



AN1400: Bluetooth Low Energy Interoperability Testing Report

This document includes the results of the interoperability testing of Silicon Labs' ICs and Bluetooth Low Energy stack with Android and iOS smart phones.

The document also has details of the test setup, test cases and extension of the results based on the Bluetooth qualification of the smart phones.

KEY FEATURES

- Scan, connection, discovery, and GATT operations tested
- OTA (Over the Air) updates, Throughput and Security features also tested
- EFR32xG13, EFR32xG21 and EFR32xG22 tested
- Tested against mobile devices with both Android and iOS across various OS versions
- 354 devices tested

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1. Test Setup

Tests were performed using Silicon Labs evaluation hardware, with each product family under test running functionally equivalent embedded test software. Interoperability against mobile phones running various versions of Android and iOS were tested corresponding to the test specifications listed below. Table below provides the details of the software that was used to execute the testing. Silicon Labs developed custom applications based on the software mentioned below to execute the test cases.

Table 1.1. Setup Components

Setup Component	Version / Board
Bluetooth SDK (embedded)	3.2.4 / 3.3.2
Gecko SDK	4.0.2
EFR32 Connect	2.4.1 / 2.4.3
ERF32xG13	BRD4104A
ERF32xG21	BRD4181A / BRD4181B
EFR32xG22	BRD4182A

2. Test Environment

The overall test environment is described below.

The Device under test (DUT) was placed about 1m away from the mobile phone against which the tests were executed.

The testing was conducted in a generic office environment with

The closest WiFi access point was about 5m away

About 15 other interferers in the 2.4Ghz spectrum were active during the testing and were randomly located in the 5m range.

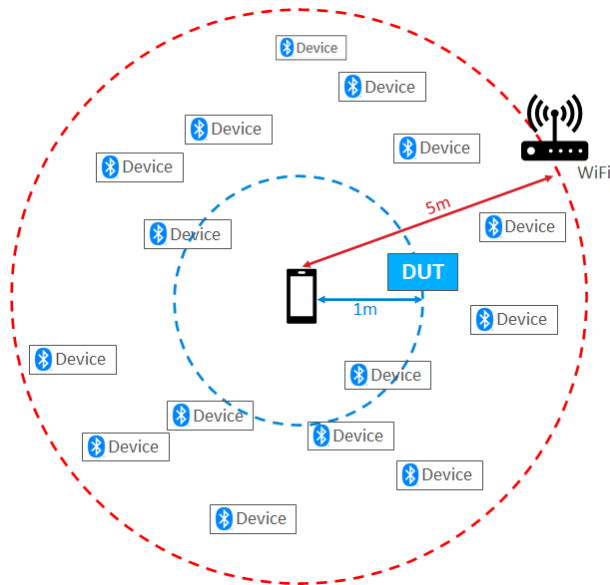


Figure 2.1. Test Environment

3. Test Case

The table below provides the details of the test cases. All the test cases were executed using the setup described in section 2. [Test Environment](#) with multiple phones. The test cases are designed to test interoperability between the mobile phones and Bluetooth Mesh implementation of Silicon Labs only and not for other categories of testing. All the below tests were run sequentially without breaks.

Table 3.1. Test Cases

Test ID	Test Type	Test Sub Type	Procedure
1	Bluetooth LE Scanning		Reset device, scan on phone. Pass if device is found by phone within 1000ms from scanning start time. Maximum number of retries: 5
2	Bluetooth LE Connection		Attempt connection between phone as central and device as peripheral. Measure connection time from start to successful completion. Pass if the connection is established successfully within 1000ms. Maximum number of retries: 5
3	Bluetooth LE Discovery		Pass if all GATT services from device under test are read by phone within 1200ms.
4.1	GATT Operations	Read Only Length 1	• Type = hex • Length = 1 • Read value = 0x55 Pass if expected value is read by phone.
4.2	GATT Operations	Read Only Length 255	• Type = hex • Length = 255 • Properties = Read • Value = 0-254 Pass if phone reads all 255 bytes match the value described above.
4.3	GATT Operations	Write Only Length 1	• Type = hex • Length = 1 • Properties = Write Phone writes 1 byte to the characteristic with value 0. Pass if the operation does not generate an error on the phone.
4.4	GATT Operations	Write Only length 255	• Type = hex • Length = 255 • Properties = Write Phone writes 255 bytes to the characteristic with value 0. Pass if the operation does not generate an error on the phone.
4.5	GATT Operations	Write Without Response Length 1	• Type = hex • Length = 1 • Properties = Write Without Response Phone writes 1 byte to the characteristic with value 0. Pass if the operation does not generate an error on the phone.

Test ID	Test Type	Test Sub Type	Procedure
4.6	GATT Operations	Write Without Response Length 255	• Type = hex • Length = 255 • Properties = Write Without Response Phone writes 255 bytes to the characteristic with value 0. Pass if the operation does not generate an error on the phone.
4.7	GATT Operations	Notify length 1	• Type = hex • Length = 1 • Properties = Notify • Value = 0x55 Phone subscribes to notifications on the characteristic which shall trigger a one-shot 100ms timer on the embedded firmware. Once the timer expires, the notification shall be sent with defined value. Pass if the subscription is done successfully, notification is received within 300ms after subscribing, and the value is 0x55. Maximum number of retries: 5
4.8	GATT Operations	Notify length MTU - 3	• Type = hex • Length = 255 • Properties = Notify Phone subscribes to indications on the characteristic which shall trigger a one-shot 100ms timer on the embedded firmware. Once the timer expires the indication shall be sent. The amount of bytes sent shall be MTU - 3 bytes (maximum supported by an indication) where the first byte value is 0 and the subsequent bytes will previous one +1 (e.g. byte 0 value is 0, byte 1 value is 1,... and byte N value is N). Pass if the subscription is done successfully, indication is received within 300ms after subscribing and the value matches as described above. Maximum number of retries: 5
4.9	GATT Operations	Indicate Length 1	• Type = hex • Length = 1 • Properties = Indicate • Value = 0x55 Phone subscribes to indications on the characteristic which shall trigger a one-shot 100ms timer on the embedded firmware. Once the timer expires the indication shall be sent with defined value. Pass if the subscription is done successfully, indication is received within 300ms after subscribing and the value is 0x55. Max Retries: 5 times

Test ID	Test Type	Test Sub Type	Procedure
4.10	GATT Operations	Indicate length MTU - 3	• Type = hex • Length = 255 • Properties = Indicate Phone subscribes to indications on the characteristic which shall trigger a one-shot 100ms timer on the embedded firmware. Once the timer expires the indication shall be sent. The amount of bytes sent shall be MTU - 3 bytes (maximum supported by an indication) where the first byte value is 0 and the subsequent bytes will be previous one +1 (e.g. byte 0 value is 0, byte 1 value is 1,... and byte N value is N). Pass if the subscription is done successfully, indication is received within 300ms after subscribing and the value matches as described above. Maximum number of retries: 5
5.1	Characteristic	Length 1	• Type = hex • Length = 1 • Properties = Read, Write • Value = 0x00 Write 1 byte with value 0x55 then read value back. Pass if value read is 0x55.
5.2	Characteristic	Length 255	• Type = hex • Length = 255 • Properties = Read, Write • Value = 0x00 on all bytes Phone writes 255 bytes where the first byte value is 0 and the subsequent bytes will be previous one +1 (e.g. byte 0 value is 0, byte 1 value is 1,... and byte 254 value is 254). Read values back. Pass if all 255 bytes match the value described above.
5.3	Characteristic	Length Variable 4	• Type = hex • Length = 4 • Variable Length = True • Properties = Read, Write • Value = 0x00 (only 1 byte so that length is also 1) Phone writes 1 byte with value 0x55 and read back. Pass if get only 1 byte with value 0x55. Phone writes 4 bytes with value 0x66 and read back. Pass if get 4 bytes with value 0x66.

Test ID	Test Type	Test Sub Type	Procedure
5.4	Characteristic	Const Length 1	• Type = hex • Length = 1 • Properties = Read, Write, Const • Value = 0x55 1: Phone reads 1 byte. Pass if the value is 0x55. 2: Phone writes value 0 Pass if ATT error code 0x03 "Write Not Permitted" is received.
5.5	Characteristic	Const Length 255	• Type = hex • Length = 255 • Properties = Read, Write, Const • Value = The first byte value is 0 and the subsequent bytes will previous one +1 (e.g. byte 0 value is 0, byte 1 value is 1 ... and byte 254 value is 254) 1: Phone reads 255 byte. Pass if the value is as described above. 2: Phone writes value 0 to all bytes. Pass if ATT error code 0x03 "Write Not Permitted" is received
5.6	Characteristic	User Len 1	• Type = user • Length = 1 • Properties = Read, Write Phone writes 1 byte with value 0x55 then reads value back. Pass if value read is 0x55.
5.7	Characteristic	User Len 255	• Type = user • Length = 1 • Properties = Read, Write Phone writes 255 bytes where the first byte value is 0 and the subsequent bytes willprevious one +1 (e.g. byte 0 value is 0, byte 1 value is 1... and byte 254 value is 254) Pass if value read is as described above.
5.8	Characteristic	User Len Variable 4	• Type = user • Length = 4 • Variable Length = True • Properties = Read, Write 1: Phone writes 1 byte with value 0x55 and read back. Pass if get only 1 byte (so the length is 1) with value 0x55. 2: Phone writes 4 bytes with value 0x66 and read back. Pass if get 4 bytes (so the length is 4) with value 0x66.

Test ID	Test Type	Test Sub Type	Procedure
6.1	OTA update	OTA update - Acknowledged write	Mobile (OTA client) connects to target device with name "IOP Test" Mobile shows pop-up, user chooses application gbl file OR Mobile has inbuilt gbl file for updating. Mobile requests target device to reboot into DFU mode Mobile sends image to target boards with acknowledged data transfer (write) Upload is finished and connection closed, AppLoader on the device reboots back to normal mode Mobile scans and connect with target device Pass: there is no error in mobile side and connect to device with name "IOP Test Update" at the end which is the name in the new image.
6.2	OTA update	OTA update - Unacknowledged write	Mobile (OTA client) connects to target device with name "IOP Test Update" Mobile show pop-up, user chooses application gbl file OR Mobile has inbuilt gbl file for updating Mobile requests target device to reboot into DFU mode Mobile sends image to target boards with unacknowledged data transfer (write without response) Upload is finished and connection closed, AppLoader reboots back to normal mode Mobile scans and connect with target device Pass: there is no error in mobile side and connect to device with name "IOP Test" at the end.
7	Throughput	Throughput - GATT Notification	PHY bitrate: 1Mbps Connection interval request: 15ms - Number of packets per connection interval for notification: Android - 6 packets. iOS - 4 packages [Max supported by iOS]. The parameters are set as above and device sends the data to the mobile.- Mobile computes the throughput (Bytes/S). Pass if there is successful data transfer between the device and mobile. See section 4.3 Throughput Tests for more details.

Test ID	Test Type	Test Sub Type	Procedure
8.1	Security and Encryption	Security - Pairing	•Type = hex •Length = 1 •Properties = Encrypted_Read •Value = 0x55 Phone writes 1 byte to the characteristic with value 01 Mobile changes secure mode on the device to be just works, disables bonding and disconnects with device. Mobile pairs with device in just works mode. Mobile reads a pre-set characteristic value (0x55) with encrypted read property Pass if there is no error and read value matches the pre-set value (0x55)
8.2	Security and Encryption	Security - Authentication	•Type = hex •Length = 1 •Properties = Authenticated_Read •Value = 0x55 Phone writes 1 byte to the characteristic with value 02 Mobile changes secure mode on the device to authenticated and disconnect with device. Mobile pairs with device with authenticated mode by entering passkey as 123456. Mobile reads pre-set characteristic value (0x55) with authenticated read property. Pass if there is no error and read value matches the pre-set value (0x55) after pairing.
8.3	Security and Encryption	Security - Bonding	•Type = hex •Length = 1 •Properties = Bonded_Read •Value = 0x55 Phone writes 1 byte to the characteristic with value 03 Mobile changes secure mode in firmware to bonded and disconnects with device. Mobile pairs with device with bonded mode by enter passkey is 123456. Mobile reads pre-set characteristic value (0x55) with bonded read property. Pass if there is no error and read value matches the pre-set value (0x55) after pairing.

4. Test Results

4.1 Tested Phones

This section provides a list of phones and relevant information against which all the test cases mentioned in section 3. [Test Case](#) were executed. The phone models were strategically chosen to cover a large part of the market shipment (market share) as well as the latest of the models at the time of testing. This ensures that there is a wide spread coverage. The selection was done on a per region basis across US, Asia Pacific (APA), Europe and China so as to provide data specific to a particular geography.

4.1.1 Summary of Tested Phone

The table below gives a high-level view of the phones tested across iOS and Android platforms. It is to be noted that the choice of the version numbers has been made to provide a wide coverage. The test included Apple iPhones with iOS 15 on devices as old as iPhone 6s which was released in Sept 2015 to the latest iPhone 13 Pro Max released in Sept 2021. Android OS versions coverage ranged from Android 9 released in Aug 2018 to Android 12 released in Oct 2021 which at the time of testing was the latest of the generally available Android versions. The Android phones were sourced from various manufacturers across the world.

Table 4.1. Summary of Test Results

OS Platform	Number of Phones	Version Coverage
iOS	20 (US Region)	OS Versions: 15.1, 15.2, 15.2.1, 15.3, 15.3.1, 15.4
Android	334	OS Versions: 9, 10, 11, 12

4.2 Details of Tested Phones

Notes:

Devices from four different geographies were tested that include US, Asia Pacific, Europe, and China.

The test ID indicates the test cases that passed or failed. A failure on any of the board is rated as fail while a pass is a success for all boards.

Table 4.2. Tested Phones US Region

Sr. No.	Model:	Software Version:	1.0 EFR32 BG13	1.1 EFR32 BG21	1.2 EFR32 BG22	Test ID: 1	Test ID: 2	Test ID: 3	Test ID: 4.1 - 4.10	Test ID: 5.1 - 5.8	Test ID: 6.1 - 6.2	Test ID: 7	Test ID: 8.1 - 8.3
1	Alcatel 3V (2019) 5032W (MetroPCS)	9 (3E9IUPI0)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL	PASS
2	Alcatel In-sight 5005R (Cricket)	9 (FY61UA10)	FAIL	FAIL	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL	PASS	PASS
3	Alcatel TCL A2 A507DL (TracFone)	10 (vD88)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
4	Alcatel TCL A3 (TracFone)	11 (vL7B)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
5	Apple iPhone 11 (Verizon)	15.2.1 (19C63)	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
6	Apple iPhone 11 Pro (AT&T)	15.2.1 (19C63)	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
7	Apple iPhone 11 Pro Max (Verizon)	15.2.1 (19C63)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
8	Apple iPhone 12 (AT&T)	15.4 (19E241)	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
9	Apple iPhone 12 mini (T-Mobile)	15.2.1 (19C63)	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
10	Apple iPhone 12 Pro (AT&T)	15.3.1 (19D52)	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS

Sr. No.	Model:	Software Ver- sion:	1.0 EFR32 BG13	1.1 EFR32 BG21	1.2 EFR32 BG22	Test ID: 1	Test ID: 2	Test ID: 3	Test ID: 4.1 - 4.10	Test ID: 5.1 - 5.8	Test ID: 6.1 - 6.2	Test ID: 7	Test ID: 8.1 - 8.3
11	Apple iPhone 12 Pro Max (Verizon)	15.2 (19C56)	PASS	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL	PASS	PASS
12	Apple iPhone 13 (AT&T)	15.4 (19E241)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
13	Apple iPhone 13 Mini (T-Mobile)	15.2 (19C57)	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
14	Apple iPhone 13 Pro Max (Verizon)	15.2 (19C57)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
15	Apple iPhone 6S (AT&T)	15.2.1 (19C63)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS	PASS
16	Apple iPhone 7 (AT&T)	15.4 (19E241)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
17	Apple iPhone 7 Plus (Verizon)	15.3.1 (19D52)	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL	PASS
18	Apple iPhone 8 (AT&T)	15.2.1 (19C63)	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL	PASS
19	Apple iPhone 8 Plus (Verizon)	15.1 (19B74)	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
20	Apple iPhone SE (2020) (AT&T)	15.3 (19D50)	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
21	Apple iPhone X (AT&T)	15.3.1 (19D52)	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
22	Apple iPhone XR (AT&T)	15.3.1 (19D52)	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL	PASS
23	Apple iPhone XS (Verizon)	15.3 (19D50)	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
24	Apple iPhone XS Max (AT&T)	15.3.1 (19D52)	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS

Sr. No.	Model:	Software Ver- sion:	1.0 EFR32 BG13	1.1 EFR32 BG21	1.2 EFR32 BG22	Test ID: 1	Test ID: 2	Test ID: 3	Test ID: 4.1 - 4.10	Test ID: 5.1 - 5.8	Test ID: 6.1 - 6.2	Test ID: 7	Test ID: 8.1 - 8.3
25	Boost Cel- ero 5G WTCE- LERO5G (Boost)	11 (WTCE- LERO5G_1.08. 28)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
26	CAT S62 (T-Mobile)	10 (LTE_S02111.1 0_N_S62_0.039 .02)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
27	Cricket Dream 5G EC211001 (Cricket)	11 (EC211001_153 D)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL	PASS
28	Google Pixel 4 (Verizon)	11 (RQ3A. 210605.005)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
29	Google Pixel 4a	12 (S2B2.211203.0 06)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
30	Google Pixel 4a 5G UW (Verizon)	12 (SP2A. 220305.012)	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
31	Google Pixel 5 (Verizon)	12 (SQ1A. 220105.002)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
32	Lenovo Moto E6 XT2005-1 (Verizon)	9 (PCBS29.73-81- 18-13)	PASS	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
33	Lenovo Moto G7 Play XT1952-4 (Boost)	9 (PCY29.105-21 7)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
34	Lenovo Moto G7 Power XT1955-6 (Verizon)	10 (QCOS30.85-18 -3)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
35	LG Aristo 4+ X320TA (T-Mobile)	9 (X320TA10p)	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
36	LG Aristo 5 K300TM (T-Mobile)	10 (K300TM10I)	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
37	LG K40 X420MM (Met- roPCS)	9 (X420MM10u)	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL	PASS	PASS	PASS

Sr. No.	Model:	Software Ver- sion:	1.0 EFR32 BG13	1.1 EFR32 BG21	1.2 EFR32 BG22	Test ID: 1	Test ID: 2	Test ID: 3	Test ID: 4.1 - 4.10	Test ID: 5.1 - 5.8	Test ID: 6.1 - 6.2	Test ID: 7	Test ID: 8.1 - 8.3
38	LG K51 K500UM (T-Mobile)	10 (K500UM10r)	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
39	LG K92 5G K920AM (AT&T)	10 (K920AM10i)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
40	LG Stylo 5 Q720CS (Cricket)	10 (Q720CS20e)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
41	LG Stylo 6 Q730TM (T-Mobile)	10 (Q730TM10y)	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
42	LG V60 ThinQ 5G V600TM (T-Mobile)	11 (V600TM20n)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
43	LG Velvet 5G G900VM (Verizon)	11 (G900VM20d)	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
44	LG WING F100VM (Verizon)	11 (F100VM20a)	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
45	Motorola Edge 5G UW (2021) XT2141-1 (Verizon)	11 (RRMS31.Q3-2 3-39-14-1-1)	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
46	Motorola Edge+ XT2061-1 (Verizon)	11 (RPBS31.Q1-19 -58-30-4)	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
47	Motorola Moto E (2020) XT2052-6 (T-Mobile)	10 (QPGS30.82-13 5-9)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
48	Motorola Moto G Fast XT2045-3 (Boost)	11 (RPJS31.Q1-53 -12-6-2)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
49	Motorola Moto G Play (2021) XT2093-3 (T-Mobile)	11 (RZA31.Q2-146 -14-5)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS

Sr. No.	Model:	Software Ver- sion:	1.0 EFR32 BG13	1.1 EFR32 BG21	1.2 EFR32 BG22	Test ID: 1	Test ID: 2	Test ID: 3	Test ID: 4.1 - 4.10	Test ID: 5.1 - 5.8	Test ID: 6.1 - 6.2	Test ID: 7	Test ID: 8.1 - 8.3
50	Motorola Moto G Power (2021) XT2117-3 (Verizon)	11 (RZBS31.Q2-14 3-27-4)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
51	Motorola Moto G Pure XT2163-4 (T-Mobile)	11 (RRHS31.Q3-46 -20-5)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
52	Motorola Moto G Stylus (2021) XT2115-1 (AT&T)	11 (RPCS31.Q2-10 9-16-4)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
53	Motorola Moto G Stylus 5G XT2131-3 (AT&T)	11 (RRES31.Q2-11 -61-4-5)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
54	Motorola Moto G Stylus XT2043-4 (AT&T)	11 (RPRS31.Q1-56 -9-7)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
55	Motorola One 5G Ace XT2113-2 (Metro)	10 (QZKS30.Q4-40 -95-4)	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL	PASS	PASS	PASS
56	Motorola One 5G XT2075-2 (AT&T)	10 (QPNS30.37- Q3-42-32-4-11)	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL	PASS	PASS	PASS
57	Motorola Razr XT2000-1 (Verizon)	11 (RPVS31.Q2-62 -7-10-5)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
58	Nokia 8 V 5G UW TA-1257 (Verizon)	10 (00VPO_1_350)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
59	Nokia X100 TA-1399 (T-Mobile)	11 (04us_1_230)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
60	OnePlus 9 5G LE2117 (T-Mobile)	11 (11.2.8.8.LE54C B)	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS

Sr. No.	Model:	Software Version:	1.0 EFR32 BG13	1.1 EFR32 BG21	1.2 EFR32 BG22	Test ID: 1	Test ID: 2	Test ID: 3	Test ID: 4.1 - 4.10	Test ID: 5.1 - 5.8	Test ID: 6.1 - 6.2	Test ID: 7	Test ID: 8.1 - 8.3
61	OnePlus 9 Pro 5G LE2127 (T-Mobile)	11 (11.2.6.6.LE5A CB)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
62	OnePlus Nord N10 5G BE2028 (T-Mobile)	11 (11.0.2.BE88CB)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
63	OnePlus Nord N100 BE2012 (T-Mobile)	11 (11.0.3.BE82CB)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
64	OnePlus Nord N200 5G DE2118 (T-Mobile)	11 (11.0.1.8.DE18 CB)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
65	Orbic Magic 5G R678EL (Trac-Fone)	11 (ORB678EL_v1.0.61_BTf)	FAIL	PASS	PASS	PASS	PASS	FAIL	PASS	PASS	FAIL	FAIL	PASS
66	Orbic Myra 5G UW R678L5 (Verizon)	11 (ORB678L5_v1.0.65_BVZ)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67	Samsung Galaxy A01 A015V (Verizon)	11 (RP1A.200720.012.A015VVRU5BUG3)	PASS	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
68	Samsung Galaxy A02s A025V (Verizon)	11 (RP1A.200720.012.A025VSQU1BUH2)	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
69	Samsung Galaxy A10e A102U (AT&T)	10 (QP1A.190711.020.A102USQU9BUB1)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
70	Samsung Galaxy A11 A115U (Verizon)	11 (RP1A.200720.012.A115USQS6BVA1)	PASS	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL	PASS
71	Samsung Galaxy A12 A125U (AT&T)	11 (RP1A.200720.012.A125USQU2BU13)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS

Sr. No.	Model:	Software Ver- sion:	1.0 EFR32 BG13	1.1 EFR32 BG21	1.2 EFR32 BG22	Test ID: 1	Test ID: 2	Test ID: 3	Test ID: 4.1 - 4.10	Test ID: 5.1 - 5.8	Test ID: 6.1 - 6.2	Test ID: 7	Test ID: 8.1 - 8.3
72	Samsung Galaxy A20 A205U (Verizon)	11(RP1A.200720.012.A205USQSBCVA1)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
73	Samsung Galaxy A21 A215U (T-Mobile)	11 (RP1A.200720.012.A215USQS6BUL1)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
74	Samsung Galaxy A32 5G A326U (T-Mobile)	11 (RP1A.200720.012.A326USQU3AUG2)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
75	Samsung Galaxy A42 5G A426U (Verizon)	11 (RP1A.200720.012.A426USQU2AUE2)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
76	Samsung Galaxy A50 A505U (Verizon)	11 (RP1A.200720.012.A505USQSFDUI1)	FAIL	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
77	Samsung Galaxy A51 5G A516V (Verizon)	11 (RP1A.200720.012.A516VSQU4DUG3)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
78	Samsung Galaxy A51 A515U (Verizon)	11 (RP1A.200720.012.A515USQS7CUG2)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
79	Samsung Galaxy A52 5G A526U (AT&T)	11 (RP1A.200720.012.A526USQU2AUG4)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
80	Samsung Galaxy A71 5G A716U (AT&T)	11 (RP1A.200720.012.A716USQU5DUH1)	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
81	Samsung Galaxy Note10 N970U (AT&T)	11 (RP1A.200720.012.N970USQS7FUH8)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS

Sr. No.	Model:	Software Ver- sion:	1.0 EFR32 BG13	1.1 EFR32 BG21	1.2 EFR32 BG22	Test ID: 1	Test ID: 2	Test ID: 3	Test ID: 4.1 - 4.10	Test ID: 5.1 - 5.8	Test ID: 6.1 - 6.2	Test ID: 7	Test ID: 8.1 - 8.3
82	Samsung Galaxy Note10+ 5G N976V (Verizon)	11 (RP1A.200720.012.N976VVR57FUI6)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
83	Samsung Galaxy Note10+ N975U (Verizon)	12 (SP1A.210812.016.N975US-QU7HVC6)	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
84	Samsung Galaxy Note20 5G N981U (Verizon)	12 (SP1A.210812.016.N981US-QU2FVC5)	PASS	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL	PASS
85	Samsung Galaxy Note20 Ultra 5G N986U1 (AT&T)	12 (SP1A.210812.016.N986U1UEU2EVA9)	FAIL	PASS	PASS	PASS	PASS	FAIL	PASS	PASS	PASS	FAIL	PASS
86	Samsung Galaxy S10 5G G977U (Verizon)	12 (SP1A.210812.016.G977UV-RU8GULD)	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
87	Samsung Galaxy S10 G973U (AT&T)	11 (RP1A.200720.012.G973USQS6GUI1)	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
88	Samsung Galaxy S10+ G975U (AT&T)	11 (RP1A.200720.012.G975US-QU5GUCH)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
89	Samsung Galaxy S10e G970U (AT&T)	10(QP1A.190711.020.G970USQS4ETJ1)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
90	Samsung Galaxy S20 5G G981U (AT&T)	11 (RP1A.200720.012.G981US-QU2DUG1)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
91	Samsung Galaxy S20 FE 5G UW G781V (Verizon)	12 (SP1A.210812.016.G781VSQU5EULH)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS

Sr. No.	Model:	Software Ver- sion:	1.0 EFR32 BG13	1.1 EFR32 BG21	1.2 EFR32 BG22	Test ID: 1	Test ID: 2	Test ID: 3	Test ID: 4.1 - 4.10	Test ID: 5.1 - 5.8	Test ID: 6.1 - 6.2	Test ID: 7	Test ID: 8.1 - 8.3
92	Samsung Galaxy S20 Ultra 5G G988U (AT&T)	11 (RP1A.200720.012.G988US-QU2DUG1)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
93	Samsung Galaxy S20+ 5G G986U (Verizon)	12 (SP1A.210812.016.G986US-QU2EULH)	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
94	Samsung Galaxy S21 5G G991U (AT&T)	12 (SP1A.210812.016.G991USQU5BULJ)	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
95	Samsung Galaxy S21 Ultra 5G G998U (Verizon)	12 (SP1A.210812.016.G998US-QU5CVC4)	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
96	Samsung Galaxy S21+ 5G G996U (T-Mobile)	12 (SP1A.210812.016.G996US-QU5CVC4))	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
97	TCL 20XE 5087Z (Boost)	11 (PB72UB20)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
98	T-Mobile Revvl 4 5007W (T-Mobile)	10 (7H9UU-MU0)	PASS	FAIL	FAIL	PASS	PASS	FAIL	PASS	PASS	FAIL	FAIL	PASS
99	T-Mobile Revvl 5G T790W (T-Mobile)	10 (6B92UM20)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
100	T-Mobile Revvl V+ 5G WTRVL5G (T-Mobile)	11 (WTRVL5G_0.07.29)	FAIL	FAIL	PASS	PASS	PASS	FAIL	FAIL	FAIL	FAIL	FAIL	PASS

Table 4.3. Tested Phones APA Region

Sr. No.	Model:	Software Version:	1.0 EFR32 BG13	1.1 EFR32 BG21	1.2 EFR32B G22	Test ID: 1	Test ID: 2	Test ID: 3	Test ID: 4.1 - 4.10	Test ID: 5.1 - 5.8	Test ID: 6.1 - 6.2	Test ID: 7	Test ID: 8.1 - 8.3
1	CoolPad Cool 6 1901	10 (X32VFFTC.HDA.HB.FHD.0925.V3.01)	PASS	PASS	PASS	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S

Sr. No.	Model:	Software Version:	1.0 EFR32 BG13	1.1 EFR32 BG21	1.2 EFR32B G22	Test ID: 1	Test ID: 2	Test ID: 3	Test ID: 4.1 - 4.10	Test ID: 5.1 - 5.8	Test ID: 6.1 - 6.2	Test ID: 7	Test ID: 8.1 - 8.3
2	Infinix Hot 9 X655D	10 (X655D-H6211M-Q-AS-211103V277)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
3	Infinix S5 Pro X660	10 (X660-H653A-Q-AS-210420V655)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
4	Infinix Smart 4 Plus X680D	10 (X680D-H6116J-Q-AS-211130V404)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
5	Infinix Zero 8i X687B	10 (X687B-H851E-Q-GL-210518V215)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
6	Motorola Moto G20 XT2128-1	11 (RTAS31.68-29-2)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL
7	Motorola Moto G60 XT2135-1	11 (RRI31.Q1-42-51-12)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL	FAIL
8	Motorola One Fusion+ XT2067-2	10 (QPIS30.73-33-13)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
9	Nokia 1.3	11 (00WW_2_370)	PASS	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
10	Nokia G20	11 (00WW_1_180_SP01)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
11	Nokia X20	12 (00WW_2_350)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
12	OnePlus 8T KB2003	11 (11.0.12.12.KB05BA)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
13	OPPO A11K CPH2083	6.1.2 (CPH2083EX_11_A.67)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
14	OPPO A12 CPH2083	6.1.2 (CPH2083EX_11_A.67)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
15	OPPO A15 CPH2185	7.2 (CPH2185_11_A.35)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
16	OPPO A15s CPH2179	7.2 (CPH2179_11_A.36)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
17	OPPO A1k CPH1923	6.0.1 (CPH1923EX_11_A.40)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
18	OPPO A31 CPH2015	6.1.2 (CPH2015EX_11_A.61)	PASS	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
19	OPPO A5 (2020) CPH1931	6.0.1 (CPH1931EX_11_A.51)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
20	OPPO A53 CPH2127	11.1 (CPH2127_11_C.18)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
21	OPPO A53s 5G CPH2321	11.1 (CPH2321_11_A.08)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
22	OPPO A54 CPH2239	7.2 (CPH2239_11_A.15)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Sr. No.	Model:	Software Version:	1.0 EFR32 BG13	1.1 EFR32 BG21	1.2 EFR32B G22	Test ID: 1	Test ID: 2	Test ID: 3	Test ID: 4.1 - 4.10	Test ID: 5.1 - 5.8	Test ID: 6.1 - 6.2	Test ID: 7	Test ID: 8.1 - 8.3
23	OPPO A72 CPH2067	11.1 (CPH2067CPW_11_C.87)	FAIL	FAIL	FAIL	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S	FAIL	PAS S
24	OPPO F11 Pro CPH1969	11.1 (CPH1969EX_11_F.19)	PASS	PASS	PASS	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S
25	OPPO F15 CPH2001	11.1 (CPH2001_11_F.61)	PASS	FAIL	PASS	PAS S	PAS S	PAS S	PAS S	PAS S	FAIL	PAS S	PAS S
26	OPPO F17 CPH2095	11.1 (CPH2095_11_C.16)	FAIL	FAIL	FAIL	PAS S	PAS S	PAS S	PAS S	PAS S	FAIL	FAIL	FAIL
27	OPPO F17 Pro CPH2119	11 (CPH2119_11_C.33)	PASS	PASS	PASS	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S
28	OPPO F19 CPH2219	11.1 (CPH2219_11_A.23)	FAIL	FAIL	FAIL	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S	FAIL	PAS S
29	OPPO F19 Pro CPH2285	11.1 (CPH2285_11_A.29)	PASS	PASS	PASS	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S
30	OPPO F19 Pro + 5G CPH2213	11.1 (CPH2213_11_A.10)	PASS	PASS	FAIL	PAS S	PAS S	PAS S	PAS S	PAS S	FAIL	PAS S	PAS S
31	OPPO Reno2 CPH1907	6.1 (CPH1907EX_11_A.38)	FAIL	FAIL	FAIL	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S	FAIL	PAS S
32	OPPO Reno2 F CPH1989	11.1 (CPH1989_11_F.18)	PASS	PASS	PASS	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S
33	OPPO Reno3 Pro CPH2035	11 (CPH2035_11_C.22)	PASS	PASS	PASS	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S
34	OPPO Reno4 Z 5G CPH2065	11.1 (CPH2065CPW_11_C.50)	FAIL	PASS	PASS	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S	FAIL
35	Poco C3	12.0.16.0 (QCRINXM)	PASS	PASS	PASS	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S
36	Poco X2	12.5.7.0 (RGHINXM)	FAIL	FAIL	FAIL	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S	FAIL	PAS S
37	RealMe 5 Pro RMX1971	11 (RMX1971_11_F.03)	FAIL	FAIL	FAIL	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S	FAIL	FAIL
38	RealMe 5 RMX1911	7 (RMX1911EX_11_C.77)	FAIL	FAIL	FAIL	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S	FAIL	FAIL
39	RealMe 5i RMX2030	7 (RMX2030EX_11_C.79)	FAIL	FAIL	FAIL	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S	FAIL	PAS S
40	RealMe 5s RMX1925	10 (RMX1925EX_11_C.77)	FAIL	FAIL	FAIL	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S	FAIL	PAS S
41	RealMe 6 Pro RMX2061	10 (RMX2061_11_A.51)	FAIL	FAIL	FAIL	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S	FAIL	PAS S
42	RealMe 6 RMX2001	11 (RMX2001_11_C.12)	PASS	PASS	PASS	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S
43	RealMe 6i RMX2040	10 (RMX2040_11_A.40)	PASS	PASS	PASS	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S	PAS S
44	RealMe 7 Pro RMX2170	11 (RMX2170_11_C.29)	FAIL	FAIL	FAIL	PAS S	PAS S	PAS S	PAS S	PAS S	FAIL	FAIL	FAIL

Sr. No.	Model:	Software Version:	1.0 EFR32 BG13	1.1 EFR32 BG21	1.2 EFR32B G22	Test ID: 1	Test ID: 2	Test ID: 3	Test ID: 4.1 - 4.10	Test ID: 5.1 - 5.8	Test ID: 6.1 - 6.2	Test ID: 7	Test ID: 8.1 - 8.3
45	RealMe 7 RMX2151	11 (RMX2151_11_C.15)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
46	RealMe 7i RMX2103	11 (RMX2103_11_C.10)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
47	RealMe 8 5G RMX3241	11 (RMX3241CPW_11_A.24)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
48	RealMe 8 Pro RMX3081	11 (RMX3081CPW_11_A.46)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL	FAIL
49	RealMe 8i RMX3151	11(RMX3151_11_A.39)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
50	RealMe C11 RMX2185	10 (RMX2185_11_A.103)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
51	RealMe C12 RMX2189	11 (RMX2189_11_C.10)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
52	RealMe C15 Qualcomm Edition RMX2195	10(RMX2195_11_C.10)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
53	RealMe C2 RMX1945	6.0 (RMX1945EX_11_A.34)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
54	RealMe C21 RMX3201	11 (RMX3201_11_C.07)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
55	RealMe C25s RMX3197	11(RMX3197_11_A.18)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL	FAIL
56	RealMe C3 RMX2020	10 (RMX2020_11_A.64)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
57	RealMe Narzo 20 RMX2193	11 (RMX2191_11_C.15)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
58	RealMe Narzo 30 Pro 5G RMX2117	11 (RMX2117_11_C.09)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
59	RealMe Narzo 30a RMX3171	11 (RMX3171_11_C.04)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
60	RealMe X2 Pro RMX1931	11 (RMX1931_11_F.14)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
61	RealMe X3 RMX2081	11 (RMX2081_11_C.11)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
62	RealMe X7 Pro 5G RMX2121	11 (RMX2121_11_C.07)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
63	RealMe XT RMX1921	11 (RMX1921_11_F.03)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
64	Samsung Galaxy A30 A305GN/DS	11 (RP1A.200720.012.A305GNDXU8 CUI2)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
65	Samsung Galaxy F41 F415F/DS	11 (RP1A.200720.012.F415FXXS1BU K2)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Sr. No.	Model:	Software Version:	1.0 EFR32 BG13	1.1 EFR32 BG21	1.2 EFR32B G22	Test ID: 1	Test ID: 2	Test ID: 3	Test ID: 4.1 - 4.10	Test ID: 5.1 - 5.8	Test ID: 6.1 - 6.2	Test ID: 7	Test ID: 8.1 - 8.3
66	Samsung Galaxy M01 M015G/DS	11 (RP1A.200720.012.M015GXXU3BUD9)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
67	Samsung Galaxy M01s M017F/DS	11 (RP1A.200720.012.M017FXXU2CUI2)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
68	Samsung Galaxy M10 M105F/DS	10 (QP1A.190711.020.M105FDDU4CUF3)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL
69	Samsung Galaxy M20 M205F/DS	10 (QP1A.190711.020.M205FDDU8CUI1)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
70	Samsung Galaxy M30 M305F/DS	10 (QP1A.190711.020.M305FDDU8CUI1)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
71	Samsung Galaxy M62 M625F/DS	11 (RP1A.200720.012.M625FXXU2AVA5)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL
72	Tecno Camon 15	10 (CD7-H6214ABDE-Q-GL-211201V787)	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
73	Tecno Camon 16	10 (CE7-H693CD-Q-GL-211109V687)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL	FAIL
74	Vivo V17 1919	10.5 (PD1948F_EX_A_8.75.21)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
75	Vivo V17 Pro 1909	10.5 (PD1931F_EX_A_8.73.0)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL	FAIL
76	Vivo V19 1933	10.5 (PD1969F_EX_A_6.72.3)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
77	Vivo V20 (2021) V2040	11 (PD2067F_EX_A_1.70.53)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
78	Vivo V20 Pro 5G 2018	11 (PD2020F_EX_A_6.71.9)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
79	Vivo V20 SE V2022	11 (PD2038CF_EX_A_6.72.6)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL
80	Vivo V20 V2025	12 (PD2039F_EX_A_6.70.46)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL
81	Vivo V21 5G V2050	12 (PD2083BF_EX_A_6.73.9)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
82	Vivo V21e 5G V2055	12 (PD2102BF_EX_A_12.1.8.29.W40)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
83	Vivo Y11 1906	10.5 (PD1930CF_EX_A_6.71.3)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
84	Vivo Y12 1904	9 (PD1901EF_EX_A_6.72.12)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL	FAIL

Sr. No.	Model:	Software Version:	1.0 EFR32 BG13	1.1 EFR32 BG21	1.2 EFR32B G22	Test ID: 1	Test ID: 2	Test ID: 3	Test ID: 4.1 - 4.10	Test ID: 5.1 - 5.8	Test ID: 6.1 - 6.2	Test ID: 7	Test ID: 8.1 - 8.3
85	Vivo Y12s (2021) V2069	11 (PD2060DF_EX_A_1.73.9)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
86	Vivo Y15 1901	9 (PD1901BF_EX_A_6.72.12)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL	FAIL
87	Vivo Y19 1915	10.5 (PD1934F_EX_A_6.75.5)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL	FAIL
88	Vivo Y20 V2029	10.5 (PD2034BF_EX_A_1.71.4)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
89	Vivo Y20A V2052	11 (PD2060CF_EX_A_1.73.9)	PASS	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
90	Vivo Y20G V2037	11 (PD2066F_EX_A_1.75.14)	FAIL	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL	FAIL
91	Vivo Y21 V2111	12 (PD2139BF_EX_A_36.12.5)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
92	Vivo Y30 1938	10.0 (PD1987F_EX_A_2.13.6)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL	FAIL
93	Vivo Y31 V2036	11 (PD2050CF_EX_A_1.77.7)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL
94	Vivo Y50 1935	10 (PD1965F_EX_A_1.70.24)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL
95	Vivo Y51A V2031	11(PD2050F_EX_A_1.77.9)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
96	Vivo Y73 V2059	11.1 (PD2078F_EX_A_1.74.0)	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
97	Xiaomi Redmi 9 Power	12.0.12.0 (QJQINXM)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL
98	Xiaomi Redmi Note 8	12.5.1.0(RCOINXM)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL
99	Xiaomi Redmi Note 9 Pro Max	12.5.5.0(RJXINXM)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Table 4.4. Tested Phones EU Region

Sr. No.	Model:	Software Version:	1.0 EFR32B G13	1.1 EFR32B G21	1.2 EFR32B G22	Test ID: 1	Test ID: 2	Test ID: 3	Test ID: 4.1 - 4.10	Test ID: 5.1 - 5.8	Test ID: 6.1 - 6.2	Test ID: 7	Test ID: 8.1 - 8.3
1	Huawei Mate 40 Pro NOH-NX9	12 (12.0.0.228(C432E2R4P4))	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL	FAIL
2	Huawei Nova 5T YAL-L21	10 (11.0.0.200(C431E5R1P4))	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Sr. No.	Model:	Software Version:	1.0 EFR32B G13	1.1 EFR32B G21	1.2 EFR32B G22	Test ID: 1	Test ID: 2	Test ID: 3	Test ID: 4.1 - 4.10	Test ID: 5.1 - 5.8	Test ID: 6.1 - 6.2	Test ID: 7	Test ID: 8.1 - 8.3
3	Huawei P Smart Z STK-LX1	10 (10.0.0.255(C431E12R1P2))	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL
4	Huawei P30 Lite MAR-LX1A	10 (10.0.0.532(C431E15R2P7))	PASS	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
5	Huawei Y6 (2019) MRD-LX1	9 (9.1.0.412(C782E16R1P7))	NS	NS	NS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Motorola Edge 20 Pro XT2153-1	11 (RRAS31.Q3-19-86-4)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
7	OnePlus 8 Pro IN2023	11 (Oxygen OS 11.0.11.11.IN11BA)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
8	OnePlus Nord 2 5G DN2103	11.3 (DN2103_11_A.19)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
9	OnePlus Nord CE 5G EB2103	11 (Oxygen OS 11.0.16.16.EB13BA)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL	FAIL
10	OPPO A16s CPH2271	11.1 (CPH2271CPW_11_A.09)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
11	OPPO A54 5G CPH2195	11.1 (CPH2195CPW_11_A.13)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
12	OPPO A74 5G CPH2197	11.1 (CPH2197CPW_11_A.13)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
13	OPPO A94 5G CPH2211	12(CPH2211_11_C.21)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL	FAIL
14	OPPO Find X3 Neo CPH2207	12 (CPH2207_11_C.43)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
15	OPPO Find X3 Pro 5G CPH2173	12 (CPH2173_11_C.47)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
16	OPPO Reno4 Pro 5G CPH2089	11 (CPH2089CPW_11_C.61)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Sr. No.	Model:	Software Version:	1.0 EFR32B G13	1.1 EFR32B G21	1.2 EFR32B G22	Test ID: 1	Test ID: 2	Test ID: 3	Test ID: 4.1 - 4.10	Test ID: 5.1 - 5.8	Test ID: 6.1 - 6.2	Test ID: 7	Test ID: 8.1 - 8.3
17	OPPO Reno6 5G CPH2251	11 (CPH2251_11_A.19)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
18	OPPO Reno6 Pro 5G CPH2247	11.3 (CPH2247_11_A.14)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
19	Poco M3	12.0.12.0(QJFINXM)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
20	Poco X3	12.5.4.0 (RJGINXM)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL
21	Samsung Galaxy A03s A037G/ DSN	11 (RP1A.200720.012.A037GXXS1AVB1)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
22	Samsung Galaxy A10s A107F/DS	11 (RP1A.200720.012.A107FXXU8CUL2)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
23	Samsung Galaxy A20s A207F/DS	10 (QP1A.190711.020.A207FXXU2BUD4)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
24	Samsung Galaxy A22 5G A226B/ DSN	11 (RP1A.200720.012.A226BXXU4AVB1)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
25	Samsung Galaxy A22 A225F/ DSN	11 (RP1A.200720.012.A225FXXU3AVC1)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
26	Samsung Galaxy A30s A307FN/ DS	11 (RP1A.200720.012.A307FNXXU2CUJ2)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
27	Samsung Galaxy A31 A315F/DS	11 (RP1A.200720.012.A315FXXU1CVA1)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
28	Samsung Galaxy A32 A325F/DS	11 (RP1A.200720.012.A325FXXU2AVB3)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Sr. No.	Model:	Software Version:	1.0 EFR32B G13	1.1 EFR32B G21	1.2 EFR32B G22	Test ID: 1	Test ID: 2	Test ID: 3	Test ID: 4.1 - 4.10	Test ID: 5.1 - 5.8	Test ID: 6.1 - 6.2	Test ID: 7	Test ID: 8.1 - 8.3
29	Samsung Galaxy A40 A405FN/DS	11(RP1A.200720.012.A405FNXXU4CV A2)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
30	Samsung Galaxy A52s 5G A528B/DS	12 (SP1A.210812.016.A528BXXS1CVD 1)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
31	Samsung Galaxy A80 A805F/DS	11 (RP1A.200720.012.A805FXXS6DVA 1)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
32	Samsung Galaxy M11 M115F/DS	11 (RP1A.200720.012.M115FXXU3BVA 3)	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL	FAIL
33	Samsung Galaxy M12 M127G/DS	11 (RP1A.200720.012.M127GDDS3AU L1)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
34	Samsung Galaxy M21 M215F/DS	11 (RP1A.200720.012.M215FXXS2BUK 2)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
35	Samsung Galaxy M31 M315F/DS	11 (RP1A.200720.012.M315FXXS2BUK 2)	PASS	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
36	Samsung Galaxy M31s M317F/DS	11 (RP1A.200720.012.M317FXXU3CUL 1)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
37	Samsung Galaxy M51 M515F/DSN	11 (RP1A.200720.012.M515FXXS4CUL 1)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
38	Samsung Galaxy Note20 N980F/DS	12 (SP1A.210812.016.N980FXXU3FVC 5)	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
39	Samsung Galaxy S20 G980F/DS	12 (SP1A.210812.016.G980FXXUDFVC 7)	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL	FAIL

Sr. No.	Model:	Software Version:	1.0 EFR32B G13	1.1 EFR32B G21	1.2 EFR32B G22	Test ID: 1	Test ID: 2	Test ID: 3	Test ID: 4.1 - 4.10	Test ID: 5.1 - 5.8	Test ID: 6.1 - 6.2	Test ID: 7	Test ID: 8.1 - 8.3
40	Samsung Galaxy Z Flip3 5G F711B	12 (SP1A.210812.016.F711BXXS2CVC9)	FAIL	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
41	Samsung Galaxy Z Fold3 5G F926B/DS	12 (SP1A.210812.016.F926BXXU1CVC5)	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
42	Sony Xperia 1 III XQ-BC52	12 (61.1.A.4.78 release-keys)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
43	Sony Xperia 10 III XQ-BT52	12 (62.1.A.0.533) release-keys	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
44	Xiaomi 11T Pro	13.0.8.0 (SKDEUXM)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
45	Xiaomi Mi 10 Pro	12.5.3.0 (RJAEXM)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
46	Xiaomi Mi 11 Lite	12.5.5.0 (RKQEXM)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
47	Xiaomi Mi 11i	13.0.1.0 (SKKMIXM)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
48	Xiaomi Mi Note 10	12.5.5.0 (RFDEUXM)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL
49	Xiaomi Mi Note 10 lite	13.0.1.0 (SFNMIXM)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
50	Xiaomi Redmi 10	12.5.15.0 (RKUEUXM)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
51	Xiaomi Redmi 7A	12.5.2.0 (QCMMIXM)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL	FAIL	FAIL
52	Xiaomi Redmi 8	12.5.3.0 (QCNMIXM)	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS	PASS
53	Xiaomi Redmi 9T	12.5.8.0 (RJQMIXM)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
54	Xiaomi Redmi Note 10 5G	12.5.4.0 (RKSEUXM)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
55	Xiaomi Redmi Note 10S	12.5.16.0 (RKLEUXM)	PASS	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL

Table 4.5. Tested Phones CH Region

Sr. No.	Model:	Software Version:	1.0 EFR32 BG13	1.1 EFR32 BG21	1.2 EFR32 BG22	Test ID: 1	Test ID: 2	Test ID: 3	Test ID: 4.1 - 4.10	Test ID: 5.1 - 5.8	Test ID: 6.1 - 6.2	Test ID: 7	Test ID: 8.1 - 8.3
1	Honor 20 LRA-AL00	10(10.1.0.162(C00E159R6P2))	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
2	Honor 20S YAL-AL50	10.1.0.119(C00E95R5P1)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
3	Honor 30 BMH-AN10	10(4.0.0.178(C00E174R4P4))	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
4	Honor 30S CDY-AN90	3.1.1.222(C00E210R4P6)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
5	Honor 50 SE JLH-AN00	11 (4.2.0.180(C00E180R4P1))	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
6	Honor 50Pro RNA-AN00	11 (4.2.0.193(C00E190R4P2))	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
7	Honor 9X HLK-AL00	10(10.1.0.126(C00E113R5P2))	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
8	Honor Magic3 ELZ-AN00	11 (5.0.0.182 (C00E181R4P12))	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
9	Honor Play 3 ASK-AL00x	9.1.1.212(C00E112R3P6))	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
10	Honor Play5T Pro CHL-AL00	10 (4.0.0.125(C00E20R4P6))	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
11	Honor V30 OXF-AN00	10(4.0.0.187(C00E177R3P5))	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
12	Honor V40 Lite ALA-AN70 5G	10 (4.0.0.170(C00E167R7P4))	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
13	Honor V40 YOK-AN10 5G	10 (4.0.0.191(C00E189R12P2))	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
14	Honor X10 TEL-AN00	10 (3.1.1.203(C00E186R5P3))	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
15	Honor X20 NTN-AN20	11 (4.2.0.158(C00E137R8P3))	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
16	Honor 20 KOZ-AL00	10 (4.0.0.190 C00E15R2P2)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
17	Huawei Mate 30 Pro LIO-AL00	10 (11.0.0.185(C00E180R5P11))	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
18	Huawei Mate 30 TAS-AL00	11(11.0.0.185(C00E180R5P11))	PASS	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL

Sr. No.	Model:	Software Version:	1.0 EFR32 BG13	1.1 EFR32 BG21	1.2 EFR32 BG22	Test ID: 1	Test ID: 2	Test ID: 3	Test ID: 4.1 - 4.10	Test ID: 5.1 - 5.8	Test ID: 6.1 - 6.2	Test ID: 7	Test ID: 8.1 - 8.3
19	Huawei Mate 30e Pro LIO-AN00m	10 (11.0.0.185(C00E180R3P2))	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
20	Huawei Mate 40 OCE-AN10	11.0.0.177(C00E170R8P1)	PASS	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
21	Huawei Mate 40E OCE-AN50 5G	10 (11.0.0.185(C00E160R8P1))	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
22	Huawei Nova 5 Pro SEA-AL10	11.0.0.155(C00E128R1P1)	PASS	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
23	Huawei Nova 5i GLK-AL00	10(10.0.0.139(C00E135R1P2))	PASS	FAIL	PASS	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS
24	Huawei Nova 5i Pro SPN-AL00	10(10.1.0.99(C00E91R3P1))	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
25	Huawei Nova 6 WLZ-AL10	10(11.0.0.180(C00E175R3P5))	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
26	Huawei Nova 7 JEF-AN00	10(11.1.0.160(C00E160R7P1))	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
27	Huawei Nova 7 Pro 5G JER-AN20	10 (11.0.0.158(C00E155R7P1))	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
28	Huawei Nova 7 SE CDY-AN00	10(10.1.1.215(C01E210R6P3))	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
29	Huawei Nova 8 ANG-AN00	10 (11.0.0.166(C00E166R8P1))	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
30	Huawei nova 8 Pro BRQ-AN00	10 (11.0.0.171(C00E160R9P3))	PASS	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
31	Huawei P30 ELE-AL00	10(11.0.0.155(C00E155R1P5))	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
32	Huawei P40 ANA-AN00	10 (11.0.0.185(C00E180R3P6))	PASS	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
33	Huawei 10e MED-AL00	10(10.1.0.215(C00E57R3P3))	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
34	Huawei 10S AQM-AL00	10.1.0.171(C00E151R2P3)	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
35	Huawei 20 Pro DVC-AN20	10.1.1 (10.1.1.217(C01E115R2P3))	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
36	Huawei 10 ART-AL00x	9(9.1.1.213(C00E112R3P6))	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
37	Huawei 10 Plus STK-AL00	10(10.0.0.190(C00E71R5P3))	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Sr. No.	Model:	Software Version:	1.0 EFR32 BG13	1.1 EFR32 BG21	1.2 EFR32 BG22	Test ID: 1	Test ID: 2	Test ID: 3	Test ID: 4.1 - 4.10	Test ID: 5.1 - 5.8	Test ID: 6.1 - 6.2	Test ID: 7	Test ID: 8.1 - 8.3
38	Huawei 20 SE PPA-AL20 5G	10 (RPA-LGRP1-CHN 10.1.1.150)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
39	OPPO A11	7.1(PCHM10_11_C.76_ce216239)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL	PASS	PASS
40	OPPO A11s	7.2 (PDVM00_11_A.31_c839459a)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
41	OPPO A11x	7.1(PCHM30_11_C.74_6be82ea4)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL	PASS	PASS
42	OPPO A32	7.2 (PDVM00_11_A.22_77010c6b)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL	PASS	PASS
43	OPPO A35	7.2 (PEFM00_11_A.07_27ad0ff4)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
44	OPPO A55 5G	11.1 (PEMM20_11_A.14)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
45	OPPO A72 5G	7.2 (PDYM20_11_A.21)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
46	OPPO A8	6.1.2(PDBM00_11_A.29_2ccb177c)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
47	OPPO A92s	11.1 (PDKM00_11_C.05)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS	PASS
48	OPPO A93 5G	11.1 (PEHT00_11_A.16)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
49	OPPO A93s 5G	11.1 (PFGM00_11_A.09)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
50	OPPO K7x	11.1 (PERM00_11_C.03)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS	PASS
51	OPPO K9 Pro 5G	11.3 (PEYM00_11_A.13)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
52	OPPO Reno 7 5G	12 (PFJM10_11_A.24)	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
53	OPPO Reno2	11.1(PCKM00_11_F.20)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	FAIL	PASS	PASS
54	OPPO Reno4 SE	11.1 (PEAM00_11_C.15)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS	PASS
55	OPPO Reno5 5G	11.1 (PEGM00_11_A.34)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS	PASS
56	OPPO Reno5 K 5G	11.1 (PEGM10_11_A.22)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
57	OPPO Reno5 Pro 5G	11.1 (PDSM00_11_A.20)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
58	OPPO Reno6 Pro+ 5G	11.3 (PENM00_11_A.21)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
59	RealMe GT Neo RMX3031 5G	11 (RMX3031_11_C.07)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL

Sr. No.	Model:	Software Version:	1.0 EFR32 BG13	1.1 EFR32 BG21	1.2 EFR32 BG22	Test ID: 1	Test ID: 2	Test ID: 3	Test ID: 4.1 - 4.10	Test ID: 5.1 - 5.8	Test ID: 6.1 - 6.2	Test ID: 7	Test ID: 8.1 - 8.3
60	RealMe V11 5G	11 (RMX3122_11_A.17)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
61	Vivo IQOO Neo5 V2055A 5G	11 (PD2055B_A_1.10.20)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
62	Vivo iQOO U3x V2106A	11 (PD2106_A_1.8.5)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
63	Vivo IQOO Z3 V2073A 5G	11 (PD2073B_A_1.8.15)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
64	Vivo S10 V2121A	11 (PD2121C_A_5.10.7)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
65	Vivo S5 V1932A	10 (PD1932_A_7.9.0)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
66	Vivo S6 5G V1962A	10 (PD1962_A_5.14.1)	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
67	Vivo S7 5G V2020A	10 (PD2020_A_5.11.1)	PASS	PASS	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
68	Vivo S7e V2031A 5G	10 (PD2031I_YD-A_A_5.11.5)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
69	Vivo S9 V2072A 5G	11 (PD2072_A_1.18.15)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
70	Vivo S9e V2048A	11 (PD2048_A_1.15.4)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
71	Vivo X27 V1838A	10(PD1838_A_7.9.22)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
72	Vivo X60 Pro V2047A	11 (PD2047B_A_1.24.2)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
73	Vivo X60 V2046A	11 (PD2059C_A_5.8.1)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
74	Vivo X70 Pro V2134A	11 (PD2134B_A_5.8.3)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
75	Vivo X70 Pro+ V2145A	11 (PD2145B_A_1.7.7)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
76	Vivo X70 V2133A	11 (PD2133C_A_5.10.2)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
77	Vivo Y3 V1901A	9(PD1901_A_1.22.31)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
78	Vivo Y30 V2036A	10.5 (PD2036C_A_1.10.5)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
79	Vivo Y31s V2054A	10.5 (PD2054-A_1.14.2)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
80	Vivo Y31s V2068A 5G	11 (PD2068_A_1.19.28)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
81	Vivo Y3s V1901A	9 (PD1901L_A_1.22.31)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Sr. No.	Model:	Software Version:	1.0 EFR32 BG13	1.1 EFR32 BG21	1.2 EFR32 BG22	Test ID: 1	Test ID: 2	Test ID: 3	Test ID: 4.1 - 4.10	Test ID: 5.1 - 5.8	Test ID: 6.1 - 6.2	Test ID: 7	Test ID: 8.1 - 8.3
82	Vivo Y52s V2057A	10.5 (PD2057_A_1.14.11)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
83	Vivo Y5s V1934A	9.2 (PD1934_A_1.18.7)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
84	Vivo Y70s V2002A 5G	10 (PD2002B-YD-A_A_1.16.0)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
85	Vivo Y73s V2031A	10.5 (PD2031_A_1.21.0)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
86	Vivo Y7s V1913A	9(PD1913_A_1.16.19)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
87	Vivo Y9s V1945A	9.2 (PD1945_A_1.13.5)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
88	Vivo Z5x V1911A	10 (PD1911B_A_7.2.7)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS
89	Xiaomi 12	13.0.25.0 (SLCCNXM)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
90	Xiaomi Mi 10	12.5.10.0 (RJBCNXM)	FAIL	FAIL	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
91	Xiaomi Mi 10S	12.5.14.0 (RGACNXM)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
92	Xiaomi Mi 10	12.5.9 (RJVCNXM)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
93	Xiaomi Mi 11 Pro 5G	13.0.9.0 (SKACNXM)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
94	Xiaomi Redmi 8A	12.5.1.0(PCPCNXM)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
95	Xiaomi Redmi K30 5G	12.5.7.0(RGICNXM)	FAIL	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	FAIL
96	Xiaomi Redmi K40	12.5.19.0 (RKHCNXM)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
97	Xiaomi Redmi K40	12.5.12.0 (RKJCNXM)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
98	Xiaomi Redmi Note 9 4G	12.5.6.0 (RJQCNXM)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
99	Xiaomi Redmi Note 9 5G	12.5.6.0 (RJECNXM)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
100	Xiaomi Redmi Note 9 Pro 5G	12.5.4.0 (RJSCNXM)	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

4.3 Throughput Tests

The table below represents the throughput values achieved across various SoC platforms. It is to be noted that the throughput depends on various factors that are dependent on the phone including the below key ones.

- Bluetooth version number – v4.0 and 4.1 support lower PUD size (27 bytes) vs 4.2 and above (251 bytes)
- Packets per connection interval – The max supported by iOS is 4 and that by Android is 6
- Radio performance.

Due to these factors and radio performance of the SoCs themselves which are different, there is variance seen in the throughput across phones and SoC platforms.

Asia Pacific				
Sr. No.	Device	Throughput values		
		xG13	xG21	xG22
1	CoolPad Cool 6 1901	4160	3555	3888
2	Infinix Hot 9 X655D	68585	67623	74014
3	Infinix S5 Pro X660	78698	80959	80943
4	Infinix Smart 4 Plus X680D	75429	54449	74551
5	Infinix Zero 8i X687B	61817	47863	74127
6	Motorola Moto G20 XT2128-1	39918	39812	42504
7	Motorola Moto G60 XT2135-1	0	0	40495
8	Motorola One Fusion+ XT2067-2	40691	40439	40504
9	Nokia 1.3	5260	5396	9758
10	Nokia G20	66696	70355	69184
11	Nokia X20	40642	40495	40504
12	OnePlus 8T KB2003	53924	57816	62317
13	OPPO A11K CPH2083	51463	47756	53766
14	OPPO A12 CPH2083	51463	47756	53766
15	OPPO A15 CPH2185	79235	80780	80991
16	OPPO A15s CPH2179	79381	80991	81008
17	OPPO A1k CPH1923	46975	52205	51473
18	OPPO A31 CPH2015	42984	50985	40894
19	OPPO A5 (2020) CPH1931	40544	40300	40495
20	OPPO A53 CPH2127	38837	38641	38634
21	OPPO A53s 5G CPH2321	72746	80699	80861
22	OPPO A54 CPH2239	77771	80991	80943
23	OPPO A72 CPH2067	73038	74176	74063
24	OPPO F11 Pro CPH1969	4608	4559	4792
25	OPPO F15 CPH2001	4763	4735	4720
26	OPPO F17 CPH2095	0	0	38739
27	OPPO F17 Pro CPH2119	80715	80894	80910
28	OPPO F19 CPH2219	38326	37568	38690
29	OPPO F19 Pro CPH2285	80129	80812	80812

30	OPPO F19 Pro+ 5G CPH2213	80796	80894	80747
31	OPPO Reno2 CPH1907	40000	40243	40495
32	OPPO Reno2 F CPH1989	5332	4751	4868
33	OPPO Reno3 Pro CPH2035	80324	80910	80666
34	OPPO Reno4 Z 5G CPH2065	80032	80943	80894
35	Poco C3	80455	80455	72404
36	Poco X2	40487	40487	40495
37	RealMe 5 Pro RMX1971	40260	40251	40495
38	RealMe 5 RMX1911	40097	40479	40487
39	RealMe 5i RMX2030	38837	36885	32243
40	RealMe 5s RMX1925	40552	40495	40585
41	RealMe 6 Pro RMX2061	40552	40495	40504
42	RealMe 6 RMX2001	79169	79251	80308
43	RealMe 6i RMX2040	80195	80991	80162
44	RealMe 7 Pro RMX2170	40487	0	40536
45	RealMe 7 RMX2151	80455	80715	80650
46	RealMe 7i RMX2103	39080	37281	39186
47	RealMe 8 5G RMX3241	78698	80894	80243
48	RealMe 8 Pro RMX3081	0	0	0
49	RealMe 8i RMX3151	79104	80861	80894
50	RealMe C11 RMX2185	79560	80796	80959
51	RealMe C12 RMX2189	78796	80650	80910
52	RealMe C15 Qualcomm Edition RMX2195	37519	37812	37680
53	RealMe C2 RMX1945	48137	44545	54780
54	RealMe C21 RMX3201	80181	79381	80699
55	RealMe C25s RMX3197	0	80910	80943
56	RealMe C3 RMX2020	77592	77625	80943
57	RealMe Narzo 20 RMX2193	79592	80943	80943
58	RealMe Narzo 30 Pro 5G RMX2117	80699	80943	80943
59	RealMe Narzo 30a RMX3171	79820	77756	80894
60	RealMe X2 Pro RMX1931	62256	61951	60926
61	RealMe X3 RMX2081	35763	38105	37812
62	RealMe X7 Pro 5G RMX2121	80845	80975	80666
63	RealMe XT RMX1921	40382	40251	40292
64	Samsung Galaxy A30 A305GN/DS	62549	62793	62305
65	Samsung Galaxy F41 F415F/DS	65818	62000	67037
66	Samsung Galaxy M01 M015G/DS	9786	9710	9869
67	Samsung Galaxy M01s M017F/DS	79348	80861	80845

68	Samsung Galaxy M10 M105F/DS	15612	16051	16055
69	Samsung Galaxy M20 M205F/DS	53924	53571	52498
70	Samsung Galaxy M30 M305F/DS	53864	53815	62561
71	Samsung Galaxy M62 M625F/DS	34215	65330	68403
72	Tecno Camon 15	80699	77918	76649
73	Tecno Camon 16	0	80991	80943
74	Vivo V17 1919	40260	40007	39853
75	Vivo V17 Pro 1909	40000	39764	0
76	Vivo V19 1933	40447	40495	0
77	Vivo V20 (2021) V2040	40398	40504	40479
78	Vivo V20 Pro 5G 2018	50644	49044	49336
79	Vivo V20 SE V2022	40398	40479	40406
80	Vivo V20 V2025	40495	40495	40495
81	Vivo V21 5G V2050	75868	80991	80975
82	Vivo V21e 5G V2055	80601	80991	80699
83	Vivo Y11 1906	9846	9730	9738
84	Vivo Y12 1904	0	75966	78357
85	Vivo Y12s (2021) V2069	9762	9472	9884
86	Vivo Y15 1901	0	70418	71087
87	Vivo Y19 1915	80926	65964	80926
88	Vivo Y20 V2029	38813	39032	38390
89	Vivo Y20A V2052	9618	9788	9812
90	Vivo Y20G V2037	0	68550	80422
91	Vivo Y21 V2111	32543	32591	32494
92	Vivo Y30 1938	0	40487	40349
93	Vivo Y31 V2036	39170	39568	39032
94	Vivo Y50 1935	39520	39812	39943
95	Vivo Y51A V2031	38739	38837	38439
96	Vivo Y73 V2059	79202	80666	70306
97	Xiaomi Redmi 9 Power	39203	38983	39227
98	Xiaomi Redmi Note 8	37902	37861	0
99	Xiaomi Redmi Note 9 Pro Max	57512	57219	55474

China				
Sr. No.	Device	Throughput values		
		xG13	xG21	xG22
1	Honor 20 LRA-AL00	68159	67441	69038
2	Honor 20S YAL-AL50	67002	69379	69560

3	Honor 30 BMH-AN10	62793	66013	64549
4	Honor 30S CDY-AN90	70272	68159	68696
5	Honor 50 SE JLH-AN00	75737	77722	80000
6	Honor 50Pro RNA-AN00	63866	63524	60634
7	Honor 9X HLK-AL00	69198	69135	69003
8	Honor Magic3 ELZ-AN00	71853	66341	68181
9	Honor Play 3 ASK-AL00x	78942	78796	78324
10	Honor Play5T Pro CHL-AL00	79983	80715	80894
11	Honor V30 OXF-AN00	68487	69721	69526
12	Honor V40 Lite ALA-AN70 5G	79267	77359	79545
13	Honor V40 YOK-AN10 5G	80764	79395	80308
14	Honor X10 TEL-AN00	68940	68452	69637
15	Honor X20 NTN-AN20	77430	79836	80991
16	Honor 20 KOZ-AL00	73200	75688	71380
17	Huawei Mate 30 Pro LIO-AL00	66124	69477	69818
18	Huawei Mate 30 TAS-AL00	68612	70223	70062
19	Huawei Mate 30e Pro LIO-AN00m	65964	68124	68027
20	Huawei Mate 40 OCE-AN10	77494	76860	76762
21	Huawei Mate 40E OCE-AN50 5G	76747	78080	77527
22	Huawei Nova 5 Pro SEA-AL10	68940	68271	69379
23	Huawei Nova 5i GLK-AL00	9214	9258	0
24	Huawei Nova 5i Pro SPN-AL00	68159	68306	69233
25	Huawei Nova 6 WLZ-AL10	69979	67051	69895
26	Huawei Nova 7 JEF-AN00	68306	69867	68222
27	Huawei Nova 7 Pro 5G JER-AN20	67929	69365	69735
28	Huawei Nova 7 SE CDY-AN00	65782	68794	68111
29	Huawei Nova 8 ANG-AN00	69052	69491	68222
30	Huawei nova 8 Pro BRQ-AN00	77348	74307	71199
31	Huawei P30 ELE-AL00	66709	67206	67086
32	Huawei P40 ANA-AN00	78226	77738	78259
33	Huawei 10e MED-AL00	76030	76991	80357
34	Huawei 10S AQM-AL00	68515	69477	69742
35	Huawei 20 Pro DVC-AN20	80373	80943	80731
36	Huawei 10 ART-AL00x	78324	77070	78942
37	Huawei 10 Plus STK-AL00	5514	5342	6444
38	Huawei 20 SE PPA-AL20 5G	68355	68856	70111
39	OPPO A11	0	0	0
40	OPPO A11s	73819	72390	68417

41	OPPO A11x	0	0	0
42	OPPO A32	73819	72390	68417
43	OPPO A35	78015	79641	78015
44	OPPO A55 5G	79397	79137	80211
45	OPPO A72 5G	80520	74517	76439
46	OPPO A8	40056	40300	40064
47	OPPO A92s	80878	80471	80991
48	OPPO A93 5G	72487	80650	80878
49	OPPO A93s 5G	76518	77234	80276
50	OPPO K7x	80731	79528	80943
51	OPPO K9 Pro 5G	78698	80552	80357
52	OPPO Reno 7 5G	61244	73444	75722
53	OPPO Reno2	40495	0	80406
54	OPPO Reno4 SE	76341	79772	80926
55	OPPO Reno5 5G	0	67086	51815
56	OPPO Reno5 K 5G	80032	80634	80699
57	OPPO Reno5 Pro 5G	80503	80959	80894
58	OPPO Reno6 Pro+ 5G	53962	73219	74664
59	RealMe GT Neo RMX3031 5G	72599	80747	80747
60	RealMe V11 5G	78747	80422	80894
61	Vivo IQOO Neo5 V2055A 5G	70160	71833	69916
62	Vivo iQOO U3x V2106A	76176	79625	80503
63	Vivo IQOO Z3 V2073A 5G	65684	71770	71233
64	Vivo S10 V2121A	80032	80178	79674
65	Vivo S5 V1932A	73185	74600	78324
66	Vivo S6 5G V1962A	72307	73102	75981
67	Vivo S7 5G V2020A	68745	71087	60414
68	Vivo S7e V2031A 5G	77363	78470	75542
69	Vivo S9 V2072A 5G	79186	80699	80682
70	Vivo S9e V2048A	79495	78909	80568
71	Vivo X27 V1838A	39332	39211	39812
72	Vivo X60 Pro V2047A	68501	69881	73429
73	Vivo X60 V2046A	79251	78534	69100
74	Vivo X70 Pro V2134A	70516	65456	75283
75	Vivo X70 Pro+ V2145A	71394	70794	73658
76	Vivo X70 V2133A	75591	77656	72731
77	Vivo Y3 V1901A	59426	67441	68647
78	Vivo Y30 V2036A	40544	38405	40495

79	Vivo Y31s V2054A	79869	77104	70467
80	Vivo Y31s V2068A 5G	78698	79512	80650
81	Vivo Y3s V1901A	57609	65086	74209
82	Vivo Y52s V2057A	72516	80080	80097
83	Vivo Y5s V1934A	80943	80943	80373
84	Vivo Y70s V2002A 5G	70599	70697	73624
85	Vivo Y73s V2031A	79007	81008	80959
86	Vivo Y7s V1913A	77836	78177	76713
87	Vivo Y9s V1945A	75103	77545	77966
88	Vivo Z5x V1911A	72439	78275	76372
89	Xiaomi 12	69344	69393	69344
90	Xiaomi Mi 10	67232	69393	68989
91	Xiaomi Mi 10S	68173	65831	71380
92	Xiaomi Mi 10	67051	69149	57535
93	Xiaomi Mi 11 Pro 5G	71882	71770	72175
94	Xiaomi Redmi 8A	9760	9752	9694
95	Xiaomi Redmi K30 5G	69330	71624	68173
96	Xiaomi Redmi K40	66549	65866	67832
97	Xiaomi Redmi K40	71882	76616	73883
98	Xiaomi Redmi Note 9 4G	78568	77283	78161
99	Xiaomi Redmi Note 9 5G	77152	78519	80959
100	Xiaomi Redmi Note 9 Pro 5G	70341	70487	70355

Europe				
Sr. No.	Device	Throughput values		
		xG13	xG21	xG22
1	Huawei Mate 40 Pro NOH-NX9	74273	74273	70516
2	Huawei Nova 5T YAL-L21	54802	57242	57621
3	Huawei P Smart Z STK-LX1	8972	9526	9760
4	Huawei P30 Lite MAR-LX1A	9496	9574	9166
5	Huawei Y6 (2019) MRD-LX1	57572	43724	55203
6	Motorola Edge 20 Pro XT2153-1	71770	70418	70453
7	OnePlus 8 Pro IN2023	67916	70062	71770
8	OnePlus Nord 2 5G DN2103	71770	80373	80959
9	OnePlus Nord CE 5G EB2103	0	0	0
10	OPPO A16s CPH2271	80601	80959	80894
11	OPPO A54 5G CPH2195	78503	77478	73365
12	OPPO A74 5G CPH2197	77283	71526	79869

13	OPPO A94 5G CPH2211	75527	74029	77625
14	OPPO Find X3 Neo CPH2207	70355	67281	68808
15	OPPO Find X3 Pro 5G CPH2173	62841	66124	63232
16	OPPO Reno4 Pro 5G CPH2089	58573	57865	53414
17	OPPO Reno6 5G CPH2251	75249	72892	80861
18	OPPO Reno6 Pro 5G CPH2247	69365	61573	70209
19	Poco M3	65938	66962	61573
20	Poco X3	78812	66319	73868
21	Samsung Galaxy A03s A037G/DSN	78552	80910	80894
22	Samsung Galaxy A10s A107F/DS	76567	77432	80601
23	Samsung Galaxy A20s A207F/DS	9862	9902	9896
24	Samsung Galaxy A22 5G A226B/DSN	80699	80357	80861
25	Samsung Galaxy A22 A225F/DSN	80243	80959	80959
26	Samsung Galaxy A30s A307FN/DS	61914	62793	62402
27	Samsung Galaxy A31 A315F/DS	80503	80943	80764
28	Samsung Galaxy A32 A325F/DS	80959	80943	80926
29	Samsung Galaxy A40 A405FN/DS	62585	56900	49590
30	Samsung Galaxy A52s 5G A528B/DS	62549	62659	62451
31	Samsung Galaxy A80 A805F/DS	80308	75058	80000
32	Samsung Galaxy M11 M115F/DS	9786	9814	9832
33	Samsung Galaxy M12 M127G/DS	63049	62695	67135
34	Samsung Galaxy M21 M215F/DS	78128	62939	66940
35	Samsung Galaxy M31 M315F/DS	79104	62793	74029
36	Samsung Galaxy M31s M317F/DS	79088	79040	77137
37	Samsung Galaxy M51 M515F/DSN	37422	40650	30353
38	Samsung Galaxy Note20 N980F/DS	71916	64562	75688
39	Samsung Galaxy S20 G980F/DS	52937	52937	66319
40	Samsung Galaxy Z Flip3 5G F711B	49375	51825	65063
41	Samsung Galaxy Z Fold3 5G F926B/DS	61829	62952	62744
42	Sony Xperia 1 III XQ-BC52	69038	73380	65866
43	Sony Xperia 10 III XQ-BT52	68146	61560	71672
44	Xiaomi 11T Pro	64451	72014	68536
45	Xiaomi Mi 10 Pro	67867	69832	72697
46	Xiaomi Mi 11 Lite	72599	78259	71756
47	Xiaomi Mi 11i	66159	64256	66208
48	Xiaomi Mi Note 10	70028	76811	71184
49	Xiaomi Mi Note 10 lite	77722	77722	77039
50	Xiaomi Redmi 10	73541	80861	80617

51	Xiaomi Redmi 7A	9624	7984	9817
52	Xiaomi Redmi 8	9722	9802	9694
53	Xiaomi Redmi 9T	68530	52292	70320
54	Xiaomi Redmi Note 10 5G	73834	76600	80796
55	Xiaomi Redmi Note 10S	75054	80666	80650

US				
Sr. No.	Device	Throughput values		
		xG13	xG21	xG22
1	Alcatel 3V (2019) 5032W (MetroPCS)	61524	54108	62659
2	Alcatel Insight 5005R (Cricket)	1168	1144	4550
3	Alcatel TCL A2 A507DL (TracFone)	80406	67818	80861
4	Alcatel TCL A3 (TracFone)	65902	71296	79936
5	Apple iPhone 11 (Verizon)	62415	66270	68368
6	Apple iPhone 11 Pro (AT&T)	65636	65684	66953
7	Apple iPhone 11 Pro Max (Verizon)	31085	69003	67344
8	Apple iPhone 12 (AT&T)	67100	63635	67051
9	Apple iPhone 12 mini (T-Mobile)	52704	64220	64660
10	Apple iPhone 12 Pro (AT&T)	65440	66026	65733
11	Apple iPhone 12 Pro Max (Verizon)	42651	45042	64952
12	Apple iPhone 13 (AT&T)	54265	67929	66514
13	Apple iPhone 13 Mini (T-Mobile)	16152	23960	63537
14	Apple iPhone 13 Pro Max (Verizon)	47775	51728	66270
15	Apple iPhone 6S (AT&T)	6248	6632	6632
16	Apple iPhone 7 (AT&T)	44798	42797	46067
17	Apple iPhone 7 Plus (Verizon)	40894	43920	42846
18	Apple iPhone 8 (AT&T)	44993	59487	66563
19	Apple iPhone 8 Plus (Verizon)	61390	64172	64708
20	Apple iPhone SE (2020) (AT&T)	67100	68466	66612
21	Apple iPhone X (AT&T)	59877	65733	66270
22	Apple iPhone XR (AT&T)	63440	64220	66319
23	Apple iPhone XS (Verizon)	23033	69588	68905
24	Apple iPhone XS Max (AT&T)	40211	68076	67685
25	Boost Celero 5G WTCELERO5G (Boost)	77021	57486	78470
26	CAT S62 (T-Mobile)	80357	45609	80666
27	Cricket Dream 5G EC211001 (Cricket)	76307	75542	70613
28	Google Pixel 4 (Verizon)	76063	70955	36904
29	Google Pixel 4a	80764	57193	79967

30	Google Pixel 4a 5G UW (Verizon)	61536	67379	65782
31	Google Pixel 5 (Verizon)	66354	70613	66731
32	Lenovo Moto E6 XT2005-1 (Verizon)	17920	9734	2159
33	Lenovo Moto G7 Play XT1952-4 (Boost)	9850	9686	9862
34	Lenovo Moto G7 Power XT1955-6 (Verizon)	9892	9854	9872
35	LG Aristo 4+ X320TA (T-Mobile)	9800	9800	9884
36	LG Aristo 5 K300TM (T-Mobile)	50693	37185	64806
37	LG K40 X420MM (MetroPCS)	9868	9890	9872
38	LG K51 K500UM (T-Mobile)	64500	53105	0
39	LG K92 5G K920AM (AT&T)	68159	67002	0
40	LG Stylo 5 Q720CS (Cricket)	9860	9884	0
41	LG Stylo 6 Q730TM (T-Mobile)	62476	43090	0
42	LG V60 ThinQ 5G V600TM (T-Mobile)	67037	68403	0
43	LG Velvet 5G G900VM (Verizon)	49873	39820	53425
44	LG WING F100VM (Verizon)	42212	33567	53474
45	Motorola Edge 5G UW (2021) XT2141-1 (Verizon)	63098	64012	63768
46	Motorola Edge+ XT2061-1 (Verizon)	16783	27463	52996
47	Motorola Moto E (2020) XT2052-6 (T-Mobile)	9866	9726	9894
48	Motorola Moto G Fast XT2045-3 (Boost)	76942	77543	40235
49	Motorola Moto G Play (2021) XT2093-3 (T-Mobile)	36626	31268	36941
50	Motorola Moto G Power (2021) XT2117-3 (Verizon)	38593	33867	40495
51	Motorola Moto G Pure XT2163-4 (T-Mobile)	79967	79235	80894
52	Motorola Moto G Stylus (2021) XT2115-1 (AT&T)	23956	30109	40300
53	Motorola Moto G Stylus 5G XT2131-3 (AT&T)	35121	23956	40349
54	Motorola Moto G Stylus XT2043-4 (AT&T)	38397	35136	40162
55	Motorola One 5G Ace XT2113-2 (Metro)	45228	44847	55181
56	Motorola One 5G XT2075-2 (AT&T)	47092	39528	49414
57	Motorola Razr XT2000-1 (Verizon)	38893	32696	40357
58	Nokia 8 V 5G UW TA-1257 (Verizon)	45530	44359	58815
59	Nokia X100 TA-1399 (T-Mobile)	66403	53777	70306
60	OnePlus 9 5G LE2117 (T-Mobile)	43520	10343	49971
61	OnePlus 9 Pro 5G LE2127 (T-Mobile)	36836	11026	56878
62	OnePlus Nord N10 5G BE2028 (T-Mobile)	62952	59719	0
63	OnePlus Nord N100 BE2012 (T-Mobile)	30975	32640	40300

64	OnePlus Nord N200 5G DE2118 (T-Mobile)	38161	30939	39959
65	Orbic Magic 5G R678EL (TracFone)	63671	65782	68452
66	Orbic Myra 5G UW R678L5 (Verizon)	56926	51630	52118
67	Samsung Galaxy A01 A015V (Verizon)	9746	8716	8968
68	Samsung Galaxy A02s A025V (Verizon)	9464	5644	9822
69	Samsung Galaxy A10e A102U (AT&T)	29225	56315	62402
70	Samsung Galaxy A11 A115U (Verizon)	9276	9772	9872
71	Samsung Galaxy A12 A125U (AT&T)	38690	45560	80308
72	Samsung Galaxy A20 A205U (Verizon)	48653	54108	60402
73	Samsung Galaxy A21 A215U (T-Mobile)	77250	60792	80341
74	Samsung Galaxy A32 5G A326U (T-Mobile)	54900	72760	80503
75	Samsung Galaxy A42 5G A426U (Verizon)	37219	39137	40211
76	Samsung Galaxy A50 A505U (Verizon)	36885	69477	78405
77	Samsung Galaxy A51 5G A516V (Verizon)	52254	50078	54168
78	Samsung Galaxy A51 A515U (Verizon)	12831	63329	78649
79	Samsung Galaxy A52 5G A526U (AT&T)	38739	32543	40016
80	Samsung Galaxy A71 5G A716U (AT&T)	46067	36739	57670
81	Samsung Galaxy Note10 N970U (AT&T)	32231	43569	78763
82	Samsung Galaxy Note10+ 5G N976V (Verizon)	47804	60060	75673
83	Samsung Galaxy Note10+ N975U (Verizon)	49375	38649	72628
84	Samsung Galaxy Note20 5G N981U (Verizon)	72663	67783	73107
85	Samsung Galaxy Note20 Ultra 5G N986U1 (AT&T)	37778	66332	73380
86	Samsung Galaxy S10 5G G977U (Verizon)	24692	32940	77445
87	Samsung Galaxy S10 G973U (AT&T)	44798	41512	77445
88	Samsung Galaxy S10+ G975U (AT&T)	45579	41983	69498
89	Samsung Galaxy S10e G970U (AT&T)	69184	49512	77869
90	Samsung Galaxy S20 5G G981U (AT&T)	27121	53327	72990
91	Samsung Galaxy S20 FE 5G UW G781V (Verizon)	60317	64855	61963
92	Samsung Galaxy S20 Ultra 5G G988U (AT&T)	27159	66598	79300
93	Samsung Galaxy S20+ 5G G986U (Verizon)	76225	77705	77494
94	Samsung Galaxy S21 5G G991U (AT&T)	62207	29609	74893
95	Samsung Galaxy S21 Ultra 5G G998U (Verizon)	57974	33037	65050
96	Samsung Galaxy S21+ 5G G996U (T-Mobile)	50926	49131	79820
97	TCL 20XE 5087Z (Boost)	75786	79218	80910

98	T-Mobile Revvl 4 5007W (T-Mobile)	79397	72892	78470
99	T-Mobile Revvl 5G T790W (T-Mobile)	39764	53658	57853
100	T-Mobile Revvl V+ 5G WTRVL5G (T-Mobile)	68208	80943	0

5. References

<https://www.bluetooth.com/develop-with-bluetooth/qualification-listing/>

6. Revision History

Revision 1.0

April, 2023

- Initial version

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