limited	FRL-L23	HUAWEI Y9a	1
Shenzhen City Suoye Excellence Technology Co Ltd	SY888	SY888	1
Vivo Mobile Communication Co Ltd	V1914A	vivo iQOO	1
Casper Bilgisayar Sistemleri A.S	VIA V8	CASPER VIA V8	1
ARB Corporation Ltd	LINX	ARB LINX 1.0	1
HUAWEI Technologies Co Ltd	EML-TL00	HUAWEI P20	1
Xiaomi Communications Co Ltd	21061119BI	Redmi 10 Prime	1
Doro AB	DSB-0230	Doro 8050	1
Keysmart (Hong Kong) Limited	PG4MBG9YA	G9 5G	1
Sony Mobile Communications	F5122	Xperia X	1
Lemobile Information Technology (Beijing) Co Ltd	Le X821	Le X821	1
Telpa Teknoloji Hizmetleri A.S.	GM 8	GENERAL MOBILE GM 8	1
Samsung Korea	GT-N7100	Samsung GT-N7100	1
Glory Prize Limited	k333	k333	1
Samsung Korea	SM-M205M	Galaxy M20	1
Microsoft Mobile Oy Nokia Corporation	RM-944 Nokia 108	Nokia RM-944 Nokia 108	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1919	CPH1919	1
Xiaomi Communications Co Ltd	M2006J10C	M2006J10C	1
HUAWEI Technologies Co Ltd	HMA-L09	HUAWEI Mate 20	1
Samsung Korea	SGH-T499V	Samsung SGH-T499V	1
HTC Corporation	2PS6500	HTC 2PS6500	1
HUAWEI Technologies Co Ltd	JKM-LX2	JKM-LX2	1
Yunji (Hong Kong) Holdings Co Limited	WP23 Pro	WP23 Pro	1
Shenzhen Gionee Communication Equipment Co Ltd	P5L	P5L	1
Samsung Korea	SM-A800I	Galaxy A8 SM-A800I	1
Sony Mobile Communications Inc.	H8324	Xperia XZ2 Compact	1
HUAWEI Technologies Co Ltd	PRA-AL00	Honor 8 Lite	1
Samsung Korea	SM-G130H	Samsung SM-G130H	1
Samsung Korea	GT-I8730T	Samsung GT-I8730T	1
LG Electronics Inc.	LG-H815K	LG LG-H815K	1
NIO Smart Technology Co Ltd	N2401	N2401	1
Sony Mobile Communications Inc.	I4332	PM-1200-BV	1
Samsung Korea	SM-G390W	Samsung SM-G390W	1

Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2247	CPH2247	1
Shenzhen City Millay Century Science and Technology Limited Company	MLaI V5	MLaI V5	1
LG Electronics Inc.	LG-M700DSN	LG-M700DSN	1
HUAWEI Technologies Co Ltd	HUAWEI MLA-L12	NA	1
HUAWEI Technologies Co Ltd	KSA-AL10	KSA-AL10	1
Gotron (HK) Electronic Co Limited	Armor X7	Armor X7	1
Doke Communication (HK) Limited	S60 Pro	OSCAL S60 Pro	1
TCL Communication Ltd	5031D	Alcatel 1B	1
HUAWEI Technologies Co Ltd	CHM-U01	CHM-U01	1
Sony Mobile Communications	G3416	Xperia XA1 Plus	1
Samsung Korea	SM-J320W8	Samsung SM-J320W8	1
Leadsky International Development Limited	AGM A8	AGM A8	1
Samsung Korea	SM-G750F	Samsung SM-G750F	1
ZTE Corporation	ZTE V0920	ZTE V0920	1
Sony Mobile Communications	D6503	Sony Xperia Z2	1
Samsung Electronics America	SM-G928V	Galaxy S6 Edge+	1
Xiaomi Communications Co Ltd	220733SFG	Redmi A1+	1
G-Mobile Devices Private Limited	KF6	TECNO SPARK 7	1
HMD Global Oy	TA-1201	Nokia 6.2	1
HUAWEI Technologies Co Ltd	STF-L09	Honor 9	1
Vivo Mobile Communication Co Ltd	vivo 1719	vivo Y65	1
TCL Communication Ltd	5048U	Alcatel 3X	1
LG Electronics Inc.	LGM-X100L	LGM-X100L	1
Sony Mobile Communications	C5303-Xperia SP	Sony C5303-Xperia SP	1
Tecno Telecom (HK) Limited	CD8	CAMON 15 Pro	1
Sony Mobile Communications	E5553	Xperia C5 Ultra	1
Samsung Korea	SM-S111DL	Galaxy A01	1
Shenzhen Jimi Electronic Co Ltd	JM11	JM11	1
KC Mobile Co Ltd	SN170	KCM SN170	1
Sharp Corporation IoT Communication BU	W-120	LP-01	1
TCL Communication Ltd	T790Y	T790Y	1
HTC Corporation	0P6B100	HTC One (M8)	1
Samsung Korea	SM-A600T1	Shine	1
BlackBerry Limited	SQC100-2 RHE151LW	BlackBerry SQC100-2 RHE151LW	1
Lechpool Electronics Spolka z ograniczona odpowiedzialnoscia Spolka z ograniczona odpowiedzialnoscia	LIVE 5 komandytowa	LIVE 5	1
Samsung Korea	SM-A605F	GALAXY J8+ SM-J805F/GALAXY A6+ SM-A605F	1
Samsung Korea	GALAXY W GT-I8150	Samsung GALAXY W GT-I8150	1
Digicom Trading PVT Limited	L1i	QMobile L1i	1
International Telecommunications Investment and Commerce Joint Stock Company	i698	i698	1
Telpa Teknoloji Hizmetleri A.S.	G301	GENERAL MOBILE GM 20	1
Gotron Group (HK) Co Limited	Power Armor 16S	Power Armor 16S	1
LG Electronics Inc.	LM-G900VM	LM-G900VM	1
HUAWEI Technologies Co Ltd	H1512	Nexus 6P	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3610	RMX3610	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	PECM20	PECM20	1
TCL Communication Ltd	5061U	Alcatel 3X	1
Digicom Trading PVT Limited	M96	QMobile M96	1
Vivo Mobile Communication Co Ltd	V2057A	vivo Y31s	1
Meizu Technology Co Ltd	M822Q	note8	1
Unicom Vsens Communications Co Ltd	VP003	VP003	1
Lenovo (Beijing) Co Ltd	Lenovo K50-t3s	Lenovo Lenovo K50-t3s	1
Shenzhen Koobee Communication Co. Ltd	koobee S500Q	koobee S500Q	1
Itel Technology Limited	S661LO	Vision 3	1
Sony Mobile Communications	H4331	Xperia L2	1
Digicom Trading PVT Limited	Ultra	QSmart Ultra	1
HUAWEI Technologies Co Ltd	HUAWEI CUN-L22	HUAWEI Y5II	1
HUAWEI Technologies Co Ltd	PE-TL10	honor 6 Plus	1
HUAWEI Technologies Co Ltd	ANE-AL00	HUAWEI P20 lite	1
LG Electronics Inc.	LG-F500K	LG LG-F500K	1
Xiaomi Communications Co Ltd	2201117PG	POCO M4 Pro	1
iYOU Technology Co. Limited			3031 1
Hong Kong Ucloudlink Network Technology Limited	MS4GSA02	S30	1
Shenzhen Uhans Technology Co Limited	S1	UHANS S1	1
Xiaomi Communications Co Ltd	M1904F3BT	MI CC 9 meitu	1
Samsung Korea	SGH-N778	Galaxy A10e	1
Motorola Mobility LLC a Lenovo Company	XT2421-2	Lion24	1
Sony Corporation	PM-1352-BV	PM-1352-BV	1
TCL Communication Ltd	4058L	TCL FLIP Go	1
Gotron (HK) Electronic Co Limited	Note 11P	Note 11P	1
HMD Global Oy	TA-1204	C2	1
Honor Device Company Limited	TFY-AN40	TFY-AN40	1
Samsung Korea	SM-J500Y	Samsung SM-J500Y	1
Lenovo (Beijing) Co Ltd	Lenovo L38012	Lenovo K9 Note	1
Vivo Mobile Communication Co Ltd	V1813T	Y97	1
HUAWEI Technologies Co Ltd	HUAWEI RIO-TL00	HUAWEI ASCEND	1
Yulong Computer Telecommunication Scientific (Shenzhen) Co. Ltd	Coolpad R116	Coolpad R116	1
General Mobile Inc	GM 5 d	GENERAL MOBILE GM 5 d	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2125	OPPO Reno4 Lite	1
Honor Device Company Limited	GIA-AN80	GIA-AN80	1
HUAWEI Technologies Co Ltd	HUAWEI GRA-TL00	HUAWEI P8	1
Xiaomi Communications Co Ltd	M1902F1A	M1902F1A	1
LG Electronics Inc.	LM-V600VM	LM-V600VM	1
HUAWEI Technologies Co Ltd	HUAWEI CUN-L02	HUAWEI Y5II	1
Shenzhen Gionee Communication Equipment Co Ltd	A1 Plus	A1 Plus	1
ZTE Corporation	ZTE BA910	ZTE BA910	1
Vivo Mobile Communication Co Ltd	V2221	vivo Y02s	1
Honor Device Company Limited	MAA-AN10	MAA-AN10	1

Samsung Korea	SC-02K	Samsung SC-02K	1
Fully Holdings (HK) Co Limited	K13 Pro	K13 Pro	1
Honor Device Company Limited	REA-NX9	REA-NX9	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	RMX1803	RMX1803	1
G-Mobile Devices Private Limited	KG8	TECNO SPARK 8 Pro	1
HUAWEI Technologies Co Ltd	HUAWEI LYO-L21	HUAWEI Y6 II Compact	1
ASUSTek Computer Inc	ASUS_I001DE	ROG Phone	1
Samsung Korea	SC-04L	Galaxy S10	1
Casper Bilgisayar Sistemleri A.S	VIA F30 Plus	VIA F30 Plus	1
KVD International Group Limited	S40	DOOGEE S40	1
Samsung Korea	SM-N960F	Galaxy Note 9 SM-N960F	1
MobiWire SAS	MobiWire Kosumi	MobiWire Kosumi	1
Doke Communication (HK) Limited	A96	Blackview A96	1
BQ Devices Limited	BQ Smartphone	BQru Smartphone	1
ZTE Corporation	ZTE Blade Q Lux	ZTE Blade Q Lux	1
ASUSTek Computer Inc	ASUS Z01HDA	ASUS Zenfone3 Zoom ZE553KL	1
LG Electronics Inc.	LGM-K121K	LGM-K121K	1
Motorola Mobility LLC a Lenovo Company	XT2075-1	Nairobi20	1
Doke Communication (HK) Limited	A60 Pro	Blackview A60 Pro	1
HMD Global Oy	TA-1105	TA-1105 DS	1
Alt Co Ltd	AT-M120	Style Folder	1
Shenzhen Gionee Communication Equipment Co Ltd	M15	M15	1
Samsung Korea	SM-J100Y	Samsung SM-J100Y	1
BlackBerry Limited	BBC100-1	BlackBerry iRiS	1
Swift Biz Solutions Pvt Ltd	Digit4G-PowerMax	Power Max	1
Microsoft Mobile Oy	RM-1118	RM-1118 Microsoft Lumia 950	1
The Profile of Kingtech Smart (Shenzhen) Co Ltd	PEARL	PEARL	1
HMD Global Oy	TA-1096	Nokia 7.1 SS	1
Motorola Mobility LLC a Lenovo Company	XT1942-2	RO12416745 Motorola One Power	1
G-Mobile Devices Private Limited	KE5	SPARK Go 2020	1
Xiaomi Communications Co Ltd	2201117SY	Redmi Note 11S	1
Huawei Device Company Limited	BNE-LX3	HUAWEI nova 10 SE	1
HUAWEI Technologies Co Ltd	JAT-L41	honor 8A honor 8C HONOR 8A Pro	1
Xiaomi Communications Co Ltd	M2010J19SL	Redmi 9T	1
Crosscall	Trekker-X4	Trekker-X4	1
Sony Mobile Communications Inc.	J9110	PM-1221-BV	1
Itel Technology Limited	L6006S	A48	1
Samsung Korea	GT-I9060I	GALAXY GRAND NEO PLUS GT-I9060I	1
HUAWEI Technologies Co Ltd	VIE-L09	HUAWEI P9 Plus	1
Sony Mobile Communications Inc.	J3273	PM-1254-BV	1
Samsung Korea	SM-G150NS	Samsung SM-G150NS	1
Motorola Inc.	MQ3-4411C41	MQ3-4411C41	1
Fully Holdings (HK) Co Limited	OUKITEL C1	OUKITEL C1	1
Samsung Korea	SGH-N714	Galaxy A10e	1
Motorola Mobility LLC a Lenovo Company	RAZR HD XT925 M0D0A	Motorola RAZR HD XT925 M0D0A	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3710	realme C55	1
HTC Corporation	2PYA210	2PYA210	1
BlackBerry Limited	This is a Test IMEI to be used with multiple prototype models. The frequency bands for each model may not match what is listed in this record	This is a Test IMEI to be used with multiple prototype models. The frequency bands for each model may not match what is listed in this record	1
PT. Arga Mas Lestari		5503	5503
Samsung Korea	SM-N9007	Samsung SM-N9007	1
Deploy PVT Ltd	Neo 8 Plus	Neo 8 Plus	1
ASUSTek Computer Inc	ASUS_I003DD	ROG Phone	1
Motorola Mobility LLC a Lenovo Company	XT1925-5	BL12416045 Moto G (6th Gen)	1
ZTE Corporation	ZTE Blade A52	ZTE Blade A52	1
HMD Global Oy	TA-1316	TA-1316	1
Doke Communication (HK) Limited	BV9100	Blackview BV9100	1
Shenzhen City Suoye Excellence Technology Co Ltd	SOYES XS	SOYES XS	1
Samsung Korea	SM-S506DL	Galaxy A50	1
Sony Mobile Communications Inc.	H8266	Xperia XZ2	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO R7plusf	R7 Plus OPPO R7plusf	1
HUAWEI Technologies Co Ltd	FLA-LX1	FLA-LX1	1
Senyang Electronic Science & Technology (Shenzhen) Co Ltd	Run	Run	1
Bellco Trading Company (Private) Limited	B12VIP	B12VIP	1
HUAWEI Technologies Co Ltd	RNE-L01	HUAWEI Mate 10 lite HUAWEI nova 2i	1
Mundo Reader S.L.	Carbon	Suro Carbon	1
Beijing 8848 Mobile Communication Limited Company	8848 M5	8848 M5 8848 M5+	1
Vivo Mobile Communication Co Ltd	V2066A	vivo Y30g 2021	1
Sichuan Doov Pty Co Ltd	DOOV X9	DOOV X9	1
Motorola Mobility LLC a Lenovo Company	XT1770	Moto E Plus (4th Gen)	1
Intex Technologies (India) Limited	IP0518ND	Intex IP0518ND	1
Samsung Korea	SM-A605G	Samsung SM-A605G	1
Sony Mobile Communications Inc.	XQ-AQ62	PM-1313-BV	1
ASUSTek Computer Inc	ASUS_Z00LD	ASUS ZE550KL Zenfone2 Laser	1
TCT Mobile Limited	5042D	ALCATEL ONETOUCH POP M5	1
HUAWEI Technologies Co Ltd	HUAWEI CRR-UL00	HUAWEI Mate S HUAWEI Mate s	1
Samsung Korea	SM-N910H	Samsung SM-N910H	1
Huawei Device Company Limited	MGA-LX9	HUAWEI nova Y70	1
Tecno Telecom (HK) Limited	CH7n	CAMON 18P	1
HMD Global Oy	TA-1206	Nokia 2.3	1
Samsung Korea	SM-G889N0	XCOVER FIELD PRO	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2201	CPH2201	1
Motorola Mobility LLC a Lenovo Company	XT2333-5	moto g23	1
Shenzhen Guanaixin Digital Technology Co Ltd	BD202305	BD202305	1
Shenzhen Jeko Communication Co Limited	A7 pro	BLACKVIEW A7 pro	1

Samsung Korea	GT-B2710	Samsung GT-B2710	1
Lenovo (Beijing) Co Ltd	Lenovo A916	Lenovo Lenovo A916	1
HTC Corporation	0PKV100	HTC One M8s	1
HUAWEI Technologies Co Ltd	HLK-L42	HLK-L42	1
Sony Corporation	XQ-BE42	PM-1373-BV	1
Xiaomi Communications Co Ltd	2311BPN23C	2311BPN23C	1
Lenovo (Beijing) Co Ltd	Lenovo A1000	Lenovo A1000	1
Sony Mobile Communications	G3116	Xperia XA1	1
Motorola Mobility LLC a Lenovo Company	XT2067-2	Liberty	1
Tecno Telecom (HK) Limited	A6	Phantom 6	1
Vivo Mobile Communication Co Ltd	V2061A	iQOO U3	1
LG Electronics Inc.	LG-H990N	V20	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3762	RMX3762	1
KVD International Group Limited	X5 MAX Pro	DOOGEE X5 MAX Pro	1
Samsung Korea	SM-E500YZ	Samsung SM-E500YZ	1
Fujitsu Ltd	FMP169-BVLGD	F-02L	1
Xiaomi Communications Co Ltd	MDE6	MDE6	1
HTC Corporation	2QDA100	HTC U24 pro	1
Motorola Mobility LLC a Lenovo Company	XT1925-3	BL12427345 Moto G (6th Gen)	1
HMD Global Oy	TA-1036	Nokia 3310 3G SS	1
Meizu Technology Co Ltd	M688Q	m3	1
KVD International Group Limited	R10	R10	1
Tecno Telecom (HK) Limited	LB7	Pouvoir 3	1
Xiaomi Communications Co Ltd	M1803D5XE	MI MIX2S	1
LG Electronics Inc.	LM-K510HM	LM-K510HM	1
Samsung Korea	SM-J500M	Samsung SM-J500M	1
HUAWEI Technologies Co Ltd	HUAWEI G526-L22	HUAWEI HUAWEI G526-L22	1
Group Acquisitions Limited	IQ459	Fly Intruder	1
Samsung Korea	SM-J105M/DS	Samsung SM-J105M/DS	1
HUAWEI Technologies Co Ltd	AQM-LX1	AQM-LX1	1
Nokia Corporation	7100s 7100s-2	7100s 7100s-2	1
Motorola Mobility LLC a Lenovo Company	XT2221-2	Rhode4G22	1
Tecno Telecom (HK) Limited	BC2	POP 4	1
Coolcell (HK) Technology Co Limited	SMART_500	SMART_500 A400 G3 G6	1
HMD Global Oy	TA-1373	TA-1373	1
Sharp Corporation IoT Communication BU	HMSA-0024B	SH-52E	1
ZTE Corporation	ZTE BLADE V7	ZTE Blade V7 ZTE BLADE V7	1
Motorola Mobility LLC a Lenovo Company	XT1804	INDR003547	1
Hi-Power (Shenzhen) Technology Co Limited	X6	Hiking X6	1
G-Telecoms (Pvt) Ltd	X7plus	X7plus	1
HUAWEI Technologies Co Ltd	DLI-L22	DLI-L22	1
ZTE Corporation	ZTE BA610T	ZTE BA610T	1
Shenzhen Hejida Technology Co Ltd	SAILF R20	SAILF R20	1
Microsoft Mobile Oy Nokia Corporation	105 Nokia 1050	Nokia 105 Nokia 1050	1
Umi Network Technology Co Limited	Crystal	UMIDIGI CRYSTAL	1
Sony Mobile Communications Inc.	H8166	Xperia X22 Premium	1
HMD Global Oy	TA-1286	TA-1286	1
LG Electronics Inc.	LGM-X320K	LGM-X320K	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1835	CPH1835	1
Shenzhen Koobee Communication Co. Ltd	koobee S200	koobee S200	1
ZTE Corporation	ZTE A2018	ZTE A2018	1
Samsung Korea	GALAXY ACE	Samsung GALAXY ACE	1
Samsung Korea	SM-J400M	Galaxy J4	1
Motorola Mobility LLC a Lenovo Company	XT1762	Moto E (4th Gen) AN12071445	1
Samsung Korea	SM-N935S	Samsung SM-N935S	1
Xiaomi Communications Co Ltd	MCT3B	Redmi 5A	1
ZTE Corporation	ZTE B2016	Axon MINI AXON MINI AXON MINI(Premium Edition)	1
Fully Holdings (HK) Co Limited	WP5 Pro	WP5 Pro	1
Xiaomi Communications Co Ltd		2014719 MI 4	1
Planet Computers Limited	X600	Gemini PDA	1
Samsung Korea	SM-J710GN/DS	Galaxy J7 2016	1
Samsung Korea	SM-G531H/DS	Samsung SM-G531H/DS	1
HTC Corporation	2PS5200	HTC One X9	1
Xiaomi Communications Co Ltd		2015105 A2	1
Shenzhen Gionee Communication Equipment Co Ltd	GIONEE F100L	F100L	1
KYOCERA Corporation	KYF39	KYF39	1
Samsung Korea	SM-G925FQ	GALAXY S6 EDGE SM-G925FQ	1
Essential Products Inc.	A11	PH-1	1
Samsung Korea	SM-M205F	Galaxy M20	1
Honor Device Company Limited	VNA-LX2	VNA-LX2	1
Smartisan Digital Co Ltd	OC105	OC105	1
TCL Communication Ltd	BBB100-2	BlackBerry BBB100-2	1
HMD Global Oy	TA-1480	TA-1480	1
Samsung Korea	SC-02M	Galaxy A10e	1
Shenzhen Oujia Electronic Technology Co Ltd	OUIJA T50	OUIJA T50	1
Huawei Device Company Limited	ADA-AL00U	ADA-AL00U	1
KVD International Group Limited	S80 Lite	DOOGEE S80 Lite	1
Mara Phones Limited	Mara Phones Z1	Mara Phones Z1 d	1
China Post Communications Equipment Co Ltd	MRK-BD00	Hi nova 10 SE	1
Huawei Device Company Limited	MLD-AL00	MLD-AL00	1
Samsung Korea	Galaxy Pocket Neo GT-S5310	Samsung Galaxy Pocket Neo GT-S5310	1
Huawei Device Company Limited	OCE-AN50	HUAWEI Mate 40E	1
Nokia Corporation	2730c-1 2730c	2730c-1 2730c	1
Shenzhen Haoxiang Intelligent Electronics Co Ltd	M12 pro	M12 pro	1
Motorola Mobility LLC a Lenovo Company	XT2083-3	moto g(9) play	1
Nubia Technology Co Ltd	NX627J	NX627J	1
Vingroup Joint Stock Company	V441	Joy 4	1

Samsung Korea	GT-I8200Q	Galaxy S3 mini GT-I8200Q	1
Motorola Mobility LLC a Lenovo Company	XT2053-4	Fiji LC	1
Xiaomi Communications Co Ltd	24115RA8EC	24115RA8EC	1
WEIKE Device Technology (Shenzhen) Co Ltd	MKY-AN20	Hi Enjoy 70m 5G	1
Motorola Mobility LLC a Lenovo Company	XT2043-4	moto g stylus	1
General Mobile Inc	4G	GENERAL MOBILE 4G	1
Motorola Mobility LLC a Lenovo Company	XT1806	Moto G Plus (5th Gen S) ZA12001245	1
Avenir Telecom	U505S	Ultimate U505S	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2665	CPH2665	1
HTC Corporation	2Q4R100	HTC 2Q4R100	1
HUAWEI Technologies Co Ltd	JKM-AL00a	JKM-AL00a	1
Panasonic Corporation	ELUGA X1 Pro	Panasonic ELUGA X1 Pro	1
Sony Mobile Communications	F5121	Xperia X	1
LG Electronics Inc.	LG-K220ds	LG-K220ds	1
Wiko	W-V720	Y80	1
ASUSTek Computer Inc	ASUS_X00DDB	ASUS ZC553KL ZENFONE 3 MAX	1
Motorola Mobility LLC a Lenovo Company	XT1929-5	SL12367845 Moto Z Play (3rd Gen)	1
Yulong Computer Telecommunication Scientific (Shenzhen) Co.	Yd01pad Y803-9	Coolpad Y803-9	1
Sony Mobile Communications Inc.	PM-1324-BV	PM-1324-BV	1
Intel Technology Limited	S663LC	VISION 5	1
Vingroup Joint Stock Company	V741	Aris Pro	1
HTC Corporation	0PK7110	HTC One M9+	1
HUAWEI Technologies Co Ltd	STK-L21	HUAWEI Y9s	1
Sharp Corporation IoT Communication BU	XN-DDBT63	SH-41A	1
Sharp Corporation IoT Communication BU	XN-DDBT95	SH-51A	1
Edison Industries Ltd	innova30	Symphony innova30	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2209	CPH2209	1
Samsung Euro QA Lab	SGH-A300	SGH-A300	1
Xiaomi Communications Co Ltd	M1903F2A	M1903F2A	1
Zebra Technologies Corp.	EC55BK-2	EC55	1
HMD Global Oy	TA-1198	Nokia 6.2	1
HUAWEI Technologies Co Ltd	LYA-L09	HUAWEI Mate 20 Pro	1
Lenovo (Beijing) Co Ltd	Lenovo K50a40	Lenovo Lenovo K50a40 Lenovo A7000 Turbo	1
XOR UK Corporation Limited	XM-102	Titanium X2	1
Qingdao Hisense Communications Co Ltd	HLTE720T	U30	1
Tongqing Communication Equipment (Shenzhen) Co Ltd	VIM D52	VIM D52	1
Takumi Japan Ltd	KAZ-F019	Fukuoka	1
Xiaomi Communications Co Ltd	M2003J15SS	Redmi Note 9	1
Samsung Electronics America	A3LSMG900V A3LSMN910V SM-G9200	Galaxy S5 (A3LSMG900V) Note 4 (A3LSMN910V) Galaxy S6 (SM-G9200)	1
Motorola Mobility LLC a Lenovo Company	XT1795	INDR003045	1
Samsung Korea	SHV-E330K	Samsung SHV-E330K	1
HUAWEI Technologies Co Ltd	NEM-L21	honor	1
Shenzhen Konka Telecommunications Technology Co Ltd	KU9	KU9	1
LG Electronics Inc.	LG-H931	LG-H931	1
Samsung Korea	SM-A510S	Samsung SM-A510S	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3687	RMX3687	1
Samsung Korea	SM-B110E	Samsung SM-B110E	1
Motorola Inc.	AC2-41A12	AC2-41A12	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO R7s Plus	OPPO R7s Plus	1
Verve Connect Limited	IMO Q3 Plus	IMO Q3 Plus	1
Microsoft Mobile Oy Nokia Corporation	RM-975	Lumia 635 RM-975	1
Samsung Korea	SM-N976V	Galaxy Note 10+ 5G	1
Meizu Technology Co Ltd	M852H	meizu X8	1
Sony Mobile Communications Inc.	J8270	PM-1246-BV	1
Sharp Corporation IoT Communication BU	SH-C02	SH-C02	1
Xiaomi Communications Co Ltd	M1808D2TC	M1808D2TC	1
Samsung Korea	GT-I9300	GALAXY S3 GT-I9300	1
Intel Technology Limited	P663LN	P55+	1
HMD Global Oy	TA-1130	Nokia 1 Plus	1
HUAWEI Technologies Co Ltd	AQM-LX1	HUAWEI Y8p	1
Samsung Korea	SM-A605K	Samsung SM-A605K	1
Samsung Korea	SM-A600G	Galaxy A6	1
Tejarat Khaneh Haji Ghasem	Z9	Z9	1
ASUSTek Computer Inc	ASUS_T00F	ASUS ZenFone 5 A500CG	1
Motorola Mobility LLC a Lenovo Company	XT2421-13	LionLite24	1
Motorola Mobility LLC a Lenovo Company	XT1962-1	River Moto G (7th Gen)	1
Samsung Korea	SM-A8000	Samsung SM-A8000	1
Xiaomi Communications Co Ltd	23076RA4BC	23076RA4BC	1
Motorola Mobility LLC a Lenovo Company	XT1920-18	PettyL Moto E Play (5th Gen)	1
Reliance Communications	RC2200L	Orbic Flip-TF	1
Lidaxin Technology Limited	X3	X3	1
ZTE Corporation	ZTE Blade V580	ZTE Blade V580	1
Avenir Telecom	H550S	H550S	1
Panasonic Mobile Communications Co Ltd	FZ-T1BL	FZ-T1	1
ASUSTek Computer Inc	ASUS_X00LD	ASUS ZENFONE 4 SELFIE ZD553KL	1
Kyocera Corporation (Osaka)	E6910	E6910	1
Motorola Mobility LLC a Lenovo Company	XT1581	Moto X Force BO12568845	1
HUAWEI Technologies Co Ltd	GEM-703L GEM-703LT	honor X2	1
Innovation Gresso Pvt Ltd	Jugnu	Gresso Jugnu	1
Shenzhen Leagoo Intelligence Co Ltd	M9 Pro	LEAGOO M9 Pro	1
Glory International Enterprises Limited	K9 K88 K99 K51	RICHTECH K9 K88 K99 K51	1
TCL Communication Ltd	5061K	Alcatel 3X	1
Internet Group DOO Beograd	Tesla Smartphone 9.1	Tesla Smartphone 9.1	1
Shenzhen Konka Telecommunications Technology Co Ltd	U6	U6	1
HUAWEI Technologies Co Ltd	PLK-TL01H	PLK-TL01H	1
Samsung Korea	GT-E1200Y	Samsung GT-E1200Y	1
ASUSTek Computer Inc	ASUS_Z012DB	ASUS ZenFone 3 ZE552KL	1

HTC Corporation	0PCV200	HTC Desire 510	1
Yulong Computer Telecommunication Scientific (Shenzhen) Co., Ltd	GP13	COOL30	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1912	CPH1912	1
Shenzhen Telsda Mobile Communication Industry Developing Co Ltd	T1101	T1101	1
Vivo Mobile Communication Co Ltd	V2158A	vivo Y32	1
Yunji (Hong Kong) Holdings Co Limited	WP19 Pro	WP19 Pro	1
HTC Corporation	0PJX100	HTC 0PJX100	1
Vivo Mobile Communication Co Ltd	V2041	vivo Y72 5G	1
Vivo Mobile Communication Co Ltd	vivo 1727	vivo V9 Youth	1
Lenovo (Beijing) Co Ltd	Lenovo L38111	Lenovo L38111	1
Samsung Korea	SM-A102W	Galaxy A10e	1
LG Electronics Inc.	LM-X525EAW	Q60	1
Guizhou Fortuneship Technology Co Ltd	PW601A	PW601A	1
Inversiones Innova S.L.	2512332x	SPC SMART ULTIMATE	1
INFINIX TECHNOLOGY LIMITED	X689C	HOT 10T	1
INFINIX TECHNOLOGY LIMITED	X6835	HOT 30 PLAY	1
Shenzhen Leagoo Intelligence Co Ltd	Power 5	LEAGOO Power 5	1
HMD Global Oy	TA-1172	TA-1172	1
LG Electronics Inc.	LG-H790	LG-H790	1
Nonsuch Technology Co Limited	DUOPHONE S66	DUOPHONE S66	1
Nokia Corporation			1112
HUAWEI Technologies Co Ltd	JAT-LX3	HUAWEI Y6s	1
Anhui Kumi Intelligent Technology Co Ltd	HB01	HB01	1
Crosscall	Action-X3	Action-X3	1
Samsung Korea	SM-N976U	DavinciX	1
Sony Mobile Communications	H4311	Xperia L2	1
Samsung Korea	SM-A015U	Galaxy A01	1
Samsung Korea	SM-G9708	Galaxy S10e	1
Vivo Mobile Communication Co Ltd	V1936A	iQOO Neo3	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2365	CPH2365	1
Onkyo Corporation	DP-CMX1	DP-CMX1	1
Sony Mobile Communications	G8232	Xperia XZs	1
TCL Communication Ltd	5099U	ALCATEL 3V	1
OnePlus Technology (Shenzhen) Co Ltd	HD1905	HD1905	1
HTC Corporation	2PQ9120	HTC 2PQ9120	1
Samsung Korea	SM-J260F	GALAXY J2 CORE SM-J260F	1
ZTE Corporation	P545	P545	1
HUAWEI Technologies Co Ltd	NEO-AL00	PORSCHE DESIGN HUAWEI Mate RS	1
Sony Mobile Communications	D2533	Xperia C3	1
Fully Holdings (HK) Co Limited	K6	K6	1
TCL Communication Ltd	T700X	TCL T2	1
Honor Device Company Limited	LGE-AN00	LGE-AN00	1
Hytera Communications Corporation Limited	PNC380	PNC380	1
Samsung Korea	HUI	Galaxy A21	1
Shenzhen City Suoye Excellence Technology Co Ltd	S202306	S202306	1
HUAWEI Technologies Co Ltd	BKL-TL10	BKL-TL10	1
Samsung Korea	GALAXY NOTE 2 GT-N7105	Samsung GALAXY NOTE 2 GT-N7105	1
Lenovo (Beijing) Co Ltd	Lenovo P1c58	Lenovo Lenovo VIBE P1	1
HUAWEI Technologies Co Ltd	BAC-L22	HUAWEI nova 2 Plus HUAWEI P10 Selfie	1
Lenovo (Beijing) Co Ltd	Lenovo A850	Lenovo Lenovo A850	1
Tinmo Technology (HK) Limited	F9	TINMO F9	1
Samsung Korea	SCG05	Galaxy Z Fold2 5G	1
Motorola Mobility LLC a Lenovo Company	XT1650-02	Moto Z Force Droid VE12657445	1
Samsung Korea	SM-J710FN/DS	GALAXY J7 2016 SM-J710FN/DS	1
Sony Mobile Communications	H8216	PM-1114-BV	1
Samsung Korea	GALAXY S DUOS GT-S7562	Samsung GALAXY S DUOS GT-S7562	1
Huawei Device Company Limited	RTE-AL00	nova 9 Pro	1
Tianyi Telecom Terminals Company Limited	TYH612M	Maimang 10	1
Vivo Mobile Communication Co Ltd	V1814A	vivo Z3pro	1
Motorola Mobility LLC a Lenovo Company	XT2029-2	moto e6 play	1
BLU Products Inc	ADVANCE A4 2019	BLU ADVANCE A4 2019	1
Doke Communication (HK) Limited	TIGER 10	OSCAL TIGER 10	1
G-Mobile Devices Private Limited	X668	HOT 12 PRO	1
LG Electronics Inc.	LG-E435k	LG LG-E435k	1
ASUSTek Computer Inc	ASUS_Z011D	ASUS ZenFone2 Laser ZE601KL	1
Shenzhen Jeko Communication Co Limited	A20 Pro	BLACKVIEW A20 Pro	1
Samsung Korea	SM-J737A	J7 TOP	1
Motorola Mobility LLC a Lenovo Company	XT1955-6	Ocean Moto G Power (7th Gen)	1
ASUSTek Computer Inc	ASUS_A001	ASUS Zenfone 3 Ultra ZU680KL	1
i.safe MOBILE GmbH	M33A01	IS330	1
Vivo Mobile Communication Co Ltd	V1838T	vivo X27	1
Motorola Mobility LLC a Lenovo Company	XT2231-4	HawaiiPlus22	1
Sony Mobile Communications	E6883	Xperia Z5 Premium Dual	1
HMD Global Oy	TA-1157	Nokia 4.2 DS	1
Chengdu Vertu Business and Service Management Co Ltd	VTL-202302	METAFLIP	1
HTC Corporation	2PUK200	HTC Desire 825	1
M/S Namira Enterprise	W2000 W3000 W4000 W5000 W6000	WINSTAR W2000 W3000 W4000 W5000 W6000	1
Samsung Korea	SGH-J210	SGH-J210	1
Fujitsu Ltd	F-01K	F-01K	1
Samsung Korea	SM-G977U	Galaxy S10 5G	1
Emporia Telecom GmbH & Co KG	S4	Smart.4	1
Xiaomi Communications Co Ltd	M2006C3MT	M2006C3MT	1
Motorola Mobility LLC a Lenovo Company	XT1955DL	Ocean Moto G Power (7th Gen)	1
Itel Technology Limited	S661LP	Vision 3	1
Fully Holdings (HK) Co Limited	K12	K12	1
Motorola Mobility LLC a Lenovo Company	XT1635-02	Moto Z Play INDR002045	1
Samsung Korea	SGH-U900	SGH-U900	1

Vivo Mobile Communication Co Ltd	V1922A	vivo iQOO Pro	1
Motorola Mobility LLC a Lenovo Company	XT1925-13	BL12426845 Moto G (6th Gen)	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1611	CPH1611	1
KVD International Group Limited	T3	T3 DOOGEE	1
HMD Global Oy	TA-1189	Nokia 800	1
HMD Global Oy	TA-1223	TA-1223	1
Motorola Mobility LLC a Lenovo Company	XT1900-7	Moto X (4th Gen) IB12266545	1
Samsung Korea	SM-G920FQ	GALAXY S6 SM-G920FQ	1
Sony Mobile Communications Inc.	XQ-AD52	PM-1291-BV	1
LG Electronics Inc.	LG-H525n	G4c	1
Sony Mobile Communications	PM-1126-BV	PM-1126-BV	1
Motorola Mobility LLC a Lenovo Company	XT2235-2	moto g32	1
HK Elephone Communication Tech Co Limited	M3	ELE M3	1
Motorola Mobility LLC a Lenovo Company	XT2231-1	HawaiiPlus22	1
TCL Communication Ltd	T671O	TCL 20 SE	1
HUAWEI Technologies Co Ltd	HRY-LX1	HRY-LX1	1
Xiaomi Communications Co Ltd	M1810F6LE	M1810F6LE	1
DG HomTom Group Co Limited	HT50	HOMTOM H50	1
TPV Audio and Visual Technology (Shenzhen) Co Ltd	Philips S6201	Philips S6201 Philips PH9 Philips S12	1
Doke Communication (HK) Limited	BV5200 Pro	Blackview BV5200 Pro	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX1929	RMX1929	1
ASUSTek Computer Inc	ASUS_Z01QD	ROG Phone	1
LG Electronics Inc.	LG-H870DS	LG-H870DS	1
United Telelinks (Bangalore) Ltd	K2 Boom Box	Karbons K2 Boom Box	1
Huawei Device Company Limited	GLA-LX1	HUAWEI nova 10 Pro	1
Motorola Mobility LLC a Lenovo Company	XT2163-6	Eliass22	1
Xiaomi Communications Co Ltd	MDE6S	MDE6S	1
84Rise Technology Corporation	S10	S10	1
ZTE Corporation	ZTE Blade V1000	ZTE Blade V10	1
HUAWEI Technologies Co Ltd	R205	HUAWEI Vodafone R205	1
Doke Communication (HK) Limited	A90	Blackview A90	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO R6016 OPPO R6011 OPPO R8206 OPPO N5206	OPPO R6016 OPPO R6011 OPPO R8206 OPPO N3	1
HUAWEI Technologies Co Ltd	ELS-TN00	Pxx Pro	1
HUAWEI Technologies Co Ltd	PIC-TL00	HUAWEI nova 2	1
ZTE Corporation	ZTE BLADE A125	ZTE BLADE A125 BLADE A125 A125 ZTE Blade A125 Blade A125	1
Sony Corporation	PM-1353-BV	PM-1353-BV	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2121	RMX2121	1
Qiku Internet Technology (Shenzhen) Co Ltd	1803-A01	1803-A01	1
Huawei Device Company Limited	WKG-TN00	WKG-TN00	1
Fully Holdings (HK) Co Limited	C13 Pro	C13 Pro	1
Shenzhen Duoqin Technology Co Ltd	QF9	QF9	1
HTC Corporation	2Q74100	HTC Desire 19+	1
HUAWEI Technologies Co Ltd	POT-LX2J	POT-LX2J	1
Sony Mobile Communications	H3133	Xperia XA2	1
Samsung Korea	SM-J330M	Samsung SM-J330M	1
HTC Corporation	2QAG100	HTC Desire 21 pro 5G	1
HUAWEI Technologies Co Ltd	STK-L22	HONOR 9X	1
Honor Device Company Limited	NTN-LX1	NTN-LX1	1
United Telelinks (Bangalore) Ltd	KX80	Karbons KX80	1
HTC Corporation	2PS5100	HTC One X9 dual sim	1
TCL Communication Ltd	4087U	Alcatel 1SE (elite edition)	1
Meizu Technology Co Ltd	M813H	meizu M8	1
KVD International Group Limited	S60	DOOGEE S60	1
HUAWEI Technologies Co Ltd	HUAWEI Y550-L02	HUAWEI Ascend Y550	1
Nokia Corporation	Nokia 6310	Nokia 6310	1
Samsung Korea	SM-J710FQ	GALAXY J7 2016 SM-J710FQ	1
Zhuhai EWPE Information Technology Inc	G0515D	TOSOT G5	1
Xiaomi Communications Co Ltd	220333QNY	Redmi 10C	1
Samsung Electronics America	SM-N920P	Galaxy Note5 (A3LSMN920P)	1
LG Electronics Inc.	LM-F100TM	LM-F100TM	1
Huawei Device Company Limited	NCO-LX3	HUAWEI nova 10	1
HMD Global Oy	TA-1377	TA-1377	1
Motorola Mobility LLC a Lenovo Company	XT2127-1	Capri21	1
G-Mobile Devices Private Limited	KG5h	SPARK Go 2022	1
Samsung Korea	SM-G9508	Samsung SM-G9508	1
Sharp Corporation IoT Communication BU	XH-DD0463	AQUOS sense4 lite SH-RM15	1
Huawei Device Company Limited	ABR-LX9	HUAWEI P50	1
Xiaomi Communications Co Ltd	211033MI	POCO C31	1
Sony Mobile Communications	F8332	Xperia XZ	1
TCL Communication Ltd	BBF100-2	BlackBerry KEY2	1
HMD Global Oy	TA-1049	Nokia 3.1 DS	1
Xiaomi Communications Co Ltd	M1808D2TE	M1808D2TE	1
Motorola Mobility LLC a Lenovo Company	XT2255-3	Victoria22	1
LG Electronics Inc.	LM-X220N	LM-X220N	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2043	OPPO Reno3	1
Samsung Korea	SM-G600S	Samsung SM-G600S	1
Honor Device Company Limited	CMA-LX1	CMA-LX1	1
Loca Telekomunikasyon Elektronik San.Ve Tic Sti	X3	IXPERIA X3	1
Sony Mobile Communications	F3215	PM-0952-BV	1
Huawei Device Company Limited	MOA-LX9N	HONOR 9A	1
Samsung Korea	SM-F907B	Galaxy Foldable 5G	1
G-Mobile Devices Private Limited	BB4k	SPARK Go Plus	1
Pacific Co (BD) Ltd	NX14 NX15 NX65 NX66 NX8	NEXUS NX14 NX15 NX65 NX66 NX8	1
Sharp Corporation IoT Communication BU	XN-MBT76	AQUOS sense4 plus SH-M16	1
Samsung Korea	SM-G5108	Samsung SM-G5108	1
Qingdao Haier Telecom Co Ltd	HT-A8	HT-A8	1

Motorola Mobility LLC a Lenovo Company	XT1980-3	Foles	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1937	CPH1937	1
Doke Communication (HK) Limited	S80	OSCAL S80	1
ASUSTek Computer Inc	ASUS_Z00LD	ASUS ZE550KL ZENFONE 2 LASER	1
Samsung Korea	SCV39	Galaxy S9+ STAR2 JPN KDDI	1
Motorola Mobility LLC a Lenovo Company	XT1941-5	Deen Motorola One	1
HUAWEI Technologies Co Ltd	ANA-AL00	ANA-AL00	1
Qiku Internet Technology (Shenzhen) Co Ltd	1809-A01	1809-A01	1
Tianyi Telecom Terminals Company Limited	TYH622M	Maimang 11SE	1
LG Electronics Inc.	LM-K420BMW	LM-K420BMW	1
Blackshark Technologies (Nanchang) Co Ltd	SKW-H0	Black Shark 2	1
Vivo Mobile Communication Co Ltd	vivo X6SPlus A	vivo vivo X6SPlus A	1
Hong Kong Unihertz E-Commerce Company Limited	TANK 2 Pro	TANK 2 Pro	1
Xiamen Meitu Mobile Technology Co Ltd	MP1713	MP1713	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3085	RMX3085	1
Shenzhen Oujia Electronic Technology Co Ltd	OUIIA S11	OUIIA S11 play	1
Qingdao Hisense Communications Co Ltd	B1 B2	B1 B2	1
BlackBerry Limited	RHK211LW (STV100-1)	BlackBerry RHK211LW (STV100-1)	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2293	CPH2293	1
Tinmo Technology (HK) Limited	X7	X7	1
Samsung Korea	GT-S6310N	Samsung GT-S6310N	1
Samsung Korea	SM-A720L	Samsung SM-A720L	1
Motorola Mobility LLC a Lenovo Company	XT1920-18	GL12495145 Moto E Play (5th Gen)	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2061	CPH2061	1
Xiaomi Communications Co Ltd	23124RN87I	23124RN87I	1
Honor Device Company Limited	CRT-NX1	CRT-NX1	1
Nokia Corporation	1202 1202-2	1202 1202-2	1
Lenovo (Beijing) Co Ltd	Lenovo L19111	Lenovo A7	1
Shenzhen Huafurui Technology Co Ltd	NOTE 50	CUBOT NOTE 50	1
Motorola Mobility LLC a Lenovo Company	XT1926-9	TE12413645 Moto G Plus (6th Gen)	1
Shenzhen Mingren Communication Technology Co Ltd	A30	M REN A30	1
Shenzhen Putianxin Technology Co Ltd	TS138	TIANEE TS138	1
Motorola Mobility LLC a Lenovo Company	XT2347-1	Bangkok5G23	1
Meizu Technology Co Ltd	M822H	meizu note8	1
Samsung Korea	GT-E2550	Samsung GT-E2550	1
Yota Devices	YOTA Y3	YOTA Y3	1
HMD Global Oy	TA-1081	Nokia 5.1 SS	1
Santok Enterprises Ltd	NEO1000 NEO Hotel STK 1000	STK 3G Desktop Phone NEO1000 NEO Hotel STK 1000	1
HUAWEI Technologies Co Ltd	GLK-TL00	nova 5i	1
Samsung Korea	SM-N910L	Samsung SM-N910L	1
LG Electronics Inc.	LM-Q815S	LM-Q815S	1
Motorola Mobility LLC a Lenovo Company	XT1929-15	SP12494445 Moto Z (3rd Gen)	1
HMD Global Oy	TA-1042	Nokia 8 Sirocco	1
Xiaomi Communications Co Ltd	M2101K9AT	M2101K9AT	1
Samsung Korea	SM-J701M	Galaxy J7 Neo	1
INFINIX TECHNOLOGY LIMITED	X669	HOT 30i	1
Blackshark Technologies (Nanchang) Co Ltd	SHARK MBU-A0	Mobius	1
HK Elephone Communication Tech Co Limited	E5001	Soldier	1
Vivo Mobile Communication Co Ltd	V2027	vivo Y20	1
Motorola Mobility LLC a Lenovo Company	XT2163-1	Ellis22	1
TCL Communication Ltd	5033EP	Alcatel 1	1
Samsung Korea	SM-J327A	Samsung SM-J327A	1
ZTE Corporation	Blade S6 Plus T84 ZTE Blade S6 Plus ZTE S2007	Blade S6 Plus T84 ZTE Blade S6 Plus ZTE S2007	1
Nanjing Panda Mobile Communication Equipment Co Ltd	TD988	TD988	1
Gotron (HK) Electronic Co Limited	Note 10	Note 10	1
HMD Global Oy	TA-1109	TA-1109	1
Samsung Korea	SGH-A217	Samsung SGH-A217	1
Motorola Mobility LLC a Lenovo Company	XT2163-6	Ellis22	1
Vivo Mobile Communication Co Ltd	vivo 1820	vivo Y91C 2020	1
Samsung Korea	SM-A705F/DS	Galaxy A70	1
LG Electronics Inc.	LM-K410HM	LM-K410HM	1
Xiaomi Communications Co Ltd	M1903C3ET	M1903C3ET	1
Huawei Device Company Limited	NEN-L22	HUAWEI nova 8i	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3561	RMX3561	1
Motorola Mobility LLC a Lenovo Company	XT2055-4	Blackjack	1
Motorola Mobility LLC a Lenovo Company	XT2019-1	Doha	1
ASUSTek Computer Inc	ASUS_Z01GD	ASUS ASUS_Z01GD	1
Xiaomi Communications Co Ltd	M2003J6A1R	M2003J6A1R	1
ASUSTek Computer Inc	ASUS_Z012DA	ASUS ZenFone 3 ZE552KL	1
Sony Mobile Communications Inc.	I3223	PM-1193-BV	1
LG Electronics Inc.	LG-F700K	LG-F700K	1
Samsung Korea	SHV-E300K	Samsung SHV-E300K	1
F(x) Technology Limited	Pro1	F(x)tec Pro1	1
Vivo Mobile Communication Co Ltd	V2206	vivo Y22s	1
Motorola Mobility LLC a Lenovo Company	XT1524 ST12406045	Moto E (2nd Gen) with 4G LTE ST12406045	1
Meizu Technology Co Ltd	M928Q	16T	1
HMD Global Oy	TA-1103	TA-1103	1
Motorola Mobility LLC a Lenovo Company	XT1625	Moto G (4th Gen) AF12752645	1
HMD Global Oy	TA-1173	Nokia 2720	1
Samsung Korea	SM-J600F	Galaxy J6	1
Que Products LLC	QUE 6.0	QUE 6.0	1
LG Electronics Inc.	LM-V350ULM	LM-V350ULM	1
Samsung Korea	VDF	Galaxy A30	1
HMD Global Oy	TA-1020	Nokia 3 SS	1
Shenzhen Chunmei Technology Co Ltd	X21(OX2)	X21(OX2)	1
Lava International (H.K) Limited	LAVA LN9810	iris 66	1

Honor Device Company Limited	CLK-NX3	CLK-NX3	1
Sony Ericsson	X10i (AAD-3880056-BV)	X10i (AAD-3880056-BV)	1
HUAWEI Technologies Co Ltd	NEO-L29	PORSCHE DESIGN HUAWEI Mate RS	1
Power Idea Technology (Shenzhen) Co Ltd	RG730	RG730 MD501 D1	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1715	CPH1715	1
Shenzhen Huaifurui Technology Co Ltd	P30	CUBOT P30	1
HUAWEI Technologies Co Ltd	LND-TL40	LND-TL40	1
Ivvi Scientific (Nanchang) Co Ltd	ivvi F1S	ivvi F1S	1
Smartcell B.V.	SMARTCELL S90	SMARTCELL S90	1
Zebra Technologies Corp.	TC57HO-1X	TC57x	1
Doke Communication (HK) Limited	N6000 SE	Blackview N6000 SE	1
Samsung Korea	SM-A750F	GALAXY A7 SM-A750F	1
INFINIX TECHNOLOGY LIMITED	X6811	ZERO X Pro	1
Nokia Corporation	300 Nokia 3000	Nokia 300 Nokia 3000	1
HUAWEI Technologies Co Ltd	CAG-L02	HUAWEI Y3 2018	1
Gotron (HK) Electronic Co Limited	Armor X	Armor X	1
Planet Computers Limited	X800	Cosmo Communicator	1
ASUSTek Computer Inc	ASUS_X017DA	ASUS ZenFone 5 Selfie Pro ZC600KL	1
HUAWEI Technologies Co Ltd	VOG-L0J	VOG-L0J	1
Meizu Technology Co Ltd	M852Q	X8	1
Samsung Korea	SM-J250F/DS	GALAXY GRAND PRIME PRO SM-J250F/DS	1
INFINIX TECHNOLOGY LIMITED	X625C	HOT 7 PRO	1
Vivo Mobile Communication Co Ltd	V2337	vivo V40 SE 5G	1
Vivo Mobile Communication Co Ltd	V2023A	IQOO U1	1
Shenzhen Huaifurui Technology Co Ltd	MEET	HAFURY MEET	1
Qisda Corporation	A3316	QISDA CASPER VIA A3316	1
Tecno Telecom (HK) Limited	BC1s	POP 4 LTE	1
Vivo Mobile Communication Co Ltd	vivo Y85	vivo vivo Y85	1
HUAWEI Technologies Co Ltd	FLA-LX2	HUAWEI Y9 2018	1
Tecno Telecom (HK) Limited	P5	TECNO P5	1
Microsoft Mobile Oy	RM-1073 Lumia 640 LTE	RM-1073 Lumia 640 LTE	1
OnePlus Technology (Shenzhen) Co Ltd	BE2026	BE2026	1
Nubia Technology Co Ltd	NX616J	NX616J	1
LG Electronics Inc.	LG-Q710AL	LG-Q710AL	1
Vivo Mobile Communication Co Ltd	vivo Y53	vivo vivo Y53	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2201	RMX2201	1
HUAWEI Technologies Co Ltd	PIC-LX9	HUAWEI nova 2	1
Sony Mobile Communications Inc.	PM-1240-BV	PM-1240-BV	1
Nokia Corporation	E5-00	Nokia E5-00	1
HUAWEI Technologies Co Ltd	ASK-AL20	ASK-AL20	1
LG Electronics Inc.	LM-Q610YN	LM-Q610YN	1
Samsung Korea	SM-N9150	Samsung SM-N9150	1
Selekt Bilgisayar ve İletisim Urunleri San. Tic. Ltd. Sti	S19 Max Pro	reeder	1
Bullitt Group Limited	S62	S62	1
Samsung Korea	SM-S205DL	Galaxy A20	1
HUAWEI Technologies Co Ltd	ELE-TL00	HUAWEI P30	1
HUAWEI Technologies Co Ltd	KSA-AL00	KSA-AL00	1
Tianyi Telecom Terminals Company Limited	TYH201H	Tianyi No.1	1
LG Electronics Inc.	LG-H650E	LG-H650E	1
Xiaomi Communications Co Ltd	M2101K7BG	Redmi Note 10S	1
Vivo Mobile Communication Co Ltd	V2324	vivo Y36	1
Motorola Mobility LLC a Lenovo Company	XT2061-1	Racer-Turbo	1
Wiko	W-V750BN	POWER U20	1
New-Bund Technology Co Limited	V2 Pro	V2 Pro vernee	1
ZTE Corporation	ZTE 8050	ZTE Blade V50 Design ZTE Axon 50 Lite	1
HUAWEI Technologies Co Ltd	HUAWEI Y520-U12	HUAWEI Y520-U12 HUAWEI Ascend Y520	1
LG Electronics Inc.	P525	LG - P525	1
TCL Communication Ltd	4034A	4034A	1
Samsung Korea	GT-I9507V	Samsung GT-I9507V	1
Motorola Mobility LLC a Lenovo Company	XT2331-3	moto g13	1
INFINIX TECHNOLOGY LIMITED	X655	HOT 9	1
LG Electronics Inc.	LGM-V300K	LGM-V300K	1
Vivo Mobile Communication Co Ltd	vivo Y66i	vivo vivo Y66i	1
Shenzhen Xin Kingbrand Technology Development Co Ltd	V18H	V18H	1
Samsung Korea	GT-I9060/DS	Galaxy Grand Neo GT-I9060/DS	1
Hangzhou iReadyGo Intelligence Technology Co Ltd	I7S	I7S	1
Scope Hong Kong Limited	FLYMINI FENIX	SCOPE Fenix	1
Shanghai UNNO Technology Co Ltd	UNNO F3	UNNO F3	1
HUAWEI Technologies Co Ltd	JAT-LX3	JAT-LX3	1
Motorola Mobility LLC a Lenovo Company	XT2451-1	Aura24	1
Digicom Trading PVT Limited	E4	QMobile E4	1
LG Electronics Inc.	LG-H990ds	V20	1
ZTE Corporation	ZTE Blade S Blade S6 Amazing X6 ZTE Blade V220	ZTE Blade S Blade S6 Amazing X6 ZTE Blade V220	1
Umi Network Technology Co Limited	PLUS	ROOTJOY PLUS	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	PCRT01	PCRT01	1
LG Electronics Inc.	LG L455DL	LG-L455DL	1
Motorola Mobility LLC a Lenovo Company	XT1602	Moto G Play (4th Gen) JU12797645	1
TPV Audio and Visual Technology (Shenzhen) Co Ltd	Philips E6616	Philips E6616 Philips E535A Philips E537A	1
Shenzhen Bokaien Technology Co Ltd	Neken Mate 30RS	Neken Mate 30RS	1
Motorola Mobility LLC a Lenovo Company	XT2413-2	FogoNA24	1
Sony Corporation	PM-1393-BV	PM-1393-BV	1
HTC Corporation	2PZM300	HTC U Play	1
Motorola Mobility LLC a Lenovo Company	XT2097-12	moto e(7) power	1
Brightstar Telecommunications India Limited	F5-4G	FWP F5-4G	1
Shenzhen Huiyi Technology Co Ltd	R1	R1	1
ASUSTek Computer Inc	ASUS_Z01RD	ASUS ZS620KL ZenFone 5Z	1

Sony Mobile Communications Inc.	XQ-AU52	PM-1281-BV	1
HMD Global Oy	TA-1170	Nokia 2720	1
Motorola Mobility LLC a Lenovo Company	XT2095-1	moto e(7)	1
Itel Technology Limited	A663LC	A05s	1
HUAWEI Technologies Co Ltd	KSA-LX2	HONOR 8S	1
Sony Mobile Communications Inc.	PM-1154-BV	PM-1154-BV	1
Ecom Instruments GmbH	Smart-Ex 02	Smart-Ex 02 ROW Smart-Ex 02 EEA Smart-Ex 02 RUS	1
Tecno Telecom (HK) Limited	KH6	TECNO SPARK 9T	1
HUAWEI Technologies Co Ltd	TAS-TL00	HUAWEI Mate 30	1
LG Electronics Inc.	LM-Q730TM	LM-Q730TM	1
Shenzhen Huaifurui Technology Co Ltd	KINGKONG AX	CUBOT KINGKONG AX	1
Vodafone Group Services Ltd	VF695	Smart first 6 Vodacom Smart 6	1
Samsung Korea	SM-G530MU	Samsung SM-G530MU	1
TCL Communication Ltd	BBA100-2	BlackBerry BBA100-2	1
Huawei Device Company Limited	JLN-LX3	JLN-LX3	1
Xiamen Meitu Mobile Technology Co Ltd	MP1602	MP1602	1
Micromax Informatics Limited	X754	Micromax X754	1
Samsung Korea	SM-G900K	Samsung SM-G900K	1
Gotron (HK) Electronic Co Limited	Armor 10 5G	Armor 10 5G	1
HUAWEI Technologies Co Ltd	KIW-AL10	HONOR 5X	1
Xiaomi Communications Co Ltd	M2103K19C	M2103K19C	1
Yunji (Hong Kong) Holdings Co Limited	C19	C19	1
HTC Corporation	PO58210	HTC PO58210	1
ASUSTek Computer Inc	ASUS_A007	ASUS ZenFone Live ZB501KL	1
LG Electronics Inc.	LG-M700A	Q6 Q6+	1
Shenzhen Puluositai Technology Ltd	E301	PCD E301	1
Samsung Korea	GALAXY MINI GT-S5570I	Samsung GALAXY MINI GT-S5570I	1
Vivo Mobile Communication Co Ltd	V1816A	X23i	1
Samsung Korea	SM-A505A	Galaxy A50	1
Sharp Corporation IoT Communication BU	W-134	AQUOS keitai4 A206SH	1
LG Electronics Inc.	LM-K410EMW	K41S	1
KVD International Group Limited	X80	DOOGEE X80	1
HTC Corporation	0P6B110	HTC One (M8)	1
Vivo Mobile Communication Co Ltd	vivo 1718	vivo V7	1
Motorola Mobility LLC a Lenovo Company	XT1775	Moto E Plus (4th Gen) GO12064445	1
Uniphone Communication Co Limited	M2431	M2431	1
Tecno Telecom (HK) Limited	T529	T529	1
Meizu Technology Co Ltd	M681M	m3 note	1
HTC Corporation	2QBK200	HTC Desire 22 pro	1
Shanghai Zxelink Co Ltd	angelcare K210	angelcare K210	1
INFINIX TECHNOLOGY LIMITED	X652A	S5	1
Vivo Mobile Communication Co Ltd	V1816T	X23i	1
Sony Mobile Communications	SOV34	Xperia XZ	1
Shenzhen Zhimei Internet Mobile Communication Co Ltd	ZME EVE888	ZME EVE888	1
Huawei Device Company Limited	MED-TL00	MED-TL00	1
HUAWEI Technologies Co Ltd	TRT-L53	HUAWEI Y7 Prime	1
TCL Communication Ltd	6156A	alcatel 3L	1
LG Electronics Inc.	LM-G710EAW	LM-G710EAW	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3930	RMX3930	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2241	CPH2241	1
ZTE Corporation	Z855	Z855	1
HUAWEI Technologies Co Ltd	HUAWEI Y635-L02	HUAWEI Y635	1
Shenzhen Xiaolajiao Technology Limited Liability Company	LA-S33	LA-S33	1
Samsung Korea	GT-C3510	Samsung GT-C3510	1
Tecno Telecom (HK) Limited	CG6	CAMON 17	1
HUAWEI Technologies Co Ltd	JSN-L21	HONOR 9X Lite	1
Samsung Korea	SM-J600N	Galaxy J6	1
HUAWEI Technologies Co Ltd	HUAWEI CAN-L12	HUAWEI nova	1
HUAWEI Technologies Co Ltd	VOG-TL00	VOG-TL00	1
Ericsson Mobile Comms AB	A2628s	A2628s	1
LG Electronics Inc.	LG-D855V	G3	1
Alif Communications	Rocky 2	Rocky 2	1
Sony Mobile Communications	G3426	Xperia XA1 Plus	1
Qisda Corporation	B506	B506	1
Tecno Telecom (HK) Limited	F3	F3	1
Vivo Mobile Communication Co Ltd	V1938T	vivo X30 Pro	1
Samsung Korea	SM-S757BL	Galaxy J7 Top	1
Famoco SAS	FX205	FX205	1
Xiaomi Communications Co Ltd	M1903F11G	MI 9T Pro	1
Huawei Device Company Limited	ANG-AN00	ANG-TN00	1
Hunan Jinli Communication Equipment Co Ltd	G20240127	G20240127	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX1821	RMX1821	1
Vivo Mobile Communication Co Ltd	vivo 1929	vivo Y1s	1
DN Electronics	Sumaturel R500	Sumaturel R500	1
Shenzhen Baishile Communication Co Ltd	L202108	L202108	1
Ericsson Mobile Comms AB	1130202-BV	1130202-BV	1
HUAWEI Technologies Co Ltd	AMN-LX3	HUAWEI Y5 2019	1
Chi Technology Co Ltd Shenzhen City	DM2023888	DM2023888	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1721	CPH1721	1
Shenzhen Huaifurui Technology Co Ltd	KINGKONG MINI	CUBOT KINGKONG MINI	1
Tecno Telecom (HK) Limited	LG7n	POVA 4	1
Xiaomi Communications Co Ltd	M1810F6G	Redmi Y3	1
Hong Kong Karasnn Limited	ZP580 ZP700 ZP780 ZP1000 ZP998	ZOPO ZP580 ZP700 ZP780 ZP1000 ZP998	1
HUAWEI Technologies Co Ltd	VCE-TL00	VCE-TL00	1
Vodafone Group Services Ltd	VFD 200	Vodafone Smart first 7 Vodacom Smart Kicka 2	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2202	RMX2202	1
HUAWEI Technologies Co Ltd	BKL-L09	Honor V10	1

Mobiwire SAS	MobiWire Sakari	MobiWire Sakari	1
Motorola Mobility LLC a Lenovo Company	XT2241-2	Frontier22	1
Eastern Communications Company Limited	EG83	EG83	1
Chi Technology Co Ltd Shenzhen City	SC2022707	SC2022707	1
Microsoft Mobile Oy Nokia Corporation	RM-1040 Nokia Lumia 730 Dual SIM	RM-1040 Nokia Lumia 730 Dual SIM	1
Samsung Korea	GT-I9508	Samsung GT-I9508	1
Lenovo (Beijing) Co Ltd	Lenovo A2010-a	Lenovo A2010	1
Microsoft Mobile Oy Nokia Corporation	1320	1320 Lumia 1320	1
Doro AB	Doro DFC-0180	Doro 7050	1
Motorola Mobility LLC a Lenovo Company	XT1920-15	GL12494845 Moto E Play (5th Gen)	1
Sony Mobile Communications	H4113	Xperia XA2	1
ZTE Corporation	ZTE A2022	ZTE A30 ZTE Axon 30	1
HTC Corporation	2Q4D100	HTC U11+	1
Wileyfox Europe Limited	Spark X	Wileyfox Spark X	1
Xiaomi Communications Co Ltd	M2010J19CT	POCO M3	1
HMD Global Oy	TA-1481	TA-1481	1
LG Electronics Inc.	L-51A	OA2001	1
Nokia Corporation	7230	Nokia 7230	1
Samsung Korea	SM-A605GN	Galaxy A6+	1
Samsung Korea	GT-I9082	GALAXY GRAND GT-I9082	1
LG Electronics Inc.	LG-VS988	LG-VS988	1
Shenzhen Zhongxin Baihe Technology Co Ltd	BIHEE A3	BIHEE A3	1
Sony Corporation	XQ-BQ52	PM-1360-BV	1
LG Electronics Inc.	LG-M250dsn	K10	1
HUAWEI Technologies Co Ltd	HUAWEI MT2-L05 HUAWEI G730-L072 HUAWEI P7-L01 HUAWEI G7-UL00 HUAWEI G7-UL20	HUAWEI Mate2 HUAWEI G730-L072 HUAWEI Ascend P7 HUAWEI G7	1
Linnex Electronics Bangladesh Limited	LE21	LE21	1
Yunji (Hong Kong) Holdings Co Limited	WP36	WP36	1
TCL Communication Ltd	5053A	Alcatel 3	1
Gotron (HK) Electronic Co Limited	Note 14	Note 14	1
Xiaomi Communications Co Ltd	2303CRA44A	Redmi Note 12S	1
Honor Device Company Limited	ALP-AN00	ALP-AN00	1
Motorola Mobility LLC a Lenovo Company	XT2128-2	moto g20	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1827	CPH1827	1
INFINIX TECHNOLOGY LIMITED	X6826C	HOT 20	1
Keysmart (Hong Kong) Limited	PR4JBX20A	BISON X20	1
Shenzhen Niuman Qihang Technology Co Ltd	Newman M560	Newman M560	1
HMD Global Oy	TA-1595	TA-1595	1
HTC Corporation	2Q3F300	2Q3F300	1
Lenovo (Beijing) Co Ltd	XT1902-1	Lenovo K	1
LG Electronics Inc.	LM-Q720K	LM-Q720K	1
Motorola Mobility LLC a Lenovo Company	XT2131-1	moto g stylus 5G (2021)	1
Motorola Mobility LLC a Lenovo Company	XT2271-5	moto g play (2023)	1
Motorola Mobility LLC a Lenovo Company	XT2029-1	Moto E6 Play	1
HTC Corporation	0PGZ120	HTC 0PGZ120	1
Samsung Korea	SM-A300M	Samsung SM-A300M	1
Samsung Korea	SM-A720F	SM-A720F/SS GALAXY A7 / SM-A720F GALAXY A7	1
Vingroup Joint Stock Company	V620A	LIVE	1
Huawei Device Company Limited	MAO-LX9N	MAO-LX9N	1
Xiaomi Communications Co Ltd	2015213	A4	1
LG Electronics Inc.	LG-F500L	G4	1
LG Electronics Inc.	LM-Q520N	LM-Q520N	1
Itel Technology Limited	W6501	P36	1
Emporia Telecom GmbH & Co KG	S2	emporia.S2	1
Sony Corporation	PM-1443-BV	PM-1443-BV	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2036	CPH2036	1
HUAWEI Technologies Co Ltd	K3773	HUAWEI Vodafone K3773	1
PT. Arga Mas Lestari	S5J	ADVAN S5J	1
Motorola Mobility LLC a Lenovo Company	XT1922-3	AL12415545 Moto G Play (6th Gen)	1
LG Electronics Inc.	LM-Q610YB	LM-Q610YB	1
Sony Mobile Communications	G3112	Xperia XA1	1
INFINIX TECHNOLOGY LIMITED	X662	HOT 11	1
HUAWEI Technologies Co Ltd	BND-L31	Honor 7X	1
Crosscall	Core-X3	Core-X3	1
HUAWEI Technologies Co Ltd	LND-AL40	LND-AL40	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3760	RMX 3760	1
TCL Communication Ltd	6056D	alcatel 3L	1
Sichuan Doov Pty Co Ltd	T7-5G10	T7-5G10	1
Huawei Device Company Limited	PAL-LX9	PAL-LX9	1
Motorola Mobility LLC a Lenovo Company	XT2155-5	moto e20	1
HUAWEI Technologies Co Ltd	POT-LX1T	POT-LX1T	1
TCL Communication Ltd	MT40X	MOVETIME FAMILY WATCH	1
Microsoft Mobile Oy	RM-1116	RM-1116 Microsoft Lumia 950 XL	1
Vivo Mobile Communication Co Ltd	V2317A	vivo Y33t vivo Y12	1
Vivo Mobile Communication Co Ltd	V2043_21	vivo Y20 2021	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3611	RMX3611	1
Sony Mobile Communications	C6903	SONY C6903	1
INFINIX TECHNOLOGY LIMITED	X555-LTE	X555-LTE	1
Samsung Korea	SM-M215F/DS	Galaxy M21	1
Huawei Device Company Limited	EVE-AL00	EVE-AL00	1
Motorola Mobility LLC a Lenovo Company	XT2155-9	Aruba21	1
HUAWEI Technologies Co Ltd	JSN-TL00	JSN-TL00	1
Shenzhen Milan Digital Co Ltd	0W2023789	0W2023789	1
Honor Device Company Limited	ELZ-AN20	ELZ-AN20	1
HTC Corporation	0P6B650	HTC 0P6B650	1
Zhejiang Techain Electronics Technology Co Ltd	GOME 2017M27A	GOME U7	1

Sony Mobile Communications	PM-1053-BV	PM-1053-BV	1
Samsung Korea	SM-A510Y	Samsung SM-A510Y	1
HUAWEI Technologies Co Ltd	CRO-L22	HUAWEI Y3 2017	1
ZTE Corporation	ZTE Blade A462	ZTE Blade A462	1
Huawei Device Company Limited	CHA-AL80	CHA-AL80	1
Samsung Korea	SM-G9300	Samsung SM-G9300	1
HUAWEI Technologies Co Ltd	INE-LX1	HUAWEI nova 3i HUAWEI P smart+	1
Xiaomi Communications Co Ltd	2.01402E+20	MI 2014018 2013121 Redmi 1s	1
Motorola Mobility LLC a Lenovo Company	XT1944-5	AL12492345 Moto E (5th Gen)	1
KVD International Group Limited	S40Pro	S40Pro	1
Shenzhen Youshangfeng Communication Equipment Co Ltd	B6000	B6000	1
Apple Inc	iPhon 5S (A1457)	Apple iPhone 5S (A1457)	1
Palm Ventures Group	PVG100E	Palm	1
LG Electronics Inc.	LM-Q815K	LM-Q815K	1
Vivo Mobile Communication Co Ltd	V1831T	vivo S1	1
HMD Global Oy	TA-1318	TA-1318	1
Tecno Telecom (HK) Limited	LI9	TECNO POVA 6 Pro 5G	1
LG Electronics Inc.	LM-G810EM	LM-G810EM	1
KYOCERA Corporation	S6-KC	S6-KC	1
Wiko	W-K560	Y61	1
Motorola Mobility LLC a Lenovo Company	XT1970-1	Motorola One Vision	1
G Five Mobile (Private) Ltd.	BANG	BANG	1
Samsung Korea	SM-G3518	Samsung SM-G3518	1
Tecno Telecom (HK) Limited	KJ5s	TECNO SPARK 20	1
Sony Mobile Communications Inc.	PM-1153-BV	PM-1153-BV	1
ASUSTek Computer Inc	ASUS_X00RD	ASUS ZA550KL ZenFone Max M1	1
LG Electronics Inc.	DS1803	L-03K	1
Nubia Technology Co Ltd	Z2353	nubia Music	1
Xiaomi Communications Co Ltd	MDE5S	MI MIX2 Prime	1
TCL Communication Ltd	61271	TCL 30E	1
HUAWEI Technologies Co Ltd	RNE-L22	honor 9i	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	PAHM00	PAHM00	1
Motorola Mobility LLC a Lenovo Company	XT2159-1	Cyprus21	1
Xiaomi Communications Co Ltd	21091116AC	21091116AC	1
Fujitsu Ltd	F-01J	F-01J	1
Motorola Mobility LLC a Lenovo Company	XT2093-1	GuamNA 21	1
Gotron (HK) Electronic Co Limited	Armor 5	Armor 5	1
Optimus Infracom Limited	BBB100-7	BLACKBERRY BBB100-7	1
Hong Kong Unihertz E-Commerce Company Limited	Titan	Titan	1
Samsung Korea	SM-Z130H	Samsung SM-Z130H	1
Huawei Device Company Limited	FOA-LX9	HUAWEI nova 11	1
Innovation Gresso Pvt Ltd	G105	Gresso G105	1
Vodafone Group Services Ltd	VFD 710	Vodafone Smart V8	1
HUAWEI Technologies Co Ltd	DUK-TL30	DUK-TL30	1
HUAWEI Technologies Co Ltd	PAR-LX9	HUAWEI nova 3	1
Tecno Telecom (HK) Limited	BF7	POP 7 Pro	1
Samsung Korea	SM-N910T	Samsung SM-N910T	1
Qingdao Hisense Communications Co Ltd	HLTE730T	Hisense A6L	1
Shenzhen Huaxing Dynamic Technology Co Ltd	OK118	OK118	1
Beijing Shenqi Technology Co Ltd	Z2151	ZUK Edge	1
HMD Global Oy	TA-1150	Nokia 4.2 SS	1
Xiaomi Communications Co Ltd	2107113SI	2107113SI	1
LG Electronics Inc.	LG-H850	LG-H850	1
Samsung Korea	GT-E1263B	Samsung GT-E1263B	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	RMX1809	RMX1809	1
Lenovo (Beijing) Co Ltd	XT2055-3	Lenovo K11 Power	1
KVD International Group Limited	Smini	Smini	1
Vivo Mobile Communication Co Ltd	V1936A	iQOO Neo 855	1
Bellco Trading Company (Private) Limited	E7 2020	E7 2020	1
HUAWEI Technologies Co Ltd	LDN-TL00	LDN-TL00	1
Digicom Trading PVT Limited	Smart	QMobile Smart	1
Huawei Device Company Limited	PSD-AL00	PSD-AL00	1
Digicom Trading PVT Limited	Noir A1 Lite	QMobile Noir A1 Lite	1
Motorola Mobility LLC a Lenovo Company	XT2133-2	moto g(60)s	1
Xiaomi Communications Co Ltd	M1906G7T	Redmi Note 8 Pro	1
Xiaomi Communications Co Ltd	M1910F4S	Mi Note 10 Pro	1
Wiko Global SASU	PULP FAB 4G	Wiko PULP FAB 4G	1
Meizu Technology Co Ltd	M971Q	16s	1
G-Mobile Devices Private Limited	KC2	TECNO SPARK 3 AIR	1
BlackBerry Limited	SQN100-3 Q10 RFN81UW	BlackBerry SQN100-3 Q10 RFN81UW	1
Lenovo (Beijing) Co Ltd	XT2129-3	Lenovo K13 Pro	1
Xiaomi Communications Co Ltd	M1902F1T	M1902F1T	1
Shenzhen Sprocomm Technologies Co Ltd	E5720QM	E5720QM	1
Samsung Korea	GT-S5310	GALAXY POCKET NEO GT-S5310	1
Tecno Telecom (HK) Limited	BD2d	POP 5	1
Samsung Korea	SM-G930VL/M32	Galaxy S7	1
Sharp Corporation IoT Communication BU	XN-DBBT94	SH-01M	1
Tecno Telecom (HK) Limited	KF6m	TECNO SPARK 7	1
Samsung Korea	SM-N930S	Samsung SM-N930S	1
Avenir Telecom	ENERGY E241S	E241S	1
ZTE Corporation	ZTE BLADE A506	ZTE BLADE A506 BLADE A506	1
ASUSTek Computer Inc	ASUS_Z00MD	ASUS Zenfone2 Laser ZE600KL	1
HTC Corporation	PD29100	PD29100	1
TCL Communication Ltd	4034G	ALCATEL PIXI 4 (4) 4034G	1
LG Electronics Inc.	LG-LS998U	LG-LS998U	1
Uniscope Technologies (Qidong) Co Ltd	8S8	8S8	1
Shenzhen Oblue Communication Technology Co Ltd	Jelly 2	Jelly 2	1

Xiaomi Communications Co Ltd		2014715	Redmi NOTE 3LTE		1
Motorola Mobility LLC a Lenovo Company	XT1103		Motorola Nexus 6		1
Tecno Telecom (HK) Limited	AD11		PHANTOM V Flip 5G		1
Shenzhen Leagoo Intelligence Co Ltd	XRover C		LEAGOO XROver C		1
Samsung Korea	SM-J530GM		Samsung SM-J530GM		1
Shenzhen Zhonghe Hongtu Electronics Co Ltd	Q10		QQMEE Q10		1
Motorola Mobility LLC a Lenovo Company	XT2019-2		Moto G Plus (8th Gen)		1
Lava International Ltd	Z51		Lava Z51		1
ZTE Corporation	ZTE Blade A52 Lite		ZTE Blade A52 Lite		1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2407		CPH2407		1
Xiamen Meitu Mobile Technology Co Ltd	MP1718		MP1718		1
Samsung Korea	GT-S5302		Samsung GT-S5302		1
Motorola Mobility LLC a Lenovo Company	XT1794		D012064645		1
ASUSTek Computer Inc	ASUS_X018D		ASUS Zenfone Max Plus ZB570TL		1
Samsung Korea	SM-G389F		Samsung SM-G389F		1
Shenzhen Letao Cat Technology Co Ltd		202109		202109	1
HUAWEI Technologies Co Ltd	AMN-LX1		HUAWEI Y5 2019		1
Samsung Korea	SM-G955F		GALAXY S8+ SM-G955F		1
HMD Global Oy	TA-1336		TA-1336		1
Honor Device Company Limited	CLK-NX1		CLK-NX1		1
Fully Holdings (HK) Co Limited	WP10		WP10		1
TickTalk Tech LLC	TickTalk 4		TickTalk 4		1
Bullitt Group Limited	S62 Pro		S62 Pro		1
Xiaomi Communications Co Ltd	M2007J1SC		M2007J1SC		1
HTC Corporation	2PZC300		HTC U11		1
HUAWEI Technologies Co Ltd	VOG-AL00		HUAWEI P30 Pro		1
BLU Products Inc	VIVO XL4		BLU VIVO XL4		1
OnePlus Technology (Shenzhen) Co Ltd	LE2117		LE2117		1
Samsung Korea	SM-J410F		Galaxy J4 Core		1
Xiaomi Communications Co Ltd	2406ERN9CC		2406ERN9CC		1
ASUSTek Computer Inc	ASUS_Z00UD		ASUS ZenFone Selfie ZD551KL		1
Delta Innovation Technology Co Ltd	DT1901A		DT1901A		1
HMD Global Oy	TA-1076		Nokia 5.1 DS		1
INFINIX TECHNOLOGY LIMITED	X6871		GT 20 Pro		1
Quanta Computer Inc.	Panasonic A210		Panasonic A210		1
KVD International Group Limited	X97		X97		1
HTC Corporation	2Q3F500		2Q3F500		1
Samsung Korea	SM-J320V		Samsung SM-J320V		1
Yulong Computer Telecommunication Scientific (Shenzhen) Co. Ltd		2041	coolpad Cool 10A		1
Motorola Mobility LLC a Lenovo Company	XT1710-08		Moto Z Play (2nd Gen) HO12005645		1
Sony Mobile Communications Inc.	XQ-AU51		PM-1282-BV		1
Semp TCL Mobilidade LTDA	GO5e		GO5e		1
Mobiwire SAS	MobiWire Nuna Lite		Smart N11		1
Motorola Mobility LLC a Lenovo Company	XT1609		Moto G Play (4th Gen) JU12738345		1
Vivo Mobile Communication Co Ltd	V1990A		V1990A		1
Shenzhen Xiaolajiao Technology Limited Liability Company	20190325D		20190325D		1
Xiaomi Communications Co Ltd	2406APNFAG		Xiaomi 14T		1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2639		CPH2639		1
A-Link Telecom International Co Limited	X18 PLUS		CUBOT X18 PLUS		1
HTC Corporation	0PJX100		HTC One E9+ dual sim		1
Doke Communication (HK) Limited	MODERN 8		OSCAL MODERN 8		1
Nubia Technology Co Ltd	NX651J		REDMAGIC 6 Lite nubia Play Redmagic 5G lite		1
HUAWEI Technologies Co Ltd	HUAWEI U8660		HUAWEI HUAWEI U8660		1
Sony Mobile Communications Inc.	PM-1224-BV		PM-1224-BV		1
Huawei Device Company Limited	FOA-LX9		HUAWEI nova 12s		1
Avenir Telecom	U608S		Ultimate U608S		1
Samsung Korea	SM-A600FN		Galaxy A6		1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2051		RMX2051		1
HUAWEI Technologies Co Ltd	HMA-AL00		HUAWEI Mate 20		1
Samsung Korea	SM-A500F/DS		Samsung SM-A500F/DS		1
Leadsy International Development Limited	YG002		YG002		1
Motorola Mobility LLC a Lenovo Company	XT1640		Moto G Plus (4th Gen) AF12704845		1
Vivo Mobile Communication Co Ltd	V2353DA		V2353DA		1
Vodafone	VFD 300		Vodafone Smart mini 7 Vodacom Smart min 7		1
Honor Device Company Limited	NTH-NX9		NTH-NX9		1
Shenzhen Zhashi Investing Development Co Ltd	SHY S77		SHY SHY S77		1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX1973		RMX1973		1
Samsung Korea	SM-G955W		Samsung SM-G955W		1
Lenovo (Beijing) Co Ltd	Lenovo A2016b30		Lenovo Lenovo B Lenovo Vibe B		1
HUAWEI Technologies Co Ltd	HUAWEI G6-L22		HUAWEI Ascend G6		1
ZTE Corporation	ZTE 8031		ZTE V2022 4G		1
HUAWEI Technologies Co Ltd	HUAWEI VNS-DL00		VNS-DL00		1
TCL Communication Ltd	5033D		Alcatel 1		1
Honor Device Company Limited	MAG-AN00		MAG-AN00		1
Motorola Mobility LLC a Lenovo Company	XT1650-03		Moto Z VE12657645		1
ZTE Corporation	ZTE T660		ZTE Blade V6 ZTE Blade X7		1
Samsung Korea	SM-A710K		Samsung SM-A710K		1
LG Electronics Inc.	LG-F350L		LG LG-F350L		1
Beijing 8848 Mobile Communication Limited Company	8848 M3		8848 M3		1
HUAWEI Technologies Co Ltd	DUA-TL00		DUA-TL00		1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2035		CPH2035		1
OnePlus Technology (Shenzhen) Co Ltd	KB2001		KB2001		1
Shenzhen Zhimei Internet Mobile Communication Co Ltd	EV11		EV11		1
CLC Hong Kong Limited	Z570		plum Gator 7		1
TCL Communication Ltd	5061A		Alcatel 3X		1
Xiaomi Communications Co Ltd	22087RA4DI		22087RA4DI		1
Meizu Technology Co Ltd	M685Q		MX6		1

Meizu Technology Co Ltd	M923H	meizu note9	1
Xiaomi Communications Co Ltd	M1804E4A	MI MAX3	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2031	CPH2031	1
Motorola Mobility LLC a Lenovo Company	XT1770	Moto E Plus (4th Gen) GO12064545	1
Honor Device Company Limited	CHL-AL00	CHL-AL00	1
Itel Technology Limited	it2171	Value 110	1
Lava International Ltd	Z25	Lava Z25	1
Samsung Korea	SM-G970W	Galaxy S10e	1
LG Electronics Inc.	LM-X540EMW	K50S	1
Samsung Korea	GT-S7582	Samsung GT-S7582	1
Sony Mobile Communications	PM-1121-BV	PM-1121-BV	1
Xiaomi Communications Co Ltd		2015810 A9	1
A-Link Telecom International Co Limited	POWER	CUBOT POWER	1
Samsung Korea	SM-G316ML	Samsung SM-G316ML	1
ZTE Corporation	ZTE-T U526	ZTE-T U526	1
Itel Technology Limited	A631L	A49 Play	1
Vivo Mobile Communication Co Ltd	V2236A	vivo Y11 vivo Y33t	1
Gigaset Communications GmbH	GX290	GX290	1
Vivo Mobile Communication Co Ltd	vivo 1823	vivo Y91D	1
Sharp Corporation IoT Communication BU	FS8010	S2	1
Shenzhen Shengganglong Communication Technology Development Ltd	GL-V58	GL-V58	1
HTC Corporation	0P8B210	HTC 0P8B210	1
Motorola Mobility LLC a Lenovo Company	XT2421-8	LionPlus24	1
Samsung Korea	SM-A500F	Samsung SM-A500F	1
TCL Communication Ltd	3026G	3026	1
HMD Global Oy	TA-1070	Nokia 3.1 DS	1
Fully Holdings (HK) Co Limited	K10	K10	1
Nubia Technology Co Ltd	Z2356	nubia V60	1
TP-Link Technologies Co Ltd	TP913A	X9	1
HUAWEI Technologies Co Ltd	KIWI-L22	honor 5X	1
Shenzhen Xiaolajiao Technology Limited Liability Company	20180208Q	20180208Q	1
Lava International (H.K) Limited	LAVA LF6810	R5s Play	1
Samsung Korea	SM-J500N0	Samsung SM-J500N0	1
Lenovo (Beijing) Co Ltd	Lenovo L10041	Lenovo A8	1
Apple Inc	iPhone 3GS (A1303)	iPhone 3GS (A1303)	1
LG Electronics Inc.	LG-K430n	LG-K430n	1
HTC Corporation	2Q3F400	2Q3F400	1
ZTE Corporation	ZTE A2122H	ZTE A31 SE 5G ZTE S30 Pro 5G	1
INFINIX TECHNOLOGY LIMITED	X652	S5	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1905	CPH1905	1
HUAWEI Technologies Co Ltd	FIG-TL10	FIG-TL10	1
Microsoft Mobile Oy Nokia Corporation	RM-1049	TBD	1
TCL Communication Ltd	T507U	TCL 408	1
LG Electronics Inc.	LM-G910EMW	VELVET	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	PBFT00	PBFT00	1
Vivo Mobile Communication Co Ltd	V1821A	NEX	1
Samsung Korea	SM-G900M	Samsung SM-G900M	1
Delta Innovation Technology Co Ltd	DT1902A	DT1902A	1
HUAWEI Technologies Co Ltd	FIG-LX2	HUAWEI P smart	1
Hong Kong Unihertz E-Commerce Company Limited	Atom	Atom	1
Xiaomi Communications Co Ltd	M2101K6R	M2101K6R	1
LG Electronics Inc.	LM-Q510N	LM-Q510N	1
Sony Mobile Communications	PM-1051-BV	PM-1051-BV	1
HMD Global Oy	TA-1338	TA-1338	1
Vodafone	VFD 822	Vodafone Smart X9	1
Sharp Corporation IoT Communication BU	W-134	AQUOS keita4 A205SH	1
Qiku Internet Technology (Shenzhen) Co Ltd	1801-A01	1801-A01	1
Yulong Computer Telecommunication Scientific (Shenzhen) Co. Ltd		2039 coolpad Cool S	1
Samsung Korea	GT-S3353	Samsung GT-S3353	1
Samsung Korea	SM-A705MN	Galaxy A70	1
Plus One Japan Limited	FTJ161A	MUSASHI	1
HTC Corporation	HTC U-3w	HTC U-3w	1
Red Technologies LLC	H1A1000	Hydrogen One	1
BLU Products Inc	J10L	BLU J10L	1
Tecno Telecom (HK) Limited	CK6ns	CAMON 20	1
TCL Communication Ltd	BBB100-7	BlackBerry KEYone	1
LG Electronics Inc.	LG-H870K	LG-H870K	1
Shenzhen NewsMy Age Technology Co Ltd	202N0718	202N0718	1
LG Electronics Inc.	LM-G820N	LM-G820N	1
OnePlus Technology (Shenzhen) Co Ltd	CPH2419	CPH2419	1
Samsung Korea	SM-G970U1	Galaxy S10e	1
Lenovo (Beijing) Co Ltd	Lenovo L78071	Lenovo Z5s	1
Motorola Mobility LLC a Lenovo Company	XT2159-5	Cyprus21	1
Ericsson Mobile Comms AB	T65s	T65s	1
HTC Corporation	0PAJ210	HTC 0PAJ210	1
LG Electronics Inc.	LG-H812	LG-H812	1
Samsung Korea	SM-N915F	GALAXY NOTE EDGE SM-N915F	1
Vivo Mobile Communication Co Ltd	V2073A	iQOO Z3x	1
LG Electronics Inc.	LG-K500K	LG-K500K	1
Meizu Technology Co Ltd	M191Q	18 Pro	1
HUAWEI Technologies Co Ltd	RNE-L02	HUAWEI nova 2i	1
Gotron (HK) Electronic Co Limited	Note 6T	Note 6T	1
ZTE Corporation	ZTE A2017G	AXON 6s ZTE AXON 7 AXON 7	1
Vivo Mobile Communication Co Ltd	V2318	vivo V30	1
HMD Global Oy	TA-1619	TA-1619	1
LG Electronics Inc.	LM-G900EMW	LM-G900EMW	1
Samsung Korea	SM-J327VPP	Samsung SM-J327VPP	1

HUAWEI Technologies Co Ltd	HUAWEI Y560-L02	HUAWEI Y5	1
OnePlus Technology (Shenzhen) Co Ltd	ONEPLUS A5000	ONEPLUS 5	1
LG Electronics Inc.	LG-F820L	LG-F820L	1
Vivo Mobile Communication Co Ltd	V2357A	V2357A	1
Honor Device Company Limited	ANY-LX3	ANY-LX3	1
Sony Ericsson	U20i (AAD-3880072-BV)	U20i (AAD-3880072-BV)	1
Huawei Device Company Limited	HBP-AL00	HBP-AL00	1
Hot Wav Tat Technology (HK) Limited	W9	W9	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2095	CPH2095	1
MLS Innovation Inc	iQ8011	MLS MX Pro	1
BLU Products Inc	R2	BLU R2	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3762	realme C53	1
HUAWEI Technologies Co Ltd	MHA-TL00	HUAWEI Mate 9	1
Samsung Korea	SM-A025U1/DS	Galaxy A02s	1
HUAWEI Technologies Co Ltd	EVR-AL00	HUAWEI Mate 20 X	1
Lidaxin Technology Limited	W50A	glida W50A	1
HMD Global Oy	TA-1168	Nokia 2720	1
HTC Corporation	2Q5V100	2Q5V100	1
HMD Global Oy	TA-1074	Nokia 3.1 SS	1
Edison Industries Ltd	Z35	Symphony Z35	1
Motorola Mobility LLC a Lenovo Company	XT2221-2	moto g52	1
Samsung Electronics America	SM-G920V	Galaxy S6 (A3LSMG920V)	1
HUAWEI Technologies Co Ltd	LIO-AL00	LIO-AL00	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2193	RMX2193	1
Motorola Mobility LLC a Lenovo Company	XT1941-4	RO12524245 Motorola One	1
KVD International Group Limited	S70 Lite	DOOGEE S70 Lite	1
HUAWEI Technologies Co Ltd	CDY-TN20	nova 7 SE 5G	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2001	CPH2001	1
Wiko	W-V850	View5 Plus	1
Motorola Mobility LLC a Lenovo Company	XT1686	Moto G Plus (5th Gen) INDR001845	1
Nubia Technology Co Ltd	NX611J	NX611J	1
Telpa Teknoloji Hizmetleri A.S.	GM 8 d	GENERAL MOBILE GM 8 d	1
Yunji (Hong Kong) Holdings Co Limited	C53	C53	1
HTC Corporation	2PZS100	HTC 2PZS100	1
Shenzhen Huaifurui Technology Co Ltd	KINGKONG MINI 3	CUBOT KINGKONG MINI 3	1
LG Electronics Inc.	LM-X525HA	LM-X525HA	1
Sichuan Changhong Electric Co Ltd	ChanghongS07	ChanghongS07	1
HTC Corporation	PO87100	HTC PO87100	1
Vivo Mobile Communication Co Ltd	V2350	vivo Y18e	1
Unicom Vsens Communications Co Ltd	VP001	VP001	1
Vivo Mobile Communication Co Ltd	V2058	vivo Y53s	1
Sharp Corporation IoT Communication BU	SH-M07	AQUOS sense plus	1
Motorola Mobility LLC a Lenovo Company	XT2239-10	moto e22	1
Vivo Mobile Communication Co Ltd	V1813BT	Z3	1
Sichuan Sugar Communication Technology Co Ltd	SUGAR S55	SUGAR S55	1
LG Electronics Inc.	LM-Q925L	LM-Q925L	1
S Mobile Devices Limited	it2163	it2163	1
HUAWEI Technologies Co Ltd	PRA-LX3	HUAWEI nova lite HUAWEI P8 lite 2017 HUAWEI P9 lite 2017	1
HUAWEI Technologies Co Ltd	POT-LX1A	HUAWEI P smart 2020	1
Samsung Korea	SM-Z200F/DD	Samsung SM-Z200F/DD	1
Shenzhen Koobee Communication Co. Ltd	koobee F1	koobee F1	1
Qingdao Hisense Communications Co Ltd	Hisense F22	Hisense F22	1
TCL Communication Ltd	6165A	TCL 30 SE	1
Vivo Mobile Communication Co Ltd	vivo 1726	Y85	1
Option NV	GTM378W	GTM378W	1
Microsoft Mobile Oy	RM-1113	Microsoft RM-1113	1
Itel Technology Limited	A667LP	A50	1
Xiaomi Communications Co Ltd	M2102J2SC	M2102J2SC	1
The Profile of Kingtech Smart (Shenzhen) Co Ltd	Gold	Gold	1
Samsung Korea	SM-G930R4	Samsung SM-G930R4	1
Vivo Mobile Communication Co Ltd	vivo 1613	vivo vivo 1613	1
Xiaomi Communications Co Ltd	2312CRNCCCL	Redmi A3	1
Nokia Corporation		920.1 Nokia 920.1	1
Samsung Electronics America	SM-N920V	Galaxy Note5 (A3LSMN920V)	1
Apple Inc	Apple iPhone 5S (A1518)	Apple iPhone 5S (A118)	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2481	CPH2481	1
Xiaomi Communications Co Ltd	M2001J1E	M2001J1E	1
LG Electronics Inc.	LG-M400DK	Stylus 3	1
Motorola Mobility LLC a Lenovo Company	XT1789-04	Moto Z Force (2nd Gen) GE12072245	1
Mobiwire SAS	MobiWire Dakota	MobiWire Dakota	1
OnePlus Technology (Shenzhen) Co Ltd	GM1920	OnePlus 7 Pro 5G	1
Xiaomi Communications Co Ltd	M1804C3DT	Redmi 6	1
INFINIX TECHNOLOGY LIMITED	X6525D	SMART 8	1
HMD Global Oy	TA-1329	TA-1329	1
LG Electronics Inc.	LG-H933	LG-H933	1
Voto Communication Co Ltd	P9000	VOTO P9000	1
Samsung Korea	SM-N916S	Samsung SM-N916S	1
Motorola Mobility LLC a Lenovo Company	XT1622	Moto G (4th Gen) AF12802745	1
Interactive Trading	LEGEND	LEGEND	1
Sony Mobile Communications	C5303 - Xperia SP	SONY C5303 - Xperia SP	1
Xiaomi Communications Co Ltd		2014813 Redmi 2 LTE	1
Hytera Communications Corporation Limited	PDC580	PDC580	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2072	RMX2072	1
HMD Global Oy	TA-1380	Nokia C1 2nd Edition	1
INFINIX TECHNOLOGY LIMITED	X666B	HOT 20 5G	1
Samsung Korea	SM-G611F	GALAXY J7 PRIME2 SM-G611F	1
TCL Communication Ltd	5051X	ALCATEL POP4 5051X	1

Motorola Mobility LLC a Lenovo Company	XT1766	Moto E (4th Gen)	1
G-Mobile Devices Private Limited	IN6	TECNO IN6	1
INFINIX TECHNOLOGY LIMITED	X6838	NOTE 40X 5G	1
Itel Technology Limited	A571L	A26	1
ViewSonic Mobile China Limited	ViewSonic A8+	ViewSonic ViewSonic A8+	1
Shenzhen Gionee Communication Equipment Co Ltd	GIONEE: A210	GIONEE: A210	1
Samsung Korea	GT-E3300	Samsung GT-E3300	1
HUAWEI Technologies Co Ltd	DUA-AL00	Honor 7S	1
Deploy PVT Ltd	Neo X	Neo X	1
LG Electronics Inc.	LM-X625N	LM-X625N	1
LG Electronics Inc.	LG-X240	K8 2017	1
HMD Global Oy	TA-1186	Nokia 800	1
HUAWEI Technologies Co Ltd	HUAWEI P7-L10	HUAWEI Ascend P7	1
Telekom Austria AG	6156D1	A1 Alpha 21	1
Sony Mobile Communications	G8231	Xperia XZs	1
Shenzhen Hoku Technology Development Co Ltd	hoco. 1385	hoco. 1385	1
Fully Holdings (HK) Co Limited	C17 Pro	C17 Pro	1
Xiaomi Communications Co Ltd	M2102K1G	M2102K1G	1
HMD Global Oy	RM-1187	Nokia 216 DS	1
LG Electronics Inc.	LG-D820	LG Nexus 5	1
Shenzhen Tinnu Mobile Technology Corp	LT X33	LT X33	1
Itel Technology Limited	W6001	P33 Plus	1
Shenzhen Chunmei Technology Co Ltd	CM202108	CM202108	1
ZTE Corporation	ZTE BLADE V0710	ZTE BLADE V7 MAX	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO N5206 OPPO R8106	N3 R5 R5S OPPO N5206 OPPO R8106	1
Samsung Korea	SM-G889F	Galaxy Haechi	1
Xiaomi Communications Co Ltd	2014616	Mi 5LTE	1
Shenzhen Kule Technology Co Ltd	SanCup C600	SanCup C600	1
ZTE Corporation	Z3352CA	Z3352CA	1
Xiaomi Communications Co Ltd	M1803D5XE	M1803D5XE	1
Realme Mobile Telecommunications (Shenzhen) Co Ltd	RMX1941	RMX1941	1
MGM Wireless	IFW525C	SPACETALK	1
HUAWEI Technologies Co Ltd	HUAWEI LUA-L02	HUAWEI Y3II	1
Nokia Corporation	C1-01 C1-03	Nokia C1-01 C1-03	1
LG Electronics Inc.	LG-US997	LG-US997	1
TCL Communication Ltd	5045A	alcatel PIXI 4 5045A	1
Samsung Korea	GT-I9105	Samsung GT-I9105	1
Shenzhen Shengshi Tianxiang Technology Co Ltd	Q98	Q98	1
Lenovo (Beijing) Co Ltd	Lenovo TB-8703N	Lenovo Lenovo TAB3 8 Plus	1
Samsung Korea	SC-03L	Galaxy S10	1
Punkt Tronics AG	MP 02	Punkt. MP 02 Mobile Phone	1
Dongguan City Meyners Aviation Technology Co Ltd	KRETA-G25	KRETA-G25	1
ZTE Corporation	ZTE BLADE B125	ZTE BLADE B125 BLADE B125 B125 ZTE Blade B125 Blade B125	1
Shenzhen Bashuo Technology Co Ltd	BA202209	BA202209	1
HUAWEI Technologies Co Ltd	MRD-TL00	MRD-TL00	1
HMD Global Oy	TA-1012	Nokia 8 SS	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2325	CPH2325	1
Motorola Mobility LLC a Lenovo Company	P2a42	Lenovo P2 INDR001945	1
Samsung Korea	GT-S7275Y	Samsung GT-S7275Y	1
Motorola Mobility LLC a Lenovo Company	XT1723	Moto C Plus	1
HUAWEI Technologies Co Ltd	ATU-L42	HUAWEI Y6 Prime 2018	1
INFINIX TECHNOLOGY LIMITED	X6815D	ZERO 5G 2023	1
Vivo Mobile Communication Co Ltd	V2023EA	vivo Y50t	1
Motorola Mobility LLC a Lenovo Company	XT1955-5	Ocean Moto G Power (7th Gen)	1
Samsung Korea	SM-N916L	Samsung SM-N916L	1
LG Electronics Inc.	LGM-K120S	LGM-K120S	1
Plus One Japan Limited	FTJ17A00	SAMURAI REI 2	1
Shenzhen Pulid Communication Co Ltd	D400 Q109 Q105 M9	Sprint D400 Q109 Q105 M9	1
Multilaser Industrial S.A.	Multilaser G 2	Multilaser G 2	1
HTC Corporation	2Q55100	HTC U12+	1
LG Electronics Inc.	LM-K200HM	LM-K200HM	1
Oveq Goods Wholesaler LLC	Vocat V0	V0	1
Shenzhen Delongxingsheng Trade Co Ltd	haoxuanH15	haoxuanH15	1
Vivo Mobile Communication Co Ltd	V1818A	Y93	1
Samsung Korea	SM-N910K	Samsung SM-N910K	1
HMD Global Oy	N159V	N159V	1
HUAWEI Technologies Co Ltd	LIO-TL00	HUAWEI Mate 30 Pro	1
LG Electronics Inc.	LG-K425	LG-K425	1
Samsung Korea	SM-A207F	Galaxy A20s	1
Samsung Korea	SM-A605FN	Samsung SM-A605FN	1
Samsung Korea	SM-G532M	Samsung Galaxy J2 Prime	1
Samsung Korea	GT-I9500	GALAXY S4 GT-I9500	1
LG Electronics Inc.	LM-X430EMW	K40S	1
Shenzhen Gionee Communication Equipment Co Ltd	20190418Q	20190418Q	1
Xiaomi Communications Co Ltd	M1903F11I	Redmi K20 Pro	1
Sony Mobile Communications Inc.	XQ-AT72	PM-1266-BV	1
Vivo Mobile Communication Co Ltd	vivo 1804	vivo V11Pro	1
Samsung Korea	SM-G928G	Samsung SM-G928G	1
Doke Communication (HK) Limited	BV9600	Blackview BV9600	1
INFINIX TECHNOLOGY LIMITED	X6511E	SMART 6	1
LG Electronics Inc.	LG-X230I	LG-X230I	1
HMD Global Oy	TA-1391	TA-1391	1
Vivo Mobile Communication Co Ltd	vivo Y67L	vivo vivo Y67L	1
LG Electronics Inc.	LM-X525BAW	LM-X525BAW	1
ASUSTek Computer Inc	ASUS_X013DB	ASUS ZB551KL ZenFone	1
Meizu Technology Co Ltd	M881Q		15
G-Mobile Devices Private Limited	X693	NOTE 10	1

Honor Device Company Limited	CLK-LX3	CLK-LX3	1
Doke Communication (HK) Limited	A85	Blackview A85	1
Shenzhen NewsMy Age Technology Co Ltd	niuman W69(K19)	niuman W69(K19)	1
HTC Corporation	2Q8L100	2Q8L100	1
Vivo Mobile Communication Co Ltd	V1832A	vivo S1pro	1
TCL Communication Ltd	A509DL	A509DL	1
Motorola Mobility LLC a Lenovo Company	XT1900-1	Moto X (4th Gen)	1
HTC Corporation	0PJA100	0PJA100	1
PT. Arga Mas Lestari	S45D	ADVAN S45D	1
Samsung Korea	SGH-X656	SGH-X656	1
Lemobile Information Technology (Beijing) Co Ltd	Le X526	Le X526	1
Samsung Korea	SM-W2016	Samsung SM-W2016	1
Vivo Mobile Communication Co Ltd	V2069A	vivo Y53s	1
Sony Mobile Communications Inc.	XQ-AS42	PM-1325-BV	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2275	CPH2275	1
INFINIX TECHNOLOGY LIMITED	X676B	NOTE 12 PRO	1
Samsung Korea	SM-G935R4	Samsung SM-G935R4	1
Sony Corporation	XQ-BC62	PM-1341-BV	1
Huawei Device Company Limited	TET-AN10	TET-AN10	1
Edison Industries Ltd	ATOM II	Symphony ATOM II	1
Motorola Mobility LLC a Lenovo Company	XT2000-1	motorola razr	1
Shanghai Vollo Telecom Device Co Ltd	vollo Vk100	vollo vollo Vk100	1
Motorola Mobility LLC a Lenovo Company	XT2117-3	Borneo NA 21	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO X9076 OPPO R6006 OPPO R6001 OPPO N5116 OPPO X9006	OPPO X9076 OPPO R6006 OPPO R6001 OPPO N5116 OPPO X9006	1
INFINIX TECHNOLOGY LIMITED	X6812B	HOT 11S NFC	1
LEFE Electronic Technology Co Ltd	Blade X8	Blade X8	1
AGM MOBILE LIMITED	AGM_Note_N1	AGM_Note_N1	1
Motorola Mobility LLC a Lenovo Company	XT2167-2	moto g41	1
LG Electronics Inc.	LM-G710AWM	LM-G710AWM	1
Vivo Mobile Communication Co Ltd	vivo 1816	vivo Y91 2019	1
Samsung Korea	GT-S5830V	Samsung GT-S5830V	1
HTC Corporation	0PFJ500	0PFJ500	1
Sharp Corporation IoT Communication BU	FS8009	FS8009 / Z3	1
ZTE Corporation	ZTE Blade A53 Pro	ZTE Blade A53 Pro	1
Sony Mobile Communications	E2033	Xperia E4g Dual	1
Faywa Trading (Private) Limited	Dabang	FAYWA Dabang	1
Digicom Trading PVT Limited	X30	QMobile X30	1
HUAWEI Technologies Co Ltd	HUAWEI TAG-L22	HUAWEI GR3	1
Sony Mobile Communications	E6853	Xperia Z5 Premium	1
Lenovo (Beijing) Co Ltd	Lenovo PB2-650M	Lenovo Lenovo PHAB 2	1
Vivo Mobile Communication Co Ltd	V1813BA	Z3	1
Xiaomi Communications Co Ltd	M1903C3EE	M1903C3EE	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX1941	realme C2	1
LG Electronics Inc.	LM-Q630N	LM-Q630N	1
Huawei Device Company Limited	BRQ-AL00	BRQ-AL00	1
HUAWEI Technologies Co Ltd	HUAWEI Y511-U30	HUAWEI Y511-U30	1
HTC Corporation	2PZC100	HTC U11	1
Nokia Corporation	C2-00	NOKIA C2-00	1
Tecno Telecom (HK) Limited	Cl8n	CAMON 19 Pro	1
G-Mobile Devices Private Limited	KE6j	TECNO SPARK 6 Air	1
Bullitt Group Limited	B40	Cat B40	1
Microsoft Mobile Oy	RM-1038 Nokia Lumia 735	RM-1038 Nokia Lumia 735	1
Zebra Technologies Corp.	TC75FK	TC75	1
ASUSTek Computer Inc	ASUS_X00TDE	ZENFONE Max Pro(M1)	1
HUAWEI Technologies Co Ltd	Che1-CL20	Che1-CL20	1
Samsung Korea	SM-A600FN	Galaxy A6	1
Sony Mobile Communications Inc.	H8216	Xperia XZ2	1
BenQ Corporation (157 Shan Ying Rd)	BenQ M100	BenQ M100	1
Samsung Korea	SM-G965F	Galaxy S9+	1
The Profile of Kingtech Smart (Shenzhen) Co Ltd	Tiger	Tiger	1
Microsoft Mobile Oy	RM-1096 Lumia 640 XL LTE Dual SIM	RM-1096 Lumia 640 XL LTE Dual SIM	1
HUAWEI Technologies Co Ltd	PRA-TL10	Honor 8 Lite	1
Samsung Korea	SM-J700M	Samsung SM-J700M	1
HTC Corporation	HTC U-1w	HTC U-1w	1
Trimble	TDC600	TDC600	1
Samsung Korea	SC-03J	Samsung SC-03J	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2077	CPH2077	1
HUAWEI Technologies Co Ltd	FRD-DL00	FRD-DL00	1
HUAWEI Technologies Co Ltd	BLL-L22	HUAWEI GR5 2017	1
HUAWEI Technologies Co Ltd	PAR-LX1	HUAWEI nova 3	1
Samsung Korea	SM-A720S	Samsung SM-A720S	1
HUAWEI Technologies Co Ltd	BKL-L04	V10	1
Shenzhen Kenxinda Technology Co Ltd	A07	A07	1
Motorola Mobility LLC a Lenovo Company	XT1097 XT1095 X112357845	Moto X (2nd Generation) X112357845	1
Shanghai Zxelink Co Ltd	angelcare K230	angelcare K230	1
INFINIX TECHNOLOGY LIMITED	X604	NOTE 5	1
Sony Corporation	PM-1434-BV	PM-1434-BV	1
Tecno Telecom (HK) Limited	T352	T352	1
Bopel International (HK) Co Limited	i006 i007 i008 i009	VINKO i006 i007 i008 i009	1
BlackBerry Limited	RHD131LW (STR100-1)	BlackBerry RHD131LW (STR100-1)	1
Blackshark Technologies (Nanchang) Co Ltd	SKR-A0	Shark	1
Edison Industries Ltd	Z18	Symphony Z18	1
Premier Code Pvt Ltd	DS-CL3	CYGNAL 3	1
Samsung Korea	SM-A205W	Galaxy A20	1
LG Electronics Inc.	LG-D820	Nexus 5	1
HUAWEI Technologies Co Ltd	HUAWEI NXT-L09	HUAWEI Mate 8	1

OnePlus Technology (Shenzhen) Co Ltd	ONEPLUS A3003	ONEPLUS A3003	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2669	CPH2669	1
TCL Communication Ltd	5002D	Alcatel 1B	1
Xiaomi Communications Co Ltd	MDI40	MI MIX2	1
Samsung Korea	SM-G715A	X cover Pro	1
Sony Mobile Communications Inc.	J8210	PM-1244-BV	1
TCL Communication Ltd	9008I	A3 XL	1
Leadsy International Development Limited	AGM X2	AGM X2	1
Zhuhai EWPE Information Technology Inc	G0215D	G0215D	1
TeleTalk Pvt Ltd	C8	COLORS C8	1
Motorola Mobility LLC a Lenovo Company	XT1642	Moto G Plus (4th Gen) AF12802845	1
ZTE Corporation	ZTE V1000	ZTE Blade V10	1
INFINIX TECHNOLOGY LIMITED	X604-LTE	NOTE 5	1
HUAWEI Technologies Co Ltd	KOB-L09	honor MediaPad T3	1
Tecno Telecom (HK) Limited	BD4j	POP 5 Pro	1
HMD Global Oy	TA-1055	Nokia 7 plus SS	1
HUAWEI Technologies Co Ltd	PLE-701L	PELE	1
ZTE Corporation	BLADE E01	BLADE E01	1
LG Electronics Inc.	LG-VS996	LG-VS996	1
LG Electronics Inc.	LM-X210BMW	LM-X210BMW	1
Motorola Mobility LLC a Lenovo Company	XT1644	Moto G Plus (4th Gen) AF12691845	1
Samsung Korea	SM-N9108V	Samsung SM-N9108V	1
Samsung Korea	SM-A115U1	Galaxy A11	1
LG Electronics Inc.	LM-X210EMW	LM-X210EMW	1
Samsung Korea	SM-G570Y	Samsung SM-G570Y	1
Samsung Korea	SM-J320F	Galaxy J3 2016 SM-J320F	1
HMD Global Oy	TA-1258	TA-1258	1
TPV Audio and Visual Technology (Shenzhen) Co Ltd	Philips E289	Philips E289 Philips E361	1
Gotron (HK) Electronic Co Limited	Armor 15	Armor 15	1
Jingtong QuanZhou Electronics Co Ltd	JT-K9plus	JT-K9plus	1
Motorola Mobility LLC a Lenovo Company	XT2016-2	Jimny+	1
Emporia Telecom GmbH & Co KG	V50-4G	emporiaACTIVE	1
Samsung Korea	SM-G903M	Samsung SM-G903M	1
Samsung Korea	SM-J260Y/DS	Galaxy J2 Core PH SEPCO	1
Qingdao Hisense Communications Co Ltd	HLTE202N	A5	1
HUAWEI Technologies Co Ltd	HUAWEI KII-L23	HUAWEI GR5	1
Samsung Korea	SM-J111M	Samsung SM-J111M	1
Samsung Korea	SM-J410F	SM-J410F GALAXY J4 CORE	1
HMD Global Oy	TA-1017	Nokia 130 DS	1
Motorola Mobility LLC a Lenovo Company	XT1771	Moto E Plus (4th Gen) GO12071045	1
Samsung Korea	SM-J810YN	Samsung SM-J810YN	1
HTC Corporation	0P6B110	HTC 0P6B110	1
Samsung Korea	SM-G920W8	Samsung SM-G920W8	1
Shenzhen Kenxinda Technology Co Ltd	W7S	PROOFINGS W7	1
KVD International Group Limited	S41Pro	S41Pro	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	A002OP	A002OP	1
Samsung Korea	SM-G531F/DD	Samsung SM-G531F/DD	1
HUAWEI Technologies Co Ltd	E3372h-153	HUAWEI E3372	1
TCL Communication Ltd	9008T	A3 XL	1
Tecno Telecom (HK) Limited	LC8	Pouvoir 4 Pro	1
Shenzhen Gionee Communication Equipment Co Ltd	GIONEE F6L	F6L	1
HTC Corporation	0PF1200	HTC Desire 320	1
INFINIX TECHNOLOGY LIMITED	X698	NOTE 11S	1
Xiaomi Communications Co Ltd	M2001C3K3I	Redmi 8A Pro	1
Samsung Korea	SM-G885S	Galaxy A Star	1
Wingtech Mobile Communications Co Ltd	TMRVL4G	T-Mobile REVVL V	1
LG Electronics Inc.	LM-Q710YMW	LM-Q710YMW	1
Vivo Mobile Communication Co Ltd	V2201	vivo V25e	1
Samsung Korea	SM-G357FZ	Samsung SM-G357FZ	1
TCL Communication Ltd	5051D	POP4	1
Vivo Mobile Communication Co Ltd	V2066BA	vivo Y30g	1
ZTE Corporation	ZTE A2121	ZTE A2121 ZTE Axon 20 ZTE A20 5G	1
Tecno Telecom (HK) Limited	it1701	itel it1701	1
Itel Technology Limited	it2090	it2090	1
Samsung Korea	SM-G900W8	Samsung SM-G900W8	1
LG Electronics Inc.	LGM-X600L	LGM-X600L	1
Xiaomi Communications Co Ltd	2016089	C10	1
Samsung Korea	SM-A605GN	Samsung SM-A605GN	1
Motorola Mobility LLC a Lenovo Company	XT2159-4	Cyprus21	1
HK Guang Shen Xin Electronics Technology Limited	KL05	GOMETEL KL05	1
HUAWEI Technologies Co Ltd	HUAWEI LUA-U03	HUAWEI ECO	1
Ucom Technology Co Limited	TOUCH 5	PLUS 8 TOUCH 5	1
Samsung Korea	SM-A605F	GALAXY A6+ SM-A605F	1
Vivo Mobile Communication Co Ltd	vivo X21	vivo vivo X21	1
ASUSTek Computer Inc	ASUS_I002D	ASUS ZenFone 7 ZS670KS	1
LG Electronics Inc.	LG-VN220	LG-VN220	1
HMD Global Oy	TA-1128	Nokia 8.1 SS	1
Motorola Mobility LLC a Lenovo Company	XT1641	Moto G Plus (4th Gen) XT1641 AF12704745	1
Samsung Korea	SM-A600A	Samsung Galaxy A6	1
Lemobile Information Technology (Beijing) Co Ltd	Le X507	Le X507	1
Samsung Korea	SM-G570F	GALAXY J5 PRIME SM-G570F	1
Itel Technology Limited	S665LN	S23	1
LG Electronics Inc.	LG-H440n	C70	1
Motorola Mobility LLC a Lenovo Company	XT2093-4	moto g play (2021)	1
Sony Mobile Communications	F3115	Xperia XA	1
Vingroup Joint Stock Company	V230A	BEE 3	1
Sony Mobile Communications Inc.	H9436	PM-1151-BV	1

Digicom Trading PVT Limited	i6i	i6i	1
HMD Global Oy	TA-1063	TA-1063 DS	1
Shenzhen Tinnno Mobile Technology Corp	GENERAL MOBILE DSTQ100	GENERAL MOBILE DSTQ100	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2013	CPH2013	1
Vivo Mobile Communication Co Ltd	vivo 1901_19	vivo Y15 2019	1
TickTalk Tech LLC	TickTalk 3	TickTalk 3	1
Samsung Korea	SM-A705U	Galaxy A70	1
Shenzhen Xiaolajiao Technology Limited Liability Company	20150926	20150926	1
Umi Network Technology Co Limited	BISON 2	BISON 2/BISON 2 PRO	1
Plus One Japan Limited	FTJ162E	FREETEL RAIJIN	1
KVD International Group Limited	Y6 Max	DOOGEE Y6 Max	1
Samsung Korea	SGH-M620	SGH-M620	1
Motorola Mobility LLC a Lenovo Company	XT2041-7	Sofia NA	1
Motorola Mobility LLC a Lenovo Company	XT2231-5	HawaiiPlus22	1
Sony Mobile Communications Inc.	PM-1242-BV	PM-1242-BV	1
Motorola Mobility LLC a Lenovo Company	XT2431-1	Cancun5GPlus24	1
Motorola Mobility LLC a Lenovo Company	XT1677	Moto G (5th Gen) INDR002245	1
Sony Corporation	PM-1384-BV	PM-1384-BV	1
ZTE Corporation	Z999	ZTE Axon M ZTE AXON M Axon M AXON M	1
Turkcell İletişim Hizmetleri A.S.	TURKCELL T40 ZTE CORPORATION	TURKCELL TURKCELL T40 ZTE CORPORATION	1
LG Electronics Inc.	LG-D802T	LG LG-D802T	1
Jiangsu Gaotong Technology Industry Co Ltd	GT M280	GT M280	1
Motorola Mobility LLC a Lenovo Company	XT2215-3	Milan5G22	1
Shenzhen Shunmei Technology Co Ltd	OX Plus	OX Plus	1
Vivo Mobile Communication Co Ltd	vivo 1938	vivo Y30	1
Motorola Mobility LLC a Lenovo Company	XT1925-2	BL12415945 Moto G (6th Gen)	1
Digicom Trading PVT Limited	T2	MAXX T2	1
TCL Communication Ltd	5059S	5059S	1
Motorola Mobility LLC a Lenovo Company	XT1926-6	TE12413345 Moto G Plus (6th Gen)	1
Samsung Korea	SM-N950U1	Galaxy Note 8	1
Sony Mobile Communications	E2353	Xperia M4 Aqua	1
Shenzhen Shuo Ming Dingsheng Technology Co Ltd	SM202210	SM202210	1
New-Bund Technology Co Limited	Apollo	Apollo	1
Nokia Corporation	306 Asha 306 Nokia 3060	Nokia 306 Asha 306 Nokia 3060	1
Samsung Korea	SM-J720F	Galaxy J7 Duo	1
Microsoft Mobile Oy Nokia Corporation	925.1 925.4	Nokia Lumia 925 Lumia 925	1
Kyocera Corporation (Osaka)	E7110	E7110	1
Lenovo (Beijing) Co Ltd	Lenovo K320t	Lenovo K320	1
Sony Mobile Communications	F8132	Xperia X Performance Dual	1
TCL Communication Ltd	5002L	Alcatel 1B	1
HUAWEI Technologies Co Ltd	INE-TL00	HUAWEI nova 3i	1
HUAWEI Technologies Co Ltd	BLA-TL00	HUAWEI Mate 10 Pro	1
LG Electronics Inc.	LM-Q720MS	LM-Q720MS	1
HUAWEI Technologies Co Ltd	MAR-AL00	MAR-AL00	1
HUAWEI Technologies Co Ltd	HUAWEI MLA-TL10	HUAWEI G9 Plus	1
Vivo Mobile Communication Co Ltd	V1950A	vivo NEX 3S	1
HMD Global Oy	TA-1383	TA-1383	1
Lenovo (Beijing) Co Ltd	Lenovo A6020a46	Lenovo Lenovo A6020a46 Lenovo Vibe K5 Plus A6020a46	1
HUAWEI Technologies Co Ltd	BLA-L09	HUAWEI Mate 10 Pro	1
Sharp Corporation IoT Communication BU	XH-DD0059	AQUOS sense3 lite SH-RM12	1
Yulong Computer Telecommunication Scientific Shenzhen Co Ltd	C103	C103	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	PEXM00	PEXM00	1
LG Electronics Inc.	LM-X510L	LM-X510L	1
HUAWEI Technologies Co Ltd	VIE-L29	HUAWEI P9 Plus	1
E-Smart Technology Development Limited	SV8	Winmax SV8	1
TCL Mobile Communication Co Ltd	BBB100-5	BlackBerry KEYone	1
Xiaomi Communications Co Ltd	2016080	A8	1
Shenzhen Leagoo Intelligence Co Ltd	S8 Pro	LEAGOO S8 Pro	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2235	CPH2235	1
HUAWEI Technologies Co Ltd	HUAWEI Y520-U22	HUAWEI Y520-U22 HUAWEI Ascend Y520	1
Motorola Mobility LLC a Lenovo Company	XT1955-2	Moto G Power (7th Gen)	1
Lenovo (Beijing) Co Ltd	Lenovo TB-8703R	Lenovo TAB3 8 Plus	1
HUAWEI Technologies Co Ltd	POT-LX1AF	POT-LX1AF	1
Vivo Mobile Communication Co Ltd	vivo 1951	vivo Z1Pro	1
Mobiwire SAS	Smart T23	Smart T23	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2075	RMX2075	1
HK Jin Hui Ma Technology Limited	A151	A63 32GB/A63 64GB	1
Nokia Corporation	Nokia 3210	Nokia 3210	1
HUAWEI Technologies Co Ltd	EM770W	HUAWEI EM770W	1
TCL Communication Ltd	5033XR	Alcatel 1	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3191	RMX3191	1
Vivo Mobile Communication Co Ltd	V1821T	NEX	1
Nokia Corporation	Nokia 3510i/3530	Nokia 3510i/3530	1
Samsung Korea	SM-N975C	Galaxy Note10+	1
HUAWEI Technologies Co Ltd	STK-LX3	HONOR 9X	1
Motorola Mobility LLC a Lenovo Company	XT1635-02	Moto Z Play VX12752445	1
Xiaomi Communications Co Ltd	MDT2	MI 5X	1
Huawei Device Company Limited	BAL-AL80	HUAWEI P50 Pocket	1
LG Electronics Inc.	LG-K350AR	LG-K350AR	1
HUAWEI Technologies Co Ltd	BND-TL10	Honor	1
Motorola Mobility LLC a Lenovo Company	XT1924-1	EM12415045 Moto E Plus (5th Gen)	1
OnePlus Technology (Shenzhen) Co Ltd	LE2110	LE2110	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	PCDM00	PCDM00	1
HUAWEI Technologies Co Ltd	EVR-TL00	HUAWEI Mate 20 X	1
LG Electronics Inc.	LM-X540HM	K50S	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	PEGT10	PEGT10	1
Shenzhen Zhonghe Hongtu Electronics Co Ltd	M21	QQMEE M21	1

Club International	Disco	Disco	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3521	RMX3521	1
Meizu Technology Co Ltd	M721Q	meilan Note6	1
United Telelinks (Bangalore) Ltd	K108	Karbons K108	1
Shenzhen Huihuaweiye Technology Co Ltd	Maya	Maya	1
Nokia Corporation	C2-02	NOKIA C2-02	1
Xiaomi Communications Co Ltd	MDE40	MI MIX2	1
Honor Device Company Limited	WOD-LX3	WOD-LX3	1
Motorola Mobility LLC a Lenovo Company	QU12358445 M0DFE QU12358245 Droid Turbo XT1254 XT1250	QU12358445 M0DFE QU12358245 Droid Turbo XT1254 XT1250	1
HUAWEI Technologies Co Ltd	RNE-L23	HUAWEI Mate 10 lite	1
ZTE Corporation	Z999	Axon Duo	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2421	CPH2421	1
Samsung Korea	SGH-X640	SGH-X640	1
Samsung Korea	SC-02J	Samsung SC-02J	1
Microsoft Mobile Oy Nokia Corporation		1520.1 Lumia 1520 1520.1	1
KVD International Group Limited	V Max Plus	V Max Plus	1
Vivo Mobile Communication Co Ltd	vivo X9Plus L	vivo vivo X9Plus L	1
Motorola Mobility LLC a Lenovo Company	XT2043-5	Sofia+	1
INFINIX TECHNOLOGY LIMITED	X675	HOT 11 2022	1
Huawei Device Company Limited	MGA-LX9	HUAWEI nova Y71	1
Samsung Korea	SM-A510FD	GALAXY A5 2016 SM-A510FD	1
Shenzhen Huaifurui Technology Co Ltd	X20 PRO	CUBOT X20 PRO	1
Samsung Korea	SM-G9008W	Samsung SM-G9008W	1
Gigaset Communications GmbH	GS270 Plus	GS270 Plus	1
Vingroup Joint Stock Company	V430	JOY 3	1
HUAWEI Technologies Co Ltd	VKY-L29	HUAWEI P10 Plus	1
HUAWEI Technologies Co Ltd	JEF-TN00	JEF-TN00	1
Samsung Korea	SC-01K	Samsung SC-01K	1
Tecno Telecom (HK) Limited	CL7	TECNO CAMON 30 5G	1
Honor Device Company Limited	ANB-AN00	ANB-AN00	1
Tecno Telecom (HK) Limited	CG6	CAMON 18i	1
Vivo Mobile Communication Co Ltd	vivo 1801	vivo Y71	1
ZTE Corporation	ZTE 2050	ZTE Blade 20 Smart	1
TCL Communication Ltd	5008Y	alcatel 1X	1
TCL Communication Ltd	5056I	Optus X Smart	1
China Mobile Group Device Co Ltd	M654	A5	1
LG Electronics Inc.	LM-X420MM	LM-X420MM	1
HTC Corporation	0P9C200	HTC Desire 816	1
HUAWEI Technologies Co Ltd	PAR-LX1M	HUAWEI nova 3	1
LG Electronics Inc.	LM-Q910UM	LM-Q910UM	1
TCL Communication Ltd	T774H	TCL 20L	1
Samsung Korea	SM-G973U1	Galaxy S10	1
Hytera Communications Corporation Limited	PDC760 UxB1	PDC760	1
Yunji (Hong Kong) Holdings Co Limited	C31 Pro	C31 Pro	1
Xiaomi Communications Co Ltd	MDE5	MDE5	1
Fujitsu Ltd	FMP176-AMA-D	F-51A	1
Xiaomi Communications Co Ltd	M2001G7AC	M2001G7AC	1
Samsung Korea	SM-E700F	GALAXY E7 SM-E700F	1
Shenzhen Plum Communications Equipment Co Ltd	MR801	plum MR801	1
HTC Corporation	0PGQ120	HTC 0PGQ120	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3161	RMX3161	1
HUAWEI Technologies Co Ltd	LDN-L21	HUAWEI Y7 2018	1
Sony Mobile Communications	PM-1030-BV	PM-1030-BV	1
Shenzhen Xin Yu Communication Technology Co Ltd	F108	F108	1
Sony Mobile Communications	G3423	Xperia XA1 Plus	1
G Maxx Mobile Technology Company Limited	VANO	VANO	1
Doke Communication (HK) Limited	COLOR 8	Blackview COLOR 8	1
Samsung Korea	SM-J327U	Samsung SM-J327U	1
Samsung Korea	SM-A300F/DS	Samsung SM-A300F/DS	1
Shenzhen Alldocube Technology and Science Co Ltd	T1001	T1001	1
Samsung Korea	SM-J701MT/SS	Samsung SM-J701MT/SS	1
TCL Communication Ltd	5053K	Alcatel 3	1
Xiamen Meitu Mobile Technology Co Ltd	MP1801	MP1801	1
Meizu Technology Co Ltd	M091Q	17 Pro	1
Doke Communication (HK) Limited	Tab 18	Blackview Tab 18	1
ZTE Corporation	ZTE S519	ZTE S519	1
Entel PCS	SMART PLUS LTE	SMART PLUS LTE	1
Vivo Mobile Communication Co Ltd	vivo 1813	NEX Dual Display Edition	1
INFINIX TECHNOLOGY LIMITED	X626B-LTE	S4	1
HUAWEI Technologies Co Ltd	ALP-L09	HUAWEI Mate 10	1
Baochi Communications	IS-400 IS-401 IS-402 IS-404	i-Smart IS-400 IS-401 IS-402 IS-404	1
Sony Mobile Communications	G8341	Xperia XZ1	1
Shenzhen Zhimei Internet Mobile Communication Co Ltd	ZME M3	ZME M3	1
ZTE Corporation	ZTE BLADE A521	ZTE BLADE A521 BLADE A521 ZTE Blade A521 Blade A521	1
Dasan Networks	TL99G	TL99G	1
Samsung Korea	SM-G900S	Samsung SM-G900S	1
Samsung Korea	GT-C3595V	Samsung GT-C3595V	1
Xiaomi Communications Co Ltd	M2007J3SC	M2007J3SC	1
Shenzhen Melrose Technology Co Ltd	MELROSE S9	MELROSE S9	1
Motorola Mobility LLC a Lenovo Company	XT2025-1	Moto E6 Plus	1
M3 Mobile Co Ltd	M3 UL20	M3 UL20X	1
Sony Mobile Communications Inc.	H8314	Xperia XZ2 Compact	1
HUAWEI Technologies Co Ltd	CND-AN00	CND-AN00	1
HMD Global Oy	TA-1050	Nokia 6.1 SS	1
HUAWEI Technologies Co Ltd	ARS-L22	HUAWEI Y MAX	1
Sony Mobile Communications	H4233	Xperia XA2 Ultra	1

HTC Corporation	2P2M100	HTC U Play	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3286	RMX3286	1
HUAWEI Technologies Co Ltd	HUAWEI LUA-U22	HUAWEI Y3II	1
Shenzhen Huaafurui Technology Co Ltd	X90	CUBOT X90	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO R11s Plust	OPPO R11s Plust	1
Yulong Computer Telecommunication Scientific Shenzhen Co Ltd	3600I	COOLPAD 3600I	1
Samsung Korea	SM-A415F/DSM	Galaxy A41	1
Motorola Mobility LLC a Lenovo Company	XT1941-3	Motorola One	1
MLS Innovation Inc	iQ5011	MLS MX Notch	1
Sony Mobile Communications Inc.	PM-1243-BV	PM-1243-BV	1
ASUSTek Computer Inc	ASUS_Z01MDA	ZenFone 4 Selfie Pro	1
HTC Corporation	2P2F100	HTC U Ultra	1
Bluebird Inc	EF550R	EF550R	1
ASUSTek Computer Inc	ZE551ML	ASUS_Z00AD ZE551ML ZENPHONE 2	1
Sony Mobile Communications Inc.	I4113	PM-1181-BV	1
3FeetSolutions Pty Ltd	FlipPhone 2	FlipPhone 2	1
Sharp Corporation IoT Communication BU	XH-DD0173	AQUOS sense3 plus SH-RM11	1
KYOCERA Corporation	503KC	503KC	1
LG Electronics Inc.	LG-H850K	LG-H850K	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2155	RMX2155	1
Samsung Korea	SM-A520K	Samsung SM-A520K	1
Doke Communication (HK) Limited	BV9800	Blackview BV9800	1
HMD Global Oy	TA-1033	Nokia 6 SS	1
Lenovo (Beijing) Co Ltd	Lenovo P1a42	Lenovo Lenovo VIBE P1	1
P.T.E. Intergroup Co Ltd		914 BEYOND 914	1
LG Electronics Inc.	LG-K500dsK	LG-K500dsK	1
A-Link Telecom International Co Limited	CUBOT MAGIC	CUBOT MAGIC	1
Honor Device Company Limited	ALA-AN70	ALA-AN70	1
Honor Device Company Limited	JDY-LX2	JDY-LX2	1
Xiaomi Communications Co Ltd	M2011K2G	M2011K2G	1
Sony Mobile Communications	E5653	Xperia M5	1
Samsung Korea	SM-A908B	Galaxy A90s	1
Nubia Technology Co Ltd	NX619J	Red Magic Mars	1
Vivo Mobile Communication Co Ltd	vivo X21i A	vivo X21i A	1
Vivo Mobile Communication Co Ltd	vivo X21UD	vivo vivo X21UD	1
Sony Mobile Communications	G8441	Xperia XZ1 Compact	1
Vivo Mobile Communication Co Ltd	vivo X20Plus UD	vivo vivo X20Plus UD	1
Doke Communication (HK) Limited	PILOT 2	OSCAL PILOT 2	1
Qingdao Hisense Communications Co Ltd	HNR550T	F50 5G	1
Beijing 8848 Mobile Communication Limited Company	8848 M4	8848 M4	1
ASUSTek Computer Inc	ASUS_X00AD	ASUS ZenFone Go ZB500KL	1
TCL Mobile Communication Company Ltd.	GE02-2	GE02-2	1
INFINIX TECHNOLOGY LIMITED	X665	HOT 12i	1
Fully Holdings (HK) Co Limited	K10000	OUKITEL K10000	1
Motorola Mobility LLC a Lenovo Company	XT2052-1	moto e (2020)	1
ASUSTek Computer Inc	ASUS_I001DA	ROG Phone	1
Motorola Mobility LLC a Lenovo Company	XT2053-6	Fiji	1
Intel Technology Limited	P662L	P40	1
Shenzhen Dragon Century Technology Development Co Ltd	uphone U7	uphone U7	1
Samsung Korea	GT-I9197	Samsung GT-I9197	1
Vodafone	VFD 320	Vodafone Smart C9 Vodacom Smart Kicka 4	1
Tecno Telecom (HK) Limited	PR651E	TECNO SPARK 7	1
Samsung Korea	SM-G7105	GALAXY GRAND 2 SM-G7105	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2081	CPH2081	1
I.safe MOBILE GmbH	M53A01	IS530	1
Samsung Korea	SM-G928A	Samsung SM-G928A	1
HUAWEI Technologies Co Ltd	JAT-LX1	honor 8A honor 8A Prime	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	PDPT00	PDPT00	1
Eastman Kodak Company	EKTRA	KODAK EKTRA Smartphone	1
Samsung Korea	GT-N8020	Samsung GT-N8020	1
Bellco Trading Company (Private) Limited	MEGA KING	MEGA KING	1
Yunji (Hong Kong) Holdings Co Limited	WP27	WP27	1
Motorola Mobility LLC a Lenovo Company	XT1767	Moto E (4th Gen) AN12064345	1
HTC Corporation	0P9C210	HTC Desire 816	1
Lemobile Information Technology (Beijing) Co Ltd	LEX623	LEX623	1
OnePlus Technology (Shenzhen) Co Ltd	CPH2619	CPH2619	1
HUAWEI Technologies Co Ltd	GEM-702L	MediaPad X2	1
KVD International Group Limited	S58Pro	S58Pro	1
Samsung Korea	SM-A305J	Galaxy A30	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1941	CPH1941	1
Shenzhen Gionee Communication Equipment Co Ltd	P15	P15	1
TCL Communication Ltd	2036X	ALCATEL ONETOUCH 2036X	1
Xiaomi Communications Co Ltd		2014021 MI 2014021	1
Sony Mobile Communications Inc.	PM-1280-BV	PM-1280-BV	1
Samsung Korea	SM-G9650	Galaxy S9+	1
Samsung Korea	SM-J250F	GALAXY GRAND PRIME PRO SM-J250F	1
Sony Mobile Communications Inc.	H9493	PM-1155-BV	1
HTC Corporation	0PCV200	HTC OPCV200	1
Sharp Corporation IoT Communication BU	DM-01J	DM-01J	1
ASUSTek Computer Inc	ASUS_T00J	ASUS ZenFone 5 A501CG	1
TCL Communication Ltd	6025H	alcatel 1S	1
HUAWEI Technologies Co Ltd	CLT-L0J	HUAWEI P20 Pro	1
HMD Global Oy	TA-1314	TA-1314	1
Digicom Trading PVT Limited	XL100	QMobile XL100	1
Huawei Device Company Limited	JAD-AL60	HUAWEI P50 Pro	1
LG Electronics Inc.	LG-D821	LG Nexus5	1
ZTE Corporation	Z971	Z971	1

ASUSTek Computer Inc	ASUS_Z012DE	Zenfone 3	1
Shenzhen Gionee Communication Equipment Co Ltd	GIONEE S9	S9	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	PDRM00	PDRM00	1
Vivo Mobile Communication Co Ltd	vivo Y31A	vivo vivo Y31A	1
Samsung Korea	SM-N950U1	Galaxy Note8	1
Digicom Trading PVT Limited	T5	MAXX T5	1
Meizu Technology Co Ltd	M681Q	m3 note	1
Motorola Mobility LLC a Lenovo Company	XT1943-1	RO12493145	1
HMD Global Oy	TA-1492	TA-1492	1
Vivo Mobile Communication Co Ltd	vivo V3Max	vivo vivo V3Max	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2083	OPPO A12	1
HUAWEI Technologies Co Ltd	HUAWEI Y635-L01	HUAWEI Y635	1
Samsung Korea	GALAXY NOTE 2 GT-N7100	Samsung GALAXY NOTE 2 GT-N7100	1
Samsung Korea	GT-I9500	Samsung GALAXY S4 GT-I9500	1
Samsung Korea	SM-N981B/DS	Galaxy Note20 5G	1
Nokia Corporation	3110c	3110c	1
Samsung Korea	SM-G5528	Samsung SM-G5528	1
Xiaomi Communications Co Ltd	M1901F7I	Redmi Note 7S	1
INFINIX TECHNOLOGY LIMITED	X657	SMART 5	1
Xiaomi Communications Co Ltd		2015501 XIAOMI NOTE	1
Samsung Korea	SM-J106F/DS	Samsung SM-J106F/DS	1
Motorola Mobility LLC a Lenovo Company	XT2301-4	Canyon23	1
Plus One Japan Limited	FTJ152A	priori3	1
HMD Global Oy	TA-1563	TA-1563	1
Sony Mobile Communications Inc.	PM-1323-BV	PM-1323-BV	1
Sony Mobile Communications	H3213	Xperia XA2 Ultra	1
Samsung Korea	SC-01L	Galaxy Note 9	1
Vivo Mobile Communication Co Ltd	V1913T	vivo Y5	1
Xian Fuliye Microelectronics Co Ltd	C80	C80	1
LG Electronics Inc.	LG-K420n	LG-K420n	1
BLU Products Inc	VIVO ONE PLUS	BLU VIVO ONE PLUS	1
Motorola Mobility LLC a Lenovo Company	XT2083-5	moto g(9) play	1
China Kejian Corporation Ltd (6th Industry Rd)	K596	K596	1
Rakuten Mobile Inc	C330	Rakuten mini	1
HTC Corporation	PL80150	HTC PL80150	1
Casper Bilgisayar Sistemleri A.S	CASPER VIA P1	CASPER VIA P1	1
Motorola Mobility LLC a Lenovo Company	XT1803	Moto G Plus (5th Gen S) ZA12074645	1
Samsung Korea	GT-I9082	Samsung GT-I9082	1
Sony Mobile Communications Inc.	XQ-AT51	XPERIA 1 II	1
Vestel Elektronik Sanayi ve Ticaret A.S.	VENUS V3 5040 2GB	VESTEL VENUS V3 5040 2GB	1
Samsung Korea	GT-N5120	Samsung GT-N5120	1
Samsung Korea	SM-N960U1	Galaxy Note9	1
Motorola Mobility LLC a Lenovo Company	XT1801	ZA12074245	1
Samsung Korea	SM-C115	Samsung SM-C115	1
Guizhou Fortuneship Technology Co Ltd	AnxintongF100	AnxintongF100	1
Sony Corporation	PM-1364-BV	PM-1364-BV	1
Samsung Korea	SM-J260Y	Samsung SM-J260Y	1
Xiaomi Communications Co Ltd	M1803D5XA	MI MIX2s	1
TCL Communication Ltd	6045B	6045B	1
Vivo Mobile Communication Co Ltd	V1824BA	vivo iQOO	1
Bullitt Group Limited	S60	S60	1
ASUSTek Computer Inc	ASUS_Z012D	ASUS ZenFone 3 ZE552KL	1
OnePlus Technology (Shenzhen) Co Ltd	CPH2585	CPH2585	1
Tecno Telecom (HK) Limited	BD4i	POP 5 LTE	1
Xiaomi Communications Co Ltd	2409BRN2CA	Redmi 14C	1
Xiaomi Communications Co Ltd	M2007J20CG	POCO X3 NFC	1
TCL Communication Ltd	5046D	Alcatel A3	1
Shenzhen Century Tianyuan Technology Co Ltd	CT06	CT06	1
SGP Technologies S.A.	BP2H001RW1	Blackphone 2	1
Microsoft Mobile Oy	RM-1110	RM-1110 Nokia 215 Duat SIM	1
TCL Communication Ltd	T507J	T507J	1
Sony Mobile Communications	H3123	Xperia XA2	1
HUAWEI Technologies Co Ltd	CAM-TL00	HONOR	1
Vivo Mobile Communication Co Ltd	V1732T	V81s	1
ZTE Corporation	ZTE 8030	ZTE Blade V30 Vita	1
Samsung Korea	GALAXY S3 MINI GT-I8190	Samsung GALAXY S3 MINI GT-I8190	1
Samsung Korea	GT-S3653W	GT-S3653W	1
HUAWEI Technologies Co Ltd	BKL-L09	Honor View10	1
HUAWEI Technologies Co Ltd	DUB-TL00a	DUB-TL00a	1
Meizu Technology Co Ltd	M570Q	PRO 6	1
Vivo Mobile Communication Co Ltd	V2338A	V2338A	1
Samsung Korea	SM-G888N0	Samsung SM-G888N0	1
Sharp Corporation IoT Communication BU	SH-201	AQUOS C10	1
HMD Global Oy	TA-1079	Nokia 1 SS	1
HTC Corporation	PH39110	HTC PH39110	1
Samsung Korea	SM-T215	Samsung SM-T215	1
LG Electronics Inc.	This is a Test IMEI to be used with multiple prototype models. The frequency bands for each model may not match what is listed in this record	This is a Test IMEI to be used with multiple prototype models. The frequency bands for each model may not match what is listed in this record	1
Samsung Korea	SM-A6050	Samsung SM-A6050	1
Motorola Mobility LLC a Lenovo Company	XT2029-1	Bali	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO R7 Plus	OPPO R7 Plus	1
HUAWEI Technologies Co Ltd	CAM-L03	HUAWEI Y6ii HUAWEI GW	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	PJE110	PJE110	1
Samsung Korea	SM-G925W8	Samsung SM-G925W8	1
LG Electronics Inc.	LM-K520BMW	LM-K520BMW	1

Motorola Mobility LLC a Lenovo Company	XT2027-3	motorola one hyper	1
Vivo Mobile Communication Co Ltd	vivo X6Plus A	vivo vivo X6Plus A	1
Gigaset Communications GmbH	E940-2796-3-400	GS5	1
Motorola Mobility LLC a Lenovo Company	XT1768	Moto E (4th Gen) AN12064345	1
Shenzhen Malata	M1 PLUS	M1 PLUS	1
Prestigio Plaza Limited	PSP3455DUO; PSP3455DUOBLUE; PSP3455DUOWHITE	Prestigio Grace X3	1
KVD International Group Limited	S89	S89	1
INFINIX TECHNOLOGY LIMITED	X663B	NOTE 11	1
HMD Global Oy	TA-1305	TA-1305	1
Cyrus Technology GmbH	CM17	Cyrus CM17	1
Tecno Telecom (HK) Limited	KE6	TECNO SPARK 6 Air	1
Tecno Telecom (HK) Limited	CK9n	CAMON 20 Premier 5G	1
Itel Technology Limited	A23	A23	1
ASUSTek Computer Inc	ASUS_I01WDX	ASUS ZenFone 6 ZS630KL	1
Adart Computers s.r.o.	A3NN	ALIGATOR A321	1
LG Electronics Inc.	LM-V500N	LM-V500N	1
HMD Global Oy	TA-1272	TA-1272	1
Itel Technology Limited	A662LM	A60s	1
HUAWEI Technologies Co Ltd	BAC-TL00	HUAWEI nova 2 Plus	1
Samsung Korea	SM-A500YZ	Samsung SM-A500YZ	1
Shenzhen First Love Technology Co Ltd	20280666CL	20280666CL	1
Motorola Mobility LLC a Lenovo Company	XT1965-T	Lake	1
Samsung Korea	SM-J700H/DD	Samsung SM-J700H/DD	1
Samsung Korea	SM-J120F	Galaxy J1 2016 SM-J120F	1
TCL Communication Ltd	5060D	Alcatel 5V	1
Unicom Vsens Communications Co Ltd	VP004	VP004	1
Sony Mobile Communications	H3223	Xperia XA2 Ultra	1
Motorola Mobility LLC a Lenovo Company	XT2063-4	Racer	1
Microsoft Mobile Oy Nokia Corporation	RM-1049 Lumia 830 Nokia 830	RM-1049 Lumia 830 Nokia 830	1
Samsung Korea	SM-J337VPP	Samsung SM-J337VPP	1
HUAWEI Technologies Co Ltd	BAC-L21	HUAWEI nova 2 Plus	1
Motorola Mobility LLC a Lenovo Company	XT1640	Moto G Plus (4th Gen)	1
Motorola Mobility LLC a Lenovo Company	XT1092 X112360445	Moto X (2nd Generation) X112360445	1
LG Electronics Inc.	LM-K510BMW	LM-K510BMW	1
HMD Global Oy	TA-1311	TA-1311	1
Nubia Technology Co Ltd	NX589J	Z17 minis	1
Xiaomi Communications Co Ltd	M2006C3MI	POCO C3	1
Shenzhen RiXin Technology Co Ltd	X-Phone C8000	X-Phone C8000	1
Samsung Korea	SM-A805F	Galaxy A80	1
Motorola Mobility LLC a Lenovo Company	XT1540 XT947BL CA12558845	Moto G (3rd Gen) CA12558845	1
HMD Global Oy	TA-1334	TA-1334	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3686	RMX3686	1
INFINIX TECHNOLOGY LIMITED	X672	NOTE 12 VIP	1
ASUSTek Computer Inc	ASUS_I007D	EXP21 Smartphone	1
Samsung Korea	SM-J111M/DS	Samsung SM-J111M/DS	1
Xiaomi Communications Co Ltd	MET7S	Redmi Note5	1
Sony Mobile Communications	F5321	Xperia X Compact	1
KVD International Group Limited	N40Pro	N40Pro	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO 1206	OPPO Neo 5 Plus OPPO Neo 5S	1
TCT Mobile Limited	4045L	ALCATEL ONETOUCH POP2(4)	1
Tecno Telecom (HK) Limited	LC7	Pouvoir 4	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3142	RMX3142	1
HUAWEI Technologies Co Ltd	HUAWEI G620S-L02	HUAWEI Ascend G620S	1
HUAWEI Technologies Co Ltd	ATU-L11	HUAWEI Y6 2018	1
Xiaomi Communications Co Ltd	M2001J11E	M2001J11E	1
LG Electronics Inc.	LM-Q630UM	LM-Q630UM	1
Samsung Korea	SM-G611K	ON7+	1
INFINIX TECHNOLOGY LIMITED	X6825	HOT 20 PLAY	1
HUAWEI Technologies Co Ltd	LND-L29	honor 7C	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2131	CPH2131	1
HTC Corporation	2PZC500	2PZC500	1
Sharp Corporation IoT Communication BU	W-119	AQUOS R6 A101SH	1
Umi Network Technology Co Limited	G5A	G5A	1
INFINIX TECHNOLOGY LIMITED	X652C	S5 Lite	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2076	RMX2076	1
HUAWEI Technologies Co Ltd	HUAWEI CUN-L01	HUAWEI Y5II	1
Gigaset Communications GmbH	E940-2797-00	Gigaset GX4	1
BLU Products Inc	VIVO XI	BLU VIVO XI	1
TCL Communication Ltd	9001X	PIXI 4 6in 4G Android	1
TCL Communication Ltd	6002A	6002A	1
G Five Mobile (Private) Ltd.	Tiger	Tiger	1
Sharp Corporation IoT Communication BU	XN-DDBT66	SH-53A	1
Samsung Korea	SM-J250M	Samsung SM-J250M	1
Multi Ways International L.L.C	DM-B50104	bond	1
Shenzhen Guarantee Science & Technology Co Ltd	Ez602	Ez602	1
Motorola Mobility LLC a Lenovo Company	XT1925-6	BL12368145 Moto G (6th Gen)	1
Sichuan Sugar Communication Technology Co Ltd	SUGAR C60	SUGAR C60	1
Samsung Korea	SGH-D820	SGH-D820	1
HUAWEI Technologies Co Ltd	BMH-AN20	BMH-AN20	1
Apple Inc	Apple iPhone 5S (A1518)	Apple iPhone 5S (A1518)	1
Samsung Korea	SM-J100F	Samsung SM-J100F	1
Huawei Device Company Limited	ALN-AL10	ALN-AL10	1
Huawei Device Company Limited	MGA-LX9	HUAWEI nova Y70 Plus	1
Samsung Korea	SM-G611L	ON7+	1
ASUSTek Computer Inc	ASUS_X00PD	ASUS ZB555KL/ZB556KL ZenFone Max M1	1
Digicom Trading PVT Limited	L1 Classic	QMobile L1 Classic	1

LG Electronics Inc.	LM-X410EO	LM-X410EO	1
Sharp Corporation IoT Communication BU	SH-01K	AQUOS sense	1
Samsung Korea	SGH-S730M	Samsung SGH-S730M	1
Edison Industries Ltd	ATOM4	Symphony ATOM4	1
Shenzhen Alldocube Technology and Science Co Ltd	U55GT	KUBIMOFANG U55GT	1
Shenzhen Jeko Communication Co Limited	BV5000	BLACKVIEW BV5000	1
Wiko	W-P311	View3	1
Panasonic System Networks Co Ltd	FZ-N1AF	FZ-N1	1
HTC Corporation	PN07710	HTC PN07710	1
ZTE Corporation	ZTE BV0730	ZTE BV0730	1
BLU Products Inc	V50	BLU V50	1
BBK Electronics Corp Ltd	vivo Y11	vivo vivo Y11	1
HUAWEI Technologies Co Ltd	EVA-TL00	HUAWEI P9	1
Samsung Korea	SM-A515F/DSN	Galaxy A51	1
Sony Corporation	PM-1401-BV	PM-1401-BV	1
Sky Phone LLC	PLATINUM A5	PLATINUM A5	1
Microsoft Mobile Oy	RM-1072	RM-1072 Lumia 640 LTE	1
Microsoft Mobile Oy	RM-1105	RM-1105 Microsoft Lumia 950	1
Gotron (HK) Electronic Co Limited	Note 8P	Note 8P	1
Microsoft Mobile Oy Nokia Corporation	RM-1027	RM-1027	1
Xiaomi Communications Co Ltd	M1805D1SC	Redmi 6 pro	1
Vivo Mobile Communication Co Ltd	V2025A	iQOO 5 Pro	1
Motorola Mobility LLC a Lenovo Company	XT1550 INDR001245	Moto G (3rd Gen) INDR001245	1
Sony Mobile Communications	PM-1131-BV	PM-1131-BV	1
Sony Corporation	PM-1344-BV	PM-1344-BV	1
Samsung Korea	GT-C3322	Samsung GT-C3322	1
Samsung Korea	SM-J500H/DS	Samsung SM-J500H/DS	1
Vivo Mobile Communication Co Ltd	vivo 1907	vivo V17Neo	1
LG Electronics Inc.	LG-M320K	LG-M320K	1
Huawei Device Company Limited	TET-AL00	TET-AL00	1
Honor Device Company Limited	VNA-LX6	VNA-LX6	1
Microdia Limited	MICRODIA	MICRODIA mplus	1
Samsung Korea	GALAXY S3 GT-I9300	Samsung GALAXY S3 GT-I9300	1
Reliance Retail Limited	LS-5507	LYF LS-5507	1
Samsung Korea	SM-G935U	Samsung SM-G935U	1
Nokia Corporation	Nokia 3000 300	Nokia Nokia 3000 300	1
Vivo Mobile Communication Co Ltd	vivo 1908_19	vivo Y90 2019	1
OnePlus Technology (Shenzhen) Co Ltd	BE2025	BE2025	1
HUAWEI Technologies Co Ltd	LDN-TL10	LDN-TL10	1
Xiaomi Communications Co Ltd	21061119DG	21061119DG	1
Samsung Korea	GT-S5300	Samsung GT-S5300	1
TCT Mobile Limited	5042G	POP2 (4.5)	1
HUAWEI Technologies Co Ltd	EVA-L29	HUAWEI P9	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3265	RMX3265	1
Gotron (HK) Electronic Co Limited	Armor 8	Armor 8	1
Xiaomi Communications Co Ltd	A001XM	A001XM	1
KVD International Group Limited	S90	DOOGEE S90	1
Zini Mobiles Limited	fly	EUROPEAN	1
MPTech	IRON 3 LTE	IRON 3 LTE	1
HUAWEI Technologies Co Ltd	CLT-TL00	HUAWEI P20 Pro	1
Optimus Infracom Limited	BBG100-1	BLACKBERRY BBG100-1	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2194	RMX2194	1
Xiaomi Communications Co Ltd	2201117TY	Redmi Note 11	1
Xinchuangxin International Limited Co Limited	C8 C9 C30 C40	CORN C8 C9 C30 C40	1
ASUSTek Computer Inc	ASUS_Z010DA	ASUS_Z010DA	1
HUAWEI Technologies Co Ltd	LND-AL30	honor 7C	1
ASUSTek Computer Inc	ASUS_X008DB	ASUS Zenfone 3 MAX ZC520TL	1
Samsung Korea	SM-J200F	Galaxy J2 SM-J200F	1
Shenzhen Xinglianxing Technology Co Ltd	leyi14promax	leyi14promax	1
HUAWEI Technologies Co Ltd	VKY-L09	HUAWEI P10 Plus	1
HUAWEI Technologies Co Ltd	E5331	HUAWEI E5331	1
Swagtek	N63	Unonu N63	1
HMD Global Oy	TA-1048	Nokia 8110 4g DS	1
Smartisan Digital Co Ltd	YQ607	Smartisan U1	1
Motorola Mobility LLC a Lenovo Company	XT2013-1	Troika	1
Lemobile Information Technology (Beijing) Co Ltd	Le X522	Le X522	1
Swift Biz Solutions Pvt Ltd	Digit4G-Elite	Digit4G-Elite	1
Tianyi Telecom Terminals Company Limited	TYH631M	Maimang20	1
Acer Incorporated	T02	acer Liquid Z530	1
Samsung Korea	SM-J727T1	Samsung SM-J727T1	1
HUAWEI Technologies Co Ltd	CLT-TL01	HUAWEI P20 Pro	1
OnePlus Technology (Shenzhen) Co Ltd	LE2115	LE2115	1
Umi Network Technology Co Limited	G5	G5	1
Honor Device Company Limited	VER-AN00	VER-AN00	1
INFINIX TECHNOLOGY LIMITED	X6810	Zero X NEO	1
Doke Communication (HK) Limited	C60	OSCAL C60	1
Omix Mobil Teknoloji A.S.	X700	OMIX X700	1
Sony Mobile Communications	E2306	Xperia M4 Aqua	1
Huawei Device Company Limited	STG-LX1	STG-LX1	1
Xiaomi Communications Co Ltd	M2001J2I	M2001J2I	1
Sony Mobile Communications	E5353	Xperia C4	1
Gotron (HK) Electronic Co Limited	Armor 2	Armor 2	1
Samsung Korea	SM-A015W	Galaxy A01	1
OnePlus Technology (Shenzhen) Co Ltd	ONE A2003	ONE A2003	1
Sharp Corporation IoT Communication BU	XN-MBT63	SH-M15	1
The Profile of Kingtech Smart (Shenzhen) Co Ltd	FIRE	FIRE	1
Xiaomi Communications Co Ltd	M1803E1T	M1803E1T	1

HUAWEI Technologies Co Ltd	MAR-LX1M	HUAWEI P30 lite	1
Xiaomi Communications Co Ltd	MET7	Redmi 5 plus	1
Samsung Korea	SM-G9006V	Samsung SM-G9006V	1
Vivo Mobile Communication Co Ltd	V1901T	vivo Y3	1
LG Electronics Inc.	LG-H840	LG-H840	1
Dialog Axiata PLC		5015	1
HUAWEI Technologies Co Ltd	ART-L29	HUAWEI Y7p HUAWEI P40 lite E	1
HUAWEI Technologies Co Ltd	JSN-L23	Honor 8X	1
General Mobile Inc	DISCOVERY	GENERAL MOBILE DISCOVERY	1
Samsung Korea	SM-J737S	J7 TOP	1
Microsoft Mobile Oy	RM-1062 Lumia 640 XL LTE	RM-1062 Lumia 640 XL LTE	1
LEFE Electronic Technology Co Ltd	Z10	Z10	1
Lava International Ltd	LIX402	Yuva Pro	1
Smartisan Digital Co Ltd	SM919	Smartisan T3L	1
HTC Corporation	PJ83120	HTC PJ83120	1
HUAWEI Technologies Co Ltd	ATH-UL00	ATH-UL00	1
INFINIX TECHNOLOGY LIMITED	X6816C	HOT 12 Play	1
Microsoft Mobile Oy Nokia Corporation	RM-941 Nokia 625 lumia 625	RM-941 Nokia 625 lumia 625	1
HUAWEI Technologies Co Ltd	LLD-TL10	LLD-TL10	1
Beijing Tianyu Communication Equipment Co Ltd	i9	i9	1
Huawei Device Company Limited	CTR-LX1	CTR-LX1	1
LG Electronics Inc.	LG-LS993	LG-LS993	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX1903	RMX1903	1
Tecno Telecom (HK) Limited	A9	Phantom6 Plus	1
Samsung Korea	SM-G960F	GALAXY S9 SM-G960F	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3997	RMX3997	1
Nokia Corporation	Nokia N78-1	Nokia N78-1	1
LG Electronics Inc.	LM-X510K	LM-X510K	1
TCL Communication Ltd	T506D	TCL 405	1
OnePlus Technology (Shenzhen) Co Ltd	ONE A1001 ONEPLUS A0001 ONE A0001	ONE A1001 ONEPLUS A0001 ONE A0001	1
Doke Communication (HK) Limited	BV9700 Pro	Blackview BV9700 Pro	1
LG Electronics Inc.	LG-H815	LG-H815	1
Samsung Korea	SM-A3050	Galaxy A30 HK SEHK	1
Vivo Mobile Communication Co Ltd	vivo 1820_19	vivo Y91C 2020	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO R7g OPPO R7kf	OPPO R7g OPPO R7kf	1
Vivo Mobile Communication Co Ltd	V2026_21	vivo Y12s	1
Vertu International Corporation Limited	ASTER P	ASTER P	1
Doke Communication (HK) Limited	A52 Pro	Blackview A52 Pro	1
Kmobile Communication Apparatus Co Ltd	EIROGA K5000	EIROGA K5000	1
Xiaomi Communications Co Ltd	M1903F2A	MI 9 SE	1
Xiaomi Communications Co Ltd	MDI40	MDI40	1
ZTE Corporation	Blade A3 2019	Blade A3 2019	1
Walton Digi-Tech Industries Limited	Primo R8	Primo R8	1
Vingroup Joint Stock Company	V740	Aris	1
Lemobile Information Technology (Beijing) Co Ltd	Le X527	Le X527	1
TCL Communication Ltd	2067X	ALCATEL 2067	1
BlackBerry Limited	SQC100-4 RHG161LW	BlackBerry SQC100-4 RHG161LW	1
Samsung Korea	SM-J110F/AS	Samsung SM-J110F/AS	1
Motorola Mobility LLC a Lenovo Company	XT1770	Moto E Plus (4th Gen) INDR003549	1
Xiaomi Communications Co Ltd		2014910 Redmi note	1
Huawei Device Company Limited	HBP-LX9	HUAWEI Pura 70 Ultra	1
Bullitt Group Limited	S42	S42	1
Itel Technology Limited	it9210	Magic 2 4G	1
DG HomTom Group Co Limited	S9	HOMTOM S9	1
Premier Code Pvt Ltd	DS-CL2 Pro	Cygnal 2 Pro	1
TCT Mobile Limited	7041X	ALCATEL ONETOUCH POP C7	1
Motorola Mobility LLC a Lenovo Company	XT1925-4	BL12427245 Moto G (6th Gen)	1
LG Electronics Inc.	LG-M250K	K10	1
Motorola Mobility LLC a Lenovo Company	XT1643	Moto G Plus (4th Gen) INDR002645	1
Vivo Mobile Communication Co Ltd	V1921A	Z5	1
Sharp Electronics GmbH	TQ-G400Y TQ-G400Z TQ-G400E	TQ-G400Y TQ-G400Z TQ-G400E	1
Microsoft Mobile Oy Nokia Corporation	625 Lumia 625	625 Lumia 625	1
Samsung Korea	SM-A600F	GALAXY A6 SM-A600F	1
INFINIX TECHNOLOGY LIMITED	X669D	HOT 30i	1
HUAWEI Technologies Co Ltd	CHM-UL00	Honor 4C	1
Nokia Corporation	6310i	6310i	1
Samsung Korea	SM-A750G	Galaxy A7 2018	1
Sony Corporation	PM-1331-BV	PM-1331-BV	1
Sony Mobile Communications	E6683	Xperia Z5 Dual	1
Samsung Korea	SM-G5500	Samsung SM-G5500	1
LG Electronics Inc.	LG-M250n	K10	1
Huawei Device Company Limited	MLD-AL10	MLD-AL10	1
Samsung Korea	SM-J120F/DS	Samsung SM-J120F/DS	1
LG Electronics Inc.	LM-K525HM	LM-K525HM	1
Vivo Mobile Communication Co Ltd	vivo Y55A	vivo vivo Y55A	1
Samsung Korea	GALAXY S4 GT-I9500	Samsung GALAXY S4 GT-I9500	1
Samsung Korea	SM-A505AZ	Galaxy A50	1
HUAWEI Technologies Co Ltd	CLT-L04	HUAWEI P20 Pro	1
Samsung Euro QA Lab	SGH-E720	SGH-E720	1
Tecno Telecom (HK) Limited	AD10	PHANTOM V Fold	1
Vivo Mobile Communication Co Ltd	V2059A	vivo X60	1
Microsoft Mobile Oy	RM-1045 Lumia 930 Nokia 930	Nokia RM-1045 Lumia 930 Nokia 930	1
Vodafone Group Services Ltd	VFD 501	Vodafone Smart turbo 7	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	PDNT00	PDNT00	1
Motorola Mobility LLC a Lenovo Company	XT1562 LX12506245	Moto X Play LX12506245	1
Shenzhen Gionee Communication Equipment Co Ltd	GI0NEE GN700T	GI0NEE GIONEE GN700T	1
Yulong Computer Telecommunication Scientific (Shenzhen) Co.	GT03	coolpad COOL 20	1

Xiaomi Communications Co Ltd	MCT1	MI 6	1
HMD Global Oy	TA-1180	Nokia 800	1
Samsung Korea	SM-J610F	SM-J610F GALAXY J6+	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3618	RMX3618	1
Vivo Mobile Communication Co Ltd	V2060	vivo Y72 5G	1
HUAWEI Technologies Co Ltd	DUB-LX3	HUAWEI Y7 2019	1
Samsung Korea	SC-02H	Samsung SC-02H	1
LG Electronics Inc.	LG-H860N	LG-H860N	1
LG Electronics Inc.	LG-H910	LG-H910	1
HTC Corporation	0P9C230	HTC Desire 816	1
HUAWEI Technologies Co Ltd	ATU-L21	HUAWEI Y6 2018	1
Shenzhen Niuman Qihang Technology Co Ltd	Newman niuman V7	Newman niuman V7	1
InFocus Corporation	InFocus M310	InFocus M310	1
Samsung Korea	SGH-I727R	Samsung SGH-I727R	1
G-Mobile Devices Private Limited	X6832	HOT 30 5G	1
ASUSTek Computer Inc	ASUS_T00J-D	ASUS ZenFone 5 A501CG	1
Philco	PCS02	Philco Hit Plus	1
Samsung Korea	SM-G9208/SS	Samsung SM-G9208/SS	1
Sony Mobile Communications	F3116	Xperia XA	1
HMD Global Oy	TA-1067	Nokia 8110 4g SS	1
Shenzhen Koobee Communication Co. Ltd	koobee S302T	koobee S302T	1
Samsung Korea	SM-G160N	Samsung SM-G160N	1
Huawei Device Company Limited	JAD-AL50	HUAWEI P50 Pro	1
HUAWEI Technologies Co Ltd	HUAWEI NXT-DL00	HUAWEI Mate 8	1
OnePlus Technology (Shenzhen) Co Ltd	LE2127	LE2127	1
HMD Global Oy	TA-1063	Nokia 3.1 DS	1
MGM Wireless	IFW515C	Spacetalk	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	PDST00	PDST00	1
MPTech	Hammer Rock	Hammer Rock	1
Tianyi Telecom Terminals Company Limited	TYH632M	Maimang A20	1
Huawei Device Company Limited	DCO-AL00	DCO-AL00	1
KVD International Group Limited	BL5000	DOOGEE BL5000	1
Hi-Power (Shenzhen) Technology Co Limited	A41	Hiking A41	1
ZTE Corporation	ZTE BLADE A0605	ZTE BLADE A6 MAX	1
Motorola Mobility LLC a Lenovo Company	XT1681	Moto G Plus (5th Gen) CO12937045	1
Motorola Mobility LLC a Lenovo Company	XT2097-14	moto e(7j) power	1
ZTE Corporation	ZTE BLADE A602	ZTE BLADE A602 ZTE Blade A602 BLADE A602 Blade A602.Amazing A50	1
Sharp Corporation IoT Communication BU	DD3066	SHG03	1
Motorola Mobility LLC a Lenovo Company	V9	V9	1
INFINIX TECHNOLOGY LIMITED	X650	HOT8 Lite	1
G-Mobile Devices Private Limited	X675	HOT 11 2022	1
Doro AB	DSB-0170	Doro 8035	1
Wiko	W-P861-03	WIKO T50	1
ZTE Corporation	ZTE BA620	ZTE BA620	1
TCL Communication Ltd	5052A	alcatel 3	1
HUAWEI Technologies Co Ltd	MHA-L09	HUAWEI Mate 9	1
Vivo Mobile Communication Co Ltd	vivo 1909	vivo V17 Pro	1
Xiaomi Communications Co Ltd	2015561	X11	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO A77t	OPPO A77t	1
Samsung Korea	SM-J727S	Samsung SM-J727S	1
Samsung Korea	SM-J330N	Galaxy-J3-2017	1
HTC Corporation	0PKX220	HTC 0PKX220	1
Motorola Mobility LLC a Lenovo Company	XT1643	Moto G Plus (4th Gen) INDR002345	1
Vodafone	VFD 720	Vodafone Smart N9	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	PJF110	PJF110	1
HMD Global Oy	TA-1005	Nokia 8 Sirocco	1
Microsoft Mobile Oy	RM-1072 Lumia 640 LTE	RM-1072 Lumia 640 LTE	1
LG Electronics Inc.	LG-F700L	LG-F700L	1
Qingdao Hisense Communications Co Ltd	HLTE203T	A5pro	1
Vestel Elektronik Sanayi ve Ticaret A.S.	VENUS Z20	VESTEL VENUS Z20	1
Swift Biz Solutions Pvt Ltd	Digit4G Lite	Digit4G Lite	1
Edison Industries Ltd	innova10	Symphony innova10	1
HUAWEI Technologies Co Ltd	DUK-L09	Honor 8 Pro	1
Vivo Mobile Communication Co Ltd	vivo 1907	vivo S1	1
HUAWEI Technologies Co Ltd	AKA-L29	HONOR 9C	1
Samsung Korea	SM-A320Y	Samsung SM-A320Y	1
Samsung Korea	SM-G720N0	Samsung SM-G720N0	1
Sony Corporation	PM-1442-BV	PM-1442-BV	1
HUAWEI Technologies Co Ltd	HUAWEI KII-L22	HUAWEI GR5	1
Meizu Technology Co Ltd	M721L	M6 Note	1
Apple Inc	iPhone 3G S (A1303)	iPhone 3GS (A1303)	1
Samsung Korea	SM-A715F/DSM	Galaxy A71	1
A T A Mobile Phones L.L.C	P8	K-ZONE P8	1
ZTE Corporation	ZTE Blade L220	ZTE Blade L220	1
Hi-Power (Shenzhen) Technology Co Limited	X11	HIKING X11	1
LG Electronics Inc.	LG-D855K	LG LG-D855K	1
Beijing 8848 Mobile Communication Limited Company	8848 M6	8848 M6	1
Motorola Mobility LLC a Lenovo Company	XT2073-1	motorola one fusion	1
Motorola Mobility LLC a Lenovo Company	XT2345-1	moto e13	1
Samsung Korea	SCV36	Samsung SCV36	1
INFINIX TECHNOLOGY LIMITED	X6710	NOTE 30 VIP	1
TP-Link Technologies Co Ltd	TP802A	Neffos Y5	1
Lenovo (Beijing) Co Ltd	Lenovo K50a40	Lenovo Lenovo K50a40	1
KYOCERA Corporation	KY-42C	KY-42C	1
TCT Mobile Limited	ALCATEL 2052	ALCATEL ONETOUCH 2052X	1
ASUSTek Computer Inc	ASUS_X00DD	ASUS ZC553KL ZENFONE 3 MAX	1
INFINIX TECHNOLOGY LIMITED	X690	NOTE 7	1

Xiaomi Communications Co Ltd	F6M1AB	xiaomi	1
HUAWEI Technologies Co Ltd	CAM-UL00	HONOR	1
Sony Mobile Communications	E6633	Xperia Z5 Dual	1
VPlus Communication Technology Co Limited	V5001	Vplus V5001 MITSUI MC32020	1
HTC Corporation	PN07140	HTC PN07140	1
Motorola Mobility LLC a Lenovo Company	XT1079 Thea	Moto G with LTE (2nd Generation) Thea	1
Sony Corporation	PM-1354-BV	PM-1354-BV	1
BlackBerry Limited	Passport SQW100-1 RGY181LW	BlackBerry Passport SQW100-1 RGY181LW	1
Ruio Telecommunication Technologies Co Limited	S5506	RUIO S5506	1
PT. Arga Mas Lestari	i5K	ADVAN i5K	1
Gotron (HK) Electronic Co Limited	Armor 6E	Armor 6E	1
Vivo Mobile Communication Co Ltd	V2025	vivo V20	1
ZTE Corporation	Z557BL	Z557BL	1
ASUSTek Computer Inc	ASUS_Z00ED	ASUS Zenfone 2 Laser ZE500KL	1
Xiaomi Communications Co Ltd	MDI6	Redmi Y1 Lite	1
Gotron Group (HK) Co Limited	Note 17 Pro	Note 17 Pro	1
Samsung Korea	SM-G889N	Galaxy Haechi	1
Shenzhen Gionee Communication Equipment Co Ltd	F103 Pro	F103 Pro	1
Wiko	W-V673-02	WIKO T10	1
Sharp Corporation IoT Communication BU	DD2495	SHG01	1
Samsung Korea	SM-G800F	GALAXY S5 MINI SM-G800F	1
Meizu Technology Co Ltd	M570Q-S	PRO 6s	1
HUAWEI Technologies Co Ltd	Che2-L12	honor 4X	1
Samsung Korea	GT-I8730	Samsung GT-I8730	1
HUAWEI Technologies Co Ltd	SNE-LX2	SNE-LX2	1
Samsung Korea	SM-A750GN	Galaxy A7 2018	1
Xiaomi Communications Co Ltd		2014716 Mi 4	1
Nokia Corporation	920.1 Lumia 920	Nokia 920.1 Lumia 920	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO R7 Plusm	OPPO R7 Plusm	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3370	RMX3370	1
Utime Technology (HK) Company Limited	Super model B	Super model B	1
Vivo Mobile Communication Co Ltd	vivo 1920	vivo S1 Pro	1
LG Electronics Inc.	LM-V350EM	LM-V350EM	1
Qingdao Hisense Communications Co Ltd	HLTE321E	Hisense H40	1
Motorola Mobility LLC a Lenovo Company	XT1675	Moto G (5th Gen) DA12985045	1
Samsung Korea	GT-C3010S	GT-C3010S	1
ASUSTek Computer Inc	ASUS_Z012DC	ASUS ZenFone 3 ZE552KL	1
Motorola Mobility LLC a Lenovo Company	XT1929-4	SL12367445 Moto Z Play (3rd Gen)	1
Samsung Korea	SM-G850F	Samsung SM-G850F	1
Motorola Mobility LLC a Lenovo Company	XT1541 CA12459445	Moto G (3rd Gen) CA12459445	1
Leomo Inc	LEM-TYPES	LEOMO TYPE-S	1
G-Mobile Devices Private Limited	X676B	NOTE 12 PRO	1
Samsung Korea	SM-N976U	Galaxy Note 10+ 5G	1
HUAWEI Technologies Co Ltd	PLK-UL00	PLK-UL00	1
Sony Mobile Communications	E6833	Xperia Z5 Premium Dual	1
ZTE Corporation	ZTE Blade A31 Lite	ZTE Blade A31 Lite	1
HTC Corporation	2Q9J100	Desire 20 pro	1
LG Electronics Inc.	LM-Q730MM	LM-Q730MM	1
Huawei Device Company Limited	MNA-AL00	MNA-AL00	1
Xiaomi Communications Co Ltd	M2007J20CT	POCO X3 NFC	1
Sony Mobile Communications Inc.	I3213	PM-1192-BV	1
Gotron (HK) Electronic Co Limited	Power 3	Power 3	1
HUAWEI Technologies Co Ltd	MRD-LX1N	HUAWEI Y6 2019	1
Samsung Korea	GT-I9210T	Samsung GT-I9210T	1
HUAWEI Technologies Co Ltd	PCT-L29	PCT-L29	1
Samsung Korea	SM-G906S	Samsung SM-G906S	1
Xiaomi Communications Co Ltd		2014616 XIAOMI NOTE	1
LG Electronics Inc.	LM-K410ZM	LM-K410ZM	1
OnePlus Technology (Shenzhen) Co Ltd	IN2015	IN2015	1
Reliance Retail Limited	LS-4505	LYF LS-4505	1
Xiaomi Communications Co Ltd		2014817 Redmi 2	1
Motorola Mobility LLC a Lenovo Company	XT2159-9	Cyprus21	1
HUAWEI Technologies Co Ltd	EBG-AN10	EBG-AN10	1
BLU Products Inc	J5L	BLU J5L	1
Vingroup Joint Stock Company	V320A	STAR	1
Xiaomi Communications Co Ltd	MCE8	MCE8	1
Fujitsu Ltd	FMP180-ZEUS	F-52A	1
Tecno Telecom (HK) Limited	KG7h	TECNO SPARK 8P	1
Itel Technology Limited	it2163S	Value 100S	1
ZTE Corporation	ZTE Blade A31	ZTE Blade A31	1
Huizhou Dubon Industrial Co Ltd	ZIVI V5	ZIVI ZIVI V5	1
Motorola Mobility LLC a Lenovo Company	XT2159-6	Cyprus21	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2156	RMX2156	1
Motorola Mobility LLC a Lenovo Company	XT2117-4	moto g power (2021)	1
Samsung Korea	SM-A107F	Galaxy A10s	1
Motorola Mobility LLC a Lenovo Company	XT1572 INDR001145	Moto X Style INDR001145	1
Itel Technology Limited	S663L	S18	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3363	RMX3363	1
LG Electronics Inc.	LM-K200EMW	K22	1
LG Electronics Inc.	LGM-G600SR	LGM-G600SR	1
TCL Communication Ltd	5029D	Alcatel 3L	1
Motorola Mobility LLC a Lenovo Company	XT2229-3	moto e32s	1
Motorola Mobility LLC a Lenovo Company	XT2401-1	Velar24	1
Xiaomi Communications Co Ltd	M1804D2ST	MI 6X	1
Sharp Corporation IoT Communication BU	FS8016	S2+	1
Deploy PVT Ltd	Neo 7 Ultra	Neo 7 Ultra	1
Vivo Mobile Communication Co Ltd	vivo 1716	vivo V7+	1

Honor Device Company Limited	ANY-LX1	ANY-LX1	1
Lenovo (Beijing) Co Ltd	Lenovo L18081	Lenovo A5s	1
Samsung Korea	SGH-T509S	SGH-T509S	1
HMD Global Oy	TA-1251	Nokia 8.3 5G	1
Nokia Corporation	nokia 3711a-1	nokia 3711a-1	1
TCL Communication Ltd	5030F	Alcatel 1SE	1
Shenzhen Xiaolajiao Technology Limited Liability Company	L9021MH	L9021MH	1
Shenzhen Ainica Technology Co Ltd	2022-L6	2022-L6	1
Sony Mobile Communications	F3311	Xperia E5	1
Honor Device Company Limited	ANY-LX2	ANY-LX2	1
Vivo Mobile Communication Co Ltd	vivo 1802	vivo Y83	1
HMD Global Oy	TA-1209	Nokia 2.3	1
Huawei Device Company Limited	ADY-LX9	HUAWEI Pura 70	1
LG Electronics Inc.	LM-V350AWM	LM-V350AWM	1
A-Link Telecom International Co Limited	X11_X12.X15.X16.X17	cubot X11_X12.X15.X16.X17	1
Shenzhen Jeko Communication Co Limited	P10000Pro	BLACKVIEW P10000Pro	1
HUAWEI Technologies Co Ltd	HUAWEI LYO-L02	HUAWEI Y6 Elite	1
Microsoft Mobile Oy Nokia Corporation	1320 Lumia 1320	1320 Lumia 1320	1
Vivo Mobile Communication Co Ltd	V1730DT	Z1i	1
Samsung Korea	SM-J727U	Samsung SM-J727U	1
Alif Communications	CM84	PULIAN CM84	1
Vivo Mobile Communication Co Ltd	V1955A	iQOO 3	1
Xiaomi Communications Co Ltd	M1901F9E	M1901F9E	1
Itel Technology Limited	A631W	A58 Lite	1
Xiaomi Communications Co Ltd	2201117SG	Redmi Note 11S	1
OnePlus Technology (Shenzhen) Co Ltd	IN2019	IN2019	1
Telpa Teknoloji Hizmetleri A.S.	GM 6 D 2019 Edition	GENERAL MOBILE GM 9 Go	1
Ecom Instruments GmbH	Ex-Handy 10	Ex-Handy 10 ROW Ex-Handy 10 EEA Ex-Handy 10 RUS	1
Rakuten Mobile Inc	3917JR	Rakuten 5G2	1
BlackBerry Limited	RHL211LW (STV100-3)	BlackBerry RHL211LW (STV100-3)	1
Tecno Telecom (HK) Limited	CL8	TECNO CAMON 30 Pro 5G	1
Shenzhen Koobee Communication Co. Ltd	koobee M6	koobee M6	1
Sony Corporation	XQ-BC52	PM-1340-BV	1
HMD Global Oy	TA-1021	Nokia 6 DS	1
Sonim Technologies Inc	Smart-Ex 01(L12V012BB)	Smart-Ex 01(L12V012BB)	1
KVD International Group Limited	BL9000	DOOGEE BL9000	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2176	RMX2176	1
Sonim Technologies Inc	Smart-Ex 201-A(L12V012BC)	Smart-Ex 201-A(L12V012BC)	1
Spa Condor Electronics	SPRG02PRO	Infinity A4	1
Samsung Korea	SM-S918U	DM3	1
Samsung Korea	SC-01M	Galaxy N10	1
Samsung Korea	SM-G935W8	Samsung SM-G935W8	1
Shenzhen Kenxinda Technology Co Ltd	A06	A06	1
TCL Communication Ltd	5030E	Alcatel 1SE	1
Samsung Korea	SM-A705FN	Galaxy A70	1
OnePlus Technology (Shenzhen) Co Ltd	ONEPLUS A6003	OnePlus 6	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO A51f	OPPO Mirror 5s	1
HUAWEI Technologies Co Ltd	BKK-AL10	Honor 8C	1
LG Electronics Inc.	GU220	GU220	1
TCL Communication Ltd	5024I	Alcatel 1S	1
Xiaomi Communications Co Ltd	2016037	Redmi 3S	1
Samsung Korea	SM-G715U1	X cover pro	1
LG Electronics Inc.	LM-Q730HA	LM-Q730HA	1
Xiaomi Communications Co Ltd	M1903C3EH	Redmi 7A	1
Samsung Korea	SC-41A	Galaxy A41	1
Vivo Mobile Communication Co Ltd	vivo X9L	vivo vivo X9L	1
Samsung Korea	SGH-E380i	SGH-E380i	1
Samsung Korea	SM-G9650/DS	Galaxy S9	1
Tecno Telecom (HK) Limited	KG7	TECNO SPARK 8P	1
Samsung Korea	SCV37	Samsung SCV37	1
HMD Global Oy	TA-1322	TA-1322	1
BBK Electronics Corp Ltd	BBK i18	BBK i18	1
Motorola Mobility LLC a Lenovo Company	XT1562	Moto X Play Motorola LX12564145	1
HUAWEI Technologies Co Ltd	HUAWEI MT7-L09	HUAWEI Ascend Mate7	1
G-Mobile Devices Private Limited	X695	NOTE 10 PRO	1
Huawei Device Company Limited	GOA-AL80U	nova 11 Ultra	1
IMG Technology Co Limited	S61491	IMG S61491	1
Ufone Electronix S.A.S	U508	U508	1
Qiku Internet Technology (Shenzhen) Co Ltd	1605-A01	1605-A01	1
LG Electronics Inc.	LG-K220T	LG-K220T	1
ZTE Corporation	A003ZT	A003ZT	1
Sharp Corporation IoT Communication BU	XN-MBT53	SH-M08	1
Microsoft Mobile Oy Nokia Corporation	RM-941 625 Lumia 625	RM-941 625 Lumia 625	1
Vivo Mobile Communication Co Ltd	V2346	vivo Y28s 5G	1
Vivo Mobile Communication Co Ltd	V1928A	U3	1
HUAWEI Technologies Co Ltd	NEM-UL10	HONOR	1
Doke Communication (HK) Limited	BV6800 Pro	Blackview BV6800 Pro	1
Doke Communication (HK) Limited	BV6100	Blackview BV6100	1
OnePlus Technology (Shenzhen) Co Ltd	LE2120	LE2120	1
INFINIX TECHNOLOGY LIMITED	PR652B	SMART 5 Pro	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	A001OP	A001OP	1
Samsung Korea	SM-G610K	Samsung SM-G610K	1
Huawei Device Company Limited	CTR-L81	HUAWEI nova 12i	1
ASUSTek Computer Inc	ASUS_X00TDB	ZENPHONE MAX PRO	1
TCL Communication Ltd	T509A	TCL 505	1
Motorola Mobility LLC a Lenovo Company	XT1924-2	EM12438045 Moto E Plus (5th Gen)	1
Samsung Korea	SGH-E496	SGH-E496	1

Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1987	CPH1987	1
Samsung Korea	GT-I8190N	Samsung GT-I8190N	1
Xiaomi Communications Co Ltd	24069RA21C	24069RA21C	1
Motorola Mobility LLC a Lenovo Company	XT1922-6	Moto G Play (6th Gen)	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	PCET00	PCET00	1
Fastrack Communications Pvt Ltd	Lemon Duo 309	Lemon Duo 309	1
New-Bund Technology Co Limited	X2	vernee X2	1
Shenzhen Konka Telecommunications Technology Co Ltd	RP1	RP1	1
TCL Communication Ltd	5080Q	Alcatel SHINE LITE 5080Q	1
HTC Corporation	2PVG100	2PVG100	1
Motorola Mobility LLC a Lenovo Company	XT2045-3	Rav	1
i.safe MOBILE GmbH	M540A01	IS540.X	1
G-Mobile Devices Private Limited	X6816C	HOT 12 Play	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2163	RMX2163	1
ZTE Corporation	ZTE BLADE A520	ZTE BLADE A520 BLADE A520	1
Shenzhen NewsMy Age Technology Co Ltd	202N0929	202N0929	1
Samsung Korea	SM-N935L	Samsung SM-N935L	1
Samsung Korea	GT-E1200R	Samsung GT-E1200R	1
LG Electronics Inc.	LM-G710EM	G7	1
LG Electronics Inc.	LM-K520EMW	K52	1
LG Electronics Inc.	LG-X230YK	LG-X230YK	1
Shenzhen Hengji Weiye Technology Co Ltd	2023V71	i40Pro Max	1
Xiaomi Communications Co Ltd	22101317C	22101317C	1
ZTE Corporation	ZTE N959St ZTE Blade A475 ZTE Blade L370 Z667T	ZTE N959St ZTE Blade A475 ZTE Blade L370 Z667T	1
Panasonic Corporation	ELUGA C	Panasonic ELUGA C	1
HMD Global Oy	TA-1187	Nokia 6.2	1
HUAWEI Technologies Co Ltd	DUB-LX1	DUB-LX1	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2073	CPH2073	1
Motorola Mobility LLC a Lenovo Company	XT1925-3	Moto G (6th Gen)	1
Shenzhen Century Tianyuan Technology Co Ltd	Ctyon-A3	Ctyon-A3	1
Ningbo Bird Co Ltd	A7	LP Startlight M06	1
Vivo Mobile Communication Co Ltd	V2146	vivo Y33T	1
Honor Device Company Limited	ADT-AN00	ADT-AN00	1
HUAWEI Technologies Co Ltd	CAM-AL00	CAM-AL00	1
Vivo Mobile Communication Co Ltd	vivo Y83A	vivo Y83A	1
Vodafone Group Services Ltd	VFD 500	Vodafone Smart turbo 7 Neon Turbo 7	1
Samsung Korea	SM-J700K	Samsung SM-J700K	1
LG Electronics Inc.	GB110	GB110	1
HUAWEI Technologies Co Ltd	HUAWEI KII-L21	HUAWEI GR5	1
LG Electronics Inc.	LG-K535n	LG-K535n	1
HMD Global Oy	TA-1400	TA-1400	1
Vivo Mobile Communication Co Ltd	vivo NEX S	vivo vivo NEX S	1
Umi Network Technology Co Limited	UMIDIGI X	UMIDIGI X	1
LG Electronics Inc.	LM-X210IMW	LM-X210IMW	1
KYOCERA Corporation	903KC	903KC	1
ZTE Corporation	ZTE BLADE V7 PLUS	ZTE BLADE V7 PLUS	1
Lava International Ltd	Z61P	Z61P	1
Vingroup Joint Stock Company	V341	Star 4 Pro	1
LG Electronics Inc.	LG-K430dsY	LG-K430dsY	1
HUAWEI Technologies Co Ltd	ALP-AL00	ALP-AL00	1
OnePlus Technology (Shenzhen) Co Ltd	IN2010	IN2010	1
INFINIX TECHNOLOGY LIMITED	X659B	HOT 10i	1
Ertebat Hamrah Guya Arvand	KEYPADI	KEYPADI	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO A79	OPPO A79	1
LG Electronics Inc.	LG-D620k	LG LG-D620k	1
Sony Mobile Communications Inc.	XQ-AD51	PM-1290-BV	1
Intel Technology Limited	P661N	P55 5G	1
Vivo Mobile Communication Co Ltd	V2331	vivo Y17s	1
Nonsuch Technology Co Limited	TWEE ST88	TWEE ST88	1
Xiaomi Communications Co Ltd	2212ARNC4L	Redmi 12C	1
TCL Communication Ltd	5044R	Element 5	1
ASUSTek Computer Inc	ASUS_Z01KDA	ASUS Zenfone 4 ZE554KL	1
ZTE Corporation	ZTE 8050	ZTE Blade V50 Design	1
Tecno Telecom (HK) Limited	KH7n	TECNO SPARK 9 Pro	1
Sony Mobile Communications Inc.	PM-1251-BV	PM-1251-BV	1
HUAWEI Technologies Co Ltd	CHM-UL00	Honor	1
Samsung Korea	SM-A125U1/DS	Galaxy A12	1
Nokia Corporation	Nokia 7110	Nokia 7110	1
Samsung Korea	GT-S7275T	Samsung GT-S7275T	1
HUAWEI Technologies Co Ltd	AUM-L41	Honor 7C	1
Samsung Korea	SM-A505N	Galaxy A50	1
BBK Electronics Corp Ltd	vivo X520L	vivo vivo X520L	1
Inone Technology (Shenzhen) Limited	AE9010	benco V80	1
Sagem (75783 Paris)	M422 SP	M422 SP	1
Sony Mobile Communications	PM-1060-BV	PM-1060-BV	1
Sharp Corporation IoT Communication BU	DD2294	SHV47	1
Vingroup Joint Stock Company	VINSMART S1	JOY 1	1
Sony Mobile Communications	G3421	Xperia XA1 Plus	1
HUAWEI Technologies Co Ltd	TAS-AN00	TAS-AN00	1
Meizu Technology Co Ltd	M811H	M6T	1
Motorola Mobility LLC a Lenovo Company	XT1758	Moto C PT12136345	1
KVD International Group Limited	S68Pro	DOOGEE S68Pro	1
Motorola Mobility LLC a Lenovo Company	XT2423-3	Fogo24	1
Lenovo (Beijing) Co Ltd	Lenovo A7600	Lenovo Lenovo A7600	1
LG Electronics Inc.	LG-F600L	LG-F600L	1
ZTE Corporation	ZTE 9000N	ZTE Axon 11 SE 5G ZTE BLADE V2020 5G	1

ZTE Corporation	ZTE BLADE B112	ZTE BLADE B112 BLADE B112 ZTE Blade B112 Blade B112	1
Meizu Technology Co Ltd	M892Q	16th Plus	1
HUAWEI Technologies Co Ltd	BND-L34	HUAWEI Mate SE	1
Itel Technology Limited	it2163	Value 100	1
Sony Mobile Communications	PM-1152-BV	PM-1152-BV	1
Motorola Mobility LLC a Lenovo Company	RAZR M XT905 MOD5D	Motorola RAZR M XT905 MOD5D	1
LG Electronics Inc.	LM-Q310N	LM-Q310N	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3995	RMX3995	1
HUAWEI Technologies Co Ltd	DAV-703L DAV-713L	HUAWEI P8max	1
Motorola Mobility LLC a Lenovo Company	XT2139-1	motorola edge 20 lite	1
Gotron (HK) Electronic Co Limited	Power 6	Power 6	1
TCL Communication Ltd	BBF100-8	BBF100-8	1
Xiaomi Communications Co Ltd		2016021 H3C	1
Lava International (H.K) Limited	iris 880	iris 880	1
LG Electronics Inc.	LM-V700N	LM-V700N	1
Nokia Corporation	X3-00	X3-00	1
Vivo Mobile Communication Co Ltd	V1945A	vivo S5e	1
INFINIX TECHNOLOGY LIMITED	X688C	HOT 10 play	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	PBCT10	PBCT10	1
Newgen Telecom Co Ltd	Newgen N521	Newgen N521	1
Bullitt Group Limited	S52	S52	1
Motorola Mobility LLC a Lenovo Company	XT2128-1	moto g20	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2173	RMX2173	1
HUAWEI Technologies Co Ltd	STF-L09S	Honor 9	1
Vivo Mobile Communication Co Ltd	vivo X21A	vivo X21A	1
Samsung Korea	SM-A600AZ	Galaxy A6	1
Sichuan Doov Pty Co Ltd		20210811	20210811
Umi Network Technology Co Limited	Power 7	Power 7	1
Vivo Mobile Communication Co Ltd	V1936AL	V1936AL	1
Vivo Mobile Communication Co Ltd	vivo 1723	vivo V9	1
Digicom Trading PVT Limited	S1	QMobile S1	1
Motorola Mobility LLC a Lenovo Company	XT1926-7	TE12413245 Moto G Plus (6th Gen)	1
HMD Global Oy	TA-1407	TA-1407	1
Tecno Telecom (HK) Limited	LF7	POVA 3	1
HUAWEI Technologies Co Ltd	LYA-L0C	HUAWEI Mate 20 Pro	1
Tecno Telecom (HK) Limited	CH6	CAMON 18	1
Sony Mobile Communications Inc.	G3121	Xperia XA1	1
BlackBerry Limited	SQK100-1 P9983 RHB121LW	PORSCHE DESIGN QWERTY	1
BlackBerry Limited	SQC100-3 RHF141LW	BlackBerry SQC100-3 RHF141LW	1
Samsung Korea	GT-E2250	Samsung GT-E2250	1
Motorola Mobility LLC a Lenovo Company	XT1706	Moto E (3rd Gen) POWER INDR002445	1
Xiaomi Communications Co Ltd	22071219CG	POCO M5	1
Sharp Corporation IoT Communication BU	XN-MBT66	SH-M17	1
TCL Communication Ltd	5004R	5004R	1
Doke Communication (HK) Limited	BV4800	Blackview BV4800	1
HUAWEI Technologies Co Ltd	CAM-L32	HUAWEI Y6II	1
Motorola Mobility LLC a Lenovo Company	XT1970-3	Motorola One Vision Kane	1
Beijing Tianyu Communication Equipment Co Ltd	LDOX-2130	LDOX-2130	1
KVD International Group Limited	Y200	DOOGEE Y200	1
Sony Mobile Communications	F3216	PM-0953-BV	1
ASUSTek Computer Inc	ASUS_Z017DA	ASUS Zenfone 3 ZE520KL	1
Xiaomi Communications Co Ltd	M2007J3SG	Mi 10T Pro	1
G-Mobile Devices Private Limited	X572	INFINIX X572	1
Tianyi Telecom Terminals Company Limited	TYH622M	Maimang 11	1
HUAWEI Technologies Co Ltd	HUAWEI RIO-L02	HUAWEI G8 HUAWEI GX8 HUAWEI G7 PLUS	1
Power Idea Technology (Shenzhen) Co Ltd	RG170	RG170	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2205	OPPO Reno5 Lite	1
Xiaomi Communications Co Ltd	M1903C3EE	Redmi 7A	1
INFINIX TECHNOLOGY LIMITED	X695D	NOTE 10 PRO	1
LG Electronics Inc.	LG-P500	Thunder LG-P500	1
Vivo Mobile Communication Co Ltd	vivo X9s Plus L	vivo vivo X9s Plus L	1
HUAWEI Technologies Co Ltd	LDN-LX2	HUAWEI nova 2 lite	1
G-Mobile Devices Private Limited	X698	NOTE 11S	1
HMD Global Oy	TA-1339	TA-1339	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2037	CPH2037	1
Vivo Mobile Communication Co Ltd	V1818CT	vivo Y95	1
HUAWEI Technologies Co Ltd	CLT-AL00I	HUAWEI P20 Pro	1
Star Digital Technology Co Ltd	Xtratech Brio S430	WearStar Xtratech Brio S430	1
OnePlus Technology (Shenzhen) Co Ltd	BE2015	BE2015	1
TCL Communication Ltd	T610K	TCL 40 SE	1
Samsung Korea	SM-J120A	Samsung SM-J120A	1
TCL Communication Ltd	5046I	Alcatel A3	1
ZTE Corporation	Z6621O	Z6621O	1
LG Electronics Inc.	LG-H870S	LG-H870S	1
Samsung Korea	SM-A405FM/DS	Galaxy A40	1
Tecno Telecom (HK) Limited	CE9	CAMON 16 Premier	1
Honor Device Company Limited	NTN-L22	NTN-L22	1
Samsung Korea	SM-J260T1	Galaxy J2 Core	1
Innovation Gresso Pvt Ltd	M3310	Gresso M3310	1
Huawei Device Company Limited	MGA-LX9	HUAWEI nova Y70 Plus HUAWEI nova Y70	1
Samsung Korea	SM-J530K	Samsung SM-J530K	1
Motorola Mobility LLC a Lenovo Company	P2a42	Lenovo P2 KU12842445	1
Shenzhen Swell Technology Company Limited	V700	V700	1
Samsung Korea	SGH-T359	SGH-T359	1
Shift GmbH	SHIFTm	SHIFTm	1
Shenzhen Oblue Communication Technology Co Ltd	TANK 2	TANK 2	1
Sharp Corporation IoT Communication BU	W-116	AQUOS sense4 basic A003SH	1

LG Electronics Inc.	LM-G910N	LM-G910N	1
HTC Corporation	Incredible S	HTC Incredible S	1
Faywa Trading (Private) Limited	G1	G1	1
Xiaomi Communications Co Ltd	2015011	X5 LTE	1
LG Electronics Inc.	LG-H791	LG-H791	1
Motorola Mobility LLC a Lenovo Company	XT1955-2	Ocean Moto G Power (7th Gen)	1
Samsung Korea	GT-E1150	Samsung GT-E1150	1
Telpa Teknoloji Hizmetleri A.S.	G515	General Mobile GM 24 Pro d	1
HTC Corporation	2PS5110	HTC One X9 dual sim	1
Sony Mobile Communications	F3111	Xperia XA	1
Tecno Telecom (HK) Limited	CK6	CAMON 20	1
HUAWEI Technologies Co Ltd	HONOR U8860 HUAWEI U8860	HUAWEI HONOR U8860 HUAWEI U8860	1
ZTE Corporation	Z2357N	ZTE Blade A75 5G	1
Honor Device Company Limited	NZA-AL00	NZA-AL00	1
HUAWEI Technologies Co Ltd	ANA-TN00	ANA-TN00	1
Lenovo (Beijing) Co Ltd	Lenovo TB3-850M	Lenovo TAB3 8	1
Vivo Mobile Communication Co Ltd	vivo 1801	vivo Y71i	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2071	RMX2071	1
Sony Ericsson Mobile Communications AB (Nya Vattentornet S	T230	T230	1
Qingdao Hisense Communications Co Ltd	HLTE223E	Hisense H30 Lite	1
Vertu International Corporation Limited	VTL-202101	iVERTU	1
Lenovo (Beijing) Co Ltd	XT2095-4	Lenovo K12	1
Samsung Korea	SM-J600L	Galaxy J6	1
LG Electronics Inc.	LM-X540BMW	K50S	1
Huawei Device Company Limited	GOA-LX9	GOA-LX9	1
KVD International Group Limited	S200	S200	1
Sony Mobile Communications Inc	PM-1171-BV	Xperia Ace	1
Samsung Korea	GT-N7000	Samsung GT-N7000	1
Samsung Korea	SGH-E740	SGH-E740	1
Sony Mobile Communications	G8142	Xperia XZ Premium	1
Kaliho (HK) Technology Development Limited	K919i K928 K8 K37 K9	K-Cel K919i K928 K8 K37 K9	1
Nokia Corporation	1202-2 1202	1202-2 1202	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX1925	RMX1925	1
ZTE Corporation	Z2335L	Cymbal 2	1
Meizu Technology Co Ltd	M181Q		18 1
Shenzhen Lt Electronics Trading limited	LT-9701	LT-9701	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX2021	RMX2021	1
LG Electronics Inc.	LM-G850EM	G8X	1
Xiaomi Communications Co Ltd	M2011J18C	M2011J18C	1
Shenzhen Gionee Communication Equipment Co Ltd	GIONEE S10CL	S10CL	1
Tecno Telecom (HK) Limited	CA7	CAMON X	1
HUAWEI Technologies Co Ltd	STK-TL00	STK-TL00	1
Lenovo (Beijing) Co Ltd	Lenovo A7020a48	Lenovo A7020a48 Lenovo Vibe K5 Note A7020a48	1
HUAWEI Technologies Co Ltd	HUAWEI MT7-UL00	HUAWEI Ascend Mate7	1
KVD International Group Limited	Blade10 Ultra	Blade10 Ultra	1
Motorola Mobility LLC a Lenovo Company	XT1641	Moto G Plus (4th Gen)	1
LG Electronics Inc.	LG-US601	LG-US601	1
Lava International Ltd	Z61	Lava Z61	1
Motorola Mobility LLC a Lenovo Company	XT1700	Moto E (3rd gen) TA12892945	1
Lenovo (Beijing) Co Ltd	Lenovo A6010	Lenovo Lenovo A6010	1
Innovation Gresso Pvt Ltd	R106	REMAXX Mobile R106	1
Samsung Korea	GT-S5830	Samsung GT-S5830	1
Hong Kong Unihertz E-Commerce Company Limited	Titan pocket	Titan pocket	1
HMD Global Oy	TA-1159	TA-1159 SS	1
Huawei Device Company Limited	ALT-AL00	ALT-AL00	1
HUAWEI Technologies Co Ltd	DLI-L42	DLI-L42	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2071	CPH2071	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH2139	CPH2139	1
Tecno Telecom (HK) Limited	CE7j	CAMON 16 SE	1
Honor Device Company Limited	LLY-LX2	LLY-LX2	1
Meizu Technology Co Ltd	S685Q	meilan MAX	1
Yulong Computer Telecommunication Scientific (Shenzhen) Co.	COOL	COOL 20s 5G	1
Meizu Technology Co Ltd	M851Q	meilan E3	1
HUAWEI Technologies Co Ltd	E5573Bs-322	HUAWEI E5573	1
C5 Elektronik Sanayi Ticaret A.S.	noa	C5 MOBILE noa	1
Forme Communications Technology Limited	FORME F1	F1	1
Microsoft Mobile Oy	RM-1063 Lumia 640 XL LTE	Microsoft RM-1063 Lumia 640 XL LTE	1
Amobile Intelligent Corp.	GT500	GT500	1
HUAWEI Technologies Co Ltd	HUAWEI NMO-L22	HUAWEI NMO-L22	1
KVD International Group Limited	S118	S118	1
ZTE Corporation	ZTE T610	ZTE Blade D ZTE CHAT 4G	1
Shenzhen Kospet Technology Co Ltd	Prime2	Prime2	1
Samsung Korea	SM-A500G	Samsung SM-A500G	1
Casper Bilgisayar Sistemleri A.S	VIA M35	VIA M35	1
OnePlus Technology (Shenzhen) Co Ltd	ONEPLUS A3010	ONEPLUS 3Pro	1
Motorola Mobility LLC a Lenovo Company	XT1601	Moto G Play (4th Gen) JU12797545	1
Tecno Telecom (HK) Limited	LH6n	POVA Neo 3	1
LG Electronics Inc.	LM-Q710YBW	LM-Q710YBW	1
Vivo Mobile Communication Co Ltd	V2354A	V2354A	1
Crosscall	TREKKER-M1 CORE	TREKKER-M1 CORE	1
Sony Mobile Communications Inc.	I4293	PM-1191-BV	1
Sony Corporation	XQ-BQ62	PM-1366-BV	1
Sichuan Sugar Communication Technology Co Ltd	SUGAR T50	SUGAR T50	1
HMD Global Oy	TA-1204	TA-1204	1
Plus One Japan Limited	FTJ162D	Priori 4	1
HMD Global Oy	TA-1082	Nokia 9 PureView SS	1
Samsung Korea	SGH-E200	SGH-E200	1

Tecno Telecom (HK) Limited	LC6a	Pouvoir 3 Air	1
SB Tel Enterprise Ltd	S2	Helio S2	1
TCL Communication Ltd	5164D	TCL 305i	1
Shenzhen Huaifurui Technology Co Ltd	KINGKONG MINI 2 PRO	CUBOT KINGKONG MINI 2 PRO	1
HUAWEI Technologies Co Ltd	MAR-LX1H	HONOR 20S HONOR 20 LITE	1
Realme Mobile Telecommunications (Shenzhen) Co Ltd	RMX1851	RMX1851	1
Vertu International Corporation Limited	VTL-202001	Signature 4G	1
Omix Mobil Teknoloji A.S.	X5	OMIX X5	1
ZTE Corporation	ZTE Blade A476	ZTE Blade A476	1
LG Electronics Inc.	LM-V600N	LM-V600N	1
HUAWEI Technologies Co Ltd	E5375	HUAWEI E5375	1
Tecno Telecom (HK) Limited	KG6p	TECNO SPARK 8T	1
Xiaomi Communications Co Ltd	M2102J20SI	POCO X3 Pro	1
HMD Global Oy	TA-1257	TA-1257	1
Xiaomi Communications Co Ltd	22011119UY	Redmi 10 2022	1
Vivo Mobile Communication Co Ltd	vivo X6Plus D	vivo vivo X6Plus D	1
Edison Industries Ltd	Z55	Symphony Z55	1
HUAWEI Technologies Co Ltd	DUK-AL20	DUK-AL20	1
Motorola Mobility LLC a Lenovo Company	XT2063-3	Racer	1
Samsung Korea	SM-G906K	Samsung SM-G906K	1
Samsung Korea	SM-N950U	Galaxy Note 8	1
Xiaomi Communications Co Ltd	2311DRK48C	2311DRK48C	1
Sony Mobile Communications Inc.	H4493	PM-1161-BV	1
Samsung Korea	SM-E700M	Samsung SM-E700M	1
HUAWEI Technologies Co Ltd	VKY-TL00	HUAWEI P10 Plus	1
LG Electronics Inc.	LGM-X100S	LGM-X100S	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	CPH1805	CPH1805	1
Hong Kong Qichang Technology Co Limited	F106 Pro	F106 Pro	1
Vivo Mobile Communication Co Ltd	V1813A	Y97	1
Motorola Mobility LLC a Lenovo Company	XT2097-12	MaltaLite21	1
Lenovo (Beijing) Co Ltd	Lenovo PB2-690Y	Lenovo Lenovo PHAB 2 Pro	1
Doke Communication (HK) Limited	BV5500 Pro	Blackview BV5500 Pro	1
LG Electronics Inc.	LMX130IM	LMX130IM	1
Samsung Korea	SM-G9200	Samsung SM-G9200	1
LG Electronics Inc.	LG-F720L	LG-F720L	1
INFINIX TECHNOLOGY LIMITED	X600-LTE	Note2-LTE	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3171	RMX3171	1
HUAWEI Technologies Co Ltd	BTV-DL09	HUAWEI MediaPad M3	1
Xiaomi Communications Co Ltd	M1805E10A	POCOPHONE F1	1
DL Comercio e Industria de Produtos Eletronicos Ltda	YC-110	DL YC-110	1
HUAWEI Technologies Co Ltd	JMM-AL00	JMM-AL00	1
LG Electronics Inc.	LM-Q920N	LM-Q920N	1
Tecno Telecom (HK) Limited	BE8	POP 6 Pro	1
Lenovo (Beijing) Co Ltd	Lenovo A6020a46	Lenovo A6020a46 VIBE K5 PLUS	1
Xiaomi Communications Co Ltd		2014021 H3 LTE	1
PT. Arga Mas Lestari		5063 ADVAN 5063	1
Honor Device Company Limited	MAA-AN00	MAA-AN00	1
HUAWEI Technologies Co Ltd	DUA-LX3	Honor 7S	1
Motorola Mobility LLC a Lenovo Company	XT2347-1	moto g84 5G	1
LG Electronics Inc.	LM-K525BMW	LM-K525BMW	1
Motorola Mobility LLC a Lenovo Company	XT1926-2	TE12414045 Moto G Plus (6th Gen)	1
Samsung Korea	SM-A310Y	Samsung SM-A310Y	1
G-Mobile Devices Private Limited	X671	NOTE 12 5G	1
LG Electronics Inc.	LG-M250YK	K10	1
HTC Corporation	PM23310	HTC PM23310	1
LG Electronics Inc.	LG-X240YK	LG-X240YK	1
Kosher Cel-ect Inc	i47	SeaLion	1
Sony Mobile Communications	D6503 - Xperia Z2	Sony D6503 - Xperia Z2	1
Samsung Korea	SM-A310M	Samsung SM-A310M	1
TCL Communication Ltd	T312D	T312D	1
HTC Corporation	0PHC100	HTC 0PHC100	1
Vivo Mobile Communication Co Ltd	vivo 1816	vivo Y91i 32GB	1
LG Electronics Inc.	LM-V405EB	LM-V405EB	1
TCL Communication Ltd	4055T	U3 4G	1
HUAWEI Technologies Co Ltd	DAV-703L	HUAWEI P8max	1
New-Bund Technology Co Limited	X	X vernee	1
Lenovo (Beijing) Co Ltd	Lenovo L39051	Lenovo K10 Plus	1
Shenzhen Guowangtong Electronics Technology Co Ltd	We 8	We 8	1
LG Electronics Inc.	LM-K500UM	LM-K500UM	1
Samsung Korea	SM-G3608	Samsung SM-G3608	1
Vodafone Group Services Ltd	VF-995N	Vodafone Smart ultra 6	1
The Profile of Kingtech Smart (Shenzhen) Co Ltd	GFIVE DON	GFIVE DON	1
HUAWEI Technologies Co Ltd	JNY-LX1	HUAWEI nova 7i HUAWEI P40 lite	1
Motorola Mobility LLC a Lenovo Company	XT1922-2	AL12434545 Moto G Play (6th Gen)	1
HTC Corporation	2Q7A100	2Q7A100	1
Shenzhen Huaifurui Technology Co Ltd	KINGKONG 8	CUBOT KINGKONG 8	1
LG Electronics Inc.	LM-G850EMW	G8X	1
Realme Chongqing Mobile Telecommunications Corp Ltd	RMX3042	RMX3042	1
HUAWEI Technologies Co Ltd	VCE-L22	VCE-L22	1
HMD Global Oy	TA-1127	Nokia 1.1 Plus SS	1
HUAWEI Technologies Co Ltd	CUN-L22	Honor Bee4G	1
INFINIX TECHNOLOGY LIMITED	X625D-LTE	HOT 7 PRO	1
Shenzhen Xin Kingbrand Technology Development Co Ltd	V1600	V1600	1
HTC Corporation	2PYA100	2PYA100	1
China Post Communications Equipment Co Ltd	MGZ-BD00	Hi nova 10 Pro	1
Motorola Mobility LLC a Lenovo Company	XT2043-7	Sofia+	1
Vodafone Group Services Ltd		785 Vodafone Smart 4 mini	1

LG Electronics Inc.	LM-V450VM	LM-V450VM	1
Sharp Corporation IoT Communication BU	FS8002	Sharp FS8002	1
ASUSTek Computer Inc	ASUS_X00DDA	ASUS ZC553KL ZENFONE 3 MAX	1
LG Electronics Inc.	LG-H791	Nexus 5X	1
Sonim Technologies Inc	XP8800(PG4022)	XP8	1
HUAWEI Technologies Co Ltd	PE-LUL00	honor 6 Plus	1
LG Electronics Inc.	LG-K520DY	LG-K520DY	1
Motorola Mobility LLC a Lenovo Company	XT1624	Moto G (4th Gen) AF12893145 INDR001645	1
Vodafone Group Services Ltd	VFD 610	Vodafone Smart N8	1
Vivo Mobile Communication Co Ltd	V1913A	vivo Y5	1
Samsung Korea	SM-J737T	Galaxy J7 Neo	1
Shenzhen Gionee Communication Equipment Co Ltd	A1 lite	A1 lite	1
LG Electronics Inc.	LG-M700DSK	LG Q6	1
Tecno Telecom (HK) Limited	CK8nB	TECNO CAMON 20s Pro 5G	1
Samsung Korea	SM-J710F	GALAXY J7 2016 SM-J710F	1
Samsung Korea	SM-A326U	Galaxy A32 5G	1
HUAWEI Technologies Co Ltd	ALP-TL00	HUAWEI Mate 10	1
HK Elephone Communication Tech Co Limited	C1	C1	1
Samsung Korea	SCH-I739	Samsung SCH-I739	1
Smartron India Private Limited	T5511	SMARTRON T5511	1
Doke Communication (HK) Limited	C30	OSCAL C30	1
Xiaomi Communications Co Ltd	M2010J19SR	Redmi 9T	1
HTC Corporation	2PYA200	HTC Desire 10 pro	1
Huawei Device Company Limited	ABR-AL00	HUAWEI P50	1
TCL Communication Ltd	5053D	Alcatel 3	1
Gotron Group (HK) Co Limited	Armor 25T	Armor 25T	1
Senwa Mexico S.A. de C.V.	D65LX	SEREN	1
Guangdong Oppo Mobile Telecommunications Corp Ltd	OPPO A33m	OPPO A33m	1
G-Mobile Devices Private Limited	CK6	TECNO CAMON 20	1
Akasaki Technology Pvt Ltd	IO-SOUND IS-301	IO-SOUND IS-301	1
G-Mobile Devices Private Limited	X682B	HOT 10	1
Tecno Telecom (HK) Limited	KC2j	TECNO SPARK 4	1
Sharp Corporation IoT Communication BU	PB76	SH-S40P	1



3G Networks Closure Working Group CHARTER

1. Purpose

The 3G Networks Closure Working Group (“3G Closure Working Group”) is a working group of the Policy Committee. The Policy Committee is a committee properly established in accordance with the Constitution of AMTA.

The purpose of the 3G Closure Working Group is to:

1. consider the impacts of the closure of 3G mobile networks and develop strategies and plans to minimise those impacts on end users, including impacts related to use of non-compatible mobile handsets and devices;
2. meet the expectations set out in Minister Rowland’s letter to CEOs dated 14 March 2024; and
3. undertake any related activities agreed by the Steering Committee.

2. Authority

The 3G Closure Working Group has no authority to bind AMTA or the Policy Committee.

3. Membership

The 3G Closure Working Group will comprise of employee representatives from AMTA members who are mobile network operators (“MNOs”) (i.e. Telstra, Optus and TPG Telecom) and one AMTA [employee] representative.

Each MNO is entitled to nominate up to **three** representatives to the 3G Closure Working Group.

The Chair of the 3G Closure Working Group will invite one or more representatives from Government (Department of Communications) to attend meetings of the 3G Closure Working Group as an observer.

At the end of 2024 AMTA will review the membership of the 3G Closure Working Group to ensure it is still valid and continues to fulfil the Purpose described in this Charter.

Working Committee

The Working Committee’s role is to carry out the day-to-day activities of 3G Closure Working Group.

Any member of the 3G Closure Working Group (including members of the Steering Committee) can attend a meeting of the Working Committee.

Steering Committee

Each MNO and AMTA will appoint one of its representatives as a member of the Steering Committee of the 3G Closure Working Group.

The Steering Committee's role is to determine if the activities of the 3G Closure Working Group are appropriate and achieving the objectives and to consider and approve proposals or recommendations of the 3G Closure Working Group.

Attendance and voting

Each MNO is entitled to nominate only one of its representatives to vote on any decision made by the Working Committee or Steering Committee.

The services of a project manager shall be provided to the 3G Closure Working Group in a co-ordination role and will have non-voting status.

If an appointed representative is unable to attend a meeting, they may nominate an alternative representative to attend that meeting.

The position of Chair will be occupied by the person voted into that role by the voting members of the 3G Closure Working Group.

4. Conduct of Members

The 3G Closure Working Group members will:

- Liaise internally within their organisation, where needed, to ensure they are effective in representing their organisation's views;
- Communicate the 3G Closure Working Group's outcomes, where appropriate, within their organisation;
- Maintain the integrity and security of any confidential information shared during 3G Closure Working Group meetings; and
- Make reasonable efforts to attend meetings of the 3G Closure Working Group.

5. Meetings

The Working Committee will meet as frequently as required to achieve the Purpose, and at least once each week.

The Steering Committee will meet each fortnight or as requested by the Working Committee.

Meetings will be held in person or virtually via Teams, unless otherwise agreed by members.

6. Quorum

A quorum will be formed if at least one representative from each MNO and AMTA is in attendance at a meeting.

7. Competition Protocol

3G Closure Working Group members must at all times comply with the Competition Protocol which is Attachment 1 to the Policy Committee Charter ("Protocol") and all references to "Committee" in that Protocol will mean "3G Closure Working Group".

8. Minutes

The AMTA representative or project manager will minute all meetings.

Minutes of the meetings, together with the agenda for the next scheduled meetings, will be sent to Committee members at least a week prior to the next scheduled meeting for approval at that meeting.

9. Reporting

The 3G Closure Working Group will report to the Policy Committee quarterly, unless there is an urgent matter that requires the Policy Committee's attention. The AMTA representative on the 3G Closure Working Group will also provide such reports to the AMTA Board.

10. Sub-committees

The 3G Closure Working Group may not establish any sub-committees.



AMTA Competition Protocol - Policy Committee

1. Background

- 1.1 The Committee members form part of the Policy Committee (**Committee**) for the purposes set out in Section 1 of the Charter (**Permitted Use**).
- 1.2 The Committee members acknowledge that discussions between competitors may raise risks under the *Competition and Consumer Act 2010* (Cth) (**CCA**), including the prohibition on cartel conduct, anti-competitive agreements and concerted practices, and have agreed to implement this Protocol to avoid such risks.
- 1.3 This Protocol is intended to be binding and imposes obligations and procedures to ensure there is no contravention of the CCA as a result of the Committee and its activities.
- 1.4 This Protocol applies to information and documents exchanged or discussed by the Committee members in relation to the Committee.
- 1.5 Within the Committee and in the course of its activities, each Committee member agrees to consider this Protocol before sharing any confidential, commercial information with the other members. This Protocol does not apply to information which is in the public domain otherwise than by reason of the Committee's activities.
- 1.6 The Committee members agree that they will not disclose to each other commercially or competitively sensitive information (see clause 3) which might affect or reduce competition between them and that all communications, information exchanges and activities of the Committee are conducted strictly in accordance with all relevant competition laws, including the CCA.
- 1.7 In addition, the Committee members agree to restrict access within their organisation to any confidential, commercial information received from the other Committee member to ensure that such information is used only for the Permitted Use and not otherwise.

2. General Obligations

- 2.1 The Committee members must only exchange information and discuss and agree matters to the extent necessary for the purposes of the Committee and which is lawfully permitted under the CCA.
- 2.2 To the extent that the Committee members are or may be competitors in relation to the acquisition or supply of any products or services, they will continue to operate independently and remain competitors in relation to those activities.
- 2.3 The Committee members must ensure that information exchanged during or for discussions and activities of the Committee is to be strictly confined to what is necessary for the Committee's discussions and activities, and is not to be used by any Committee member for ancillary purposes or to reach any type of agreement, arrangement, understanding or concerted practice or to pursue any course of conduct other

than as provided under this Protocol, unless and until they have first obtained legal advice on whether the proposed conduct complies with the CCA.

3. **Competitively Sensitive Information**

3.1 **Competitively Sensitive Information** includes information about current or forecast prices or pricing methodologies or other price-related matters such as pricing policies (including rates, discounts, allowances, rebates or credits), production, demand, bids, tenders, marketing or sales strategies, business plans, or dealings with customers or suppliers in relation to the supply of products or services, unless that information is already publicly available other than through a breach of this Protocol.

3.2 Information shall not be considered Competitively Sensitive Information if it is sufficiently aggregated and/or historic such that the information does not provide a Committee member with any ability to predict another Committee member's future competitive conduct based on the information.

4. **Conduct of Meetings**

4.1 For any meetings between Committee members concerning the Committee:

- (a) A written agenda will be marked as 'confidential' and circulated before the meeting to each of the Committee members in advance. Committee members may suggest additional agenda items. The agenda must state the purpose of the meeting.
- (b) The meeting will be conducted in accordance with the agenda and this Protocol. Discussions will be confined to the topics listed in the agenda.
- (c) If a Committee member raises any matter that could risk contravening this Protocol or the CCA, the other Committee members should remind that Committee member of this Protocol, note their objections and not discuss them.
- (d) If the relevant Committee member(s) continue to discuss one of these topics, referenced in (c) above, the other Committee member(s) should record that the discussion was objected to and that they are terminating their involvement in the meeting/call as a result. The Committee member(s) should then leave the meeting/call.
- (e) Minutes of the meeting (including any matters discussed which were not contained in the agenda) must be kept, including details of attendees and any objections made under this Protocol.

VoLTE Capable Handsets that cannot call 000/112/911 after 3G shut down

Presentation to ACMA. 8 December, 2023.

Telstra, Optus, TPG Telecom.

Outline / objective for today



Outline a problem with older handsets



Explain what we've done so far



Steps going forward to further mitigate the problem



Seek the ACMA's assistance in raising further awareness with the public

Introductory comments

- 3G networks are shutting down at different times.
 - TPG Telecom commencing in Dec 2023
 - Telstra in June 2024
 - Optus in Sept 2024
- Throughout this pack, where we refer to “000”, we mean all emergency calls, including calls placed to 112 and 911

Some older VoLTE handsets require 3G to make 000 calls

- The capabilities in 4G (LTE) networks were introduced over several years.
- Voice over LTE (VoLTE) is where voice communication is sent as a packetised data stream, rather than a “circuit switched” call.
- VoLTE uses the IP Multimedia Subsystem (IMS) to prioritise packetised voice traffic over other traffic types (data, streaming video) to give clear, undistorted audio.
- However, when VoLTE was first introduced into 4G networks, the IMS was not capable of handling emergency calls.
- VoLTE was introduced in 3GPP Release 8, whereas Emergency calling in IMS was not introduced until 3GPP Release 9.
- Consequently, many handsets released into the market around 2014-2016, and even as recently as 2019, can only route emergency calls over a 3G network.
- Occurring **globally**, not limited to Australia.

How are other operators managing this globally?

- All US operators have closed their 3G networks, although one 2G network remains.
- 4G capable devices that rely on 3G to make emergency calls were present on their networks at point of shutdown.
- Prior to closure, our understanding is some US operators actively blocked devices based on IMEI, forcing customer action.
- Our proposal is not to block devices – customer communication and device upgrade is the best solution.
 - For known devices, by completely blocking the phone all calls will fail. The Australian operators have decided not to take this approach as some form of connectivity is better than no connectivity post closure (i.e. customers will be able to contact family/friends).

Which handsets are impacted?

- We have confidence that devices sold “officially” in Australia can make emergency calls as they were tested to the Regulatory Compliance Mark (RCM). *(See slide 16, Appendix)*
- However, two “gaps” exist.
 - BYOD / Grey Import devices (e.g. purchased through online marketplaces) are not necessarily tested to RCM standards.
 - We believe most impacted devices will fall into this category.
 - RCM tests are at a “point-in-time” and cannot accommodate network evolution.
- Thus, there will be devices in Australia that either: 1) never carried the RCM; or 2) do carry the RCM, but VoLTE emergency calls were not a requirement when issued.
- Commonly affected devices include brands such as: Motorola, Nokia, Oppo, Samsung, Sony, plus many more.
- Apple devices are ok, noting that prior to iOS 11.4 (circa May 2018) Apple devices had VoLTE turned off by default. This means iPhone 6 series, 6S series, 7 series, 8 series and X series will use 3G for *all call types*, unless the user alters the default setting.

How many handsets are there in Australia?

- To date, we have identified ~62k devices (using TAC codes).
- There are possibly hundreds of thousands of other devices (including M2M/IoT devices with voice capability) that may be in use by customers across all three mobile networks where we are yet to identify.
 - We require assistance from manufacturers, GSMA, M&WF and other industry bodies to identify the TACs.
- Not all phones have been sold by MNOs or MVNOs; consumers obtain phones via the open market (e.g. JB Hi-Fi), grey market (e.g. Kogan), or from overseas through the online marketplaces and overseas travel (“grey imports”).
- Because of the grey market and grey imports, we are **unable to categorically identify** every handset impacted
 - Some of these devices may not be used regularly making identification difficult.
- The GSMA Device Registry of mobile device make/model/version contains hundreds of thousands of devices, the vast majority of which are not produced for the Australian market, yet these devices can still arrive in Australia.
 - [Ref: [10,000 new devices added each year](#) to the [GSMA Device Registry](#).]
 - In one single day, Telstra identified over 26,000 unique device types (make/model/version) capable of a voice call connected to its network (i.e. unique TACs).

What are we proposing to do?

- **Continue identifying and notifying impacted customers to upgrade their phone.**
- Develop an industry shared device repository so that we can notify customers.
 - GSMA and Mobile & Wireless Forum (M&WF) have been engaged to assist in developing a more comprehensive list.
 - MNOs working with handset manufacturers they have a relationship with.
 - NB: some manufacturers no longer operate in mobile device market, others never had an Australian distributorship.
- A subset of devices can be addressed via software/firmware upgrades over the air.
 - To date, very few devices are either upgradable over the air, or are capable of resolve through user-selectable settings.
- Notify customers through Government website
 - Perceived to be more trustworthy / not spam.
 - If the ACMA publishes consumer advice about older phones, MNOs could refer customers to the ACMA website to instil confidence.
- Over messaging could be counterproductive - customers likely to dismiss as spam
 - Note: Self-tests could flood E000.
- Need to avoid people thinking published lists are exhaustive – they won't be. There will be "unknowns" i.e. grey market and grey imports.

What has already been done to notify the customers?

- The MNOs and AMTA have provided information on their websites:
 - Telstra: <https://www.telstra.com.au/support/mobiles-devices/enable-volte-mobile-phone>
 - Optus: <https://www.optus.com.au/support/mobiles-tablets-wearables/important-changes-3g>
 - TPG-Telecom: <https://www.vodafone.com.au/support/network/volte?accordion-id=can-i-use-voice-over-lte-to-call-emergency-services>
 - AMTA: <https://amta.org.au/wp-content/uploads/2023/09/Understanding-VoLTE-and-Emergency-Calls-ahead-of-3G-Closure.pdf> and https://amta.org.au/wp-content/uploads/2023/09/FINAL-FOR-RELEASE_3G-network-closure-release-Fact-Sheet.pdf
 - AMTA Media Release, Mon 27 Nov 2023.
- Sample media coverage:
 - [3G is being shut off across Australia. Here's how to keep connected | 7NEWS](#)
 - [3G network shutdown Australia: When is Australia's 3G network shutting down, why it's happening, what you need to do | Explained \(9news.com.au\)](#)
- Reaching out to Commonwealth (ACMA, Dept, Minister, ACCC) and industry associations (AMTA, CA, etc)
 - Educate consumers that if their device doesn't reach 000 after a couple of attempts, call a normal number (family, friend, or 131444 for the police).
- MNOs are considering how they might use social media to reach customers.
- Telstra is exploring monitoring at the ECP to look for an increase in “camp-on” call volumes arriving at the ECP as each operator closes their 3G network, as this could indicate calls from these handsets.

Our request of the ACMA

- Consumers are more likely to trust a Government website.
- Assistance from the ACMA to publish consumer advice about older phones would assist MNOs and MVNOs reach out to their customer bases, as they could refer customers to the ACMA website to give customers confidence messages are not “spam”.

Appendix

Consumer experience as 3G networks close

What happens when each 3G network closes?

- VoLTE capable phones that use 3G for emergency calls will initially look for a home 3G network for short period of time, depending on configurations which will vary from phone-to-phone.
 - Duration of Emergency Attach attempt will vary on underlying network (e.g., signal strength), and device software such as band search sequence.
- If unsuccessful, the device will look for other 3G networks. It may search for other 3G network for several minutes before “timing out”.
- Therefore, when the first 3G network closes, there could be a variety of customer experiences, depending on the phone and underlying network:
 - Phones that are configured to use 3G network for emergency calls will initially look for a home 3G network from their provider.
 - Device attach attempt duration will vary based on underlying network and device software.
 - After looking for a home 3G network, the phone will look for other 3G networks.
 - The Device will search for 3G on the bands it knows to be 3G bands. If the device is manufactured for the Australian market, this includes 2100 MHz (Band 1), 850 MHz (Band 5) and 900 MHz (Band 8). However, devices developed for other markets (grey markets and grey imports) may look in other bands (e.g., 1900 MHz “PCS” (Band 2) or 1700 MHz “AWS” (Band 4) for the USA), and possibly in a sequence that has 850 MHz and 900 MHz later in the list.
 - Concurrently, other timers are likely to be running in the phone as per 3GPP TS 24.229 Rel 16 & GSMA IR.92 Standards, for example a dialling timer where the timer value has been configured by the UE manufacturer.
 - If the phone manages to camp-on to another 3G network before dialling timer expires, the call will progress through to the Emergency Call Person (ECP).
 - If the dialling timer expires before the phone camps on to another 3G network, the call attempt will fail.

What happens when the last 3G network closes?

- Once all 3G networks are shut down, devices that rely on 3G networks for emergency calls will not be able to make any emergency calls.
- Note: There will also be some phones and devices that are only 3G capable. These devices won't be able to make any voice calls, which will be obvious to the device owner.
- No matter what we do, there will be some phones with this problem.
 - Even offering to replace a customer's phone for free will not completely resolve the problem if customers don't take up the offer.
- If the user of such a phone attempts to make an emergency call, the phone will show that it has coverage (signal strength is good) and yet is unable to make the emergency call.
 - The user will be able to call other numbers (e.g., a friend, police on 131444) normally over VoLTE though.

Additional Details

The RCM ensures 000 calls are possible at a point in time

- The *Telecommunications (Labelling Notice for Customer Equipment and Customer Cabling) Instrument 2015, (TLN)*, as amended and its precedents, s.9 requires that Customer Equipment (including mobile phones) manufactured or imported into Australia must carry the Regulatory Compliance Mark (**RCM**) before supplying to the Australian market.
- Before the RCM can be applied, the TLN requires devices to be tested for Electrical, EMC & EME Safety and compliance with the AS/CA **S042:2022 Customer Equipment (CE) Standard** series.
- S042.1 Clause 5.1.1 requires scoped CE (designed for voice communications) to allow the initiation of an **emergency call**.
- This gives us confidence that devices sold “officially” in Australia were tested to ensure they can make emergency calls.

Can the issue be “addressed” (can phones be rectified)?

- In a limited number of cases, it may be possible to update the software/firmware in the phone. The device vendor may be able to upgrade the phone to a new firmware version over the air, while in other cases, the user will have to manually upgrade their phone.
- However, in most cases, it won't be possible to upgrade the phone.
- This is largely because the vendor no longer operates in the mobile devices market (e.g., Sony, HTC, LG, etc). Also, for some existing vendors, older devices may be at end-of-life and are no longer supported by the device manufacturer.
- There are other device manufacturers (still in operation) that never had an official Australian distributorship that we can work with (e.g. Realme, Xiaomi, One-Plus and more).
- Where the issue cannot be “addressed”, the customer must obtain a new phone.

Engagement with handset manufacturers

- MNOs have been in contact with the manufacturers they have a relationship with, including Apple, Samsung, Motorola, Nokia, Oppo, and more.
 - Some device manufacturers are no longer in this business and do not have technical staff we can connect with.
 - This a global challenge and where device vendors have similar experiences in other markets, those learnings have been shared, so most options to address this at the device level have already been considered.
- Handset manufacturers have been helpful in:
 - Assisting MNOs identify makes/models of devices that exhibit this problem;
 - Determining whether an “over-the-air” upgrade can be deployed to resolve the problem; or
 - Determining whether a user can “self-serve” override settings in the phone to resolve the issue.
- To date, very few devices are either upgradable over the air, or are capable of resolving the issue through user-selectable settings.
- We are not aware of device manufacturers providing communication (for example, on their websites) to users of their brand of device to inform those users there may be a problem.

What is being done to notify the customers of these phones?

- The MNOs have been working together for the last 3 months to compile a list of devices by **make/model/version** that are problematic. The MNOs have been using this list to identify where a phone on the list has connected to their networks.
 - NB: All three MNOs have MVNO partners, and the MVNOs own the relationship with the user.
 - The MNOs have been providing information to their MVNO partners to share with their customers about this issue.
- Telstra:
 - Telstra is in the process of identifying customers with an affected phone. Once customer lists have been compiled (including MVNO partners) it will contact known impacted customers directly.
- Optus:
 - Optus has reached out to the customers with known impacted devices informing them of the potential impact. The device list is being further refined to ensure that all customers are notified to the best of its knowledge.
- TPG- Telecom:
 - Vodafone Prepaid and Lebara customers with a known relevant device are being offered a free Vodafone V Lite 4G or Vodafone V One 4G at no cost.

What will not work?

- It is not possible to ask customers to “test” their phone prior to 3G closure, because a “000 test call” will work (it will be carried over a 3G network), so “test calls” will simply flood the ECP/ESO emergency call centres with non-genuine calls.
- Telstra investigated the possibility of creating a “test call” number to allow consumers to test their device before the 3G networks were closed – test calls would be routed to an RVA rather than the ECP Answer Point. However, it was **not possible** to guarantee that genuine 000 calls would not end up at the test RVA.

RE: Briefing: VoLTE Capable Handsets that require 3G for 000 calls [SEC=OFFICIAL]

From: CONFIDENTIAL - PERSONAL [REDACTED]@infrastructure.gov.au>
To: CONFIDENTIAL - PERSONAL [REDACTED]@team.telstra.com> CONFIDENTIAL [REDACTED]@team.telstra.com>; CONFIDENTIAL [REDACTED]@infrastructure.gov.au> CONFIDENTIAL - [REDACTED]@infrastructure.gov.au>; CONFIDENTIAL - [REDACTED]@infrastructure.gov.au>; CONFIDENTIAL - [REDACTED]@infrastructure.gov.au>; CONFIDENTIAL - [REDACTED]@infrastructure.gov.au>; CONFIDENTIAL - [REDACTED]@optus.com.au> CONFIDENTIAL - [REDACTED]@optus.com.au> CONFIDENTIAL [REDACTED]@tpgtelecom.com.au> CONFIDENTIAL - [REDACTED]@team.telstra.com> CONFIDENTIAL - PERSONAL [REDACTED]@optus.com.au>; CONFIDENTIAL - [REDACTED]@tpgtelecom.com.au> CONFIDENTIAL@optus.com.au>; CONFIDENTIAL - [REDACTED]@team.telstra.com> CONFIDENTIAL - PERSONAL [REDACTED]@team.telstra.com> CONFIDENTIAL - PERSONAL [REDACTED]@team.telstra.com> CONFIDENTIAL - PERSONAL [REDACTED]@team.telstra.com>
Cc: CONFIDENTIAL - PERSONAL [REDACTED]@team.telstra.com> CONFIDENTIAL - [REDACTED]@infrastructure.gov.au> CONFIDENTIAL [REDACTED]@mo.communications.gov.au> CONFIDENTIAL [REDACTED]@mo.communications.gov.au> CONFIDENTIAL [REDACTED]@communications.gov.au>
Date: Fri, 01 Mar 2024 14:56:57 +1100
Attachments: Unnamed Attachment (68 bytes)

ALERT: This email originated outside TPG Telecom’s network. If you do not recognise the sender or did not expect this email then please do not open any attachments or click any link.

OFFICIAL

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Thank you for the presentation. We are considering next steps and will be in touch.
 Kind regards

CONFIDENTIAL - PERSONAL INFORMATION
 [REDACTED]

Department of Infrastructure, Transport, Regional Development and Communications and the Arts
 CONNECTING AUSTRALIANS • ENRICHING COMMUNITIES • EMPOWERING REGIONS

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I would like to acknowledge the traditional custodians of this land on which we meet, work and live. I recognise and respect their continuing connection to the land, waters and communities. I pay my respects to Elders past and present and to all Aboriginal and Torres Strait Islanders.

OFFICIAL

From: CONFIDENTIAL [REDACTED]

Sent: Monday, 26 February 2024 2:08 PM

To: CONFIDENTIAL - PERSONAL INFORMATION

CONFIDENTIAL - PERSONAL INFORMATION

CONFIDENTIAL - PERSONAL INFORMATION

Cc: CONFIDENTIAL - PERSONAL INFORMATION

Subject: RE: Briefing: VoLTE Capable Handsets that require 3G for 000 calls

Hi everyone, and thanks again for your time today to take you through this issue.

Attached is the pack we talked to.

One of the items I inadvertently missed, (on slide 13 of the pack), is that we'd like to get consumer information on the Dept's website by the end of March, if possible please?

We're more than happy to work with you on the scripting, and the text we've already drafted is on Slide 14, for your consideration.

Thanks again, and any questions, please feel free to ask.

Regards, CONFIDENTIAL

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General

-----Original Appointment-----

From: CONFIDENTIAL

Sent: Thursday, February 15, 2024 8:08 AM

To: CONFIDENTIAL - PERSONAL INFORMATION

CONFIDENTIAL - PERSONAL INFORMATION

Cc: CONFIDENTIAL - PERSONAL INFORMATION

Subject: Briefing: VoLTE Capable Handsets that require 3G for 000 calls

When: Monday, 26 February 2024 1:00 PM-2:00 PM (UTC+10:00) Canberra, Melbourne, Sydney.

Where: Microsoft Teams Meeting

Hi everyone,

The purpose of this meeting is for the Mobile Network Operators to provide a briefing on the matter of VoLTE capable handsets that nonetheless require a 3G network to make 000 calls. We'll explain what we've done to identify customers with these handsets, and how were communicating with them, including and especially, our more vulnerable customers.

MS-Teams details below!

Regards, CONFIDENTIAL

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For organizers: [Meeting options](#) | [Reset dial-in PIN](#)



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VoLTE Capable Handsets that cannot call 000/112/911 after 3G shut down

Presentation to Dept & MO. 26 February, 2024.

Telstra, Optus, TPG Telecom.

Outline / objective for today



Outline a problem with older handsets



Explain what we've done so far



Steps going forward to further mitigate the problem



Seek the Department's assistance in raising further awareness with the public



Inbound international roamers and travellers after 3G shut down

Introductory comments

- 3G networks are shutting down at different times.
 - TPG Telecom completed closure of their 3G network on 31 Jan, 2024
 - Telstra is scheduled to close their 3G network at the end of June 2024
 - Optus is scheduled to commence closure of their 3G network at the start of Sept 2024.
- Throughout this pack, where we refer to “000”, we mean all emergency calls, including calls placed to 112 and numbers a device may recognise as an emergency number such as 911, 999, etc.*

* NB: Calls to 106 (the TTY service) from a mobile go to an RVA, and calls to the national relay service are out of scope.

Some older VoLTE handsets require 3G to make 000 calls

- The capabilities in 4G (LTE) networks were introduced over several years.
- Voice over LTE (VoLTE) is where voice communication is sent as a packetised data stream, rather than a “circuit switched” call.
- VoLTE uses the IP Multimedia Subsystem (IMS) to prioritise packetised voice traffic over other traffic types (data, streaming video) to give clear, undistorted audio.
- However, when VoLTE was first introduced into 4G networks, the IMS was not capable of handling emergency calls.
- VoLTE was introduced in 3GPP Release 8, whereas Emergency calling in IMS was not introduced until 3GPP Release 9.
- Consequently, many handsets released into the market around 2014-2016, and even as recently as 2019, can only route emergency calls over a 3G network.
- This is a **global issue**, not limited to Australia.

How are other operators managing this globally?

- All US operators have closed their 3G networks, although one 2G network remains.
- 4G capable devices that rely on 3G to make emergency calls were present on their networks at point of shutdown.
- Prior to closure, our understanding is some US operators actively blocked devices that did not support VoLTE emergency calls based on IMEI, forcing customer action.
- At this stage, Telstra and TPG Telecom are proposing not to block devices, and Optus is considering to block devices commencing around the same time as they commence network shutdown.
 - For blocked devices, completely blocking the phone will cause *all non-emergency calls will fail*.
- Resources:
 - BEREC Report on practices and challenges of phasing out of 2G and 3G
<https://www.berec.europa.eu/en/document-categories/berec/reports/draft-berec-report-on-practices-and-challenges-of-the-phasing-out-of-2g-and-3g>
 - RSPG Report on Mobile Technology Evolution – Experiences and strategies
https://radio-spectrum-policy-group.ec.europa.eu/system/files/2023-01/RSPG22-035final-RSPG_Draft_Report_on_Mobile_Technologies_Evolution_%28with%20annexes%29.pdf

Which handset models are impacted?

- We have confidence that devices "officially" sold in Australia met the requirements of the RCM at the time they were released to market, as they were tested to the Regulatory Compliance Mark (RCM). *(See slide 17, Appendix)*
- However, two "gaps" exist.
 - BYOD / "grey import" devices (e.g. purchased through online marketplaces) are not necessarily tested to RCM standards – see next slide.
 - We believe most impacted devices will fall into this category.
 - RCM tests are at a "point-in-time" and cannot accommodate network evolution.
- Thus, there will be devices in Australia that either: 1) never carried the RCM; or 2) do carry the RCM, but VoLTE emergency calls were not a requirement when issued.
- Commonly affected devices include brands such as: Motorola, Nokia, Huawei, HTC, Oppo, Sony, Xiaomi, ZTE, plus many more. There are 300+ device brands active in Australia.
- Apple device models released after May 2018 are ok, noting that prior to iOS 11.4 (circa May 2018) Apple devices had VoLTE turned off by default. This means iPhone 6 series, 6S series, 7 series, 8 series and X series will use 3G for *all call types*, unless the user alters the default setting.

How many handset models are there in Australia?

- To date, we have identified ~62k device models capable of a voice call operational in Australia.
 - Device types have been identified using Type Allocation Codes (TACs) assigned by the GSMA.
- Not all consumer phones have been sold by the MNOs or MVNOs; consumers obtain phones via the “**open market**” (e.g. JB Hi-Fi), “**grey market**” (e.g. Kogan), or from overseas through the online marketplaces and overseas travel (“**grey imports**”).
- Because of the grey market and grey imports, we are **unable to categorically identify** every handset impacted
 - Some of these devices may not be used regularly making identification difficult.
- The GSMA Device Registry of mobile device make/model/version contains hundreds of thousands of devices, the vast majority of which are not produced for the Australian market, yet these devices can still arrive in Australia.
 - [Ref: [10,000 new devices added each year](#) to the [GSMA Device Registry](#).]
 - In one single day, Telstra identified over 26,000 unique device models (make/model/version) capable of a voice call connected to its network (i.e. unique TACs).

“Known-ok”, “Known-affected” and “Unknown”

- We have identified three categories:
 - “**Known-ok**” are devices we know can make 000 calls over VoLTE;
 - “**Known-affected**” are devices we know are VoLTE enabled,* and have a degree of confidence they require 3G for 000 calls;
 - “**Unknown**” are devices that we know are VoLTE enabled,* but we are not sure whether they need 3G for 000 calls or whether they have VoLTE Emergency Calling capability enabled.
 - Optus are treating anything that is not “Known-ok” as “Unknown” (i.e., only have two categories).
- Addressing the “unknown” category is challenging:
 - While we are working to reduce this category, due to the large number of device models and the low volumes of customers with these device models, the risk of “unknown” will remain.
 - Asking customers in this group to upgrade could be unnecessary if their device is capable of VoLTE emergency calls;
 - Not asking customers in this group to upgrade may result in some customers having a device that appears to work fine (VoLTE-capable) until the user tries to call 000.

* Note: 3G-only devices are not in any of these three categories, as customers with 3G-only devices are targeted in activity separate to this program.

Activity to identify “Known-affected” and “Unknown” handsets in Australia

- Telstra has adopted an approach to attempt to identify affected devices:
 - Call records over 14 months were used. In total, 7.8m calls to 000 were analysed (out of a total of 14b voice calls across the 14 months).
 - **Step 1:** Devices were identified by firstly looking for a single user who had: 1) made at least one “normal” VoLTE call (i.e., to any number *other* than 000) indicating they had a phone capable of placing calls over VoLTE; and 2) had also made one or more 000 calls where those calls arrived *only* on a 3G bearer (i.e., no calls from that device arrived at 000 over VoLTE).
 - **Step 2:** To reduce (but not eliminate) the risk of a false positive, which could arise from the customer “serendipitously” only calling 000 when in a “3G-only” coverage area, we then found every other customer with a device with the same Type Allocation Code (TAC) and checked their calls to 000. If any other customer with a phone with a matching TAC was successful in making a 000 call over VoLTE, we then removed that phone Make/Model (i.e., TAC) from our list.
 - The result is a list of around 2.5k “**Known-affected**” TACs, although this is likely to have a lot of “false positives” in the list.
 - It also means we have around 10k “**Unknown**” TACs, which are devices where we have not seen any emergency calls.
- Optus has performed thorough manufacturer consults to ascertain emergency calling capability of VoLTE capable devices, and have categorized the devices as:
 - “**Known-ok**”: All VoLTE capable device ranged by Optus and all Australian variants from major manufacturers (Apple, Samsung, Google, Huawei, Oppo & ZTE) support VoLTE Emergency calling.
 - “**Unknown**”: Non-Australian device variants from major and all other manufacturers where we don’t have any confirmation from the manufacturer the emergency calling capability remains unknown.
 - The result is a list of around 14k “**Unknown**” (TACs), although this is likely to have “false positives” in the list. Optus continues to work with device manufacturers to confirm emergency calling capability to reduce the number of “unknowns”.
- Device models can behave differently when connected to different networks.
- Due to the number of global device variants, some of the TACs have low device counts in Australia, adding to the uncertainty.

Contacting “Known-affected” and “Unknown” customers

- Telstra:
 - Identified just under 93,000 “Known-affected” customers. We will be communicating with all these customers on Tue 12 March 2024, asking them to upgrade their phone. We will use three concurrent forms of communication – Direct Mail, Email and SMS – to reduce customers rejecting it as spam.
 - Is in the process of identifying “Unknown” customers. Telstra estimates there could be a further ~200k “Unknown” customers. Telstra plans to contact all “Unknown” customers.
- TPG Telecom:
 - Identified “known-affected” customers and continues to communicate with customers with affected devices.
- Optus:
 - Optus has identified ~450k “Unknown” customers and plans to contact them informing of the potential impact.
- Consumer information on the ACMA/Dept/ACCC website would be extremely helpful
 - Perceived to be more trustworthy / not spam.
 - If the ACMA/Dept/ACCC publishes consumer advice about older phones, MNOs could refer customers to the ACMA/Dept/ACCC website to instil confidence.

What else already been done to notify the customers?

- The MNOs and AMTA have provided information on their websites:
 - Telstra: <https://www.telstra.com.au/support/mobiles-devices/enable-volte-mobile-phone>
 - Optus: <https://www.optus.com.au/support/mobiles-tablets-wearables/important-changes-3g>
 - TPG-Telecom: <https://www.vodafone.com.au/support/network/volte?accordion-id=can-i-use-voice-over-lte-to-call-emergency-services>
 - AMTA: <https://amta.org.au/wp-content/uploads/2023/10/Understanding-VoLTE-and-Emergency-Calls-ahead-of-3G-Closure.pdf> and https://amta.org.au/wp-content/uploads/2023/09/FINAL-FOR-RELEASE_3G-network-closure-release-Fact-Sheet.pdf
 - AMTA Media Release, Mon 27 Nov 2023.
- Sample media coverage:
 - [3G is being shut off across Australia. Here's how to keep connected | 7NEWS](#)
 - [3G network shutdown Australia: When is Australia's 3G network shutting down, why it's happening, what you need to do | Explained \(9news.com.au\)](#)
- Reaching out to Commonwealth (ACMA, Dept, Minister's office, ACCC) and industry associations (AMTA)
- MNOs are considering how they might use social media to reach customers.

Call to action for the Australian Government

- Consumers have the freedom (and regularly choose) to procure phones from a variety of sources (see appendix slide on “**open market**”, “**grey market**” and “**grey imports**”).
 - A significant number of phones in Australia have not been supplied to consumers by the network operators, and many do not carry the ACMA’s Regulatory Compliance Mark (RCM).
- The onus is on **consumers** to check their phones, and for the manufacturers and retailers to supply consumers with the information required to make those checks.
- The Australian Government is responsible for product recalls:
<https://www.productsafety.gov.au/recalls>
 - The Australian Government must get device manufacturers to put information on their websites so consumers can assess whether their phone supports VoLTE emergency calling.
 - We can assist the manufacturers with any support they require.
- Assistance is urgently required to inform consumers that they need to check their phone’s capabilities, and to **contact the device manufacturer**, or the **retailer** (e.g., JB Hi-Fi, Harvey Norman), or their **network operator** if they are unsure. (NB: Retailers may need some assistance to prepare for consumers contacting them.)
- Consumers cannot “test” their phone (dial 000) while there are any 3G networks still operating (“false negative”).
- Upgraded phones will also support additional features such as AML.

Information to go on the ACMA/Dept/ACCC's website

- Consumers are more likely to trust a Government website.
- Assistance from the ACMA/Dept/ACCC to publish consumer advice about older phones would assist MNOs and MVNOs reach out to their customer bases, as they could refer customers to the ACMA/Dept/ACCC website to give customers confidence messages are not “spam”.
- Must be careful this does not trigger an avalanche of “test calls” to 000, because while 3G networks are still active, this will generate a “false negative” (my phone is **not affected**, when it possibly is), and will flood 000 with nuisance calls.
- We would like this information on all relevant Government websites by no later than the **end of March 2024**.

Sample website content

What is VoLTE?

- Voice over LTE (VoLTE) is a feature that allows you to make voice calls using 4G networks.
- Some 4G phones may require you to turn the VoLTE setting ON. Your device manufacturer, retailer or service provider has details of how to check whether VoLTE is switched-on, on your device. Some older 4G phones do not support VoLTE at all (they are only capable of 2G and 3G voice calls) and will not be able to make and receive voice calls once the 3G network is turned off.
- If you have received advice from your mobile network operator that your phone does not support VoLTE, you'll need to upgrade your phone to be able to make voice calls once your network operator has closed their 3G network. Please check your operator's website for more details on how to upgrade your phone, and for a list of known devices that do not support VoLTE.

Emergency calling

- In addition to supporting VoLTE, your mobile device must support **VoLTE emergency calling** to make an emergency call to 000 once your network operator has closed their 3G network. If your device does not support VoLTE emergency calling, you will not be able to make an emergency call to 000 when **from September 2024 onwards the last 3G network (Optus 3G network) is switched off.**
- **If you have received advice from your mobile network operator that your phone does not support VoLTE emergency calling, you will need to upgrade your phone to be able to make an emergency call to 000.**
- **If you have received advice from your mobile network operator that VoLTE emergency calling capability of your phone is unknown, check your device manual or contact the manufacturer, retailer via their website or by contacting them.**
- Please **do not "test"** your phone's capabilities by calling 000. Testing your phone while there is still an active 3G network, means that your call will still connect (regardless of which network operator is operating the 3G network) and may give you a false sense of security that your phone is working, when it may not support VoLTE emergency calling.
- Please check your operator's website for more details on how to upgrade your phone, and for a list of known devices that do not support VoLTE emergency calling.

Travellers to Australia after 3G shutdown

- Australia is one of the first countries globally to shut down both 2G and 3G networks, meaning it is one of the first countries to not have a Circuit-Switched Fall Back (CSFB) option for emergency calls.
- People arrive in Australia every day with a wide variety of phones.
 - Some travellers use **inbound international roaming**, where there is an international roaming agreement, and the customer's service provider continues to bill the customer;
 - Other travellers purchase a local SIM while travelling, and effectively become a customer of one of the Australian MNOs for the duration of their stay in Australia.
- For inbound international roamers, the customer relationship is between the overseas network operator and their customer, not between the Australian mobile network operator and the inbound roamer.
- We will be providing information to international roaming partners to advise them to publish information on their websites to inform travellers to Australia that they need a phone with **VoLTE emergency calling** capability if they want to be able to make an emergency call while in Australia.
- For travellers purchasing a local SIM, we are investigating methods to produce reports, but the data analysis is so complex, that unless the traveller stays for several weeks, it is unlikely we'll be able to identify them before they've left Australia.
- The Australian Government should publish / produce information to be supplied at international entry points (once all 3G networks are closed), to advise travellers to Australia that there are no 2G or 3G networks in Australia, and to make voice calls, including emergency calls, their device must support VoLTE and VoLTE emergency calling. This includes travellers procuring a local SIM.

Appendix - Additional Details

What happens when each 3G network closes?

- VoLTE capable phones that use 3G for emergency calls will initially look for a home 3G network for short period of time, depending on configurations which will vary from phone-to-phone.
 - Duration of Emergency Attach attempt will vary on underlying network (e.g., signal strength), and device software such as band search sequence.
- If unsuccessful, the device will look for other 3G networks. It may search for other 3G network for several minutes before “timing out”.
- Therefore, when the first 3G network closes, there could be a variety of customer experiences, depending on the phone and underlying network:
 - Phones that are configured to use 3G network for emergency calls will initially look for a home 3G network from their provider.
 - Device attach attempt duration will vary based on underlying network and device software.
 - After looking for a home 3G network, the phone will look for other 3G networks.
 - The Device will search for 3G on the bands it knows to be 3G bands. If the device is manufactured for the Australian market, this includes 2100 MHz (Band 1), 850 MHz (Band 5) and 900 MHz (Band 8). However, devices developed for other markets (grey markets and grey imports) may look in other bands (e.g., 1900 MHz “PCS” (Band 2) or 1700 MHz “AWS” (Band 4) for the USA), and possibly in a sequence that has 850 MHz and 900 MHz later in the list.
 - Concurrently, other timers are likely to be running in the phone as per 3GPP TS 24.229 Rel 16 & GSMA IR.92 Standards, for example a dialling timer where the timer value has been configured by the UE manufacturer.
 - If the phone manages to camp-on to another 3G network before dialling timer expires, the call will progress through to the Emergency Call Person (ECP).
 - If the dialling timer expires before the phone camps on to another 3G network, the call attempt will fail.

What happens when the last 3G network closes?

- Once all 3G networks are shut down, devices that rely on 3G networks for emergency calls will not be able to make any emergency calls.
- Note: There will also be some phones and devices that are only 3G capable. These devices won't be able to make any voice calls, which will be obvious to the device owner.
- No matter what we do, there will be some phones with this problem.
 - Even offering to replace a customer's phone for free will not completely resolve the problem if customers don't take up the offer.
- If the user of such a phone attempts to make an emergency call, the phone will show that it has coverage (signal strength is good) and yet is unable to make the emergency call.
 - The user will be able to call other numbers (e.g., a friend, police on 131444) normally over VoLTE though.

The RCM ensures 000 calls are possible at a point in time

- The *Telecommunications (Labelling Notice for Customer Equipment and Customer Cabling) Instrument 2015, (TLN)*, as amended and its precedents, s.9 requires that Customer Equipment (including mobile phones) manufactured or imported into Australia must carry the Regulatory Compliance Mark (**RCM**) before supplying to the Australian market.
- Before the RCM can be applied, the TLN requires devices to be tested for Electrical, EMC & EME Safety and compliance with the AS/CA **S042:2022 Customer Equipment (CE) Standard** series.
- S042.1 Clause 5.1.1 requires scoped CE (designed for voice communications) to allow the initiation of an **emergency call**.
- This gives us confidence that devices sold “officially” in Australia were tested to ensure they can make emergency calls at the time they were sold.

Can the issue be “addressed” (can phones be rectified)?

- In a limited number of cases, it may be possible to update the software/firmware in the phone. The device vendor may be able to upgrade the phone to a new firmware version over the air, while in other cases, the user will have to manually upgrade their phone.
- However, in most cases, it won't be possible to upgrade the phone.
- This is largely because the vendor no longer operates in the mobile devices market (e.g., Sony, HTC, LG, etc). Also, for some existing vendors, older devices may be at end-of-life and are no longer supported by the device manufacturer.
- There are other device manufacturers (still in operation) that never had an official Australian distributorship that we can work with (e.g. Realme, Xiaomi, One-Plus and more).
- Where the issue cannot be “addressed”, the customer should contact their device manufacturer or retailer for advice, or if they are concerned, upgrade their phone.

Engagement with handset manufacturers

- MNOs have been in contact with the manufacturers they have a relationship with, including Apple, Samsung, Motorola, Nokia, Oppo, and more.
 - Some device manufacturers are no longer in this business and do not have technical staff we can connect with.
 - This a global challenge and where device vendors have similar experiences in other markets, those learnings have been shared, so most options to address this at the device level have already been considered.
- Handset manufacturers have been helpful in:
 - Assisting MNOs identify makes/models of devices that exhibit this problem;
 - Determining whether an “over-the-air” upgrade can be deployed to resolve the problem; or
 - Determining whether a user can “self-serve” override settings in the phone to resolve the issue.
- To date, very few devices are either upgradable over the air, or are capable of resolving the issue through user-selectable settings.
- We are not aware of device manufacturers providing communication (for example, on their websites) to users of their brand of device to inform those users there may be a problem.

What will not work?

- It is not possible to ask customers to “test” their phone prior to 3G closure, because a “000 test call” will work (it will be carried over a 3G network), so “test calls” will simply flood the ECP/ESO emergency call centres with non-genuine calls.
- Telstra investigated the possibility of creating a “test call” number to allow consumers to test their device before the 3G networks were closed – test calls would be routed to an RVA rather than the ECP Answer Point. However, it was **not possible** to guarantee that genuine 000 calls would not end up at the test RVA.

OFFICIAL

**The Hon Michelle Rowland MP**

**Minister for Communications
Federal Member for Greenway**

MS24-000238

Mr Iñaki Berroeta
Chief Executive Officer and Managing
Director
TPG Telecom Limited
Level 1, 177 Pacific Highway
NORTH SYDNEY NSW 2060

Ms Vicki Brady
Chief Executive Officer
Telstra Group Limited
Locked Bag 5630
MELBOURNE VIC 3001

Mr Michael Venter
Interim Chief Executive Officer
Optus
1 Lyonpark Road
MACQUARIE PARK NSW 2113

Ms Louise Hyland
Chief Executive Officer
Australian Mobile Telecommunications
Association Ltd
Level 5, 50 Berry Street
NORTH SYDNEY NSW 2060

Dear Mr Berroeta, Ms Brady, Mr Venter and Ms Hyland,

I am writing in relation to progress with the shutdown and switchover of 3G networks.

I acknowledge the efforts by Telstra, Optus, and TPG to date to inform customers and the public generally of the impending 3G network shutdowns, and to help prepare customers for the transition. I also acknowledge the information provided by AMTA on its website and additional outreach activities AMTA has undertaken.

The telecommunications sector has successfully managed complex network shutdowns in the past, most recently the shutdown of the 2G network. This has undoubtedly benefited Australians and our economy through improved technology, more capacity and more data.

However, I am aware and concerned that many customers remain reliant on devices and will be negatively affected when the networks are shut down.

My Department recently briefed me that after the proposed 3G switchover takes effect, potentially up to 740,000 customers may have devices that are unable to make Triple Zero calls even though they will otherwise work to make voice calls over 4G networks.

I am also advised that due to the different approaches being undertaken by industry in estimating the number of affected users, there are significant variations evident between carriers in calculating the scale of possible impact.

The Hon Michelle Rowland MP
PO Box 6022, Parliament House Canberra
Suite 101C, 130 Main Street, Blacktown NSW 2148 | (02) 9671 4780
OFFICIAL

OFFICIAL

Understandably, the Government is very concerned that affected customers may mistakenly think their mobile device is fit for purpose, when it would fail them in an emergency, particularly given the affected devices would work almost all the time, except to call Triple Zero.

I am also particularly worried about the implications of the Telstra 3G shutdown, given the breadth of its coverage in regional areas. As I understand it, when Telstra shuts down its 3G network, customers with affected devices will lose access to emergency calls in regional locations currently serviced by Telstra 3G that are outside Optus' 3G coverage zone. It is also concerning to me that at present, customers do not have a simple and secure way to test whether their device is affected.

In light of these concerns, and given many affected end users are likely to assume their device is unaffected, a far more robust industry information sharing, coordination and communications effort is needed to ensure affected Australians have every reasonable opportunity to be informed and upgrade their devices in time for the switchover.

I intend to support the mobile network operators (MNOs) through consistent messaging, however I see this as primarily a matter for the industry to address through their communications with the public and their customers.

Consequently, I request that an industry working group be urgently established to align efforts in addressing this problem, with my department involved primarily as an observer. In addition, I would appreciate it if you could each provide me with your company's action plan to address this issue by 25 March 2024, and subsequently provide fortnightly updates on progress, including through the industry working group. Specifically, I ask that the fortnightly updates include information on the numbers of impacted and migrated customers, including those of mobile virtual network operator (MVNO) partners, broken down by the following impacted devices: 3G-only devices; 4G-compatible devices without either low-band connectivity or VoLTE capability; 4G-VoLTE compatible devices that cannot make Triple Zero calls; and any new category of impacted device that may be identified. My department may request further information it needs to advise me on this matter.

While MNOs are making efforts to contact customers that may be in possession of an impacted device, I would like to see MNOs and MVNOs step up their communications campaigns to actively engage customers who may be impacted, incentivise customers to check their device, and also generate broader awareness about this issue, including with device retailers and among those who may be less technologically literate or do not have English as a first language. I think it will be insufficient to depend on one-way engagement. I am mindful that the public is highly sceptical of direct messages they receive these days, given the prevalence of scams.

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I am considering what activities institutions of government could undertake to help alert consumers to the issue and directing them to their MNOs and MVNOs for support and advice. Government and industry messaging would need to be consistent, well-coordinated, clear and targeted. Messaging from industry should direct consumers toward practical actions they can take to understand whether their device is affected and any support offered by the MNOs and MVNOs. Unless the messaging is well-handled, there is a risk that customers may flood Triple Zero with test calls, to the detriment of the service. That could create a false sense of security because Triple Zero calls will connect to available, alternative 3G networks, and will only fail after all available 3G networks are shut down. I understand that one of the actions being considered by industry is the creation of easily accessible contact points for customers to check whether their device may be affected, this would seem to be a useful first step and possibly an immediate focus for the Working Group.

As you would appreciate, access to Triple Zero is amongst the most critical public interest requirements that apply to mobile carriers in Australia. The recent Triple Zero outage and the Optus outage, which impacted emergency calls, heightens the need for the MNOs to get this right given the potential consequences.

I envisage that the action plans provided to me by 25 March 2024 will help inform my consideration of whether regulatory action for a proposed delay of the 3G switchover may be warranted to protect the public interest.

Yours sincerely

A handwritten signature in blue ink that reads "Michelle Rowland". The signature is fluid and cursive, with the first name "Michelle" and the last name "Rowland" clearly legible.

Michelle Rowland MP

14 / 3 / 2024

cc Nerida O'Loughlin PSM, Chair, Australian Communications and Media Authority;
Gina Cass-Gottlieb, Chair, Australian Competition and Consumer Commission

OFFICIAL

Fwd: Media release [SEC=OFFICIAL]

From: CONFIDENTIAL - [REDACTED]@mo.communications.gov.au>
To: CONFIDENTIAL - [REDACTED]@tpgtelecom.com.au>
Date: Fri, 15 Mar 2024 09:30:12 +1100
Attachments: 240317 - MR - Rowland - 3G.pdf (221.99 kB)

ALERT: This email originated outside TPG Telecom's network. If you do not recognise the sender or did not expect this email then please do not open any attachments or click any link.

OFFICIAL

FYI
This is embargoed till Sunday.
CONFIDENTIAL

CONFIDENTIAL - PERSONAL
INFORMATION



OFFICIAL

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***** EMBARGO LIFTS AT 10:30PM, SATURDAY 16 MARCH 2024 *****



The Hon Michelle Rowland MP
Minister for Communications

MEDIA RELEASE

New mobile industry working group to support 3G switchover

The Albanese Government is working with industry to stand up a new Working Group to support the planned switchover from 3G to 4G in a safer way.

The Working Group will focus on a subset of 4G handsets understood to be configured to use 3G for calling Triple Zero, despite otherwise working over 4G to make voice calls.

The 3G network switchover was first announced in 2019, and will provide a more efficient use of spectrum by mobile network operators to boost capacity and data speeds.

However, the Government is concerned customers in possession of particular 4G handsets may mistakenly believe their mobile device is unaffected post-switchover, as the handset could continue to operate normally for voice and data, except when trying to call Triple Zero.

While TPG's network ceased operation on 30 January 2024, Telstra plans to shut down its 3G network from 30 June 2024, and Optus plans to do the same from 1 September 2024.

If warranted in the public interest, options exist under law for the Government to consider regulatory intervention – including proposals for delays to planned switchovers, subject to required consultation and procedural processes.

Industry are undertaking efforts to advise customers with some older 4G phones, devices purchased overseas and brought into Australia, or those purchased via the 'grey market' that their handsets may not be appropriately configured to make emergency calls following the switchover.

Mobile network operators now estimate up to 740,000 handsets could potentially be impacted, however further work is needed by the Working Group to validate the scope of these estimates.

The Working Group will formalise collaboration between industry to better identify impacted customers, improve the accessibility of public-facing information and contact points, and amplify messages to ensure the community is aware of the switchover.

All three major telecommunications providers – Telstra, Optus, TPG – and the peak industry body, the Australian Mobile Telecommunications Association (AMTA), have been asked to join the Working Group. The Department of Infrastructure, Transport, Regional Development, Communications and the Arts will have observer status.

The Group will provide fortnightly updates to the Government on efforts to identify potentially impacted customers, and identify ways for customers to check if their device will be impacted.

Telcos are best placed to advise whether an individual's phone may be affected, and Australians are urged to contact their providers for more information.

The Government strongly advises consumers against placing test calls to Triple Zero, given impacted devices will still work over existing 3G services until the 3G shutdowns occur later this year. This will not provide an answer on whether your phone is affected, and could prevent others from accessing life-saving support.

To find out if your device is impacted, consumers are encouraged to contact their provider:

- **Telstra** –
 - www.telstra.com.au/support/mobiles-devices/3g-closure
 - Number TBC
- **Optus** –
 - www.optus.com.au/support/mobiles-tablets-wearables/important-changes-3g
 - 1300 219 070
- **Vodafone/TPG**
 - [3G Network Closure FAQ | TPG Support](#)
 - Number TBC
- **Australian Mobile Telecommunications Association (AMTA)**
 - www.amta.org.au/3g-closure

Quotes attributable to Minister for Communications, the Hon Michelle Rowland MP:

“Supporting Australians’ access to Triple Zero is critical.

“While the Government supports the safe switchover from 3G, it is important Australians are aware that some devices in the mobile market are not appropriately configured to contact emergency services on the 4G network.

“This new Working Group will ensure industry better coordinates efforts to identify and contact impacted customers, improves the accessibility of public-facing information and contact points, and provide regular advice to Government on the number of potentially affected devices and customers in the market.

“The Government will continue to monitor this issue closely and consider options under law if warranted in the public interest.

“I would encourage Australians who think their device may be impacted to reach out to their service provider for more information”.

SUNDAY, 17 MARCH 2024

MEDIA CONTACT: [REDACTED]

M: [REDACTED] [@mo.communications.gov.au](mailto:[REDACTED]@mo.communications.gov.au)

RE: 3G Shutdown - Letter from Minister Rowland and next steps [SEC=OFFICIAL]

From: CONFIDENTIAL - [redacted]@tpgtelecom.com.au>
To: CONFIDENTIAL - PERSONAL [redacted]@infrastructure.gov.au>; CONFIDENTIAL - [redacted]@infrastructure.gov.au>
Cc: CONFID [redacted]@amta.org.au; CONFIDENTIAL - [redacted]@team.telstra.com>; CONFIDE [redacted]@optus.com.au; CONFIDENTI [redacted]@team.telstra.com>; CONFIDENTIAL - [redacted]@team.telstra.com>; CONFIDENTI [redacted]@communications.gov.au>; CONFIDENTIAL - [redacted]@infrastructure.gov.au>; CONFIDENTI [redacted]@infrastructure.gov.au>; CONFIDENTIAL - [redacted]@infrastructure.gov.au>; CONFIDENTI [redacted]@infrastructure.gov.au>; CONFIDENTIAL - [redacted]@tpgtelecom.com.au>

Date: Mon, 18 Mar 2024 15:57:15 +1100

Hi CONFIDENTIAL [redacted]
The Working Committee of the 3G Closure Working Group will meet at least once a week, noting that there will be actions being completed between meetings. The Steering Committee will meet once a fortnight.
The intention is for the observers to attend any meetings of the Working Group, whether a Working Committee meeting or Steering Committee meeting. To be clearer I will ask CONFIDENTIAL [redacted] to change the paragraph below in the Charter to the following:
The Chair of the 3G Closure Working Group will invite one or more representatives from Government (Department of Communications) to attend any meetings of the Working Committee and Steering Committee, as an observer.
Regarding, reporting to the Minister we can add the following to the Reporting section:
The 3G Closure Working Group will prepare a fortnightly progress report for the Minister for Communications.
Please let me know if the above is acceptable.
Regards

CONFIDENTIAL - PERSONAL INFORMATION

From: CONFIDENTIAL [redacted]
Sent: Monday, March 18, 2024 10:43 AM
To: CONFIDENTIAL [redacted]
Cc: CONFIDENTIAL - PERSONAL [redacted]@optus.com.au; CONFIDENTIAL - PERSONAL [redacted]
Subject: RE: 3G Shutdown - Letter from Minister Rowland and next steps [SEC=OFFICIAL]

ALERT: This email originated outside TPG Telecom’s network. If you do not recognise the sender or did not expect this email then please do not open any attachments or click any link.

OFFICIAL

Hi CONFIDENTIAL [redacted]
Thank you for this. Can you clarify how regularly the Working Group will meet?
I also understand from reading the draft charter that the Government will not have observer status on either of the Steering Committee or the Working Committee?
The Minister’s letter states: “In addition, I would appreciate it if you could each provide me with your company’s action plan to address this issue by 25 March, and subsequently provide fortnightly updates on progress, including through the industry working group. ‘ Under the ‘reporting’ section of the charter, I can’t see mention of the working group reporting to the Minister. Can you please clarify that this is intended as per the Minister’s letter?
Kind regards

CONFIDENTIAL - PERSONAL INFORMATION

GPO Box 594 Canberra, ACT 2601
Executive Assistant: CONFIDENTIAL [redacted]@infrastructure.gov.au
Department of Infrastructure, Transport, Regional Development and Communications and the Arts
CONNECTING AUSTRALIANS • ENRICHING COMMUNITIES • EMPOWERING REGIONS



I would like to acknowledge the traditional custodians of this land on which we meet, work and live. I recognise and respect their continuing connection to the land, waters and communities. I pay my respects to Elders past and present and to all Aboriginal and Torres Strait Islanders.

OFFICIAL

From: CONFIDENTIAL - [redacted]@tpgtelecom.com.au>
Sent: Friday, 15 March 2024 4:19 PM
To: CONFIDENTIAL [redacted]@infrastructure.gov.au>; CONFIDENTIAL - [redacted]@infrastructure.gov.au>
Cc: CONFID [redacted]@amta.org.au; CONFIDENTIAL [redacted]@team.telstra.com>; CONFIDENTI [redacted]@optus.com.au; CONFIDENTI [redacted]@team.telstra.com>; CONFIDENTIAL - [redacted]@team.telstra.com>; CONFIDENTIAL - [redacted]@COMMUNICATIONS.gov.au>; CONFIDENTIAL - [redacted]@infrastructure.gov.au>; CONFIDENTIAL - [redacted]@infrastructure.gov.au>; CONFIDENTI [redacted]@infrastructure.gov.au>

Subject: RE: 3G Shutdown - Letter from Minister Rowland and next steps [SEC=OFFICIAL]

Dear CONFIDENTIAL [redacted]
Further to the Minister’s letter to industry CEOs yesterday, Telstra, Optus, TPG Telecom and AMTA have agreed to establish a 3G Closure Working Group within AMTA to meet the requested objectives outlined in the letter.
Attached is the 3G Closure Working Group Charter which has been agreed by the MNOs and AMTA. I also attach the AMTA Policy Committee competition protocol which is incorporated by reference into the Charter.
The 3G Closure Working Group will consist of up to three representatives from each MNO, an AMTA representative and Government observers, noting your request to be those observers. There is a Steering Committee within the working group which will consist of senior MNO representatives. The working committee will meet weekly and the steering committee fortnightly. We will appoint a chair of the working group at

the first meeting.
Please let me know if you have any comments, otherwise we will go ahead and convene the group and schedule an initial meeting to agree the workplan of the working group.
Many thanks.
Regards

CONFIDENTIAL - PERSONAL INFORMATION

Confidential

From: [REDACTED] <[REDACTED]@infrastructure.gov.au>
Sent: Friday, March 15, 2024 12:43 PM
To: [REDACTED] <[REDACTED]@team.telstra.com>; [REDACTED] <[REDACTED]@team.telstra.com>; [REDACTED] <[REDACTED]@tpgtelecom.com.au>; [REDACTED] <[REDACTED]@optus.com.au>; [REDACTED] <[REDACTED]@amta.org.au>; [REDACTED] <[REDACTED]@communications.gov.au>; [REDACTED] <[REDACTED]@infrastructure.gov.au>; [REDACTED] <[REDACTED]@infrastructure.gov.au>; [REDACTED] <[REDACTED]@infrastructure.gov.au>; [REDACTED] <[REDACTED]@infrastructure.gov.au>
Subject: RE: 3G Shutdown - Letter from Minister Rowland and next steps [SEC=OFFICIAL]

ALERT: This email originated outside TPG Telecom's network. If you do not recognise the sender or did not expect this email then please do not open any attachments or click any link.

OFFICIAL

Hi [REDACTED]
Further to the template we provided last night, we thought it would be beneficial to also have a breakdown of the number of medical devices still on the networks. We have now included medical devices as a line item in the template.
Kind regards

CONFIDENTIAL - PERSONAL INFORMATION

GPO Box 594 Canberra, ACT 2601
Executive Assistant: [REDACTED] <[REDACTED]@infrastructure.gov.au>
Department of Infrastructure, Transport, Regional Development and Communications and the Arts
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infrastructure.gov.au   

I would like to acknowledge the traditional custodians of this land on which we meet, work and live. I recognise and respect their continuing connection to the land, waters and communities. I pay my respects to Elders past and present and to all Aboriginal and Torres Strait Islanders.

OFFICIAL

From: [REDACTED] <[REDACTED]@team.telstra.com>
Sent: Thursday, 14 March 2024 10:17 PM
To: [REDACTED] <[REDACTED]@infrastructure.gov.au>; [REDACTED] <[REDACTED]@team.telstra.com>; [REDACTED] <[REDACTED]@team.telstra.com>; [REDACTED] <[REDACTED]@tpgtelecom.com.au>; [REDACTED] <[REDACTED]@optus.com.au>; [REDACTED] <[REDACTED]@amta.org.au>; [REDACTED] <[REDACTED]@infrastructure.gov.au>; [REDACTED] <[REDACTED]@infrastructure.gov.au>; [REDACTED] <[REDACTED]@communications.gov.au>; [REDACTED] <[REDACTED]@infrastructure.gov.au>; [REDACTED] <[REDACTED]@infrastructure.gov.au>
Subject: RE: 3G Shutdown - Letter from Minister Rowland and next steps [SEC=OFFICIAL]

Thanks for your email and preparing a sample template for review. We are close to finalising the charter for the working group, which contemplates a steer co and working group, as well as a competition protocol. We will share with you when ready. You and [REDACTED] can then share your preference for joining the steer co or working group. The key working group members are already progressing actions. Kind regards,

CONFIDENTIAL - PERSONAL INFORMATION



CONFIDENTIAL - PERSONAL INFORMATION

This email may contain confidential information.
If I've sent it to you by accident, please delete it immediately.
Telstra acknowledges the Traditional Custodians of country throughout Australia and recognise their continuing connection to land, waters and culture. We pay our respects to their Elders past, present and emerging.

General

From: [REDACTED] <[REDACTED]@infrastructure.gov.au>
Sent: Thursday, March 14, 2024 6:47 PM
To: [REDACTED] <[REDACTED]@team.telstra.com>; [REDACTED] <[REDACTED]@team.telstra.com>; [REDACTED] <[REDACTED]@tpgtelecom.com.au>; [REDACTED] <[REDACTED]@optus.com.au>; [REDACTED] <[REDACTED]@amta.org.au>; [REDACTED] <[REDACTED]@infrastructure.gov.au>; [REDACTED] <[REDACTED]@infrastructure.gov.au>; [REDACTED] <[REDACTED]@communications.gov.au>; [REDACTED] <[REDACTED]@infrastructure.gov.au>; [REDACTED] <[REDACTED]@infrastructure.gov.au>

Subject: 3G Shutdown - Letter from Minister Rowland and next steps [SEC=OFFICIAL]

[External Email] This email was sent from outside the organisation – be cautious, particularly with links and attachments.

OFFICIAL

Hello **CONFIDENTIAL - PERSONAL**

Following the Minister's letter of 14 March on the 3G shutdown, where she requests the establishment of an industry working group, with the department to participate as observers, I'd like to request that both **CONFIDENTIAL - PERSONAL INFORMATION** Branch (copied in on this email) and I attend the working group meetings in this capacity.

As outlined in the Minister's letter, the Minister has also asked for fortnightly updates on progress in managing the 3G shutdown, in particular progress being made with respect to 4G VoLTE devices that will be unable to contact Triple Zero when 3G is closed. The Minister has asked for some specific information, including information on the numbers of impacted and migrated customers, including those of mobile virtual network operator (MVNO) partners, broken down by the following impacted devices: 3G-only devices; 4G-compatible devices without either low-band connectivity or VoLTE capability; 4G-VoLTE compatible devices that cannot make Triple Zero calls; and any new category of impacted device that may be identified. As a start attached is a template that we would like populated each fortnight with updates. We may need to request additional information if the need arises. It would be useful to receive this breakdown of information by 25 March to align with the timing for the action plan as requested by the Minister.

As the Minister indicated, consideration is being given to what activities institutions of government could undertake to help alert consumers to the issue and directing them to their MNO or MVNO for support and advice. Before government can develop communications we think industry needs to provide contact points that government institutions can direct consumers to. As the Minister indicated in her letter, it's important that the MNOs and MVNOs provide information that gives consumers practical actions they can undertake to find out whether their device is affected and information on what to do if their device is impacted. We understand that one of the actions being considered by industry is the creation of easily accessible contact points for customers to check their device, such as through a register. This seems to be an important step and will certainly help government institutions to direct customers to useful and actionable information.

I look forward to hearing from you with regard to the working group and its next meeting.

Kind regards

CONFIDENTIAL

CONFIDENTIAL - PERSONAL INFORMATION

W: www.infrastructure.gov.au

GPO Box 594, Canberra ACT 2601

The department proudly acknowledges the Traditional Owners and Custodians of Australia, and their continuing connections to the land, waters and communities. We pay our respects to them and to their Elders past, present and emerging.

OFFICIAL

OFFICIAL

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FYI - Confirmation of 3G Networks Closure Working Group Meeting

CONFIDENTIAL - CORPORATE OR COMMERCIAL

Confidential

From: CONFIDENTIAL - PERSONAL <[REDACTED]@infrastructure.gov.au>
Sent: Thursday, March 21, 2024 11:02 AM
To: CONFIDENTIAL - <[REDACTED]@amta.org.au>; CONFIDENTIAL - <[REDACTED]@fnqtelecom.com.au>;
 CONFIDENTIAL - PERSONAL <[REDACTED]@optus.com.au>; CONFIDENTIAL - <[REDACTED]@team.telstra.com>
Cc: CONFIDENTIAL - <[REDACTED]@infrastructure.gov.au>; CONFIDENTIAL - <[REDACTED]@infrastructure.gov.au>
Subject: RE: Confirmation of 3G Networks Closure Working Group Meeting [SEC=OFFICIAL]
 OFFICIAL

Hi CONFIDENTIAL - PERSONAL <[REDACTED]>

Thank you for sending through the 3G Networks Closure Working Group Charter. To inform our discussion, we are sharing with you a summary of the Minister's requests (as outlined in her letter to CEOs dated 14 March). I have also included some additional points we are seeking your advice on – which may also be useful in guiding the Working Group's efforts. The Minister's requests:

1. **Industry to urgently establish a working group to align efforts in addressing this problem, with the department involved primarily as an observer.**
 - a. The Minister noted creating easily accessible contact points for customers to check whether their device may be affected, would be a useful first step for the Working Group.
2. **Each company's action plans by 25 March 2024, with subsequent fortnightly updates on progress.**
 - a. Fortnightly updates to include information on the numbers of impacted and migrated customers, including those of mobile virtual network operator (MVNO) partners, broken down by the following impacted devices:
 - i. 3G-only devices;
 - ii. 4G-compatible devices without either low-band connectivity or VoLTE capability;
 - iii. 4G-VoLTE compatible devices that cannot make Triple Zero calls; and
 - iv. any new category of impacted device that may be identified.
 - b. The Minister also notes the Department may request further information it needs to advise her on this matter.

In this regard, I note that the template we circulated last week has been attached to the meeting invitation.

3. **MNOs and MVNOs to step up their communications campaigns to actively engage and incentivise customers who may be impacted to check their device, and also generate broader awareness about this issue.**
 - a. Industry to ensure affected Australians have every reasonable opportunity to be informed and

upgrade their devices in time for the switchover

- b. Outreach efforts to include device retailers and those who may be less technologically literate or do not have English as a first language.
- c. Government and industry messaging to be consistent, well-coordinated, clear and targeted.
- d. Messaging from industry to direct consumers toward practical actions they can take to understand whether their device is affected and any support offered by the MNOs and MVNOs.

Additional points that we thought would be useful for the working group to consider and advise on:

- Advice on industry's efforts to identify affected customers.
 - Has or can industry develop / provide a robust list of affected devices? And identify the consumers most likely to have one of these devices?
 - Can industry detect these devices and associated customers on its network and use this information to reach out to customers directly?
 - Is industry able to develop a portal/tool (individual or shared) for customers to check their device?
- Advice on how industry is directly contacting customers, and the timelines it is working towards.
 - Are there multiple means industry is using, if so, what are they?
 - How many times will industry try and contact affected customers?
- In industry's view, what would achieve: *"ensure affected customers have every reasonable opportunity to be informed and upgrade their devices in time for switchover."*
- Actions industry is taking to reach vulnerable consumers, culturally and linguistically diverse customers, and older consumers.
 - Advice on customer support measures.
- What information is being given to customers about affordable devices – how pro-actively is this information being given?
- What incentives is industry providing to customers to upgrade their devices.
 - Advice on How MVNOs are being engaged / reaching their customers.
- What are the major carriers doing to support MVNOs contact their customers?
- How are the MVNOs reaching these customers?

CONFIDENTIAL is unfortunately unable to make Friday, but CONFIDENTIAL will attend for her if that is agreed to by the Group.

CONFIDENTIAL and I look forward to discussing with you on Friday.

Kind regards

CONFIDENTIAL - PERSONAL INFORMATION

GPO Box 594 Canberra, ACT 2601

Executive Assistant: CONFIDENTIAL - @infrastructure.gov.au

Department of Infrastructure, Transport, Regional Development and Communications and the Arts

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*I would like to acknowledge the traditional custodians of this land on which we meet, work and live.
I recognise and respect their continuing connection to the land, waters and communities.
I pay my respects to Elders past and present and to all Aboriginal and Torres Strait Islanders.*

OFFICIAL

From: CONFIDENTIAL - PERSONAL INFORMATION [REDACTED]@amta.org.au>
Sent: Tuesday, 19 March 2024 1:00 PM
To: CONFIDENTIAL - PERSONAL INFORMATION [REDACTED]@infrastructure.gov.au>; CONFIDENTIAL - PERSONAL INFORMATION [REDACTED]@infrastructure.gov.au>
Cc: CONFIDENTIAL - PERSONAL INFORMATION [REDACTED]@optus.com.au>; CONFIDENTIAL - PERSONAL INFORMATION [REDACTED]@team.telstra.com>

Subject: Confirmation of 3G Networks Closure Working Group Meeting
Hi CONFIDENTIAL - PERSONAL INFORMATION [REDACTED]

Thanks for your time last night on the 'phone.
As discussed, I propose to set up the first meeting of the 3G Networks Closure Working Group this Friday morning (likely to be 10 am).
I trust that time works for you. I will schedule it for 45 mins but expect it to be short and the agenda will comprise:

- Confirming representation and membership if the WG including the SteerCo
- Discuss the scope of the WorkPlan

Please let me know if that works for you – I think you mentioned you would be members but if any different I would appreciate you letting me know the government reps as soon as possible. I will send through an invite once confirmed.

Attached is the draft Charter which incorporates the items that CONFIDENTIAL - PERSONAL INFORMATION [REDACTED] mentioned in his email in response to CONFIDENTIAL - PERSONAL INFORMATION [REDACTED] queries (reporting to the Minister, etc). This Charter is subject to approval by the AMTA Policy Committee tomorrow morning – to formally establish the WG.

Kind regards,
CONFIDENTIAL - PERSONAL INFORMATION [REDACTED]



CONFIDENTIAL - PERSONAL INFORMATION [REDACTED]

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Fwd: VoLTE/3G emergency calling - brief to Minister [SEC=OFFICIAL]

From: CONFIDENTIAL - [REDACTED]@mo.communications.gov.au>
To: CONFIDENTIAL - [REDACTED]@tpgtelecom.com.au>
Cc: CONFIDENTIAL - PERSONAL [REDACTED]@mo.communications.gov.au>
Date: Mon, 25 Mar 2024 22:55:48 +1100
Attachments: TPG Telecom 3G closure VoLTE customer engagement overview 25 March 2024.pdf (298.15 kB); 3G Networks Closure Working Group Information template_filled.docx (38.02 kB)

ALERT: This email originated outside TPG Telecom's network. If you do not recognise the sender or did not expect this email then please do not open any attachments or click any link.

OFFICIAL

Thanks [REDACTED]. Received.
 Cheers

CONFIDENTIAL

OFFICIAL

From: CONFIDENTIAL - [REDACTED]@tpgtelecom.com.au>
Date: Monday, 25 March 2024 at 8:50:34 pm
To: CONFIDENTIAL - [REDACTED]@MO.communications.gov.au>
Cc: CONFIDENTIAL - [REDACTED]@tpgtelecom.com.au> CONFIDENTIAL - [REDACTED]@tpgtelecom.com.au> CONFIDENTIAL - PERSONAL [REDACTED]@infrastructure.gov.au>, CONFIDENTIAL - PERSONAL [REDACTED]@infrastructure.gov.au> CONFIDENTIAL - [REDACTED]@tpgtelecom.com.au> CONFIDENTIAL - [REDACTED]@tpgtelecom.com.au>
Subject: VoLTE/3G emergency calling - brief to Minister

Dear CONFIDENTIAL

On behalf of TPG Telecom, I attach a response to Minister Rowland's letter of 14 March 2023, requesting our action plan for addressing VoLTE compatible handsets that require 3G for emergency calling. I attach a response to the information template circulated by the Department and a more detailed briefing, including our approach to customer engagement in the lead up to the closure of our 3G network.

Summary answers to the additional questions from the Department are provided below for ease of reference.

As requested, we will provide updates to this information within the next fortnight.

Kind regards

CONFIDENTIAL - PERSONAL INFORMATION

tpg TELECOM



I acknowledge the Traditional Custodians of the lands on which I work and reside, the Gadigal and Darramuragal Peoples, and I pay my respects to their Elders, past, present and emerging.

1. TPG Telecom's efforts to identify affected customers.

Can TPG provide a robust list of affected devices? And identify the consumers most likely to

have one of these devices?

- We have developed a list of known incompatible devices that are currently active on our network. We are awaiting advice from key manufacturers on the status of devices currently categorised as “unknown”.

Can TPG detect these devices and associated customers on its network and use this information to reach out to customers directly?

- Yes, as above TPG Telecom has identified and contacted each customer with a known incompatible handset.

Is TPG able to develop a portal/tool (individual or shared) for customers to check their device?

- TPG Telecom will participate in the industry process to create a tool for customers to easily look-up the compatibility status of their handset.
 2. **How is TPG Telecom directly contacting customers, and what are the timelines it is working towards.**

Are there multiple means TPG is using, if so, what are they?

- TPG Telecom has contacted all customers with a known incompatible handset via SMS as this channel typically has a higher read-rate than other channels. An e-mail campaign for our post-paid customers is being considered, alongside the use of other channels such as social media.

How many times will TPG try and contact affected customers?

- We have recently sent direct messages to our customers with handsets locked to 3G for emergency calls (copy below). We are currently considering the appropriate frequency (for example, fortnightly) for additional communication with these customers in the lead up to the June closure of the Telstra 3G network. This would extend our previous campaign undertaken in preparation for the closure of our 3G network, where from June 2023 customers with an incompatible device were contacted via SMS every 45 days.
- *SMS Copy: Hi , as we have previously advised, our 3G network has now been turned off. We have identified that the handset you are using is not compatible with Australian mobile networks and while it can make standard calls on a 4G/5G network, it cannot make calls to 000 (Emergency Calls). For safety reasons, you must urgently change to a compatible device otherwise you will not be able to make Emergency Calls. See our compatible devices list here: vodafone.com.au/about/legal/devices>. Need more info? Call us on 1555 or visit your local Vodafone store: vodafone.com.au/stores>. Thanks, Vodafone.*

In TPG’s view, what would achieve: “ensure affected customers have every reasonable opportunity to be informed and upgrade their devices in time for switchover.”

- TPG Telecom announced the closure of its 3G network in September 2022. This provided 14 months for engagement with customers where handset upgrades were required. An extensive communications exercise was undertaken during this period across all brands. The closure, completed in January 2024, resulted in minimal disruption to customers, with very low levels of customer complaints and only 13 individual complaints escalated to the TIO.

What action is TPG taking to reach vulnerable consumers, culturally and linguistically diverse customers, and older consumers.

- Our website provides information for customers on accessibility and how to access translation services. <https://www.vodafone.com.au/support/notify/accessibility>

3. What are TPG Telecom’s customer support measures.**What information is being given to customers about affordable devices – how pro-actively is this information being given?**

- We are undertaking a proactive communications campaign around known-incompatible devices. Customers that contact us for further information are provided with options for compatible devices that will best meet their needs. Lebara is offering affected customers a free Vodafone device and consideration is being given to a broader offering to subsidise handsets for customers with known incompatible handsets.

What incentives are TPG providing to customers to upgrade their devices.

- As above, we are providing advice to customers on a case-by-case basis and consideration is being given to a handset subsidisation program to specifically address the VOLTE emergency calling issue.

4. How are you engaging MVNOs and reaching their customers?**What are the major carriers doing to support MVNOs contact their customers?**

- TPG Telecom has two directly impacted MVNOs: Pivotal and IMZI. We have identified 76 customers on these networks with known incompatible handsets.

How are the MVNOs reaching these customers?

- We will be providing the affected MVNOs with suggested communications to send to customers with known incompatible handsets. MVNOs will be asked to provide evidence that these communications have been sent.

Confidential

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FW: Impact of the 3G shutdown on emergency calls [SEC=OFFICIAL]

From: CONFIDENTIAL - [REDACTED]@acc.gov.au>
To: CONFIDENTIAL - [REDACTED]@tpgtelecom.com.au>
Cc: CONFIDENTIAL - [REDACTED]@acc.gov.au>; CONFIDENTIAL - PERSONAL [REDACTED]@acc.gov.au>
Date: Tue, 02 Apr 2024 09:36:00 +1100
Attachments: EO - Letter from ACCC to TPG CEO on impact of 3G shutdown on emergency call - Signed by Acting ACCC CEO 2 April 2024.pdf (119.6 kB); Consumer risk communication - calling consumers to action.pdf (190.14 kB)

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Hi CONFIDENTIAL, please see attached letter – happy to discuss.

Kind regards,

CONFIDENTIAL - PERSONAL INFORMATION

Australian Competition and Consumer Commission

Level 27, 135 King Street, Sydney NSW 2000

CONFIDENTIAL - [REDACTED]

<http://www.accc.gov.au>

The ACCC acknowledges the traditional owners and custodians of Country throughout Australia and recognises their continuing connection to the land, sea and community.

We pay our respects to them and their cultures; and to their Elders past, present and future.

From: Executive Secretariat

Sent: Tuesday, April 2, 2024 9:29 AM

To: CONFIDENTIAL [REDACTED]@tpgtelecom.com.au

Cc: Executive Secretariat ; CONFIDENTIAL [REDACTED]

Subject: Impact of the 3G shutdown on emergency calls [SEC=OFFICIAL] [ACCC-ACCANDAER.FID3732491]

OFFICIAL

Dear CONFIDENTIAL,

Please find attached correspondence from A/g CEO Sarah Proudfoot regarding the impact of the 3G shutdown on emergency calls.

Please note a copy of the letter will also be provided to the Department of Infrastructure, Transport, Regional Development, Communications and the Arts.

Kind Regards,

CONFIDENTIAL - PERSONAL INFORMATION

Australian Competition & Consumer Commission

23 Marcus Clarke Street, Canberra City

GPO Box 3131, Canberra ACT 2601

CONFIDENTIAL - PERSONAL INFORMATION

www.accc.gov.au



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Our ref: 59184

Contact officer: **CONFIDENTIAL -**
Contact phone: **PERSONAL**

2 April 2024

Mr Iñaki Berroeta
Chief Executive Officer and Managing Director
TPG Telecom Limited
Level 27, Tower Two
International Towers Sydney
200 Barangaroo Avenue
BARANGAROO NSW 2000

Dear Mr Berroeta

Re: Impact of 3G shutdown on emergency calls

ACCC staff met with representatives from TPG, the other mobile network operators (MNOs) and the Australian Mobile Telecommunications Association (AMTA) on 14 March 2024, where they were advised that some older 4G handsets cannot make emergency calls after the shutdown of the 3G networks by the MNOs, affecting around 740,000 customers across the networks.

Information provided at the meeting indicated that the MNOs are in the process of contacting affected customers. The MNOs requested that the ACCC assist in the process by potentially addressing this matter through product recalls and by publishing information directed at MNO customers on the ACCC's website.

As noted at the meeting on 14 March 2024, we do not consider the voluntary or compulsory recall provisions of the Australian Consumer Law¹ are applicable in this case because:

- The affected mobile handsets do not appear to have a dangerous characteristic that satisfies compulsory or voluntary recall provisions under the ACL.
- The affected handsets are currently able to be used to make emergency calls but may not be able to do so after the 3G networks are shut down.
- In the event that the 3G networks are shut down, the affected mobile handsets may not be able to be used for emergency calls in the event of an injury, but they are not the cause of the injury.

ACCC staff undertook at this meeting to provide information on effective communication with affected consumers based on past research and experience in monitoring recalls of

¹ Please see sections 128(1) and 122(1) of the ACL.

unsafe products. These are provided in a slide pack attached to this letter. The content of the slides are largely drawn from the ACCC's [Conducting a consumer product safety recall: A guideline for suppliers](#).

We share the concerns raised by Minister Rowland in her letter dated 14 March 2024 to the MNOs regarding the serious consumer impact of this issue and the inadequacy of the MNOs' current actions in addressing the matter thus far. We note the importance of raising public awareness of this issue and consider the onus is on the MNOs and their mobile virtual network operator partners to ensure that the affected customers are made aware of the issue and the need to check and upgrade their devices as soon as possible.

While the ACCC does not propose to be involved in any public messaging at this point, we would consider that issue further once the MNOs have developed a more comprehensive and effective action plan.

We strongly recommend TPG and the other MNOs take further urgent actions and expand your efforts as requested by the Minister to ensure that this issue can be managed satisfactorily prior to the shutdown of the remaining two 3G networks.

Yours sincerely

CONFIDENTIAL - PERSONAL
INFORMATION

Chief Executive Officer (A/g)

Attachment: Consumer risk communication – calling consumers to action



Consumer Risk Communication

Calling consumers to action

Scope issue and assess the risk

The responsible supplier should ask all suppliers in the supply chain to:

- Find out how many were supplied to end consumers,
- Gather as much information about where the affected product is likely to be located
- Advise if they have direct consumer contact details and in what form e.g. email, mobile etc
- Need to understand the size and urgency of the issue
- Identify the affected products – name, model, serial numbers, batch numbers, product dates etc
- Stop sale, manufacture, import and advertising
- How many are with consumers and still in the supply chain?
- What is the defect and hazard
- Find and fix the root cause
- **Tools:** European Union [RAPEX risk assessment](#),
Consumer product recall: Guidelines for Suppliers [Standards Australia](#) ISO 10393:2017

Choose a remedy

Consumer product safety remedies should be consistent with the consumer guarantees provisions under the ACL.

The supplier can offer to:

- **repair** the product to remove the hazard
 - **replace** the product with a similar one that doesn't have the hazard
 - **refund** the full amount paid when the product is returned
 - **issue** warning labels or updated instructions about how to use the product safely
 - **arrange** a software patch or update.
 - Incentives can entice consumers to return the product.
 - A remedy is not: a store credit, gift card, partial or scaled down refund
- **Consumer guarantees** give consumers rights that the products they buy are safe, durable, free from defects and do what consumers normally expect them to do
 - Cannot be taken away by anything a business says or does, including a business putting a specific time limit on when a consumer can seek a remedy
 - Offering a remedy does not remove the consumers rights to an alternative remedy

Make it easy to receive a remedy

- **Keep the process simple** – minimise the number of steps for consumers to receive a repair, replacement or refund. Make sure the remedy is suited to the product.
- Some options for suppliers to consider:
 - Have a dedicated consumer hotline – for consumers to call for information on how to return the product
 - Return the product to place of purchase for a full refund. Some businesses such as Australia post offer services to receive returned products and offer refunds on behalf of a supplier.
 - Send a **prepaid envelope or reply-paid package**
 - For large products - ask consumers to **return a small, but significant part** of the product so it cannot be used. Then give a refund.
 - Supply labelling information to your consumers, but also give the option for a refund or replacement.
 - Offer an extra incentive as well as the remedy

Prepare a communications plan

Prepare a communication plan to tell consumers and suppliers in the supply chain about the problem

Use **direct communications** where possible

- Email, text message, letter, phone call, contact from online marketplaces
- Be aware of privacy obligations
- Use **other contact methods**
 - Consumers expect to see information about safety matters on social media, instore and online
- Set up a complaints process
- Tell affected retailers, franchisees and distributors
- Online marketplaces: can remove affected products from their platforms
- Advertise broadly on multiple channels if you don't know who has the product.
- Repeat the messaging.

- **Support consumers within our diverse community**

- Aboriginal, Torres Strait Islander and Tiwi people
- from multicultural communities
- vulnerable, including older Australians and people living with a disability, or
- living in lower socio-economic communities



Create clear communications

- Communicate clearly and simply.
- Avoid words or phrases that downplay the risk
- Use a range of contact methods
- Use designs that consumers will notice

Messaging should include

1. Product
2. Clear images
3. Immediate action
4. Why the product is dangerous
5. Potential harm and max potential injury
6. Injuries or incidents
7. Personalise
8. Steps to receive a remedy – and what that is
9. Contact details

Track, review, report and adjust

- Track the number of refunds/repairs provided
 - Adjust and review comms plans if the remedy rate is low.
- Report on progress
- Reassess the risk:
 - Learn new information about the defect
 - More products become affected
 - Injuries
 - Consumers not responding to the message
 - Low number of remedies
- May need to update the wording in their consumer messaging.
- An effective recall is when:
 - Advertising is clear, accessible and language is consistent
 - Affected consumers are aware of the problem and follow the instructions
 - Unsold stock has been removed from the supply chain
 - Other businesses in the supply chain are aware of the problem and are acting
 - No complaints received
 - No incidents or injuries are occurring

2 April 2024

Reference: MC24-000238

The Hon Michelle Rowland MP
Minister for Communications
House of Representatives
Parliament House
Canberra ACT 2600

Via: Michelle.Rowland.MP@aph.gov.au



Dear Minister,

Thank you for your letter of 14 March 2024 to the Australian Mobile Telecommunications Association (AMTA) and Chief Executive Officers of Telstra, Optus and TPG Telecom in relation to the switchover of their respective 3G networks. I write on behalf of the carriers in response to your letter, to address the matters you have raised.

I would like to begin by acknowledging the Government's concerns about the closure of the 3G networks, and the number of customers that may have devices that may be unable to make Triple Zero calls. AMTA and the mobile industry are fully committed to working closely with the Government to address your concerns and ensure that customers are supported during the transition away from 3G.

In your letter, you asked that an industry working group be established, with the Department of Communications as an observer. I am pleased to inform you that the first working group meeting occurred on 22 March 2024. At the meeting the membership of the 3G Networks Closure Working Group (WG) was confirmed, with representation from AMTA, each mobile network operator (MNO) and the Department of Communications. A Chair was elected, and the reporting template was tabled. The Working Committee of the WG will meet at least weekly and the Steering Committee of the WG will meet fortnightly.

You also asked that the action plans from the individual carriers be provided to you by 25 March 2024, with information on the numbers of impacted and migrated customers, including those of mobile virtual network operator (MVNO) partners, broken down by impacted devices. Each MNO has confirmed to AMTA that its Action Plan was submitted to Government on that date.

Finally, you also noted your concern that customers do not have a simple and secure way to test whether their device is affected. As you are aware, AMTA is investigating a way to make International Mobile Equipment Identity (IMEI) number checking functionality available to the public. I understand that Telstra outlined in its Action Plan the intended launch on 27 March of a 3G network closure tool that customers can access via a blank sms to 3498 (3GXT) for Telstra's customers. This links to data in the 3G network closure tool that is available at Front of House for customers who contact Front of House with questions about their devices. I confirm that the sms version of the tool launched on 27 March 2024.

IMEI is a unique 15-digit serial number for identifying a device, and this functionality would allow phone users to check their IMEI number to assess whether their device is affected. AMTA and the industry are continuing to work through this and will keep you updated on progress via your department representatives. At the industry WG meeting on 28 March, the merits and limitations of the data inputs into a IMEI lookup tool was discussed with your department representatives. Should this be an appropriate way forward, we would also welcome your involvement in the public launch of this functionality.

AMTA and the MNOs will continue to engage closely with your office and your department as the network closures progress. In the meantime, if you or your office have any questions or concerns, please do not hesitate to contact me on **CONFIDENTIAL**.

Yours sincerely,

**CONFIDENTIAL -
PERSONAL
INFORMATION**

Louise Hyland
Chief Executive Officer
Australian Mobile Telecommunications Association Ltd

Cc:

- Ms Vicki Brady, Chief Executive Officer of Telstra Group Limited
- Mr Michael Venter, Interim Chief Executive Officer of Optus
- Mr Iñaki Berroeta, Chief Executive Officer and Managing Director of TPG Telecom Limited
- Nerida O'Loughlin PSM, Chair, Australian Communications and Media Authority
- Gina Cass-Gottlieb, Chair, Australian Competition and Consumer Commission

OFFICIAL

**The Hon Michelle Rowland MP**

**Minister for Communications
Federal Member for Greenway**

MS24-000238

Mr Iñaki Berroeta
Chief Executive Officer and Managing
Director
TPG Telecom Limited
Level 1, 177 Pacific Highway
NORTH SYDNEY NSW 2060

Ms Vicki Brady
Chief Executive Officer
Telstra Group Limited
Locked Bag 5630
MELBOURNE VIC 3001

Mr Michael Venter
Interim Chief Executive Officer
Optus
1 Lyonpark Road
MACQUARIE PARK NSW 2113

Ms Louise Hyland
Chief Executive Officer
Australian Mobile Telecommunications
Association Ltd
Level 5, 50 Berry Street
NORTH SYDNEY NSW 2060

Dear Mr Berroeta, Ms Brady, Mr Venter and Ms Hyland,

I am writing in relation to progress with the shutdown and switchover of 3G networks.

I acknowledge the efforts by Telstra, Optus, and TPG to date to inform customers and the public generally of the impending 3G network shutdowns, and to help prepare customers for the transition. I also acknowledge the information provided by AMTA on its website and additional outreach activities AMTA has undertaken.

The telecommunications sector has successfully managed complex network shutdowns in the past, most recently the shutdown of the 2G network. This has undoubtedly benefited Australians and our economy through improved technology, more capacity and more data.

However, I am aware and concerned that many customers remain reliant on devices and will be negatively affected when the networks are shut down.

My Department recently briefed me that after the proposed 3G switchover takes effect, potentially up to 740,000 customers may have devices that are unable to make Triple Zero calls even though they will otherwise work to make voice calls over 4G networks.

I am also advised that due to the different approaches being undertaken by industry in estimating the number of affected users, there are significant variations evident between carriers in calculating the scale of possible impact.

The Hon Michelle Rowland MP
PO Box 6022, Parliament House Canberra
Suite 101C, 130 Main Street, Blacktown NSW 2148 | (02) 9671 4780
OFFICIAL

OFFICIAL

Understandably, the Government is very concerned that affected customers may mistakenly think their mobile device is fit for purpose, when it would fail them in an emergency, particularly given the affected devices would work almost all the time, except to call Triple Zero.

I am also particularly worried about the implications of the Telstra 3G shutdown, given the breadth of its coverage in regional areas. As I understand it, when Telstra shuts down its 3G network, customers with affected devices will lose access to emergency calls in regional locations currently serviced by Telstra 3G that are outside Optus' 3G coverage zone. It is also concerning to me that at present, customers do not have a simple and secure way to test whether their device is affected.

In light of these concerns, and given many affected end users are likely to assume their device is unaffected, a far more robust industry information sharing, coordination and communications effort is needed to ensure affected Australians have every reasonable opportunity to be informed and upgrade their devices in time for the switchover.

I intend to support the mobile network operators (MNOs) through consistent messaging, however I see this as primarily a matter for the industry to address through their communications with the public and their customers.

Consequently, I request that an industry working group be urgently established to align efforts in addressing this problem, with my department involved primarily as an observer. In addition, I would appreciate it if you could each provide me with your company's action plan to address this issue by 25 March 2024, and subsequently provide fortnightly updates on progress, including through the industry working group. Specifically, I ask that the fortnightly updates include information on the numbers of impacted and migrated customers, including those of mobile virtual network operator (MVNO) partners, broken down by the following impacted devices: 3G-only devices; 4G-compatible devices without either low-band connectivity or VoLTE capability; 4G-VoLTE compatible devices that cannot make Triple Zero calls; and any new category of impacted device that may be identified. My department may request further information it needs to advise me on this matter.

While MNOs are making efforts to contact customers that may be in possession of an impacted device, I would like to see MNOs and MVNOs step up their communications campaigns to actively engage customers who may be impacted, incentivise customers to check their device, and also generate broader awareness about this issue, including with device retailers and among those who may be less technologically literate or do not have English as a first language. I think it will be insufficient to depend on one-way engagement. I am mindful that the public is highly sceptical of direct messages they receive these days, given the prevalence of scams.

OFFICIAL

OFFICIAL

I am considering what activities institutions of government could undertake to help alert consumers to the issue and directing them to their MNOs and MVNOs for support and advice. Government and industry messaging would need to be consistent, well-coordinated, clear and targeted. Messaging from industry should direct consumers toward practical actions they can take to understand whether their device is affected and any support offered by the MNOs and MVNOs. Unless the messaging is well-handled, there is a risk that customers may flood Triple Zero with test calls, to the detriment of the service. That could create a false sense of security because Triple Zero calls will connect to available, alternative 3G networks, and will only fail after all available 3G networks are shut down. I understand that one of the actions being considered by industry is the creation of easily accessible contact points for customers to check whether their device may be affected, this would seem to be a useful first step and possibly an immediate focus for the Working Group.

As you would appreciate, access to Triple Zero is amongst the most critical public interest requirements that apply to mobile carriers in Australia. The recent Triple Zero outage and the Optus outage, which impacted emergency calls, heightens the need for the MNOs to get this right given the potential consequences.

I envisage that the action plans provided to me by 25 March 2024 will help inform my consideration of whether regulatory action for a proposed delay of the 3G switchover may be warranted to protect the public interest.

Yours sincerely

A handwritten signature in blue ink that reads "Michelle Rowland". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Michelle Rowland MP

14 / 3 / 2024

cc Nerida O'Loughlin PSM, Chair, Australian Communications and Media Authority;
Gina Cass-Gottlieb, Chair, Australian Competition and Consumer Commission

OFFICIAL

OFFICIAL



The Hon Michelle Rowland MP

**Minister for Communications
Federal Member for Greenway**

MS24-000606

Mr Iñaki Berroeta
Chief Executive Officer and Managing
Director
TPG Telecom Limited
Level 1, 177 Pacific Highway
NORTH SYDNEY NSW 2060

Dear Mr Berroeta,

I am writing regarding the 3G switch off and the issue affecting 4G devices that rely on 3G for emergency calling.

I acknowledge the efforts TPG Telecom is making to respond to this complex and challenging issue. The high number of customers with 4G Voice over Long Term Evolution (VoLTE) capable devices across the community that may not be able to call Triple Zero in an emergency following the 3G network shutdowns is concerning from a public safety perspective, as is the number of customers with personal medical devices that won't work on the 4G network. While I acknowledge the advice given by the 3G Network Closure Working Group that devices can behave differently on different networks, I encourage all members of the Working Group, to focus on sharing information and approaches to support reducing this number.

As an industry-wide issue — recognising that some of the devices used by customers on TPG Telecom's network may not have been sold by TPG Telecom itself, and that given TPG Telecom's 3G network is already shutdown, its customers with affected devices are currently reliant on Telstra and Optus' 3G networks to make calls to Triple Zero — and I am also writing to the other MNOs and the AMTA, I urge TPG Telecom to ramp up its efforts, as well as work with industry to strengthen collective efforts to help respond to this issue.

It is essential for industry to enable customers to confirm whether their device is affected in the easiest way possible. Telstra's SMS tool is a great step in the right direction and I have received feedback that it is fast and easy to use. I also acknowledge that Telstra has offered, through the Working Group, to share its approach with other MNOs should they wish to adopt a similar tool.

However, I am concerned that an industry shared webpage has yet to be established with a common, easily understood message, that customers of all networks can access to find information about whether their device is affected. Whilst I understand that progress is being

The Hon Michelle Rowland MP
PO Box 6022, Parliament House Canberra
Suite 101C, 130 Main Street, Blacktown NSW 2148 | (02) 9671 4780
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made on this through the Working Group, it is my expectation an AMTA hosted website with the necessary functionality to direct the public to information from their MNO or MVNO to assess the compliance status of their device will be up and running no later than by the end of this month.

This will be an important building block to enable broader public communications, to complement the direct communications efforts by industry.

I note that in TPG Telecom's action plan the focus of its engagement efforts are direct-to-customer communications (e.g. via SMS, email and post). I expect TPG Telecom, and industry as a whole, to now consider a broader range of communication channels to raise public awareness and generate action on this potentially life-threatening issue. This would include broadcast media both regional and metropolitan, engagement via community groups and organisations.

My department will also provide industry with a list of communications options for vulnerable cohorts that could be used to support improved whole-of-industry messaging, leveraging the AMTA website once established.

I encourage TPG Telecom, and the other members of the Working Group, to also consider: the demographic characteristics and circumstances of its customers to inform engagement approaches; offers to incentivise customers to upgrade their device; and offers of assistance to support customers through this transition.

I also urge TPG Telecom to consider how it is addressing the issue of new customers joining its network, given its 3G network has already been shut down.

Industry is best placed to manage their communications with their customers and my department and I continue to seek appropriate opportunities to support industry's public awareness messaging. However, I am also firmly of the view that industry could and should be doing more to raise awareness of these issues and work to resolve them as a matter of urgency.

Yours sincerely



Michelle Rowland MP

16 14/2024

cc. Nerida O'Loughlin PSM, Chair, Australian Communications and Media Authority;
Gina Cass-Gottlieb, Chair, Australian Competition and Consumer Commission



6 May 2024

The Hon Michelle Rowland, MP
Minister for Communications
PO Box 6022
Parliament House
CANBERRA ACT 2600

By email: **CONFIDENTIAL**@[MO.communications.gov.au](mailto:CONFIDENTIAL@MO.communications.gov.au)

Dear Minister

I refer to our meeting of 5 April 2024 and your subsequent letter of 16 April regarding the issues affecting 4G devices relying on 3G for emergency calling.

Information sharing

TPG Telecom has been working with other industry participants since last year to ensure all affected devices are identified. These efforts have intensified in the lead up to the closure of the 3G networks throughout 2024.

We have established processes across operators to share information regarding handsets connected to our networks. This includes sharing advice from manufacturers on the compliance of handset variants, and the results of our own testing.

Once collated, these lists are used across the industry to create “whitelists” and “black lists” of known handsets.

Concurrently, we are working with manufacturers and other operators to classify the handsets with “unknown” status. We have made good progress with the manufacturers still active in the Australian market.

As you note, handset numbers are subject to change as new customers join our network. Our fortnightly reporting schedule identifies these new devices. Where a newly connected device is known to be affected, a message is sent advising of the need for an upgrade.

Communication channels

As you are aware, all customers with known 3G-only or 4G non-Volte handsets received a combination of weekly, fortnightly, and monthly direct communications, over a 12-month period in the lead up to the TPG Telecom 3G network closure.

These communications, advising customers of the need to take immediate action to upgrade their handsets, moved to a fixed fortnightly cadence in April 2023.





We have again stepped up our communication efforts with customers following the industry's efforts to identify 4G handsets requiring 3G to make emergency calls.

All customers with handsets known to be affected by this issue are receiving fortnightly direct SMS advising of the need to take immediate action to upgrade their handsets.

In addition, we are launching a free replacement handset campaign for our Lebara customers, similar to previous initiatives provided in 2023. Consideration is being given to a discount plan for replacement handsets across other brands.

The industry website (3gclosure.com.au) is now live and contains consistent messaging for customers about the 4G handset issue, together with broader 3G closure issues relevant to Telstra and Optus customers.

The industry webpage will shortly include a simple lookup tool for consumers to be able to quickly check the status of their device. This functionality is now in the testing phase and has been shared with your Department.

We continue to investigate the potential to implement an SMS version of this service. The Telstra deployment of this service was unique to their legacy systems. To implement a similar service, TPG Telecom would need to build the solution from scratch. We understand Optus faces the same challenges in this regard.

The AMTA website has been translated into 11 different languages. In addition, TPG Telecom's website provides information for customers on accessibility and how to access translation services. <https://www.vodafone.com.au/support/notify/accessibility>.

We are committed to working with our industry colleagues, to ensure consistent messaging continues to be used and updated by AMTA to raise public awareness.

TPG Telecom will also participate in any broader industry community engagement efforts, including the potential extension of the AMTA campaign via additional communication channels.

If you or your staff would like a further briefing on our continuing efforts, please contact our Head of Government Relations, **CONFIDENTIAL - PERSONAL**

CONFIDENTIAL - PERSONAL
INFORMATION

Yours sincerely

**CONFIDENTIAL -
PERSONAL
INFORMATION**

Iñaki Berroeta

CEO and Managing Director
TPG Telecom (ASX: TPG)



3 June 2024

The Hon Michelle Rowland, MP
Minister for Communications
PO Box 6022
Parliament House
CANBERRA ACT 2600

By email: **CONFIDENTIAL** [@MO.communications.gov.au](mailto:CONFIDENTIAL@MO.communications.gov.au)

Dear Minister

I refer to your letter of 29 May 2024, regarding TPG Telecom's continuing work to identify VoLTE capable devices requiring 3G to place an emergency call.

As you are aware, these devices were sold in Australia by unaligned retailers or brought into Australia by overseas visitors. These devices have not previously been tested by TPG Telecom or approved for use on our network.

As such, the process for determining the capability of each individual model of device remains complex. To date, we have identified over 270 individual manufacturers and more than 28,000 models needing to be categorised.

Since the formation of the AMTA 3G Working Group in March we have been working closely with your Department and other mobile operators to address this issue, and continue to provide updated fortnightly reports on our device numbers.

In early May, the Department amended the information template to specifically include both voice and data-only subscribers. As you have noted, this caused our number of unknown devices to increase for one reporting period, as the number of devices we needed to categorise increased from 4.7 million to 5.9 million.

We subsequently reduced the number of unknown devices to 210,000 in the next report. I understand the unknown device count has continued to fall significantly, with 152,000 unknown devices reported to the Department today.



We recognise the urgency of the situation and remain committed to working with industry to continue to drive the number of unknown devices down as low as possible.

TPG Telecom has been transparent about the process for categorising devices in accordance with the Department's template. We rely on the manufacturer's advice as to the compatibility of a device to make 4G emergency calls in Australia. In addition, we continue to review call records to identify devices successfully making 4G emergency calls.

We have provided lists of model numbers to manufacturers with whom we have a commercial arrangement and continue to directly contact other manufacturers seeking their advice on device capability. Some manufacturers are no longer in the mobile handset market.

Manufacturers have confirmed the compatibility of some handsets sold in Australia, but have been unable to provide positive confirmation of overseas variants.

It is unclear to us how the other MNOs have been interpreting information from manufacturers. We expect the Department should be seeking clarification from the other MNOs to ensure there is consistency in the advice being provided to the Government.

To assist this process, TPG Telecom has recently provided Telstra and Optus with its list of devices currently categorised as "unknown" for their review and advice. We anticipate sharing device information will assist in reducing the number of unknown devices and highlight any discrepancies in the current reporting of device numbers to the Department across all networks.

Overall, the number of non-compliant handsets is reducing as customers replace those devices. This highlights the success of our continued communications efforts with our customers. As previously advised, we have been proactively contacting each customer with a known non-compatible device every fortnight with clear messaging on the need to take immediate action to upgrade their device.

We have recently refreshed some of these messages to avoid messaging fatigue. This includes the messages we are sending to our Lebara customers offering a free device upgrade for affected customers.

Information on approved devices has also been refreshed across all websites. In addition, we are including information on the need to check device compatibility at point of sale, where applicable.

I note your continued interest in the availability of an SMS tool for TPG Telecom customers. While TPG Telecom is continuing to proactively communicate directly with its customers, we acknowledge a reactive SMS tool is required to meet the Government's objectives.



Accordingly, we have scoped the development and implementation costs involved and committed to its implementation. We currently estimate the SMS tool will be able to launch in July.

In the meantime, we will continue to work with manufacturers and other network operators to reduce the number of unknown devices as a matter of priority.

To date, TPG Telecom has been engaging constructively with both your office and the Department on this issue and I expect the respectful and collegiate way this issue has been managed to continue.

If you would like to discuss this issue, please do not hesitate to contact me or our Head of Government Relations, **CONFIDENTIAL - PERSONAL INFORMATION** or **CONFIDENTIAL**@tpgtelecom.com.au.

Yours sincerely

**CONFIDENTIAL -
PERSONAL
INFORMATION**

Iñaki Berroeta

CEO and Managing Director
TPG Telecom (ASX: TPG)



The Hon Michelle Rowland MP

**Minister for Communications
Federal Member for Greenway**

MS24-001076

Mr Iñaki Berroeta
TPG Telecom Limited
Level 24, 200 Barangaroo Avenue
Sydney NSW 2000

via: **CONFIDENTIAL** @tpgtelecom.com.au

Dear Mr Berroeta,

I am writing in relation to the 3G switch offs. I remain seriously concerned about the number of potential customers with 4G Voice over Long-Term Evolution (VoLTE) capable devices that rely on 3G for emergency calling (affected devices) in the community.

Reviewing the current data for the mobile industry as a whole, the public safety risk associated with affected devices remains worryingly high. Given we are fast approaching Telstra and Optus' planned switch off dates, I request that you provide me with a revised action plan by 3 July 2024 detailing the actions that TPG Telecom will take at the intervals of eight, six and four weeks prior to the switch offs to address the expectations and issues outlined in this letter. The plans should also cover arrangements that TPG Telecom will put in place to support those customers that may continue to use affected devices, especially should a customer seek to place a Triple Zero call that fails.

Below are my high-level expectations about the outcomes that collective mobile industry efforts related to the 3G switch offs should aim to achieve prior to Telstra and Optus' planned switch offs, which should inform your revised action plan:

- All active handsets on mobile networks are able to make emergency calls, both pre and post-switch offs
- Affected devices are reliably identified, and the number of those devices active on mobile networks has been reduced as far as reasonably practicable
- Effective support measures are in place for remaining customers with affected devices in the days following the switch offs
- All customers with affected devices are aware, and provided incentives to upgrade prior to the switch offs
- The general public is made aware of the risks to public safety associated with the switch offs, including with an emphasis on the impacts on emergency calling and personal medical alarms
- End users are able to check for themselves, using a simple, secure tool, whether their mobile handset is likely to be affected

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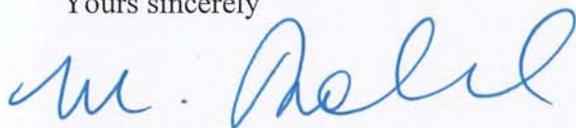
- All customers with affected devices are aware of the low and no-cost options for replacements that are available, and
- Appropriate measures are in place to manage new customers seeking to join TPG Telecom's network with an affected device, in line with these expectations.

As I have expressed in my previous letters, TPG Telecom's efforts are crucial given its customers with affected devices are currently relying on Telstra and Optus' 3G networks to make calls to Triple Zero. I am advised by the Emergency Call Person (Telstra) that TPG Telecom customers camping on to Telstra's network for calls to Triple Zero have been higher since TPG Telecom switched off its 3G network in January 2024. Given the false impression this could create for TPG Telecom's customers that their devices are functioning normally, it is arguably even more important for TPG Telecom to make more concerted efforts to reduce the number of affected customers on its network in time for Telstra and Optus' 3G network switch offs.

I also remain concerned about the indeterminable number of customers with unmonitored personal medical alert devices that rely on 3G networks, which may also cease operating once the networks are switched off. It is imperative that those most vulnerable in our community, and their families and friends, are made aware that these devices may not work after the 3G switch offs, so that they can make informed decisions as to whether to migrate to a compatible device.

I also want to impress upon you that another key government priority in relation to the network transitions is ensuring that Australians, particularly those in rural, regional and remote areas, are not worse off following the 3G network switch offs. While I am mindful that TPG Telecom did not make coverage equivalence claims prior to its switch off, I would appreciate your advice as to whether TPG Telecom customers who received a mobile signal prior to its switch off are continuing to do so post-switch off. I would also appreciate your advice on the extent to which 3G roaming agreements with the other carriers are relevant to TPG Telecom's coverage at this time, and confirmation that the proposed Multi-Operator Core Network deal with Optus will expand on TPG Telecom's coverage without leaving any existing end users worse off.

Yours sincerely



Michelle Rowland MP

20 / 6 / 2024

cc. Nerida O'Loughlin PSM, Chair, Australian Communications and Media Authority;
Gina Cass-Gottlieb, Chair, Australian Competition and Consumer Commission

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**The Hon Michelle Rowland MP**

**Minister for Communications
Federal Member for Greenway**

MS24-001040

Mr Iñaki Berroeta
Chief Executive Officer
TPG Telecom Limited
Level 24, 200 Barangaroo Avenue
Sydney NSW 2000

via: **CONFIDENTIAL**@tpgtelecom.com.au

Dear Mr Berroeta

I am writing in relation to TPG Telecom's 3G network closure and specific issues associated with 4G enabled devices operating on TPG Telecom's network which rely on 3G for emergency calling.

I recognise that the mobile industry expects customers with affected devices will move to upgrade with greater urgency as Telstra and Optus' planned switch off dates approach. However, at this time I remain concerned that, based on data received by my department from the Working Group, there remains a concerning number of mobile customers who continue to use mobile handsets that will otherwise work normally but may not be able to call Triple Zero in an emergency after the 3G networks are switched off.

The ongoing and often significant movement of the estimated number of devices in this category, and the ongoing divergence of estimates between Telstra, Optus and TPG Telecom relative to market share, indicates to me there remain challenges conclusively identifying devices in this category, and it is clear that the industry has yet to reach a collective understanding about how to approach the true scale of this issue.

Aside from affected handsets, there are also a considerable number of non-handset devices that will be impacted, such as IoT devices, which may be integral to the operation of businesses and access to finances. I remain very concerned for vulnerable customers who continue to rely on personal medical alarms, particularly those that are unmonitored by a provider, that will cease to operate when the Telstra and Optus' 3G networks are switched off.

In light of the serious concerns for public safety arising from the issue, and in recognition that TPG Telecom customers and end-users with affected devices now rely on Telstra and Optus' 3G networks for Triple Zero coverage, it is incumbent upon me to explore regulatory actions that could protect the public interest given the high number of TPG Telecom customers and end-users with affected devices that continue to rely on the 3G network.

The Hon Michelle Rowland MP
PO Box 6022, Parliament House Canberra
Suite 101C, 130 Main Street, Blacktown NSW 2148 | (02) 9671 4780
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Under subsection 63(2) of the *Telecommunications Act 1997* (Tel Act), I am empowered to, by legislative instrument, declare licence conditions which apply to an existing carrier licence specified by name, or by inclusion in a specified class. In accordance with section 64 of the Tel Act, I attach copies of the proposed draft: *Telecommunications (Carrier Licence Conditions—TPG Telecom Limited) Declaration (No.1) 2024* (covering the carrier licence held by TPG Telecom Limited); *Telecommunications (Carrier Licence Conditions—Vodafone Australia Pty Limited) Declaration (No.1) 2024* (covering the carrier licence held by Vodafone Australia Pty Limited); and *Telecommunications (Carrier Licence Conditions—Identification of Mobile Communication Devices and Financial Hardship Policy) Declaration (No.1) 2024* (covering carriers who own or operate a mobile telecommunications network that supplies carriage services to the public).

I invite TPG Telecom to make written submissions to me on these drafts by close of business on **2 August 2024**. Please copy in the departmental representative listed below into any submissions.

The proposed declarations covering carrier licences held by TPG Telecom Limited and Vodafone Australia Pty Ltd seek to ensure that those entities communicate effectively with customers with affected devices. The declarations would also require the provision of a simple, secure and effective SMS tool by which customers can check for themselves if they have an affected device, supported by a public awareness campaign. Finally, the declarations would require the implementation of a recorded voice announcement for affected devices.

I am separately consulting on carrier licence conditions that would apply to carriers who own or operate a mobile telecommunications network that supplies carriage services to the public. The proposed conditions seek to ensure that the industry implements and/or maintains a range of measures in response to the affected device issue, including:

- a) using best endeavours to identify affected handsets;
- b) reporting on affected device identification methods, including the Chief Executive Officer providing assurance (via statutory declaration) as to the sufficiency of those methods; and
- c) implementing and publishing on their respective websites a hardship policy applicable to customers with affected devices.

I will not determine the final terms of any new carrier licence conditions until I have considered any submissions made by TPG Telecom within the above specified consultation period. After this time, I will have regard to all submissions received within the specified timeframe, and any other relevant information before me.

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The relevant contact officer within my department is **CONFIDENTIAL -**, who can be reached via email on **CONFIDENTIAL - PERSONAL** or by phone on **CONFIDENTIAL**.

Yours sincerely



Michelle Rowland MP

2 17 /2024

Encl. Draft *Telecommunications (Carrier Licence Conditions—TPG Telecom Limited) Declaration (No.1) 2024*, Draft *Telecommunications (Carrier Licence Conditions—Vodafone Australia Pty Limited) Declaration (No.1) 2024*, Draft *Telecommunications (Carrier Licence Conditions—Identification of Mobile Communication Devices and Financial Hardship Policy) Declaration (No.1) 2024*

cc.

Nerida O'Loughlin PSM, Chair, Australian Communications and Media Authority;
Gina Cass-Gottlieb, Chair, Australian Competition and Consumer Commission

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DRAFT FOR CONSULTATION PURPOSES

1 Name

This instrument is the *Telecommunications (Carrier Licence Conditions—TPG Telecom Limited) Declaration (No.1) 2024*.

2 Commencement

This instrument commences on the day after the instrument is registered.

3 Authority

This instrument is made under subsection 63(2) of the *Telecommunications Act 1997*.

4 Repeal

This instrument is repealed on 31 March 2025.

5 Definitions

Note: A number of expressions used in this instrument are defined in section 7 of the Act, including the following:

- (a) carriage service;
- (b) carrier;
- (c) emergency call service;
- (d) telecommunications network.

In this instrument:

3G Shutdown Hardship Policy means a policy that:

- (a) applies in relation to customers associated with Affected Devices; and
- (b) aims to facilitate the replacement of an Affected Device:
 - (i) without adversely affecting the customer's existing plan for the supply of carriage services; and
 - (ii) without resulting in the customer incurring unreasonable additional costs for any replacement handset or device offered by the specified carrier.

3G Network means a mobile telecommunications network, or combination of networks, used (in part or wholly) to provide carriage services to the public in Australia using third generation wireless mobile telecommunications technology.

4G Network means a mobile telecommunications network, or combination of networks, used (in part or wholly) to provide carriage services to the public in Australia using fourth generation wireless mobile telecommunications technology.

Act means the *Telecommunications Act 1997*.

Affected Device means a mobile telephone handset or other device:

- (a) that is capable of accessing 4G data; and
- (b) which may rely on a 3G Network to connect a call to any emergency call service, including the emergency service number '000' and;
- (c) which is being used in connection with a carriage service supplied by the Licensee or a mobile virtual network operator using any mobile telecommunications network that is owned or operated by the Licensee.

customer means:

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- (a) a customer of the Licensee; or
- (b) a nominee of a customer of the Licensee; or
- (c) an end-user of a carriage service supplied by a mobile virtual network operator using any mobile telecommunications network that is owned or operated by the Licensee.

emergency service number has the same meaning as given under section 466 of the Act.

Note: The term 'emergency service numbers' includes 000 (Triple Zero).

Licensee means TPG Telecom Limited (ACN 096 304 620) as the company exists from time to time (even if its name is later changed).

Mobile Network Operators Working Group means the working group established in March 2024, of which the Licensee is a member, to address issues associated with the planned 3G network closures in Australia.

SMS means a short message service.

statutory declaration means one or more of the approved forms for statutory declarations for the purposes of paragraph 9(a) or subparagraph 9A(1)(a)(i) of the *Statutory Declarations Act 1959 (Cth)*.

6 Carrier Licence Conditions

- (1) Subject to subsection 6(2), the Licensee must comply with the licence conditions declared in Schedule 1.
- (2) If a carrier licence held by a company which is a wholly-owned subsidiary of the Licensee is also subject to the same licence condition as declared in Schedule 1, and the other company complies with the condition, the Licensee is not required to separately comply with the condition.

DRAFT FOR CONSULTATION PURPOSES

Schedule 1—Carrier Licence Conditions**1 Report on Awareness Campaign**

- (1) Within 14 days from the commencement of this instrument, the Licensee must provide a written report to the Minister setting out the details of the proposed awareness campaign that the Licensee proposes to implement in order to fulfil the condition under subitem 3(3).
- (2) For the avoidance of doubt, the report required to be provided in accordance with subitem 1(1) is additional to any report the Licensee may provide to the Minister in its capacity as a member of the Mobile Network Operators Working Group.

2 Communications with the Licensee’s customers with an Affected Device

- (1) Within 7 days after the Licensee has identified an Affected Device, the Licensee must issue correspondence at the frequency specified in subitem 2(2), to the customer associated with an identified Affected Device:
 - (a) using all of the following methods:
 - (i) a letter (by registered post) addressed to the last recorded address of the customer;
 - (ii) an email addressed to the customer using the last recorded email address of the customer;
 - (iii) an SMS to the last recorded mobile contact number of the customer; and
 - (b) which provides the following information:
 - (i) for all types of correspondence:
 - A. that the customer’s mobile telephone handset or other device (as applicable) may not be capable of making calls to emergency call services (including the emergency service number ‘000’) once the 3G Networks owned or operated by Telstra Limited, Telstra Corporation Limited and Optus Mobile Pty Limited are switched off;
 - B. the steps and any other action the customer may take to upgrade their existing handset or device to another type that will be capable of making calls to emergency call services (including the emergency service number ‘000’) in the absence of a 3G Network; and
 - (ii) for the types of correspondence referred to in subparagraphs 2(1)(a)(i) and (ii):
 - A. a summary of replacement handsets or devices (and their price, including discounted prices available to customers on low-income or facing financial hardship) offered by the Licensee and where the terms and conditions of purchase for a replacement the handset or device may be found;
 - B. details of where the customer may access the Licensee’s 3G Shutdown Hardship Policy and how they can request a written copy of such a policy (at no cost to the customer); and
 - C. the avenues available to the customer to discuss any of the information contained in the correspondence with an authorised representative of the Licensee, which must include a free call service.
- (2) For the purposes of subitem 2(1), the Licensee must send each type of correspondence at the following frequencies:
 - (a) for correspondence referred to in paragraph 2(1)(a)(i)– each billing cycle (for a post-paid customer);
 - (b) for correspondence referred to in subparagraph 2(1)(a)(ii) – at least weekly; and
 - (c) for correspondence referred to in subparagraph 2(1)(a)(iii) – at least weekly.

DRAFT FOR CONSULTATION PURPOSES

- (3) For an Affected Device identified by the Licensee which is associated with a person who is a customer of a mobile virtual network operator, the Licensee must within 7 days provide the operator with the relevant customer details and correspondence reflecting the matters referred to in paragraph 2(1)(b) and request that the operator issue the correspondence to the relevant person at the same frequencies referred to in subitem 2(2).
- (4) For an Affected Device that the Licensee identified prior to the commencement of this instrument, the Licensee must, within 7 days following commencement of this instrument, activate a short voice message:
 - (a) that is played on every outgoing voice call (other than calls to any emergency call service) made using the Affected Device;
 - (b) stating that the mobile handset or device may not connect a call to any emergency call service (including the emergency service number '000') in the absence of a 3G Network and should be upgraded.
- (5) For an Affected Device that the Licensee identifies following the commencement of this instrument, the Licensee must, within 7 days from the day on which the Licensee identifies the device as being an Affected Device, activate a short voice message:
 - (a) that is played on every outgoing voice call (other than calls to any emergency call service) made using the Affected Device; and
 - (b) stating that the mobile handset or device may not connect a call to any emergency call service (including the emergency service number '000') in the absence of a 3G Network and should be upgraded.

3 SMS Tool

- (1) Within 7 days from the commencement of this instrument, the Licensee must make an SMS tool available to the public which has the following functionality:
 - (a) enables a person, including any customer of the Licensee, and at no charge, to send an SMS to a number specified by the Licensee; and
 - (b) in reply, an SMS text is sent to the person detailing information about whether the mobile telephone handset or device used to send the SMS will be capable of making calls to any emergency call service (including the emergency service number '000') on any mobile telecommunications network owned or operated by the Licensee after the shutdown of 3G Networks.
- (2) At all times after the SMS tool referred to in subitem 3(1) is first made available to the public, the Licensee must maintain the SMS tool in a working functionality.
- (3) Within 7 days from when the SMS tool referred to in subitem 3(1) is first made available to the public, the Licensee must conduct a public information and awareness campaign until 31 March 2025 in all of the channels specified in subitem 3(4) that provides information and awareness of the following matters:
 - (a) the existence of the SMS tool and how members of the public can use it;
 - (b) the existence of Affected Devices and how they may not be able to be used to make calls to any emergency call service (including the emergency service number '000') in the absence of a 3G Network; and
 - (c) the action that a customer may take to obtain further information about how to upgrade an Affected Device.
- (4) For the propose of subitem 3(3), the channels specified are:
 - (a) online social media platforms;
 - (b) the Licensee's website; and
 - (c) all of the Licensee's retail points of sale.

DRAFT FOR CONSULTATION PURPOSES



Telecommunications (Carrier Licence Conditions—Vodafone Australia Pty Limited) Declaration (No.1) 2024

I, Michelle Rowland, Minister for Communications, make the following declaration.

Dated 2024

MICHELLE ROWLAND **DRAFT ONLY—NOT FOR SIGNATURE**
Minister for Communications

DRAFT FOR CONSULTATION PURPOSES

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DRAFT FOR CONSULTATION PURPOSES

1 Name

This instrument is the *Telecommunications (Carrier Licence Conditions—Vodafone Australia Pty Limited) Declaration (No.1) 2024*.

2 Commencement

This instrument commences on the day after the instrument is registered.

3 Authority

This instrument is made under subsection 63(2) of the *Telecommunications Act 1997*.

4 Repeal

This instrument is repealed on 31 March 2025.

5 Definitions

Note: A number of expressions used in this instrument are defined in section 7 of the Act, including the following:

- (a) carriage service;
- (b) carrier;
- (c) emergency call service;
- (d) telecommunications network.

In this instrument:

3G Shutdown Hardship Policy means a policy that:

- (a) applies in relation to customers associated with Affected Devices; and
- (b) aims to facilitate the replacement of an Affected Device:
 - (i) without adversely affecting the customer's existing plan for the supply of carriage services; and
 - (ii) without resulting in the customer incurring unreasonable additional costs for any replacement handset or device offered by the specified carrier.

3G Network means a mobile telecommunications network, or combination of networks, used (in part or wholly) to provide carriage services to the public in Australia using third generation wireless mobile telecommunications technology.

4G Network means a mobile telecommunications network, or combination of networks, used (in part or wholly) to provide carriage services to the public in Australia using fourth generation wireless mobile telecommunications technology.

Act means the *Telecommunications Act 1997*.

Affected Device means a mobile telephone handset or other device:

- (a) that is capable of accessing 4G data; and
- (b) which may rely on a 3G Network to connect a call to any emergency call service, including the emergency service number '000' and;
- (c) which is being used in connection with a carriage service supplied by the Licensee or a mobile virtual network operator using any mobile telecommunications network that is owned or operated by the Licensee.

customer means:

DRAFT FOR CONSULTATION PURPOSES

- (a) a customer of the Licensee; or
- (b) a nominee of a customer of the Licensee; or
- (c) an end-user of a carriage service supplied by a mobile virtual network operator using any mobile telecommunications network that is owned or operated by the Licensee.

emergency service number has the same meaning as given under section 466 of the Act.

Note: The term 'emergency service numbers' includes 000 (Triple Zero).

Licensee means Vodafone Australia Pty Limited (ACN 056 161 043) as the company exists from time to time (even if its name is later changed).

Mobile Network Operators Working Group means the working group established in March 2024, of which the Licensee is a member, to address issues associated with the planned 3G network closures in Australia.

SMS means a short message service.

statutory declaration means one or more of the approved forms for statutory declarations for the purposes of paragraph 9(a) or subparagraph 9A(1)(a)(i) of the *Statutory Declarations Act 1959 (Cth)*.

6 Carrier Licence Conditions

The Licensee must comply with the licence conditions declared in Schedule 1.

DRAFT FOR CONSULTATION PURPOSES

Schedule 1—Carrier Licence Conditions**1 Report on Awareness Campaign**

- (1) Within 14 days from the commencement of this instrument, the Licensee must provide a written report to the Minister setting out the details of the proposed awareness campaign that the Licensee proposes to implement in order to fulfil the condition under subitem 3(3).
- (2) For the avoidance of doubt, the report required to be provided in accordance with subitem 1(1) is additional to any report the Licensee may provide to the Minister in its capacity as a member of the Mobile Network Operators Working Group.

2 Communications with the Licensee’s customers with an Affected Device

- (1) Within 7 days after the Licensee has identified an Affected Device, the Licensee must issue correspondence at the frequency specified in subitem 2(2), to the customer associated with an identified Affected Device:
 - (a) using all of the following methods:
 - (i) a letter (by registered post) addressed to the last recorded address of the customer;
 - (ii) an email addressed to the customer using the last recorded email address of the customer;
 - (iii) an SMS to the last recorded mobile contact number of the customer; and
 - (b) which provides the following information:
 - (i) for all types of correspondence:
 - A. that the customer’s mobile telephone handset or other device (as applicable) may not be capable of making calls to emergency call services (including the emergency service number ‘000’) once the 3G Networks owned or operated by Telstra Limited, Telstra Corporation Limited and Optus Mobile Pty Limited are switched off;
 - B. the steps and any other action the customer may take to upgrade their existing handset or device to another type that will be capable of making calls to emergency call services (including the emergency service number ‘000’) in the absence of a 3G Network; and
 - (ii) for the types of correspondence referred to in subparagraphs 2(1)(a)(i) and (ii):
 - A. a summary of replacement handsets or devices (and their price, including discounted prices available to customers on low-income or facing financial hardship) offered by the Licensee and where the terms and conditions of purchase for a replacement the handset or device may be found;
 - B. details of where the customer may access the Licensee’s 3G Shutdown Hardship Policy and how they can request a written copy of such a policy (at no cost to the customer); and
 - C. the avenues available to the customer to discuss any of the information contained in the correspondence with an authorised representative of the Licensee, which must include a free call service.
- (2) For the purposes of subitem 2(1), the Licensee must send each type of correspondence at the following frequencies:
 - (a) for correspondence referred to in paragraph 2(1)(a)(i)– each billing cycle (for a post-paid customer);
 - (b) for correspondence referred to in subparagraph 2(1)(a)(ii) – at least weekly; and
 - (c) for correspondence referred to in subparagraph 2 (1)(a)(iii) – at least weekly.

DRAFT FOR CONSULTATION PURPOSES

- (3) For an Affected Device identified by the Licensee which is associated with a person who is a customer of a mobile virtual network operator, the Licensee must, within 7 days, provide the operator with the relevant customer details and correspondence reflecting the matters referred to in paragraph 2(1)(b) and request that the operator issue the correspondence to the relevant person at the same frequencies referred to in subitem 2(2).
- (4) For an Affected Device that the Licensee identified prior to the commencement of this instrument, the Licensee must, within 7 days following commencement of this instrument, activate a short voice message:
 - (a) that is played on every outgoing voice call (other than calls to any emergency call service) made using the Affected Device;
 - (b) stating that the mobile handset or device may not connect a call to any emergency call service (including the emergency service number '000') in the absence of a 3G Network and should be upgraded.
- (5) For an Affected Device that the Licensee identifies following the commencement of this instrument, the Licensee must, within 7 days from the day on which the Licensee identifies the device as being an Affected Device, activate a short voice message:
 - (a) that is played on every outgoing voice call (other than calls to any emergency call service) made using the Affected Device; and
 - (b) stating that the mobile handset or device may not connect a call to any emergency call service (including the emergency service number '000') in the absence of a 3G Network and should be upgraded.

3 SMS Tool

- (1) Within 7 days from the commencement of this instrument, the Licensee must make an SMS tool available to the public which has the following functionality:
 - (a) enables a person, including any customer of the Licensee, and at no charge, to send an SMS to a number specified by the Licensee; and
 - (b) in reply, an SMS text is sent to the person detailing information about whether the mobile telephone handset or device used to send the SMS will be capable of making calls to any emergency call service (including the emergency service number '000') on any mobile telecommunications network owned or operated by the Licensee after the shutdown of 3G Networks.
- (2) At all times after the SMS tool referred to in subitem 3(1) is first made available to the public, the Licensee must maintain the SMS tool in a working functionality.
- (3) Within 7 days from when the SMS tool referred to in subitem 3(1) is first made available to the public, the Licensee must conduct a public information and awareness campaign until 31 March 2025 in all of the channels specified in subitem 3(4) that provides information and awareness of the following matters:
 - (a) the existence of the SMS tool and how members of the public can use it;
 - (b) the existence of Affected Devices and how they may not be able to be used to make calls to any emergency call service (including the emergency service number '000') in the absence of a 3G Network; and
 - (c) the action that a customer may take to obtain further information about how to upgrade an Affected Device.
- (4) For the propose of subitem 3(3), the channels specified are:
 - (a) online social media platforms;
 - (b) the Licensee's website; and
 - (c) all of the Licensee's retail points of sale.

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DRAFT FOR CONSULTATION PURPOSES

1 Name

This instrument is the *Telecommunications (Carrier Licence Conditions—Identification of Mobile Communication Devices and Financial Hardship Policy) Declaration (No.1) 2024*.

2 Commencement

This instrument commences on the day after the instrument is registered.

3 Authority

This instrument is made under subsection 63(2) of the *Telecommunications Act 1997*.

4 Repeal

This instrument is repealed on 31 March 2025.

5 Definitions

Note: A number of expressions used in this instrument are defined in section 7 of the Act, including the following:

- (a) carriage service;
- (b) carrier;
- (c) emergency call service;
- (d) public mobile telecommunications services;
- (e) telecommunications network.

In this instrument:

3G Shutdown Hardship Policy means a policy that:

- (a) applies in relation to customers associated with Affected Devices; and
- (b) aims to facilitate the replacement of an Affected Device:
 - (i) without adversely affecting the customer's existing plan for the supply of carriage services; and
 - (ii) without resulting in the customer incurring unreasonable additional costs for any replacement handset or device offered by the specified carrier.

3G Network means a mobile telecommunications network, or combination of networks, used (in part or wholly) to provide carriage services to the public in Australia using third generation wireless mobile telecommunications technology.

4G Network means a mobile telecommunications network, or combination of networks, used (in part or wholly) to provide carriage services to the public in Australia using fourth generation wireless mobile telecommunications technology.

Act means the *Telecommunications Act 1997*.

Affected Device means a mobile telephone handset or other device:

- (a) that is capable of accessing 4G data; and
- (b) which may rely on a 3G Network to connect a call to any emergency call service, including the emergency service number '000' and;
- (c) which is being used in connection with a carriage service supplied by the specified carrier or a mobile virtual network operator using any mobile telecommunications network that is owned or operated by the specified carrier.

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customer means:

- (a) a customer of a specified carrier; or
- (b) a nominee of a customer of a specified carrier; or
- (c) an end-user of a carriage service supplied by a mobile virtual network operator using any mobile telecommunications network that is owned or operated by the specified carrier.

emergency service number has the same meaning as given under section 466 of the Act. Note: The term 'emergency service numbers' includes 000 (Triple Zero).

Mobile Network Operators Working Group means the working group established in March 2024, of which the specified carrier is a member, to address issues associated with the planned 3G network closures in Australia.

specified carrier means a carrier that owns or operates a mobile telecommunications network:

- (a) at any time on or after the commencement of this instrument;
- (b) used, or proposed to be used, to supply public mobile telecommunications services to members of the public in each of the six States of Australia.

statutory declaration means one or more of the approved forms for statutory declarations for the purposes of paragraph 9(a) or subparagraph 9A(1)(a)(i) of the *Statutory Declarations Act 1959 (Cth)*.

6 Application

A carrier licence granted to any specified carrier is subject to all of the conditions set out in Schedule 1 to this instrument, at any time, on or after the commencement of this instrument.

DRAFT FOR CONSULTATION PURPOSES

Schedule 1—Carrier Licence Conditions

1 Identification of Affected Devices

- (1) A specified carrier must use its best endeavours to ensure it identifies each customer using an Affected Device operating on any mobile telecommunications network that is owned or operated by the specified carrier.
- (2) Within 14 days from the commencement of this instrument, each specified carrier must provide a written report to the Minister setting out the following:
 - (a) the methodologies used, and proposed to be used (including modifications to existing methodologies and policies), by the specified carrier as at the date of the report to identify Affected Devices and each customer using an Affected Device;
 - (b) any changes that the specified carrier proposes to any of the methodologies to identify Affected Devices and each customer using an Affected Device; and
 - (c) a statement in the form of a statutory declaration, provided by the Chief Executive Officer of the specified carrier that, in their opinion, the methodologies used, or proposed to be used, are suitable to support the specified carrier meet the condition under subitem 1(1).
- (3) For the avoidance of doubt, the report required to be provided in accordance with subitem 1(2) is additional to any report the specified carrier may provide to the Minister in its capacity as a member of the Mobile Network Operators Working Group.

2 3G Shutdown Hardship Policy

A specified carrier must, in connection with its offers of mobile telephone handsets or devices for purchase to the public, have in place and publish on a prominent place on its website, a 3G Shutdown Hardship Policy that applies in relation to customers associated with Affected Devices.



3 July 2024

The Hon Michelle Rowland, MP
 Minister for Communications
 PO Box 6022
 Parliament House
 CANBERRA ACT 2600

By email: **CONFIDENTIAL** [@MO.communications.gov.au](mailto:CONFIDENTIAL@MO.communications.gov.au)

Dear Minister

I refer to your letter of 20 June, regarding TPG Telecom's action plan to address devices on our network that may not make VoLTE emergency calls following the closure of all 3G networks.

As expressed to you personally and in further conversations with members of your staff, TPG Telecom takes its responsibility for communicating with our customers regarding the associated risks for those with incompatible devices very seriously.

We are continuing to work collaboratively with Optus, Telstra, AMTA and the Department to categorise devices on our network and remain committed to reducing the number of unknown and incompatible devices from our network, where possible.

As requested, please see the attached presentation for an overview of our current action plans, covering:

- Active device capability and measures needed to ensure all devices can make a VoLTE emergency call;
- Our efforts to accurately and safely categorise all devices on our network;
- The extensive customer communication efforts completed prior to the closure of our 3G network; and
- Plans for 'ramped-up' communications efforts in the lead-up to the closure of the Optus network, commencing in September.

If you would like to discuss the proposed action plan or the categorisation of devices in further detail, please do not hesitate to contact me or our Head of Government Relations, **CONFIDENTIAL - PERSONAL** or **CONFIDENTIAL** [@tpgtelecom.com.au](mailto:CONFIDENTIAL@tpgtelecom.com.au).

Yours sincerely

**CONFIDENTIAL -
 PERSONAL INFORMATION**

Iñaki Berroeta

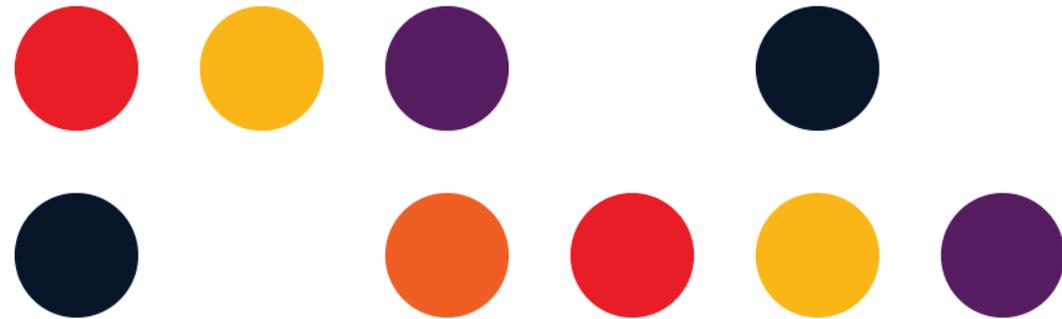
CEO and Managing Director
 TPG Telecom (ASX: TPG)





Summary of activity

The following slides summarise TPG Telecom’s categorising of affected handsets and ongoing plans for communicating with customers prior to the Optus 3G network shutdown.



Active device capability



Situation

- TPG Telecom remains committed to reducing the number of incompatible devices on its network.
- To date, TPG Telecom customers with known incompatible handsets continue to receive regular communications instructing them to upgrade their handsets to ensure they can call triple zero.

Response to Minister's letter

- The Minister's letter sets an expectation all active handsets should be able to make emergency calls.
- At the time of the Optus network closure, it is likely a small residual number of customers will have failed to upgrade their handsets, despite regular clear and consistent communication.
- Given the number of handset types identified that may not support triple zero calls on 4G (assumed to be grey market handsets or handsets used by overseas arrivals, both of which are not controlled by the network operators) the Minister's expectation will only be met by blocking those handset types by all carriers on the same day. All non-compatible handset types that subsequently join a network will also need to be blocked. We consider this approach is unnecessary if all other reasonable steps have been taken, and will lead to poor consumer outcomes, costs and other potential harms.
- Should the Government determine blocking to be the most appropriate public policy approach, TPG Telecom stands ready to work with industry to ensure all customer impacts and broader societal implications are carefully considered.

Handset identification



TPG Telecom approach to handset categorisation

- TPG Telecom has applied a reliable, safe and transparent methodology for categorising 5.9 million devices on its network
- To date, for TPG Telecom to determine a device is compatible, either of two criteria must be met:
 - The device manufacturer has provided assurance the device can make a VoLTE emergency call on the TPG Telecom network
 - We have evidence of the device type successfully making a VoLTE emergency call on our network
- TPG Telecom is actively engaging both Optus and Telstra to understand the assumptions behind their device categorisation and use that information to better categorise devices. As part of that process some differences have been identified:
 - Inconsistent advice from manufacturers on device capability
 - Handsets with accounts with no recent voice sessions ignored by Telstra (TPG Telecom defined active accounts with either a recent data or voice session)
 - A filtering error by Telstra led to it reporting more than 10,000 fewer device types (TACs) than original identified
- From this process, TPG Telecom is continuing to reduce its 'unknown' category of devices and communicate with all known affected customers

To support the closure of Vodafone's 3G Network - over 3 million messages were delivered to impacted TPGT customers throughout 2023 - 2024

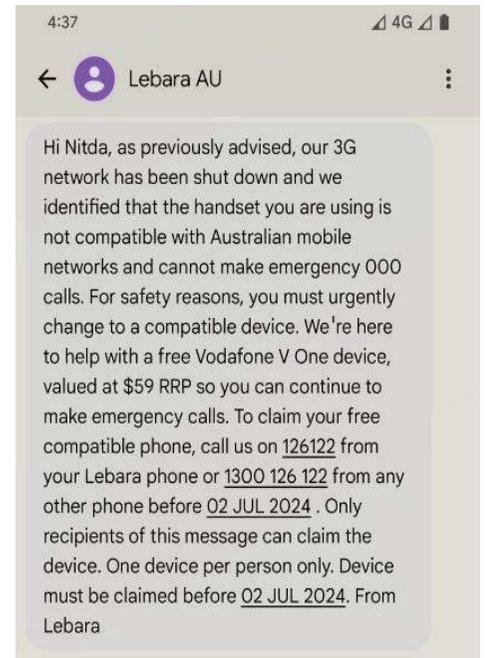
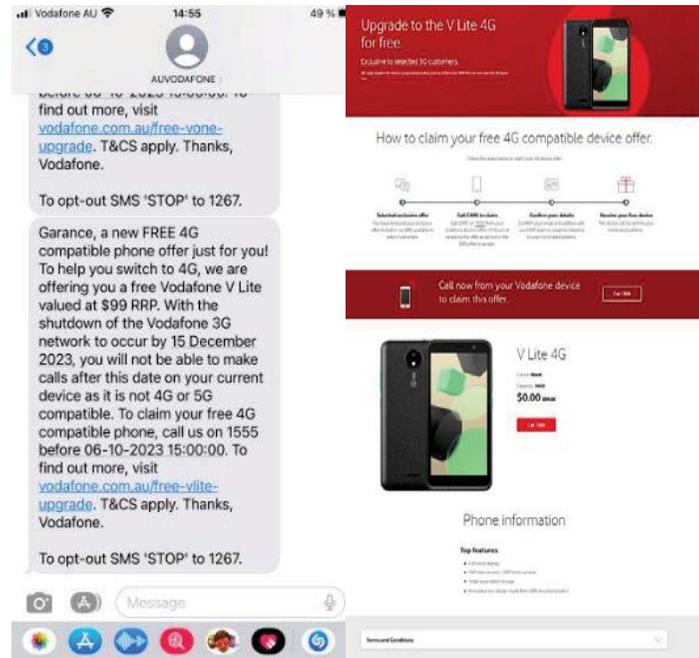
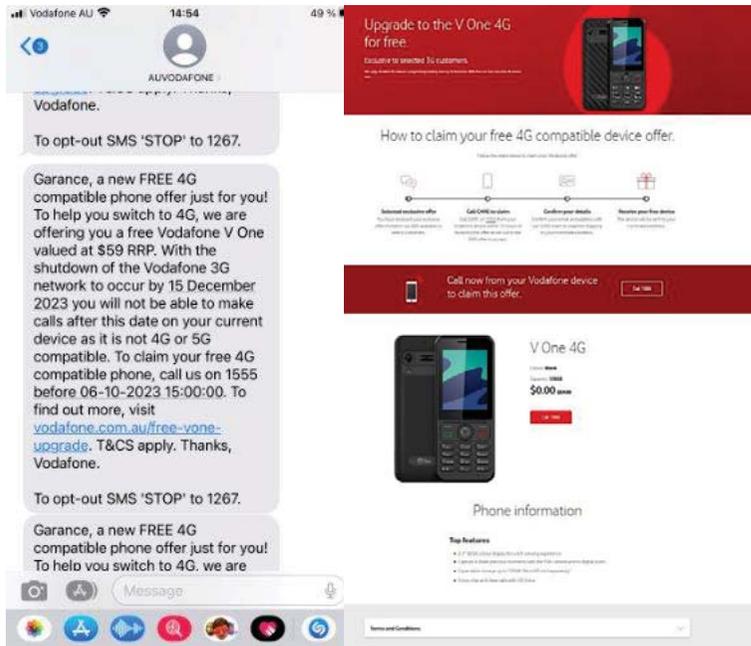


 <p>+3 million Pre-closure comms</p>	<p>April 23 – 1 Feb 24</p> <p>Customers impacted by 3G network closure - VoLTE incapable & VoLTE inactive customers</p> <ul style="list-style-type: none"> • Monthly pre-closure communications to VoLTE Incapable & VoLTE inactive customers • Impacted customers repeatedly contacted every month, encouraged to take-action • +3 million communications sent over 11 months to all impacted across all brands • Messaging across all channels - SMS, EMAIL, APP, IVR, WEB, CARE, RETAIL • Dedicated web pages to ensure customers were clear on capable devices
 <p>7.9K Free Devices Offered</p>	<p>October – December 2023</p> <p>Vodafone & Lebara impacted customers - brands with largest volume of impacted CXs</p> <ul style="list-style-type: none"> • 7907 free devices – specifically VOne & VLite offered to Vodafone Pre-Paid and Lebara customers • 12000 Vodafone Post-Paid offer \$150 and \$250 device upgrades • A range of discounted recharge offers were also offered to incentivise action
 <p>State-based closure comms</p>	<p>15 Oct 23 - 31 Jan 24</p> <p>Remaining customers with VoLTE incapable & VoLTE inactive devices</p> <ul style="list-style-type: none"> • TPG Telecom delivered urgent bi-weekly communications to remaining VoLTE inactive and incapable customers in the lead up to the network closure in each state between Oct 15 – Jan 31
 <p>Emergency impacted customer comms</p>	<p>15 Nov 23 - ongoing</p> <p>TPG Telecom customers with a device that cannot make 000 calls via VoLTE</p> <ul style="list-style-type: none"> • TPG Telecom commenced communications to customers with 000 impacted devices in November 2023. Communications informed customers that they needed to update their device to access 000 calls
 <p>Post closure immediate reminders</p>	<p>Feb 2024 - ongoing</p> <p>Remaining VoLTE inactive, VoLTE incapable and 000 impacted customers post network closure</p> <ul style="list-style-type: none"> • Post TPG Telecom's 3G network closure, TPG commenced post-network closure reminders to remaining VoLTE incapable, inactive and 000 impacted devices

Plan 8, 6 and 4 weeks out from Optus 3G network Closure

 <p>3G device checker communication</p>	<ul style="list-style-type: none"> • Launch: Media relations campaign announcing launch of tracker targeting national TV, radio and print. • Ongoing: Communications to include websites, in welcome, upgrade and POS comms, and inserted into the sales/connection journeys. All media materials to promote SMS checker service. • Content: Messages inform customers they can use the 3G checker to determine if their device is VoLTE capable. Identifies compatible, incompatible and unknown devices. 	<ul style="list-style-type: none"> • Available to any new or existing customer 	
 <p>Lebara Free device offer</p>	<ul style="list-style-type: none"> • 8 weeks: Exploring Vodafone free device offers for 15,000 Pre-Paid & Post-Paid Customers. Messaging updated to include Optus 3G network closure is imminent and customers will lose access to 000 calls post shutdown. • 6 weeks: Proposed direct contact; increase text messages to weekly reminders to stimulate customer take-up. • 4 weeks: Considering daily text reminders for final four weeks, supported by media relations activity promoting free device changeover for affected customers. 	<ul style="list-style-type: none"> • 000 impacted Lebara customers 2,000 free devices offered • 000 impacted Vodafone customers 	
 <p>National advertising support</p>	<ul style="list-style-type: none"> • Support for AMTA national advertising campaign across the weekends of July 20 and July 27. TPG Telecom available to provide media relations assistance as spokespeople if/as required. TPG Telecom contributing one third of requested advertising costs. 	<ul style="list-style-type: none"> • AMTA national advertising campaign – metro + regional 	
 <p>Remaining Volte inactive, Volte incapable and 000 impacted customers</p>	<ul style="list-style-type: none"> • 8 weeks: Update communications to include messaging the Optus 3G network closure is imminent and once closure occurs, customers will lose access to 000 calls • 6 weeks: Potential move to weekly text reminders for confirmed incompatible devices • 4 weeks: Potential move to daily text reminders for known incompatible devices; direct contact via customer care teams; introduction of pre-recorded RVA on all outbound calls (TBD pending technical solution); National media relations activity calling for customers to take action to stay safe (potentially involving emergency services). 	<ul style="list-style-type: none"> • Fortnightly reminders urging customers to convert to a compatible device. 	
 <p>Unknown devices</p>	<ul style="list-style-type: none"> • 6 weeks: Pending numbers post launch of SMS checker: weekly SMS to all device owners advising need to contact manufacturer/update software/upgrade; potential national media relations activity calling out grey device dangers. 	<ul style="list-style-type: none"> • Unknown device owner comms activity 	
 <p>Optus wholesale impacted voice customers</p>	<ul style="list-style-type: none"> • Ongoing: Engaging VoLTE incapable, inactive and 000 impacted customers on legacy plans operating on Optus Wholesale Network informing they will not be able to make or receive calls/000 calls post the Optus network closure. 	<ul style="list-style-type: none"> • Notifications to Customers on Optus Wholesale 	

Vodafone & Lebara Pre-Paid VOne & VLite free device offers





Vodafone Post-Paid discounted device upgrades

Opt In



Important information for you

Hi JOHN,

We are progressively shutting down our 3G network by 15 December 2023. This is happening because mobile carriers around the world are closing down their 3G networks as more advanced 4G and 5G network services become widespread.

You will not be able to make calls, send TXT or access the internet on our network in shutdown areas. When in coverage, you'll still be able to make emergency 000 calls until other 3G networks also shutdown.

For your service to continue after this date, you will need to switch your current device to a compatible 4G or 5G device as soon as possible.

We want to help you stay connected.

An exclusive offer just for you.
Up to \$150 off when you upgrade and stay connected to a selected device on a Mobile Payment Plan over 12, 24 or 36 months.
Available in store or via customer care only. Offer ends 15/12/23 (unless extended). T&C apply.

Call 1300 650 410

Find a store

Kind Regards, Vodafone



Things you need to know

Personal use only. Device Discount offer available to approved Vodafone customers who have a listed 4G/5G capable device (Eligible Device), upgrade and stay connected to a selected device on a Mobile Payment Plan over 12, 24 or 36 months (Eligible Customer) between 15 December 2023 and 30 December 2023 (unless extended).



Important information about your service

Hi Peter,

Reminder that we are progressively shutting down our 3G network by 15 December 2023.

Mobile carriers around the world are closing down their 3G networks as more advanced 4G and 5G network services become widespread. This happens from time to time to remove old technology and improve networks so that we can offer better services.

Don't wait, change to a 4G or 5G compatible device before this date, so your service won't be impacted.

We want to help you stay connected.

Save up to \$150 when you upgrade to an eligible device before 15 December and stay connected to an eligible device and plan for 12, 24 or 36 months.

For example, you could upgrade to the Motorola moto E13 4G for \$0/ month when you stay connected to an eligible plan over 24 or 36 months.

Plan Cost Additional: **Total min cost \$194. Offer ends 15/12/2023. T&C apply.

Our recommended phone and plan pairing

Motorola moto E13 4G on our Small Plan
\$49 14* per month
Over 36 months
• 40GB of monthly data
• No excess data charges - First use 40GB, then keep using data in 2G or 3G speeds
• Unlimited standard national calls and texts



Call 1300 650 410

Find a store

Kind Regards, Vodafone



Disclaimer

Disclaimer line info. Device Discount offer available to approved Vodafone customers who have a...

Opt In

Hi there, reminder that our 3G network is progressively shutting down by 15 December 2023. Don't wait, change to a 4G or 5G compatible device before this date so your service won't be impacted.

Stay connected with our exclusive offer, up to \$150 off when you upgrade and stay connected to a selected device on a Mobile Payment Plan over 12, 24 or 36 months.

This could mean that you pay \$0/ month for the Motorola moto E13 4G when you upgrade and stay connected to an eligible plan over 24 or 36 months. Total min cost \$194. Offer ends 15/12/23 (unless extended). Subject to credit check. T&C apply.

Available in store or call us now on [1300 650 410](tel:1300650410).

Thanks, Vodafone. To opt-out SMS 'STOP' to 1267.

Hi there, reminder that our 3G network is progressively shutting down by 15 December 2023. Don't wait, change to a 4G or 5G compatible device before this date so your service won't be impacted.

Stay connected with our exclusive offer, up to \$250 off when you upgrade and stay connected to a selected device on a Mobile Payment Plan over 12, 24 or 36 months.

This could mean that you pay \$0/ month for the Motorola moto E13 4G when you upgrade and stay connected to an eligible plan over 24 or 36 months. Total min cost \$194. Offer ends 15/12/23 (unless extended). T&C apply.

Available in store or call us now on [1300 650 410](tel:1300650410).

Thanks, Vodafone. To opt-out SMS 'STOP' to 1267.



2 August 2024

The Hon Michelle Rowland, MP
Minister for Communications
PO Box 6022
Parliament House
CANBERRA ACT 2600

By email: **CONFIDENTIAL** [@MO.communications.gov.au](mailto:CONFIDENTIAL@MO.communications.gov.au)

Dear Minister

I refer to your letter of 2 July 2024, inviting our submission on draft Carrier Licence Conditions (CLC) you are considering in relation to TPG Telecom's communication with customers with 3G-affected devices.

TPG Telecom is committed to delivering the main actions outlined in the draft Carrier Licence. Our detailed submission provides specific commitments in each area and includes evidence of actions implemented to date.

Given these actions and ongoing commitments, we consider the imposition of carrier licence conditions specific to TPG Telecom rather than applying to the other carriers is inappropriate and, in any case, unnecessary.

Device identification and customer communication

TPG Telecom continues to accurately identify affected devices on our network and is actively and regularly contacting each of these customers advising of the need to take urgent action to upgrade their devices.

Consistent with the provisions of the draft CLC, we have already launched a SMS checker service. Further, a Recorded Voice Announcement (RVA) will be played at the start of all calls made from an affected device from 26 August 2024. We undertake to maintain these measures in market until at least the time of the closure of all remaining 3G networks.

We are also continuing to provide customers with incentives and assistance to upgrade their affected devices including offering free or discounted handsets.



Further support includes providing further information to customers about our financial hardship policy specific to 3G-affected devices to ensure customers can upgrade handsets for no unreasonable additional cost and without affecting their existing plans.

Our continued forensic efforts to identify and classify 3G-affected devices on our network has resulted in a significant reduction in the numbers of devices identified as either known to be affected, or with an unknown compatibility. As at 29 July 2024, TPG Telecom had reduced the number of potentially affected devices to 43,538 (being only 0.9 per cent of our mobile customer base).

We will continue to urgently communicate with these customers to drive these numbers as low as possible prior to the switch-off of the remaining 3G networks. Given our actions and commitments outlined above, we expect device numbers to continue to fall significantly prior to the final 3G network closure.

All active voice services to be able to make emergency calls

We understand that the specific draft CLC regarding device identification and communication to customers only applies to TPG Telecom on the basis of a previous disparity in the number of affected devices being reported by the carriers.

In particular, Telstra has reported fewer affected devices in its fortnightly reports to Government. We now understand the difference in these numbers to be largely driven by a network setting effectively forcing “unknown” devices on the Telstra network to use 3G for voice calling. These devices will not be able to make **any** voice calls on the Telstra network after its 3G network is closed. This avoids the false impression created by handsets successfully making 4G voice calls but requiring 3G for emergency calls.

It is our intention to achieve the same outcome as the Telstra approach by implementing voice call barring on all remaining affected devices at the time of the closure of the remaining 3G networks. This will effectively reduce to zero the number of active voice services on our network requiring a 3G network for emergency calls.

We understand this to be consistent with the Government’s expectation set out in your letter of 20 June, which noted all active handsets should be able to make emergency calls both before and after 3G network closure.

Accordingly, we do not consider it is reasonable to apply a CLC specific to TPG Telecom on the basis of the remaining number of affected devices on our network. As we expand on below, we are committed to building on our successful measures to reduce the number of affected devices on our network, without the need for further specific regulatory intervention.

Commitment beyond network closure

Beyond the network closure, we would welcome the opportunity to work with the Government to address the issue of the future supply of non-compliant handsets and the risks associated with travellers entering Australia with handsets requiring a 3G network to make emergency calls.



In total, we consider our commitments and the work currently being undertaken to represent a comprehensive response to addressing this important public safety and policy issue.

Response to the proposed CLC as drafted

The attached submission responds to each clause of the draft CLCs, with respect to Vodafone Australia Pty Ltd and TPG Telecom Limited and the draft class CLC applying to all mobile telecommunications networks supplying services to the public.

For each clause we have set out our analysis of the proposed conditions and highlighted any practical limitations with the drafting. In turn, we have also outlined our commitment to deliver on the principle underpinning each clause.

Taking into consideration our existing actions and commitments explained above and set out in detail below, we do not consider the imposition of a TPG Telecom specific CLC to be either appropriate or necessary.

In the event the Minister determines to impose licence conditions, we submit the draft CLC should be amended to reflect the current state of affairs, inclusive of our commitments and actions to date (as included in the letter's attachment). These amendments are required to ensure the conditions are reasonable and consider the advised practical and operational limitations, while achieving the desired policy outcome.

If you would like to discuss our response to the draft CLC or the commitments outlined in this letter and attachment, please do not hesitate to contact me or our Head of Government Relations, **CONFIDENTIAL - PERSONAL**
CONFIDENTIAL@tpgtelecom.com.au.

Yours sincerely

**CONFIDENTIAL - PERSONAL
INFORMATION**

Iñaki Berroeta

CEO and Managing Director
TPG Telecom (ASX: TPG)



Attachment – TPG Telecom Submission

Draft Telecommunications (Carrier Licence Conditions – TPG Telecom Limited) Declaration (No. 1) 2024

Draft Telecommunications (Carrier Licence Conditions – Vodafone Australia Pty Limited) Declaration (No. 1) 2024

Schedule 1 – Carrier Licence Conditions

1. Report on Awareness Campaign

Clauses 1(1), 1(2), 3(3) & 3(4) of Schedule 1

The draft CLC would require TPG Telecom to report to the Minister within 14 days of commencement of the instrument on a proposed public awareness campaign on: 1) the SMS checker service, 2) information on the existence of affected devices and 3) how customers can seek further information.

This campaign must cover social, online and point of sale contact points.

TPG Telecom is committed to delivering a public information campaign well ahead of the timeframes required under the draft CLC, including on broader channels than contemplated by the draft CLC.

Information regarding the issue of 4G VoLTE capable handsets requiring a 3G network for emergency calls is already available on each of the TPG Telecom brand websites.

We have already commenced a public information campaign for our SMS checker service. Activity includes using our social and online properties and in-store point of sales channels to publicise this service. Further, we are using broadcast and print media to amplify our messages where possible (embargoed media release is attached to this submission, see Attachment 2).

Examples of our social media campaign to publicise the SMS checker service are included below.



We have also updated our owned and operated point of sales channels to ensure information regarding this issue is available and provided to new and existing customers.

This includes sending an e-mail or SMS to new Vodafone or TPM customers respectively. These messages are shown below.

Welcome e-mail sent to new Vodafone customers

Introducing the SMS device checker tool

We switched off our legacy 3G mobile network in January 2024 to focus on our 4G network that now covers more than 24 million Australians and our state-of-the-art 5G network that is stronger than ever.



Some devices may not be able to make emergency calls to Triple Zero (000) once all 3G networks in Australia close (expected to be September 2024). Depending on the device, these users may need to upgrade their device to a compatible 4G or 5G approved device or update their device software.



To find out if your device is impacted by the 3G shutdown, use our SMS device checker tool. Just text the number 3 to 3498.

For more information around the 3G closure, visit vodafone.com.au/upgradeprepaid or www.3Gclosure.com.au (an Australian Mobile Telecommunications Association website).



Welcome SMS for TPM brands

[CUSTOMER],

We're excited to have you on board with [BRAND] Mobile.

We want to make sure that your device is compatible and not impacted by the nationwide 3G shutdown on 1 September. Some devices may not be able to make calls or texts, including emergency calls to Triple Zero (000) after this date.

Use our device checker tool, by simply texting the number 3 to 3498 to check if your device is compatible or may be impacted.

For more information about the 3G closure, visit [BRAND 3G PAGE]

Thanks, [BRAND]

Our commitment

TPG Telecom will continue this information campaign across social, online and at point of sale until at least the close of the remaining 3G networks. We will continue to use these channels to publicise the issue; the 3G SMS checker service; and how customers can obtain information on compatible devices and how to upgrade if required.

A progress report on these campaign activities will be provided to the Minister by 16 August 2024.

Beyond the closure date, we are committed to working with the Government to use our communication channels to ensure new customers to our network are aware of the need to ensure their device is compatible.

2. Communications with Licensee's customers with an Affected Device

Clause 2(1)(a) & 2(2) of Schedule 1 - Communication methods and frequency

TPG Telecom has been communicating with customers regarding the closure of our 3G network since September 2022.

In the 14 months before the TPG telecom's 3G network closure in January 2024, we implemented an extensive customer communications plan across all our brands. Throughout this campaign we sent over 3 million customer communications.

In the lead up to the January close date, reminder messages were sent every 4-5 days if a customer was yet to upgrade to a compatible handset.

Our direct customer communication strategy was successful in engaging with our customers to ensure they had a compatible handset to remain connected after the



closure of the 3G network. As a result of these efforts, our 3G network closure resulted in minimal disruption to customers, with very low levels of customer complaints.

This experience demonstrates the effectiveness of our direct communication strategy. This strategy is again successfully reducing the number of non-VoLTE emergency call capable devices on our network. When paired with other commitments such as the SMS check and RVA, we consider we have the right communications mechanisms in place to successfully migrate customers recently identified as having a 4G device requiring 3G for emergency calling.

SMS remains the simplest and most effective form of regular direct communication.

Only 49 per cent of our prepaid customers have registered an e-mail address with us. Of those e-mail addresses, only 34 per cent are valid. Our data also indicates our e-mail open rate is less than 50 per cent. That is, of 100 e-mails sent, typically only 13 are opened by the customer.

Further, physical address data held by mobile service providers has an accuracy of around 20 per cent. Typically, this data is only accurate where the customer has elected to receive a physical copy of the bill.

We will commit to providing these customers a letter and/or an e-mail depending on our most recent customer details. This will ensure that we are efficiently meeting our customers on all communication channels where contact details are available.

Importantly, imposing a regulatory obligation to send registered mail where the underlying address data is known to be inaccurate would amount to an unreasonable cost impact on TPG Telecom, for no customer benefit over and above what can be achieved through other channels.

Further, imposing regulatory obligations requiring the repeated use of communication channels known to be ineffective would divert limited resources away from our use of channels proven to be effective in driving customer behaviour.

In relation to message frequency, it is important to consider the time lag between customers taking action to upgrade handsets, and these updates being reflected in our messaging systems. Too frequent communication would lead to widescale confusion as consumers upgrade but continue receiving alert messages.

If the Government is minded to imposing a regulatory obligation in relation to other forms of direct communication, this should be limited to communicating with the customer's usual address (either e-mail or physical) where the bill is sent.



Our commitment

TPG Telecom will continue our direct SMS communication efforts until the final 3G network is closed. In the 4-week period prior to the commencement of the closure of the final 3G network, we will increase the frequency of these messages to weekly.

We shall also send each customer with an affected device a letter and/or an e-mail clearly stating:

- that the customer's device will not be capable of making emergency calls once all 3G networks are closed;
- the steps the customer may take to upgrade their handset;
- details of compatible handsets and where to access information on our financial hardship policy; and
- our contact details for further information.

These communications will be sent to customers before the end of August 2024. If the commencement of the closure of the final 3G network is delayed, we will send another round of e-mails and letters to customers two weeks prior to the revised closure date.

These communications will work alongside other measures including the broader communications strategy, the SMS checker and the RVA to form a comprehensive package of measures to ensure affected consumers take the required action.

Clause 2(1)(b) of Schedule 1 - Information to be provided of Schedule 1

Our existing direct communication includes clear information on the issue and how the customer can obtain further information on how to upgrade their handset.

The channels where further information is available (websites and owned and operated point of sale) include information on our cost-effective handset ranges, including information for people who may be facing financial hardship (see below).



Our commitment

TPG Telecom will continue to use direct communication to guide customers to clear and easy to find information on:

- the affected device issue;
- the steps required to upgrade to a compatible handset;
- handset upgrade options; and
- information for customers in financial hardship, including zero cost handset upgrade options.

Customers will also be advised of a free call support number to discuss these options.

Clause 2(1)(b)(ii)(B) of Schedule 1 - Licensee's 3G Shutdown Hardship Policy

TPG Telecom is committed to ensuring all customers with affected devices on our network have appropriate options for upgrading their handsets. For customers who are experiencing financial hardship, we are committed to assisting their upgrade by offering a free handset under our financial hardship policy.

We are providing further information to customers about our financial hardship policy specific to 3G-affected devices. This will allow customers experiencing financial hardship with affected devices to upgrade handsets for no unreasonable additional cost and without affecting their existing plans.

Our frontline staff are trained to identify and support customers we suspect may be suffering from financial hardship. We will also amend our internal policy to explicitly include our commitment to support the ongoing connection of customers affected by the network upgrades.

TPG Telecom will also continue directly contacting customers with a number of free or subsidised device offers for those with affected devices. This program of direct outreach will continue until the closure of all 3G networks.

Our commitment

TPG Telecom will provide further information regarding how our financial hardship policy covers how we will manage hardship customers who need to upgrade their non-compatible device, including the provision of free or subsidised handset options, with no adverse impact on their ongoing arrangement.



Clause 2(3) of Schedule 1 – Information to be provided to MVNOs

TPG Telecom has been sharing information with our MVNO partners about this issue throughout this year. This has included providing the copy of direct communications sent to customers of TPG Telecom brands and asking our partners to distribute similar messages to their customer base.

It is important to recognise our MVNO partners are separate legal entities with whom we have a contractual relationship to provide network services. TPG Telecom does not have any relationship with the customers of our MVNO partners.

In fact, at the retail level, our TPG Telecom brands are competing with the MVNOs. As such, it is inappropriate for any regulatory obligation to effectively ‘hijack’ the relationship between the MVNO and their customer base.

In particular, the MVNOs should not be expected to circulate information to their customers regarding competitors’ handset offerings and contact details. This would circumvent the existing relationship between the MVNO and their customers.

However, it is appropriate for TPG Telecom to continue to provide a draft copy of information to the MVNO to be tailored for their own branding prior to circulation.

Our commitment

TPG Telecom will provide a draft copy of all information we are using with affected customers, including clearly articulating the issue and steps required to upgrade an affected device.

Customers of our MVNO partners can already use our SMS checker service and will receive the RVA on outbound calls once released (see below).

Clause 2(4) & 2(5) – Recorded Voice Announcements

TPG Telecom is working to implement a RVA on all outbound calls as a matter of urgency. Initially the announcement will be as follows, or something similar:

“This is an important announcement. This phone will not be able to make emergency calls to triple zero once all 3G networks are switched off from September. You will need a compatible phone to stay connected. Please contact your service provider for details. You can disregard this message if you’ve recently upgraded your device.”

We will update this wording prior to the close of the remaining 3G networks to warn that all voice calling will soon be barred once all 3G networks are closed, reflecting our commitment to ensure all active voice services can call emergency services.

Similarly, once voice barring is active, the RVA will be used to provide information to consumers on why call barring has been activated and actions available to upgrade their handsets to a compatible device.

**Our commitment**

TPG Telecom will implement a RVA to be played on all outgoing voice calls, other than emergency calls, made from affected devices.

We will voluntarily implement the RVA by 26 August 2024.

3. SMS Tool

Clause 3(1) & 3(2) of Schedule 1

TPG Telecom has already implemented an SMS checker service allowing customers to determine the compatibility of their device.

Our commitment

TPG Telecom will maintain our existing SMS checker service until at least all 3G networks are closed.

4. Repeal

The draft instrument sunsets on 31 March 2025, which we understand aligns with the draft CLC before Telstra and Optus relating to the timing of their 3G network closure.

As set out in this submission, we consider a separate CLC on TPG Telecom to be unnecessary given our voluntary commitments.

However, if the Government determines to impose such a licence condition on TPG Telecom, the sunset date should continue to align with the closure date of the Telstra and Optus 3G networks, including any flexibility afforded to Telstra and Optus subject to the achievement of pre-determined thresholds.



5. Definitions

3G Shutdown Hardship Policy

TPG Telecom is committed to ensuring all customers with affected devices on our network upgrade their handsets. For customers who are experiencing financial hardship, we are committed to assisting their upgrade by offering a free or subsidised handset.

This is reflected in our voluntary commitment expressed above.

However, if the Government were to impose a CLC, the current drafting is too broad and fails to limit the provision of free handsets to customers experiencing financial hardship, despite the provisions being defined as a “3G Shutdown Hardship Policy.”

While it is our intention to offer free handsets as broadly as possible, it is unreasonable for a regulatory obligation to be imposed creating a right for all customers with an affected device to be offered a free handset. Particularly because in most cases, customers have not purchased their handset from TPG Telecom or one of its branded mobile businesses and instead these may have been brought from overseas or purchased from an electronics retailer or a competitor of TPG Telecom.

The current drafting also creates a regulatory obligation for upgrades where the customer does not incur “unreasonable additional costs for any replacement handset or device offered by the specified carrier” (emphasis added). This creates unnecessary ambiguity on what a reasonable additional cost may be for a replacement handset, including premium models.

TPG Telecom submits the complexity of this provision is unnecessary and can be simplified to define the 3G Shutdown Network policy as a “policy, whether new or currently existing, which facilitates the offering of affected device replacement for no unreasonable additional cost for all customers identified as being in financial hardship.”

Affected Device

TPG Telecom submits the current drafting reference to “any emergency call service” is too broad, including the cross-reference to the equally broad section 466 of the Act.

We suggest the reference be simplified to specified emergency numbers. Consistent with our comments below, we suggest limiting this is to 000 (and 112) numbers.

The proposed wording of (b) is “which relies on a 3G network to call emergency service numbers 000 or 112”.



Customer

TPG Telecom submits the drafting of “customer” is too broad. It is unclear why the customer definition includes a provision to nominate another person without our knowledge and with whom we may have no relationship.

We propose “customer” be limited to the person who has entered into an agreement with TPG Telecom, pursuant to its Standard Form of Agreement (SFOA) or customer relationship agreement (CRA) for the relevant service on or prior to the closure of the last 3G network.

Emergency service number

As above, TPG Telecom submits the definition of “Emergency service number” be limited to 000 (Triple Zero) emergency calls and 112 emergency calls only.

This is because only 000 and 112 emergency call numbers are affected by this issue.

These two numbers are treated equally by the device and the network, as far as the emergency signalling protocol is concerned, and are the only two emergency service numbers impacted by the affected device issue.



Draft Telecommunications (Carrier Licence Conditions – Identification of Mobile Communication Devices and Financial Hardship Policy) Declaration (No. 1) 2024

Schedule 1 – Draft Carrier Licence Conditions

1. Identification of Affected Devices

Clause 1(1) – Best endeavours to identify each customer using an affected device

Clause 1(2) – Report on methodologies

TPG Telecom has been urgently working to identify all devices on our network and to categorise these devices into the categories agreed by the Mobile Network Operators Working Group. Throughout this exercise, we have remained open and transparent about the process used to categorise devices.

Our methodology for undertaking this categorisation process is set out in Attachment 1 to this submission.

TPG Telecom considers this methodology is suitable to meet a ‘best endeavours’ obligation to identify each customer using an affected device on our network.

We consider it unnecessary and inappropriate for an additional warranty in the form of a statutory declaration to be required to attest to the suitability of our processes and methodology for identifying customers with affected devices.

2. 3G Shutdown Hardship Policy

As above, TPG Telecom is providing further information to customers about our financial hardship policy specific to 3G-affected devices to ensure customers can upgrade handsets for no unreasonable additional cost and without affecting their existing plans.

We are already displaying information regarding affected devices prominently on our websites. We will ensure this information includes details on how to contact us to discuss how to upgrade, including for people who may be in financial hardship.

3. Definitions

The analysis and suggested changes to the Definitions common across draft Licence Conditions discussed above apply equally to the class CLC, but are not repeated here.



Attachment 1

VoLTE Emergency 000 Device Compliance Categorisation Methodology

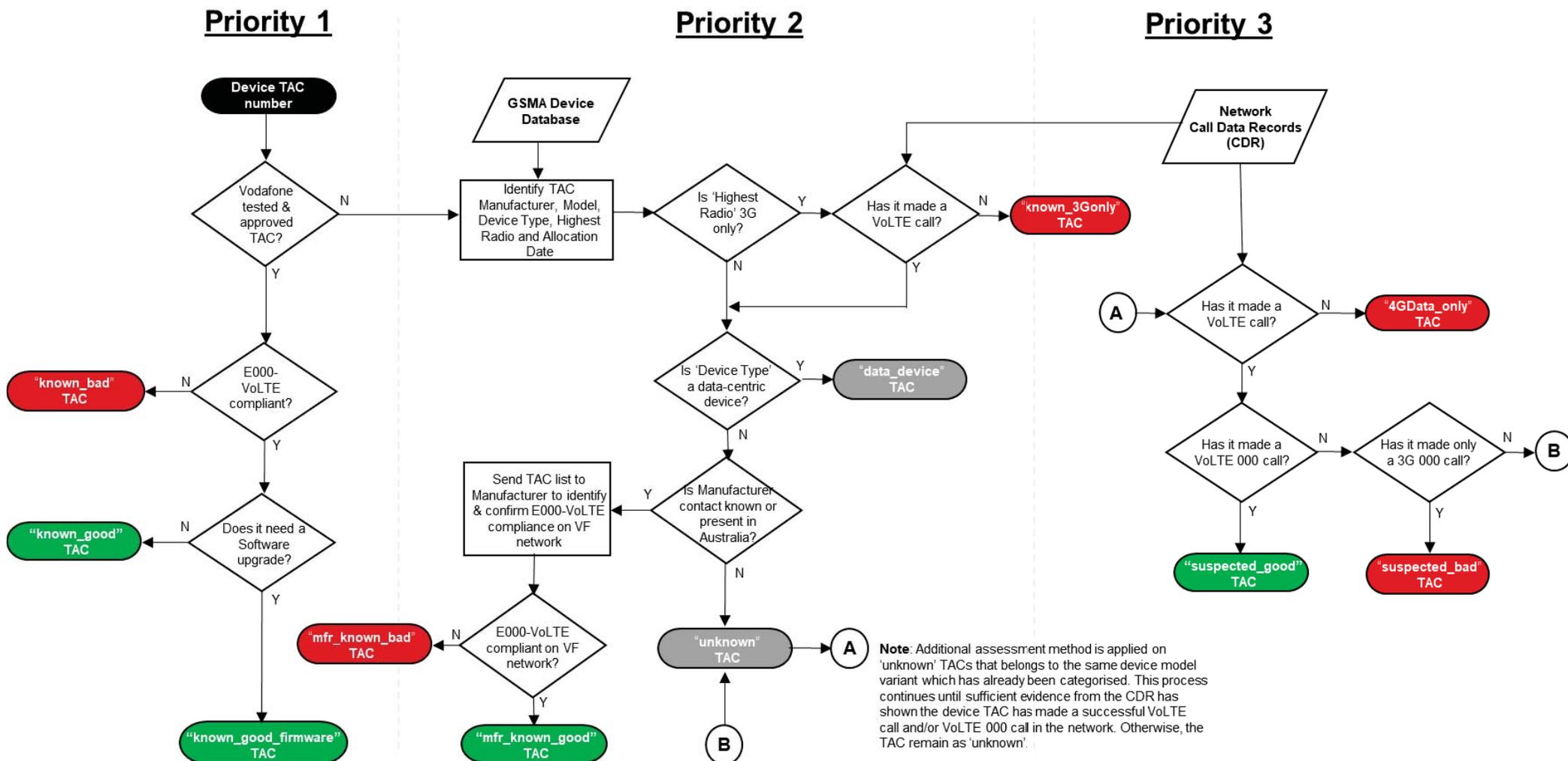
VoLTE Emergency 000 Device Compliance Categorisation Method Hierarchy based on Type Allocation Code (TAC)

- **Priority 1** – Actual physical testing of a device model (TAC) hardware and software in the Vodafone 4G network
- **Priority 2** – Manufacturer declaration of a device model (TAC) hardware and software version variant is VoLTE emergency 000 calling compatible on the Vodafone 4G network
- **Priority 3** – Using historical network Call Data Record (CDR) analysis of Voice, Data and Emergency 000 calls on Vodafone's 3G and 4G networks

VoLTE Emergency 000 Device Compliance Categorisation Definition		
	Categories	Definition
Good	known_good	Known to support VoLTE and VoLTE Emergency 000 calling from our own testing.
	mfr_known_good	Declaration the device supports VoLTE & VoLTE Emergency Calling from the local device manufacturer. Note TPG Telecom has not tested this device. Customers must ensure they upgrade their device to latest available software from the manufacturer.
	known_good_firmware	Known if the device owner has kept the device software updated, it will support VoLTE Emergency 000 calling.
	suspected_good	Categorised based on CDR data analysis for VoLTE Emergency 000 calling.
Bad	4GData_only	This device can use 4G data but needs 3G for any/all voice calls (including 000) based on CDR data analysis.
	known_bad	Known NOT to support VoLTE or VoLTE Emergency 000 calling by our own testing
	known_3Gonly	Known 3G only device based GSMA Device Database Band lists and CDR data analysis including some from our own testing.
	mfr_known_bad	Declaration the device does NOT support VoLTE or VoLTE Emergency 000 calling from the local device manufacturer. Note TPG Telecom has not tested this device.
	suspected_bad	Previously an unknown device categorised based on CDR data analysis for VoLTE Emergency 000 calling.
Others	data_device	A data centric device or module whose primary use case is for access to wireless data service, e.g. Tablet/iPad, Embedded PC Laptop, MBB Modem, USB Modem Dongle, FWA CPE modem, FBB CPE Wireless Backup, M2M data module, IoT module, Telemetry data, Vehicle Navigation unit, Mobile EFTPOS, Mobile Barcode Scanner etc. as categorised by GSMA Device Database.
	unknown	A determination of VoLTE Emergency 000 calling capability has not been able to be made with the device.



High-level Device TAC Categorisation Method Flowchart



Additional compliance assessment method for “unknown TAC”

1. If a device model is classified as “known_good” (meaning it was tested by TPG as VoLTE-000 compliant), then all the other TACs belonging to that device model (provided there is CDR evidence one of those TACs making a successful VoLTE-000 call) will be considered the same regardless of whether the TACs were sold in Australia.
2. If a device model is classified as “known_bad” (meaning it was tested by TPG as non-VoLTE E000 compliant), then all the other TACs belonging to that device model will be considered the same regardless of whether the TACs were sold in Australia.
3. If a device model is classified as “known_firmware_good” (meaning if the software is upgraded to the latest version), then all the other TACs belonging to that device model (provided there is CDR evidence one of those TACs making a successful VoLTE-000 call) will be considered the same regardless of whether the TACs were sold in Australia.
4. If a Manufacturer has declared a device model as E000-VoLTE good or bad, all the other TACs belonging to that device model (provided for the good there is CDR evidence one of those TACs making a successful VoLTE-000 call) will be considered the same regardless of whether the TACs were sold by the manufacturer in Australia.
5. If a TAC has made at least one successful E000-VoLTE call across all CDR reports, that device model will be categorised as “**suspected_good**”. All other TACs belonging to that device model (provided there is CDR evidence one of those TACs making a successful VoLTE-000 call) will be considered the same regardless of whether the TACs were sold in Australia.

If the device has only shown successful E000-VoLTE call in one or two of the call CDRs, and the TAC was allocated from **2017 or later**, that device model will be categorised as “**suspected_good**”. Otherwise, it remains as “unknown”.

6. If a TAC is declared as a 4G “Data-centric” device type (e.g. modem module, router, embedded laptop, etc.) by the manufacturer in the GSMA TAC Allocation Database, then all devices using that TAC will be considered as a “**data_device**”.

The primary use case for these devices is assumed to be wireless data access, regardless if it may be integrated into some application with telephony



function as the specific device model cannot be determined unless a specific IMEI range is known using that TAC.

7. If a TAC is declared as **5G** handset by the manufacturer in the GSMA TAC Allocation Database, it has made a successful VoLTE call from our CDR call analysis and the GSMA TAC allocation date was issued from **2021 or later**, that device model will be considered as “**suspected good**”. All TACs belonging to that device model will be considered the same regardless of whether the TACs were sold in Australia.
8. Any unknown TAC that is declared by the manufacturer as 2G or 3G only in the GSMA TAC Allocation Database, has not made any successful VoLTE call (from the voice CDR analysis), and the TAC was allocated by GSMA prior to 2017, will be categorised as “**known_3Gonly**”.
9. If a TAC has made only emergency 000 calls over 3G (from 3G emergency call CDR call analysis) and provided there is no evidence successful E000-VoLTE from CDRs, the TAC will be considered as “**suspected_bad**” (e.g. 000-3G only device).
10. If a TAC is a **Smartphone, Handheld, Mobile Phone/Feature Phone, Tablet or Wearable**, has not made a single VoLTE call and VoLTE 000 call, and the GSMA TAC allocation date was issued **before 2021**, that device model will be considered as “**4GData_only**” capable. All TACs belonging to that device model will be considered the same regardless of whether the TACs were sold in Australia by the manufacturer.



Attachment 2 – SMS Checker Media Release

TPG Telecom launches 3G SMS checker to help keep customers connected to emergency Triple Zero

EMBARGOED UNTIL 9 August 2024 – TPG Telecom is issuing an urgent warning to customers: don't rely on your outdated 3G technology in an emergency situation after September.

With Telstra and Optus set to shut down the nation's remaining 3G networks in September 2024, all 3G devices and some older variants of 4G mobiles will soon be unable to make emergency Triple Zero calls.

"The impending shut down of the nation's 3G networks could leave a significant number of Australians unable to make Triple Zero emergency calls if they don't act now and upgrade to a compatible 4G or 5G device," said TPG Telecom Head of External Communications, Mitchell Bingemann.

To give Australians peace of mind, TPG Telecom has launched an easy-to-use 3G SMS checker tool.

Customers on the TPG Telecom mobile network (which includes Vodafone, TPG, iiNet, Internode, Lebara, Kogan, and felix) can **text the number '3' to 3498** to determine if their mobile phone is 4G/5G compatible and supports Triple Zero emergency calls.

The SMS checker will reply with the compatibility status of the device. If an upgrade is necessary, customers will receive guidance on the steps required to upgrade to a compatible device.

"It takes only a few seconds to send a text and find out if your device is good to go, needs to update its software, or may not be able to make emergency Triple Zero calls after the 3G shutdown date," Mr Bingemann said.

"Importantly, some overseas devices are not compatible with Australian mobile networks and while they may be able to make standard calls on a 4G/5G network, they may not be able to make emergency calls once all 3G networks are closed."

TPG Telecom's SMS checker is part of a whole-of-industry response to help the nation make the switch to 4G and 5G networks. TPG Telecom closed its own 3G network earlier this year, having first announced its shut down date to customers in 2022.



As part of a 14-month customer outreach campaign, TPG Telecom:

- Sent over three million SMS and email messages to alert customers of the 3G closure;
- Issued monthly reminders to those with devices unable to make Triple Zero calls since January 2024;
- Offered more than 7,900 free VOne or VLite mobile devices to affected Vodafone and Lebara prepaid customers; and
- Provided over 12,000 vouchers worth up to \$250 to help affected Vodafone Post-Paid customers with the cost of upgrading.

The Australian Mobile Telecommunications Association (AMTA) has also launched the website www.3Gclosure.com.au to provide Australians with the information they need to prepare for the upcoming 3G network closures.

Example of TPG Telecom SMS Checker reply to customer:



Note: Unless your call is for a legitimate emergency, **DO NOT call Triple Zero (000) to test your device.**

---ends---

Media contact:

media@tpgtelecom.com.au

Letter from Minister Rowland - 3G Network Closure - MC24-013856 [SEC=OFFICIAL]

From: CONFIDENTIAL - [REDACTED]@mo.communications.gov.au>
To: CONFIDENTIAL - [REDACTED]@tpgtelecom.com.au>
Cc: CONFIDENTIAL - [REDACTED]@tpgtelecom.com.au>; CONFIDENTIAL - [REDACTED]@acma.gov.au; CONFIDENTIAL - [REDACTED]@accg.gov.au
Date: Mon, 12 Aug 2024 12:36:51 +1000
Attachments: Signed letter from Minister Rowland to TPG - MC24-013856.pdf (2.49 MB)

ALERT: This email originated outside TPG Telecom's network. If you do not recognise the sender or did not expect this email then please do not open any attachments or click any link.

OFFICIAL

Hello

Please find attached a letter from the Hon Michelle Rowland MP, Minister for Communications regarding the TPG Telecom's planned 3G Network closure. The offices of the Chair of the Australian Communications and Media Authority and the Chair of the Australian Competition and Consumer Commission are copied. There is no hard copy of this letter to follow.

Regards

CONFIDENTIAL - [REDACTED]
 Department Liaison Officer • Office of the Hon Michelle Rowland MP • Minister for Communications
 GPO Box 594 Canberra, ACT 2601
Department of Infrastructure, Transport, Regional Development, Communications and the Arts
CONNECTING AUSTRALIANS • ENRICHING COMMUNITIES • EMPOWERING REGIONS

infrastructure.gov.au



OFFICIAL

From: CONFIDENTIAL - [REDACTED]
Sent: Wednesday, 3 July 2024 3:14 PM
To: CONFIDENTIAL - [REDACTED]@tpgtelecom.com.au
Cc: CONFIDENTIAL - [REDACTED]@tpgtelecom.com.au; CONFIDENTIAL - [REDACTED]@acma.gov.au; CONFIDENTIAL - [REDACTED]@accg.gov.au; CONFIDENTIAL - [REDACTED]
Subject: Letter from Minister Rowland - 3G Network Closure - MS24-001040 [SEC=OFFICIAL]

OFFICIAL

Good afternoon,

Please find attached a letter from the Hon Michelle Rowland MP, Minister for Communications regarding the TPG Telecom's planned 3G Network closure and specific issues associated with 4G enabled devices operating on TPG Telecom's network which rely on 3G for emergency calling.

Attached to this letter are three documents,

- Draft *Telecommunications (Carrier Licence Conditions – TPG Telecom Limited) Declaration (No.1) 2024*
- Draft *Telecommunications (Carrier Licence Conditions – Vodafone Australia Pty Limited) Declaration (No.1) 2024*
- Draft *Telecommunications (Carrier Licence Conditions – Identification of Mobile Communication Devices and Financial Hardship Policy) Declaration (No.1) 2024*

The offices of the Chair of the Communications and Media Authority and the Change or the

Australian Competition and Consumer Commission are copied.
There is no hard copy of this letter to follow.

Kind regards,

**CONFIDENTIAL -
PERSONAL**

Department Liaison Officer
Office of the Hon Michelle Rowland MP | Minister for Communications

CONFIDENTIAL [@infrastructure.gov.au](mailto:infrastructure.gov.au)

OFFICIAL

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OFFICIAL

**The Hon Michelle Rowland MP**

**Minister for Communications
Federal Member for Greenway**

MC24-013856

Mr Iñaki Berroeta
Chief Executive Officer and Managing
Director
TPG Telecom Limited
Level 24, 200 Barangaroo Avenue
NORTH SYDNEY NSW 2000

via: **CONFIDENTIAL - PERSONAL
INFORMATION**

Dear Mr Berroeta,

I refer to my correspondence of 2 July 2024 in which I proposed carrier licence conditions relating to a deferral of the 3G switch off and related matters. I would like to acknowledge TPG Telecom's submission dated 2 August 2024 and note that I will have regard to the submission in deciding whether or not to make the proposed conditions in *Telecommunications (Carrier Licence Conditions – Identification of Mobile Communication Devices and Financial Hardship Policy) Declaration (No.1) 2024*, *Telecommunications (Carrier Licence Conditions – TPG Telecom Limited) Declaration (No.1) 2024* and *Telecommunications (Carrier Licence Conditions – Vodafone Australia Pty Limited) Declaration (No.1) 2024*.

As outlined in my previous letter, I remain concerned about the impacts of the planned 3G network switch offs on customers access to Triple Zero, particularly for users of 4G enabled devices that rely on 3G for emergency calling. However, since my letter new information has come to my attention that raises additional public safety concerns that I consider relevant to my decision on the proposed conditions.

Since I commenced consultation on the draft conditions, the Senate Rural and Regional Affairs and Transport References Committee issued an interim report on 1 August 2024 relating to its inquiry into the shutdown of the 3G mobile network. The interim report canvassed the Committee's concerns on a range of issues relating to public safety, including the impact on Internet of Things (IoT) devices. I consider the following issues raised by the Committee to be relevant to my decision:

- the preparedness of end users with impacted devices (across all device categories, including IoT devices);
- the risks to safety and business continuity associated with IoT devices, including fire alarms and lift emergency phones;
- coverage equivalence; and
- affordability and availability of replacement mobile handsets.

The Hon Michelle Rowland MP
PO Box 6022, Parliament House Canberra
Suite 101C, 130 Main Street, Blacktown NSW 2148 | (02) 9671 4780

OFFICIAL

OFFICIAL

I appreciate that TPG Telecom has already provided information on some of these matters in its submission to the carrier licence condition consultation process. Nevertheless, I am offering TPG Telecom a further opportunity to provide a supplementary submission on these issues to further inform my decision whether to make the carrier licence conditions. In particular, I invite TPG Telecom to consider providing to me further, more detailed, information about:

- the types of non-handset devices operating on its network;
- the likely public safety or other risks occasioned by those non-handset devices;
- the communications efforts TPG Telecom has undertaken to make sure the end users of those non-handset devices are alerted to the impending switch offs; and
- whether a sufficient quantity of suitable replacement mobile handsets is available for customers who at this time continue to use devices dependent upon 3G services.

Finally, the extent to which mobile handsets connected to mobile networks will be able to be successfully carried by another provider's network for Triple Zero after the 3G switch off is relevant to my decision on whether to make the proposed carrier licence conditions. This issue is being worked through separately in the context of the Bean review response. However, I would welcome further information or views in relation to that issue in this context. In particular, I welcome advice from TPG Telecom on customers with devices on its network that cannot access the 700 MHz band and how this may impact their ability to access Triple Zero when outside of TPG Telecom's network coverage, in an area where only 700 MHz is available.

I will take TPG Telecom's original submission, any supplementary submission from TPG Telecom and any other relevant information into account prior to making any decision on whether to make the proposed 3G network carrier licence conditions, or modifications to those conditions.

Please provide your response to this letter by **16 August 2024**.

Yours sincerely,



Michelle Rowland MP

12 / 8 / 2024

cc

Nerida O'Loughlin PSM, Chair, Australian Communications and Media Authority;
Gina Cass-Gottlieb, Chair, Australian Competition and Consumer Commission



16 August 2024

The Hon Michelle Rowland, MP
Minister for Communications
PO Box 6022
Parliament House
CANBERRA ACT 2600

By email: **CONFIDENTIAL** [@MO.communications.gov.au](mailto:CONFIDENTIAL@MO.communications.gov.au)

Dear Minister

I refer to your letter of 12 August 2024, regarding non-handset devices and devices incompatible with the 700MHz band on our network.

Non-handset devices

TPG Telecom engaged extensively with our Internet-of-Things (IoT) customers in the years leading up to the closure of our 3G network in January 2024.

We provided formal notification to these customers in October 2022 of the network closure date. This was followed by monthly or quarterly business review meetings and Account Managers were available to support them through the migration process, including providing advice on the technology upgrade solutions.

Importantly, we worked directly with our customers who provide public safety devices such as medical alerts and alarm products to upgrade their equipment where required. None of our customers that supply these devices continue to rely on the 3G network.

As a result of this work, only a small number of IoT devices potentially affected by the 28 October shut down remain on our network. Please note the table below includes data-only devices, in addition to voice services included in the fortnightly reports to the Department.

The device categories are based on the GSMA Device Database. Non-handset device types are generally data-centric devices, or mobile data modules or modems integrated into a data specific application or IoT. The primary use case is for providing access to a mobile or wireless data service.

As the devices listed below are typically not a mass market device, a common modem or module may be used by original equipment manufacturers across various product applications. At the network level, TPG Telecom is often unable to determine the use case of some devices attached to our network.



Non-handset Device Type*	Sub count
Modem	997
Module	619
Dongle	531
Wearable	309
WLAN Router	211
IoT Device	135
Tablet	108
Handheld	15
Device for the Automatic Processing of Data (APD)	6
Portable (includes PDA)	2
Grand Total (last 90 days)	2,993

Handset replacement stock

We offer a wide range of devices to cater for different customer preferences, needs and budgets, which are available to purchase outright or through interest free device repayment plans over 12, 24 or 36 months.

We continue to provide customers with incentives and assistance to upgrade their affected devices including offering free or discounted handsets. We are confident we will have a sufficient quantity of suitable replacement mobile handsets to meet the demand from customers needing to upgrade their device over this period.

Devices incompatible with 700MHz band

TPG Telecom does not typically use the 700MHz band for our 4G coverage layer. As a result, devices incompatible with the 700MHz band will still function normally on the TPG Telecom home network.

Access to triple zero outside of TPG Telecom's 4G network coverage area will be dependent on the availability of alternative networks and the frequencies in use. If a device does not support band 28 (700 MHz), it will go into "no service" state in locations where 4G mobile coverage is served only by a 700 MHz carrier.

Number of devices incompatible with the 700MHz band currently on our network:

TPG Telecom	Pivotel	IMZI	LycaMobile	Grand Total
82,737	161	86	1,936	84,920

If you would like to discuss this issue, please do not hesitate to contact our Head of Government Relations, **CONFIDENTIAL - PERSONAL** or **CONFIDENTIAL**@tpgtelecom.com.au.

Yours sincerely

**CONFIDENTIAL - PERSONAL
INFORMATION**

Group Executive Legal & External Affairs and Company Secretary



The Hon Michelle Rowland MP

Minister for Communications
Federal Member for Greenway

MS24-001704

Mr Iñaki Berroeta
Chief Executive Officer and Managing Director
TPG Telecom Limited
Level 24, 200 Barangaroo Avenue
NORTH SYDNEY NSW 2000

via: **CONFIDENTIAL**@tpgtelecom.com.au

Dear Mr Berroeta

I am writing to you with regard to the closure of the 3G mobile networks. As you would be aware, Telstra and Optus have announced a voluntary delay of their switch over until 28 October 2024 and plan to undertake a six-week public safety awareness campaign in the leadup, commencing in mid-September.

It is crucial that TPG Telecom's customers are well-informed and prepared in time for Telstra and Optus' switch overs. It remains of concern to me that a significant number of TPG Telecom customers with affected devices rely on Telstra and Optus' 3G networks for Triple Zero access.

I would ask that TPG Telecom consider participating in the campaign, including by making a voluntary funding contribution. If TPG Telecom does not participate, including in relation to campaign branding, its customers may mistakenly think that they will be unaffected when Telstra and Optus switch off their 3G networks.

The contact officer within the Department of Infrastructure, Transport, Regional Development, Communications and the Arts is **CONFIDENTIAL - [REDACTED]**, who can be reached via email at **CONFIDENTIAL - [REDACTED]**@infrastructure.gov.au or by phone on **CONFIDENTIAL - [REDACTED]**.

Yours sincerely

Michelle Rowland MP

9/9/2024

cc: Nerida O'Loughlin PSM, Chair, Australian Communications and Media Authority;
Gina Cass-Gottlieb, Chair, Australian Competition and Consumer Commission

OFFICIAL



The Hon Michelle Rowland MP

Minister for Communications
Federal Member for Greenway

MS24-001834

Mr Iñaki Berroeta
Chief Executive Officer and Managing Director
TPG Telecom Limited
Level 24, 200 Barangaroo Avenue
NORTH SYDNEY NSW 2000

CONFIDENTIAL [@tpgtelecom.com.au](mailto:berroeta@tpgtelecom.com.au)

Dear Mr Berroeta

I am writing to you with regard to the closure of the 3G mobile networks.

I would like to first acknowledge TPG Telecom's decision to participate in efforts to verify the quality of its device identification methods, and its efforts to implement an SMS tool for customers and recorded voice announcements on affected devices. However, I am disappointed that TPG Telecom is not participating in Telstra and Optus' joint public awareness campaign.

Despite industry efforts, there remains a high number of impacted handsets and non-handsets operating on TPG Telecom's network and in the market generally. I remain focused on the potential impact the 3G switch off could have on public safety should consumers with certain devices (for example, mobile handsets and medical devices) not be prepared, as we both hope they will be, for the proposed Telstra and Optus 3G switch off on 28 October 2024. In my view, absent an approach that would see services discontinued to mobile handsets in advance of the switch offs, many Australians will fail to upgrade in time, and may find themselves trying to access Triple Zero from a device that no longer works as originally intended.

As you are aware, I have directed the Australian Communications and Media Authority (ACMA) to amend the *Telecommunications (Emergency Call Service) Determination 2019* (ECS Determination) to bring into effect certain recommendations from the Bean Review Final Report. The direction includes a requirement that a carriage service provider not provide carriage services in connection with a mobile phone that cannot call the emergency call service on the provider's own mobile network. I have requested that the ACMA expedite and finalise that aspect of the ECS Determination by 28 October 2024.

I understand that Optus is taking steps to ensure that carriage services are no longer provided to mobile handsets it knows rely on 3G for voice calls post switch off, including to Triple Zero. In particular, I have been advised that Optus plans to voluntarily block voice and data

The Hon Michelle Rowland MP
PO Box 6022, Parliament House Canberra
Suite 101C, 130 Main Street, Blacktown NSW 2148 | (02) 9671 4780
OFFICIAL

OFFICIAL

to 3G-only mobile phones, mobile phones that can use 4G but are not VoLTE-capable, and mobile phones that will otherwise work normally post switch-off except to call Triple Zero. The practical effect of Optus' approach is that data and voice services, other than access to the emergency call service, would be discontinued for a short period in advance of the switch off of Optus' 3G network. I would ask that TPG Telecom consider adopting a similar approach prior that time given TPG Telecom customers continue to rely on other carriers' 3G networks, including for Triple Zero.

I also understand that Optus is already blocking services to affected devices for new customers. I have asked Optus to share information on any lessons it has learnt through the 3G network closure working group. To my mind, Optus' approach creates a final transition period during which end users who have delayed upgrading will have a strong incentive to act before the switch off to maintain connectivity, while also protecting public safety.

My direction to the ACMA also envisages that carriage services would no longer be provided in connection with a mobile handset that cannot access the emergency call service via all three mobile networks (i.e. 'camp on'). Work is still underway to establish the handset testing that will underpin that requirement. That process will take some time to work through and will not be in place in advance of the planned 3G switch off date. However, the intention is that over time, testing will identify problematic devices and these will be progressively removed from the networks. I have communicated this to the Chair of the ACMA. I have also asked the Chair of the ACMA to consider how the revised ECS Determination will apply to handsets that cannot connect to Triple Zero using all the spectrum bands deployed for terrestrial mobile services across Australia.

In your previous letter (16 August 2024) you indicated that TPG Telecom has approximately 85,000 customers with devices that are unable to utilise 700 MHz spectrum, and that while TPG Telecom does not typically use this spectrum band for its 4G coverage, customers with these devices would be unable to call Triple Zero via another network if 700 MHz is the only band available. Given the safety risks to customers with these devices, I would ask TPG Telecom to consider notifying these customers, in advance of Telstra and Optus' switch off date, of the potential limitations of their device in relation to calling Triple Zero when outside of TPG Telecom's coverage zone.

Finally, in light of voluntary actions undertaken by the mobile network operators, I have decided not to progress the draft *Telecommunications (Carrier Licence Conditions – Identification of Mobile Communication Devices and Financial Hardship Policy) Declaration (No. 1) 2024*.

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The contact officer within the Department of Infrastructure, Transport, Regional Development, Communications and the Arts is [CONFIDENTIAL -] who can be reached via email at [CONFIDENTIAL - PERSONAL]@gov.au or by phone on [CONFIDENTIAL]

Yours sincerely



Michelle Rowland MP

27 9 /2024

cc Nerida O'Loughlin PSM, Chair, Australian Communications and Media Authority;
Gina Cass-Gottlieb, Chair, Australian Competition and Consumer Commission

OFFICIAL



23 October 2024

The Hon Michelle Rowland, MP
Minister for Communications
PO Box 6022
Parliament House
CANBERRA ACT 2600

By email: **CONFIDENTIAL**@MO.communications.gov.au

Dear Minister

I refer to your letter of 27 September and our recent discussion regarding the management of customers with handsets requiring an active 3G network for emergency calling.

As you are aware, as part of our submission to the draft Carrier Licence Conditions, TPG Telecom voluntarily committed to voice call barring customers with incompatible handsets from the time of the closure of the 3G networks. Pending a response to our commitment, we continued communicating with customers regarding the need to upgrade impacted handsets.

While a formal response to our submission has not been received, I note that you have now directed the ACMA to amend the Emergency Call Services Determination to require blocking of all services on these devices. Following the release of the amended draft Determination by the ACMA on 24 September, we revised our customer communications and aligned our blocking schedule with the requirements of the proposed amended Determination.

We now understand that the timeframes for the blocking of customers under the draft Determination does not align with your expectation that all customers with impacted handsets across all networks be blocked within 5 days of 28 October.

While we consider that there are risks with such an approach to blocking, we have again amended our blocking schedule to allow us to meet this timeframe, should the ACMA amend the Determination to require blocking by 1 November.

Your letter asked us to consider an early blocking approach similar to that employed by Optus. Such an approach was not possible in the timeframe given the requirement to provide our customers notice of the change in scope of services to be blocked.

As requested, we have considered communicating with customers with handsets lacking support for Band 28 (or 700 MHz spectrum). These handsets comply with the prevailing standard (AS/CA S042) and are compatible with the TPG Telecom network. These handsets utilise TPG Telecom's network in all spectrum bands other than 700 MHz, noting we use other spectrum bands for our 4G coverage layer.

This allocation of spectrum to each technology generation is an independent decision made by carriers to maximise the efficiency of their networks based on the spectrum available to them at a particular time.



Further, of the 68,000 handsets on our network without Band 28 support, fewer than 1,000 were directly sold through TPG Telecom channels, with the vast majority being imported or purchased through unaligned retailers.

However, we will provide these customers with information regarding the potential coverage limitations and highlight that upgrading handsets would maximise access to emergency calling on other networks when travelling throughout Australia.

If you would like to discuss this issue in further detail, please do not hesitate to contact me or our Head of Government Relations, **CONFIDENTIAL - PERSONAL**, or **CONFIDENTIAL**@tpgtelecom.com.au.

Yours sincerely

**CONFIDENTIAL -
PERSONAL
INFORMATION**

Iñaki Berroeta
CEO and Managing Director
TPG Telecom (ASX: TPG)

OFFICIAL



The Hon Michelle Rowland MP

Minister for Communications
Federal Member for Greenway

MS24-002002

Mr Iñaki Berroeta
Chief Executive Officer and Managing Director
TPG Telecom Limited
Level 24, 200 Barangaroo Avenue
NORTH SYDNEY NSW 2000

CONFIDENTIAL [@tpgtelecom.com.au](mailto:berroeta@tpgtelecom.com.au)

Dear Mr Berroeta,

I am writing to you again with regard to the closure of the 3G mobile networks.

Thank you for your letter of 23 October 2024. I welcome your advice that, consistent with my direction to the Australian Communications and Media Authority (ACMA) to amend the *Telecommunications (Emergency Call Service) Determination 2019* (ECS Determination), affected handsets will be blocked progressively from 28 October 2024 to 1 November 2024. I understand that the ACMA is minded to adjust its proposed amendments to the *ECS Determination* to accommodate that plan.

I am comfortable with the proposal, with one important caveat. I would ask that TPG Telecom prioritise blocking handsets for customers who are Tasmanian residents on 28 October 2024. Telstra plans to switch off 3G in Tasmania first, on 30 October 2024, as part of a staged switch off process. While TPG Telecom customers will be able to use the Optus 3G network for Triple Zero until 18 November 2024, there are parts of Tasmania that have only Telstra coverage. To help manage the public safety risk associated with the switch off, Tasmanian residents should have a short period where their handset is subject to voice and data blocking, but may also have Tasmania-wide access to Triple Zero using camp on, for a short period.

In my last letter to you, I raised concerns about the number of devices connected to TPG Telecom's network that do not support the 700 MHz band. Thank you for agreeing to notify users of the potential coverage limitations with these handsets and highlight that upgrading handsets would improve access to emergency calling on other networks.

In addition, to assist me in monitoring the switch off, I would like to see the 3G Network Closure Working Group continue to meet weekly until all networks are switched off. My department will report to me on a weekly basis and will develop a weekly switch off reporting template for industry use. Daily reporting or check-ins in the early period of the

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switch off would also facilitate swift responses if needed. This template will be shared with you shortly. My expectation is that TPG Telecom would continue to be a conduit for its mobile virtual network operators in preparing that reporting. An issues management protocol is also being developed, which will allow mobile network operators, regulators and the Australian Government to share information and respond to any issues as they arise.

Finally, I note that state and territory Ministers who are members of the Regional Connectivity Ministers Roundtable have raised with me concerns that end users calling their provider for assistance with affected handsets are sometimes not receiving clear information. While I appreciate that MNOs have dedicated support teams, it is my expectation that MNOs will work to ensure that messages being delivered by mobile virtual network operators also provide appropriate support for end users.

The contact officer within the Department of Infrastructure, Transport, Regional Development, Communications and the Arts is **CONFIDENTIAL - PERSONAL INFORMATION** who can be reached via email at **CONFIDENTIAL** or by phone on **CONFIDENTIAL**.

Yours sincerely



Michelle Rowland MP

24/10/2024

cc Nerida O'Loughlin PSM, Chair, Australian Communications and Media Authority;
Gina Cass-Gottlieb, Chair, Australian Competition and Consumer Commission

OFFICIAL



25 October 2024

The Hon Michelle Rowland, MP
 Minister for Communications
 PO Box 6022
 Parliament House
 CANBERRA ACT 2600

By email: CONFIDENTIAL@MO.communications.gov.au

Dear Minister

I refer to your letter of 24 October regarding the required blocking schedule and ongoing reporting associated with the closure of the remaining 3G networks.

I confirm our customers in Tasmania with handsets requiring an active 3G network to call emergency services will be prioritised in our blocking schedule. These handsets are due to be blocked on Monday 28 October.

In relation to the ongoing reporting of customer complaint data, TPG Telecom will provide weekly data for those categories relevant to our network. However, while we have previously provided handset-level data relating to MVNO's on our network, we do not have, nor is it appropriate for us to have, visibility of their customer contact data at the retail level. Should the Department require this data, this will need to be requested directly from these carriers.

Finally, TPG Telecom will continue to be engaged with the 3G Network Closure Working Group throughout this closure phase.

If you would like to discuss this issue in further detail, please do not hesitate to contact me or our Head of Government Relations, CONFIDENTIAL - PERSONAL or CONFIDENTIAL@tpgtelecom.com.au.

Yours sincerely

CONFIDENTIAL -
 PERSONAL
 INFORMATION

Iñaki Berroeta
 CEO and Managing Director
 TPG Telecom (ASX: TPG)

TPG HMD Nokia devices and Triple Zero [SEC=OFFICIAL]

From: CONFIDENTIAL - PERSONAL [REDACTED]@infrastructure.gov.au>
To: CONFIDENTIAL - [REDACTED]@tpgtelecom.com.au>
Cc: CONFIDENTIAL - PERSONAL [REDACTED]@infrastructure.gov.au>; CONFIDENTIAL - [REDACTED]
 CONFIDENTIAL - [REDACTED]@communications.gov.au>CONFIDENTIAL - [REDACTED]
 CONFIDENTIAL [REDACTED]@infrastructure.gov.au>CONFIDENTIAL [REDACTED]
 CONFIDENTIAL - [REDACTED]@infrastructure.gov.au>

Date: Thu, 31 Oct 2024 22:43:39 +1100

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Dear CONFIDENTIAL [REDACTED]

The department has become aware that TPG was informed by device manufacturer HMD on 18 October that a Nokia marketed phone uses 3G to call Triple Zero and that around 4,300 customers are impacted. Concerningly, this knowledge was not shared with the department until 30 October and action was not taken by TPG Telecom to pro-actively inform consumers before the networks commenced shutting down. Following a discussion with our Minister's Office, we urgently request TPG Telecom's advice as to whether SMS messages have been sent to these customers and whether the RVA messaging has been updated to capture these devices. These steps need to be actioned urgently if not already.

Given the concerning implications for Tasmanian consumers, where Telstra has already switched off its 3G network, we consider that immediate action by TPG Telecom needs to be taken to block the affected devices of Tasmanian consumers on Friday 1 November.

For mainland consumers, immediate action needs to be taken to inform customers multiple times via SMS and Email that their device is affected, with blocking to occur shortly after midnight Saturday night (for example 1am Sunday morning 3 November) ahead of the Telstra 3G switch off on the mainland. We are of the view that multiple messages are required, including at least 5 SMS messages per day to be sent to each customer on Friday 1 November and Saturday 2 November and that each customer is sent an email on each of Saturday and Sunday alerting them that they have an affected device. That advice should be clear about when the device will be blocked and information on where vulnerable consumers can get support.

These customers will be rightly asking why they have not been given sufficient notice and TPG may wish to consider what additional supports they could offer customers to swiftly update their devices and access affordable devices, low cost or discounted handsets.

It is disappointing that this issue was known to TPG ahead of the 28th of October and was not shared with the department or the Working Group sooner, given the extensive engagement this Department has undertaken with industry in advance of the 3G switch. This has put Australians at risk and undermines the hard work that the Minister and her Office, the department and Telstra and Optus have undertaken to facilitate a safer switch off.

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Department of Infrastructure, Transport, Regional Development, Communications and the Arts
 CONNECTING AUSTRALIANS • ENRICHING COMMUNITIES • EMPOWERING REGIONS

infrastructure.gov.au

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5 November 2024

The Hon Michelle Rowland, MP
 Minister for Communications
 PO Box 6022
 Parliament House
 CANBERRA ACT 2600

By email: **CONFIDENTIAL** [@MO.communications.gov.au](mailto:CONFIDENTIAL@MO.communications.gov.au)

Dear Minister

I refer to the recent correspondence from **CONFIDENTIAL - PERSONAL** on 31 October 2024 regarding HMD handset classification.

HMD gave industry late notice of VoLTE emergency calling capability classification changes for certain older handsets. Details of this classification change were first discussed with TPG Telecom on 18 October. Once we integrated this information into our systems, we began notifying customers on 24 October with Recorded Voice Announcements for outgoing calls from affected devices. Direct SMS messages followed on 28 October, with further notifications, including emails and SMS, on 30 October, twice on 1 November, and again on 2 November.

We put these measures in place to inform and support affected customers. TPG Telecom proactively raised HMD's classification change with the Department and other carriers. After discussions with your office, we agreed to block Tasmanian customers on 1 November and the remainder on 2 November, balancing safety concerns with the need for customer transition time. The ACMA approved this approach.

The Department's suggestion that TPG Telecom has undermined network closure efforts is inaccurate and disregards the complexities involved. TPG has acted in good faith to address HMD's late changes and keep customers informed. For instance, Telstra only confirmed its customers' status late on 31 October, highlighting the ambiguous and evolving nature of HMD's guidance.

Throughout, TPG Telecom has adapted to shifting requirements, including significant changes required by the final ECS Determination to meet the 1 November deadline. It should be noted that the final Determination was only registered in the week prior to blocking commencing. Despite this very late change to policy settings, we have maintained our commitment to customer support and actively contributed to the 3G Working Group, which has facilitated effective communication on network closures and device classifications.

TPG Telecom looks forward to more constructive and informed dialogue on these matters. I am available to discuss this further should it be helpful.

Yours sincerely,

**CONFIDENTIAL -
 PERSONAL
 INFORMATION**

Iñaki Berroeta

CEO and Managing Director
 TPG Telecom (ASX: TPG)



Australian
Communications
and Media Authority

21 May 2025

CONFIDENTIAL - PERSONAL
INFORMATION

TPG Telecom

Email: CONFIDENTIAL@tpgtelecom.com.au

Dear **CONFIDENTIAL**

Requirements to identify and block mobile phones unable to call Triple Zero

I refer to the amendments to the *Telecommunications (Emergency Call Service) Determination 2019* (the ECS Determination) made in October 2024 that require carriage service providers to identify mobile phones that are unable to call Triple Zero, and to cease supply of carriage services to those phones. The practices that industry have developed are generally referred to as 'blocking' mobile phones.

As these elements of the ECS Determination have been in operation for six months, I consider it timely to assess the effectiveness of industry arrangements to meet these requirements, and ensure that device blocking arrangements are being undertaken using appropriate methodologies.

I am seeking detailed information on the process that TPG Telecom undertakes to determine if a mobile phone should be blocked. Could you please respond to this request by providing the following information:

- describe in detail TPG Telecom's process for determining which mobile phones are blocked
- advise which specific devices have been blocked, and, for each device, advise of TPG Telecom's reason for blocking it
- the total number of mobile phones that have been blocked since commencement of the new rules
- the total number of mobile phones identified on your network each month since commencement of the new rules
- the total number of customers that have utilised assistance under your payment assistance policy and obtained a free or low-cost phone since commencement of the new rules.

I would also welcome any feedback you would like to provide the ACMA about your experience operating under the new rules, and whether there are improvements in regulations, processes, or information sharing between stakeholders that may assist to meet the policy objectives.

I would appreciate your response before Wednesday 4 June 2025. The contact officer for this matter is [REDACTED] who can be contacted on [REDACTED - PERSONAL] [\[REDACTED\]@acma.gov.au](mailto:[REDACTED]@acma.gov.au) should you wish to discuss this issue or obtain further information.

Yours sincerely

[REDACTED]
CONFIDENTIAL -
PERSONAL
INFORMATION

[REDACTED]
[REDACTED]
A/g Executive Manager
Telecommunications Safeguards and Numbers

[REDACTED]
CONFIDENTIAL -
[REDACTED] [\[REDACTED\]@acma.gov.au](mailto:[REDACTED]@acma.gov.au)

RE: Letter from ACMA - identifying mobile phones unable to call Triple Zero [SEC=OFFICIAL]

From: CONFIDENTIAL - [REDACTED]@tpgtelecom.com.au>
To: CONFIDENTIAL - [REDACTED]@acma.gov.au>
Cc: CONFIDENTIAL - [REDACTED]@acma.gov.au>; CONFIDENTIAL - [REDACTED]@acma.gov.au>
Date: Wed, 04 Jun 2025 15:04:40 +1000
Attachments: Attachment 1 - TPG Telecom device categorisation process.docx (478.71 kB); Attachment 1a - Independent assessment of TPG categorisation approach.pdf (243.96 kB); Attachment 2 - TPGTelecom_BarredTAC_List_20250526.xlsx (343.48 kB)

Dear CONFIDENTIAL - [REDACTED]

Thank you for your correspondence requesting information on TPG Telecom's identification of mobile phones unable to call Triple Zero. The information requested is provided below and in the attachments to this e-mail.

1. Describe in detail TPG Telecom's process for determining which mobile phones are blocked

Please see [Attachment 1](#) and the independent verification of this methodology in [Attachment 1a](#).

2. Advise which specific devices have been blocked, and, for each device, advise of TPG Telecom's reason for blocking it

Please see [Attachment 2](#). Column F contains the reason for each blocking decision.

3. The total number of mobile phones that have been blocked since commencement of the new rules

TPG Telecom blocked 48,000 IMEIs prior to moving to TAC blocking in November 2024.

4. The total number of mobile phones identified on your network each month since commencement of the new rules

Since moving to TAC blocking, non-compliant handsets cannot attach to our network. We sought further clarification from the ACMA on 21 May on the intent of this question and are awaiting a response.

5. The total number of customers that have utilised assistance under your payment assistance policy and obtained a free or low-cost phone since commencement of the new rules.

509 free handsets have been provided to date under our policy.

I hope this information is of assistance.

Kind regards,

CONFIDENTIAL - PERSONAL
INFORMATION



I acknowledge the Traditional Custodians of the lands on which I work and reside, the Gadigal and Darramuragal Peoples, and I pay my respects to their Elders, past, present and emerging.

From: CONFIDENTIAL - [REDACTED]@acma.gov.au>
Sent: Wednesday, 21 May 2025 11:23 AM
To: CONFIDENTIAL - [REDACTED]@tpgtelecom.com.au>
Cc: CONFIDENTIAL - [REDACTED]@acma.gov.au> CONFIDENTIAL - PERSONAL [REDACTED]
CONFIDENTIAL - [REDACTED]@acma.gov.au>
Subject: Letter from ACMA - identifying mobile phones unable to call Triple Zero [SEC=OFFICIAL]

ALERT: This email originated outside TPG Telecom's network. If you do not recognise the sender or did not expect this email then please do not open any attachments or click any link.

Good morning CONFIDENTIAL [REDACTED]

Please find attached a letter from CONFIDENTIAL [REDACTED] about the requirement to identify and block mobile phones unable to call Triple Zero under the *Telecommunications (Emergency Call Service) Determination 2019*.

Regards

CONFIDENTIAL - PERSONAL
INFORMATION

Australian Communications and Media Authority
CONFIDENTIAL - PERSONAL
INFORMATION
acma.gov.au



The ACMA acknowledges the Traditional Owners of Country throughout Australia and their continuing connection to land, culture and community. We pay our respects to Elders past, present and future.

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VoLTE Emergency 000 Device Compliance Categorisation Methodology

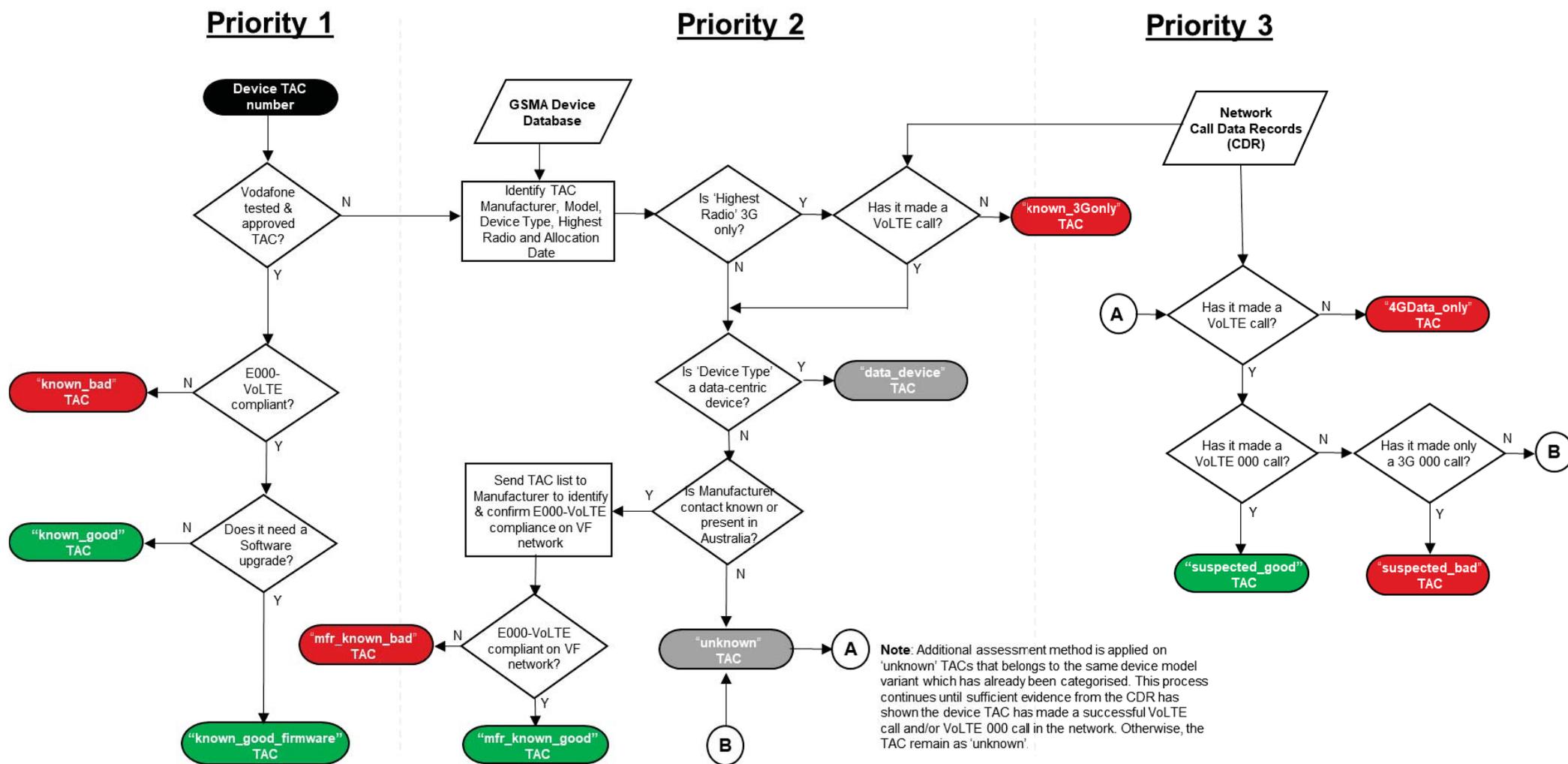
VoLTE Emergency 000 Device Compliance Categorisation Method Hierarchy based on Type Allocation Code (TAC)

- **Priority 1** – Actual physical testing of a device model (TAC) hardware and software in the Vodafone 4G network
- **Priority 2** – Manufacturer declaration of a device model (TAC) hardware and software version variant is VoLTE emergency 000 calling compatible on the Vodafone 4G network
- **Priority 3** – Using historical network Call Data Record (CDR) analysis of Voice, Data and Emergency 000 calls on Vodafone's 3G and 4G networks

VoLTE Emergency 000 Device Compliance Categorisation Definition		
	Categories	Definition
Good	known_good	Known to support VoLTE and VoLTE Emergency 000 calling from our own testing.
	mfr_known_good	Declaration the device supports VoLTE & VoLTE Emergency Calling from the local device manufacturer. Note TPG Telecom has not tested this device. Customers must ensure they upgrade their device to latest available software from the manufacturer.
	known_good_firmware	Known if the device owner has kept the device software updated, it will support VoLTE Emergency 000 calling.
	suspected_good	Categorised based on CDR data analysis for VoLTE Emergency 000 calling.
Bad	4GData_only	This device can use 4G data but needs 3G for any/all voice calls (including 000) based on CDR data analysis.
	known_bad	Known NOT to support VoLTE or VoLTE Emergency 000 calling by our own testing
	known_3Gonly	Known 3G only device based GSMA Device Database Band lists and CDR data analysis including some from our own testing.
	mfr_known_bad	Declaration the device does NOT support VoLTE or VoLTE Emergency 000 calling from the local device manufacturer. Note TPG Telecom has not tested this device.
	suspected_bad	Previously an unknown device categorised based on CDR data analysis for VoLTE Emergency 000 calling.
Others	data_device	A data centric device or module whose primary use case is for access to wireless data service, e.g. Tablet/iPad, Embedded PC Laptop, MBB Modem, USB Modem Dongle, FWA CPE modem, FBB CPE Wireless Backup, M2M data module, IoT module, Telemetry data, Vehicle Navigation unit, Mobile EFTPOS, Mobile Barcode Scanner etc. as categorised by GSMA Device Database.
	unknown	A determination of VoLTE Emergency 000 calling capability has not been able to be made with the device.



High-level Device TAC Categorisation Method Flowchart



Additional compliance assessment method for “unknown TAC”

1. If a device model is classified as “known_good” (meaning it was tested by TPG as VoLTE-000 compliant), then all the other TACs belonging to that device model (provided there is CDR evidence one of those TACs making a successful VoLTE-000 call) will be considered the same regardless of whether the TACs were sold in Australia.
2. If a device model is classified as “known_bad” (meaning it was tested by TPG as non-VoLTE E000 compliant), then all the other TACs belonging to that device model will be considered the same regardless of whether the TACs were sold in Australia.
3. If a device model is classified as “known_firmware_good” (meaning if the software is upgraded to the latest version), then all the other TACs belonging to that device model (provided there is CDR evidence one of those TACs making a successful VoLTE-000 call) will be considered the same regardless of whether the TACs were sold in Australia.
4. If a Manufacturer has declared a device model as E000-VoLTE good or bad, all the other TACs belonging to that device model (provided for the good there is CDR evidence one of those TACs making a successful VoLTE-000 call) will be considered the same regardless of whether the TACs were sold by the manufacturer in Australia.
5. If a TAC has made at least one successful E000-VoLTE call across all CDR reports, that device model will be categorised as “**suspected_good**”. All other TACs belonging to that device model (provided there is CDR evidence one of those TACs making a successful VoLTE-000 call) will be considered the same regardless of whether the TACs were sold in Australia.

If the device has only shown successful E000-VoLTE call in one or two of the call CDRs, and the TAC was allocated from **2017 or later**, that device model will be categorised as “**suspected_good**”. Otherwise, it remains as “unknown”.

6. If a TAC is declared as a 4G “Data-centric” device type (e.g. modem module, router, embedded laptop, etc.) by the manufacturer in the GSMA TAC Allocation Database, then all devices using that TAC will be considered as a “**data_device**”.

The primary use case for these devices is assumed to be wireless data access, regardless if it may be integrated into some application with telephony



function as the specific device model cannot be determined unless a specific IMEI range is known using that TAC.

7. If a TAC is declared as **5G** handset by the manufacturer in the GSMA TAC Allocation Database, it has made a successful VoLTE call from our CDR call analysis and the GSMA TAC allocation date was issued from **2021 or later**, that device model will be considered as “**suspected good**”. All TACs belonging to that device model will be considered the same regardless of whether the TACs were sold in Australia.
8. Any unknown TAC that is declared by the manufacturer as 2G or 3G only in the GSMA TAC Allocation Database, has not made any successful VoLTE call (from the voice CDR analysis), and the TAC was allocated by GSMA prior to 2017, will be categorised as “**known_3Gonly**”.
9. If a TAC has made only emergency 000 calls over 3G (from 3G emergency call CDR call analysis) and provided there is no evidence successful E000-VoLTE from CDRs, the TAC will be considered as “**suspected_bad**” (e.g. 000-3G only device).
10. If a TAC is a **Smartphone, Handheld, Mobile Phone/Feature Phone, Tablet or Wearable**, has not made a single VoLTE call and VoLTE 000 call, and the GSMA TAC allocation date was issued **before 2021**, that device model will be considered as “**4GData_only**” capable. All TACs belonging to that device model will be considered the same regardless of whether the TACs were sold in Australia by the manufacturer.

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**ADDENDUM 1: TPG 3G CLOSURE DEVICE TESTING
ASSURANCE REVIEW**

ABSTRACT

This report is an addendum to a prior report written in relation to Telstra and Optus. This addendum provides an independent review of the process methodology applied by TPG against established industry standards to identify devices which may be impacted by the closure of the 3G networks in Australia.

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1.1 Introduction, instructions, and personal background

The following report has been prepared by CONFIDENTIAL - PERSONAL INFORMATION at the request of TPG and forms an addendum to my prior report which focussed on Telstra and Optus. My appointment has been endorsed by the Department of Infrastructure, Transport, Regional Development, Communications, and the Arts.

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- The pre-cellular 007 PAMTS car phone network
- The Analog Paging and Digital Paging networks
- The IMMTS Interim Manual Mobile Telephone Service
- The AMPS Analog cellular network
- The CDMA 2G network
- The GSM 2G network
- The 3G-2100 MHz MOCN network

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1.2 Report scope and areas of focus

This report has been prepared in accordance with the Terms of Reference provided to me, see appendix 1.

Much of the report focuses on the comprehensiveness and accuracy of actions taken by TPG to identify and categorise devices on their network which may be unable to make voice and or data calls after the closure of 3G. Added focus has been applied to the ability of devices to make voice emergency calls using the calling procedures defined in 3GPP standards after 3G closure.

1.2.1 Network and device evolution and the implications for 3G network closure

The rollout of 3G mobile networks in Australia commenced in the early 2000's providing both voice and data services on specific frequencies for 3G coverage. On 3G networks voice is handled differently to data transmission in that specific circuit switch bearers are used to deliver the reliability of connection for voice calls. When the 3G network is switched off all 3G only devices will cease to work.

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4G was introduced into Australia in the early 2010's by reusing some 2G spectrum bands and later new spectrum bands such as 700 MHz were introduced. The 4G technology standards did not define a voice specific bearer as it was intended that voice be carried as a form of Voice over IP. At that time these standards had not matured sufficiently for 4G voice, so networks and handsets were configured to have voice calls redirected and carried on the 3G network, this was known as Circuit Switched Fallback. When the 3G network is switched off, any of these devices remaining on the network will still work with web browsing and apps however all voice calling will cease to work.

As the 4G standards developed, a standard for carrying voice over 4G (LTE) matured and Voice Over LTE (VoLTE) network capabilities based on the IMS standard combined with corresponding device capabilities were progressively introduced.

Even with the VoLTE standard available there was a period where emergency calling standards were not fully implemented and some devices, despite being capable of making 4G VoLTE voice calls, were configured to send emergency calls back to 3G using the 3G emergency calling standard. When the 3G network is switched off, any of these devices remaining on the network will still work with web browsing, apps and standard voice calls however all emergency voice calling (including E-VoLTE) will cease to work.

The timing of the introduction of VoLTE varied in Australia and around the world due to the complexity and cost of introducing both network and handset implementations. I recall that TPG introduced VoLTE sometime after Telstra and Optus.

For each of the 3G and 4G voice calling standards there are specifications for the handling of emergency calls including the ability for a handset that is outside the coverage of its own network to be able to make emergency calls on another network's coverage. In these scenarios the devices display Emergency Calls Only.

Over time the 700 MHz spectrum band has become the prime 4G coverage layer for the Optus and Telstra 4G networks but not TPG.

1.3 Methods to identify and categorise devices

In my experience operators have access to a range of methodologies, tools and sources of data that could be used in identifying and categorising devices that might be impacted by the 3G closure.

In my review I have made inquiries of TPG as to which methodologies they have used. I have noted and commented below where TPG has or has not used each of these tools and data sources within their analysis.

a. Type Allocation TAC databases

The GSMA TAC data base as described separately and local operator enhancement of this database.

TPG has used the GSMA TAC data base as a source of device capabilities.

b. Network core registers

Operator networks including HLR/HSS systems and IMS systems contain device registration and state information in various formats.

TPG has not used these systems for tracing but has focussed on large samples of CDR records as describe below.

c. Device testing

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Testing of devices in operator laboratories can provide conclusive data on device performance.

TPG has used device testing of their own sourced devices to verify calling functionality.

d. Call tracing & probes

Network operators have various call tracing tools that are used for testing and analysing network and device performance. These traces can be used to refine the understanding of the behaviour of specific devices.

Call traces can be done on the radio network and the core IP Multimedia Subsystem (IMS) network that controls VoLTE calling either directly using network tools or through probes that monitor signalling interfaces.

TPG has not used these systems for tracing but has focussed on large samples of CDR records as describe below.

e. Call record analysis

Mobile networks generate Call Data Records (CDR) for every calling event on the network. These records contain information about the device use, the cell used and various other call parameters. These records can be analysed historically to find information about whether a device made a certain type of voice or data call on a certain cell type to prove VoLTE and E-VoLTE emergency calling functionality or otherwise.

TPG has primarily focussed on the use of CDR call records in accordance with their described methodology which is included in the attachments.

f. Device manufacturer engagement

Individual device manufacturers will have information about the models, software variants and capabilities of device models sold.

TPG has used device manufacturer declarations in their analysis.

1.4 Information received and reviews undertaken for this report

In undertaking this review, I have been provided with reports and technical information by TPG and the Department of Infrastructure, Transport, Regional Development, Communications, and the Arts. I have also undertaken a series of phone, email, and video conference calls with members of TPG on points of clarity.

1.4.1 3G Switchover – Affected devices report

The “3G Switchover – Affected devices” report is compiled by Department of Infrastructure, Transport, Regional Development, Communications, and the Arts from the inputs of each of the operators and shows the trends in numbers of various categories of devices still active on each of the carrier networks over time.

A separate document provided by the department lists each of the device categories and a description of the impact of closure.

The report shows that residual active incompatible device numbers continue to trend down with customer migration. In my experience with other network closures there will be a residual number of devices remaining active on the networks at closure. I understand that the Minister and her department also acknowledge this to be the case.

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I have noted variations in the various device category counts over time as data collection and analytics performed by operators has been refined into increasing levels of accuracy and granularity.

I have further noted in the associated "Definition of each category of impacted device" document, that the count of 4G handsets that are not compatible with 4G 700 MHz spectrum is not in scope for TPG and therefore the department report shows zero for TPG under this category.

I have reviewed reports by TPG and made inquiries to understand the reasons for some of the more material shifts in numbers amongst categories in the department report. In each case of inquiry, I have been given information that satisfactorily shows the cause of the change such as how counting methodologies changed or were improved and or where new device cohorts were identified.

1.4.2 TPG Information

TPG provided documentation describing the impacted device identification process, the tools and methodologies used in identifying devices impacted by the 3G closure.

In addition to this I have made inquiries by phone and email and undertaken a video conference call with TPG experts to ask questions and gain clarity around the TPG documentation and methodology used and how these have translated into the device categorisations contained in the report provided by the department.

I have observed that the department report shows a very low number of TPG 3G only handsets since the beginning of the trending graphs on 25 March 2024, this is consistent with TPG's earlier closure of their 3G network and any residual 3G devices likely to be operating on the Optus 3G network under roaming agreements.

Shifts in device category numbers shown in the department monthly report from 22 April to 6 May and subsequently have been explained by changes or updates made by TPG as outlined in the following paragraphs.

TPG has provided information on three changes to the TPG device list starting from May onwards.

First, TPG Telecom moved to tracking the device TAC number and categorising devices individually rather than using the device model name which generalises the device categorisation inaccurately.

Secondly, TPG applied the GSMA Device Database to identify the manufacturer and model name for each unique TAC number that appears in network Call Data Records (CDR).

Third, TPG refreshed their CDR database and included all active voice and data subscribers, increasing the subscriber count from 4.7 million to 5.9 million. At the time of the 6 May report to Government, TPG reported a large number of unknown TACs from this refreshed CDR database as these were still to be identified and classified for VoLTE compliance.

In addition, at the time of the 6 May report, TPG were reporting all unknown subscribers, including active and inactive. By 20 May TPG moved to reporting only active subscribers with unknown devices, consistent with the approach for the other categories.

The department report shows the TPG reported devices under the "Active 4G VoLTE without 000 handsets" category peaked at approximately 400,00 on 6 May and reduced to over 200,000 on 20 May, corresponding to TPG categorisation changes including the removal of the inactive subscribers.

In TPG's categorisation methodology they describe their use of actual device testing of a device model and manufacturer declaration for devices on the Vodafone 4G network as first two priorities

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combined with using CDR analysis in determining if a device has successfully made a normal VoLTE call and VoLTE emergency 000 call in their network.

TPG stated that the emergency call data records (CDR) analysed goes back up to at least 18 months starting from 1 Jan 2023 with a total volume of 1,008,340 emergency calls. For each reporting period, TPG analysed a 3-month period of normal voice call CDRs with a total volume of 2.7B calls to determine the devices that are making successful VoLTE calls on their network.

TPG's categorisation methodology using CDR records categorises known good devices whilst all other devices are categorised as known or suspected bad. This has the potential to include good devices in the bad category if there is no CDR proving functionality. In my opinion this is a conservative approach which is likely to reduce the risk of devices unable to support VoLTE emergency calling being missed in their analysis.

In my professional opinion the process methodologies applied by TPG are based on sound and established industry practices.

1.5 Other considerations outlined in the Terms of Reference

The scope of the terms of reference states that the reviewer may also consider the following.

1.5.1 the approach taken in other jurisdictions to similar exercises

I have no direct information from other jurisdictions who have or are about to close similar networks however I have reviewed documents produced by the GSMA and spoken to the CTO of the GSMA about network closures more generally.

Having considered the information available to me and the methodologies and tools used by the operators to identify impacted devices, in my professional opinion, the approaches taken by TPG are consistent with how operators in other jurisdictions would approach a similar exercise.

1.5.2 guidance provided by industry associations, such as the GSMA

The GSMA (GSM Association) is a global organization that represents the interests of mobile network operators worldwide. The GSMA helps with standards and guidance on emerging technology introduction and changes. The following sources of information from the GSMA are relevant to the 3G network closure.

1.5.2.1 GSMA TAC database

The GSMA provides an international register of devices under the Type Allocation TAC database¹. Every device produced for mobile network operation has a TAC code and an associated unique identity that makes up a 15-digit International Mobile Equipment Identity IMEI.

By referring to the TAC database operators can identify every brand and model of devices approved for wireless operation and cross check functionality if these codes are seen active on their network.

From my inquiries TPG has consulted the GSMA's TAC database as part of the diligence in identifying devices impacted by the 3G closure. TPG have further improved on the accuracy of the information available through a combination of TPG device testing, device vendor engagement and collaboration with other operators via the AMTA whitelist process.

¹ <https://www.gsma.com/solutions-and-impact/industry-services/device-services/tac-allocation>

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1.5.2.2 GSMA guidelines for 2G/3G network closure and emergency calling issues

The GSMA has established a task force (European focussed) in relation to emerging VoLTE emergency calling issues and has also issued documentation associated with 2G-3G sunset guidelines (NG.121²).

From my inquiries TPG has considered the issues identified in the GSMA sunset guidelines.

1.5.3 the relative numbers of devices between the MNOs

Whilst the relative number of devices at risk in each category might normally be expected to have some correlation to market share, some consideration should also be given to the evolution of each operator's network across the introduction of 4G and VoLTE as well as typical customer cohorts and the evolution of VoLTE support across device brands.

An operator with early entry into 4G would source and manage devices with corresponding capabilities and have an initial peak of 4G devices with 3G fallback for all voice. Also, an operator with early entry into VoLTE would source and manage devices with 4G VoLTE operation but may be lacking 4G emergency calling functionality, again using 3G fallback. With time both categories of devices would be progressive retired although some residual devices may be held by customers or on sold and may remain on the network or even move to another network. As 4G devices matured with VoLTE emergency calling support these would form the major cohort of devices sources and managed by these operators.

Outside of these categories operators would also have devices that migrated onto their networks from other networks or were imported or BYO. These later devices may not be fully configured for the operator's network and whilst some may support VoLTE emergency calling and others may not. Operators may not be able to fully identify these different cohorts and hence their capability will be unknown.

I do not have any specific information about the various relative numbers in each of these cohorts however in my opinion an operator with a longer history of operating and managing device configures for 4G and VoLTE might be expected to have a lower proportion of unknown devices.

An operator late to 4G and late to VoLTE may have missed some of these peaks when managing and sourcing their own devices, however even though their network might not have supported 4G or VoLTE initially, cohorts of devices they sourced may have had these capabilities inherently but would not have been configured nor tested by the operator until they gained those capabilities in their network. Without that history of configuration management and testing of those devices, these operators may have an increased cohort of devices where their VoLTE emergency calling capability is unknown.

As with other operators, these networks would also have cohorts of devices from other networks or imported or BYO. The relative proportion of these cohorts may also differ per operator.

Again, I do not have any specific information about the various relative numbers in each of these cohorts however in my opinion an operator with a later entry into operating and managing device configures for 4G and VoLTE might be expected to have a higher proportion of device on their network where their emergency calling capability is unknown.

Given the evolution described above and the uncertainty of being able to predict or correlate relative numbers of devices, it is my professional opinion that whilst relative comparisons of

² https://www.gsma.com/newsroom/gsma_resources/ng-121-2g-3g-sunset-guidelines-v1-0/

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numbers by market share may be useful as an initial indicator for counting discrepancies between operators, the focus should be placed on well refined individual operator methodologies for categorising devices.

1.5.4 whether there are any material differences in approach across the carriers that raise concerns

I have found no material differences in approach between operators that raise concern.

1.6 Conclusions

I have reviewed the process methodology applied by TPG to identify devices that will be impacted by the 3G shutdown against my professional experience and established industry practices and processes.

I have further considered the additional dot points provided in the terms of reference and commented on these earlier.

I have reviewed reports by TPG and made inquiries to understand their methodologies for identifying impacted devices. I have also reviewed the reasons for some of the more material shifts in device numbers amongst categories in the department report over time.

In my professional opinion the process methodologies applied by TPG are based on sound and established industry practices.

From my observations and inquiries, I have observed how TPG has progressively refined their methodology and identified any categorisation shortcomings to the point where, in my opinion any remaining errors that might lead to any impacted device not being identified, would be minor.

1.7 Recommendations

I have no additional recommendations in this addendum

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ADDENDUM APPENDICES

Appendix 1: Terms of reference TPG

Appendix 2: Documents provided by Department of Infrastructure, Transport, Regional Development, Communications, and the Arts

2.1 3G Switchover – Affected devices as of 12 August 2024

2.2 Definition of each category of impacted device

Appendix 3: Documents provided by TPG.

3.1 TPG VoLTE Emergency 000 Device Compliance Categorisation Methodology