

TEST REPORT

Applicant: Realme Chongqing Mobile Telecommunications Corp., Ltd.
Address: No.178 Yulong Avenue, Yufengshan, Yubei District, Chongqing, China
Equipment Type: Mobile Phone
Model Name: RMX3780
Brand Name: realme
FCC ID: 2AUYFRMX3780
Test Standard: 47 CFR Part 15 Subpart B
ANSI C63.4-2014
Sample Arrival Date: May 24, 2023
Test Date: May 31, 2023 – Jun. 01, 2023
Date of Issue: Jul. 04, 2023

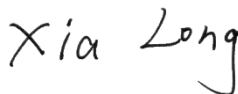
ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Zhang Guoxi



Checked by: Xia Long



Approved by: Liao Jianming
(Technical Director)



Revision History		
Version	Issue Date	Revisions
<u>Rev. 01</u>	<u>Jul. 04, 2023</u>	<u>Initial Issue</u>

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1 GENERAL INFORMATION

1.1 Test Laboratory

Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Phone Number	+86 755 6685 0100

1.2 Test Location

Name	Shenzhen BALUN Technology Co., Ltd.
Location	<input checked="" type="checkbox"/> Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
	<input type="checkbox"/> 1/F, Building B, Ganghongji High-tech Intelligent Industrial Park, No. 1008, Songbai Road, Yangguang Community, Xili Sub-district, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Accreditation Certificate	The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196.

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	Realme Chongqing Mobile Telecommunications Corp., Ltd.
Address	No.178 Yulong Avenue, Yufengshan, Yubei District, Chongqing, China

2.2 Manufacturer Information

Manufacturer	Realme Chongqing Mobile Telecommunications Corp., Ltd.
Address	No.178 Yulong Avenue, Yufengshan, Yubei District, Chongqing, China

2.3 Factory Information

Factory	Realme Chongqing Mobile Telecommunications Corp., Ltd.
Address	No.178 Yulong Avenue, Yufengshan, Yubei District, Chongqing, China

2.4 General Description for Equipment under Test (EUT)

EUT Name	Mobile Phone
Model Name Under Test	RMX3780
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	11
Software Version	realme UI 4.0
Dimensions (Approx.)	165.66*75.98*8.09mm
Weight (Approx.)	192 g
EUT ID	S20, S21
IMEI Number	S20: IMEI1:865046060054837, IMEI2:865046060054829 S21: IMEI1:865046060054613, IMEI2:865046060054605

2.5 Ancillary Equipment

Ancillary Equipment 1	Battery	
	Brand Name	SUPERVOOC
	Model No.	BLP933
	Serial No.	N/A
	Capacity	Rated Capacity: 4890mAh/18.92Wh Typical Capacity: 5000mAh/19.35Wh
	Rated Voltage	3.87V
	Limit Charge Voltage	4.45V
Ancillary Equipment 2	Adapter 1	
	Brand Name	SUPERVOOC
	Model No.	VCB7CAUH (US Plug)
	Serial No.	N/A
	Rated Input 1	100-130V~ 50/60Hz 1.8A
	Rated Output 1	5.0 Vdc 2A, 5.0-11.0 Vdc 5A(Max)
	Rated Input 2	200-240V~ 50/60Hz 1.8A
	Rated Output 2	5.0 Vdc 2A, 5.0-11.0 Vdc 6.1A(Max)
	Manufacturer	Yohoo
Ancillary Equipment 3	Adapter 2	
	Brand Name	SUPERVOOC
	Model No.	VCB7CAUH (US Plug)
	Serial No.	N/A
	Rated Input 1	100-130V~ 50/60Hz 1.8A
	Rated Output 1	5.0 Vdc 2A, 5.0-11.0 Vdc 5A(Max)
	Rated Input 2	200-240V~ 50/60Hz 1.8A
	Rated Output 2	5.0 Vdc 2A, 5.0-11.0 Vdc 6.1A(Max)
	Manufacturer	Chengyang
Ancillary Equipment 4	Adapter 3	
	Brand Name	SUPERVOOC
	Model No.	VCB8JAUH (US Plug)
	Serial No.	N/A
	Rated Input 1	100-130V~ 50/60Hz 2A
	Rated Output 1	5.0 Vdc 2A, 5.0-11.0 Vdc 6.1A(Max)
	Rated Input 2	200-240V~ 50/60Hz 2A
	Rated Output 2	5.0 Vdc 2A, 5.0-11.0 Vdc 7.3A(Max)
	Manufacturer	Kumho
Ancillary Equipment 5	USB Cable	
	Model No.	DL129
	Length (Approx.)	1m
Note 1: Letter in () means plug type.		
Note 2: All adapters are tested, only the worst data of VCB7CAUH (Chengyang) shown in this report.		

2.6 Technical Information

Network and Wireless connectivity	2G Network GSM/GPRS/EDGE 850/1900 MHz 3G Network WCDMA/HSDPA/HSUPA Band 2/4/5 4G Network LTE FDD Band 2/4/5/7/12/13/17/26/66 LTE TDD Band 38/41 LTE CA Uplink (UL): CA_7C, CA_38C, CA_41C 5G Network SA: NR n5/n7/n38/n41/n66 NSA(EN-DC): DC_2A_n7A, DC_2A_n38A, DC_2A_n41A, DC_2A_n66A, DC_4A_n7A, DC_4A_n38A, DC_5A_n7A, DC_5A_n38A, DC_5A_n66A, DC_7A_n66A, DC_26A_n41A, DC_41A_n41A, DC_66A_n5A, DC_66A_n7A, DC_66A_n38A, DC_66A_n41A Bluetooth (BR+EDR+BLE) 2.4G WIFI 802.11b, 802.11g, 802.11n(HT20/40), VHT20/40 5G WIFI 802.11a, 802.11n(HT20/40), 802.11ac(VHT20/40/80) U-NII-1/2A/2C/3, GPS, GLONASS, BDS, Galileo, NFC
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The requirement for the following technical information of the EUT was tested in this report:

The Highest Speed of Processor	N/A
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3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 15 Subpart B	Unintentional Radiators
2	ANSI C63.4-2014	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

3.2 Verdict

No.	Description	FCC Rule	Test Verdict	Result
1	Radiated Emission	15.109	Pass	Annex A .1
2	Conducted Emission, AC Ports	15.107	Pass	Annex A .2

3.3 Test Uncertainty

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Measurement	Value
Conducted emissions (9 kHz-30 MHz)	3.22 dB
Radiated emissions (30 MHz-1 GHz)-10m	4.80 dB
Radiated emissions (30 MHz-1 GHz)-3m	4.76 dB
Radiated emissions (1 GHz-18 GHz)-3m	4.88 dB

4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments, Test Date and Test Engineer

Test items	Voltage	Temperature	Relative Humidity	Ambient Pressure	Test Date	Test Engineer
Radiated Emission	AC 120V/60Hz DC 3.87V(battery)	22.3℃	47%	101kPa	May 31, 2023	Gu Shuaizhen
Conducted Emission	AC 230V/50Hz AC 120V/60Hz DC 3.87V(battery)	23.8℃	50%		Jun. 01, 2023	Gu Shuaizhen

4.2 Test Equipment List

Radiated Emission Test For Frequency Below 1 GHz (3m)						
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	Keysight	N9038A	MY55330120	2022.09.09	2023.09.08	<input checked="" type="checkbox"/>
Amplifier (30-1GHz)	COM-MV	ZT30-1000M	B2017119081	2022.12.07	2023.12.06	<input checked="" type="checkbox"/>
Test Antenna-Bi-Log	SCHWARZBECK	VULB 9168	9168-00867	2022.04.12	2025.04.11	<input checked="" type="checkbox"/>
Anechoic Chamber	YiHeng	9m*6m*6m	142	2021.08.19	2024.08.18	<input checked="" type="checkbox"/>
Description	Manufacturer	Name		Version		Use
Test Software	BALUN	BL410-E		V22.930		<input checked="" type="checkbox"/>

Radiated Emission Test For Frequency Above 1 GHz (3m)						
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	Keysight	N9038A	MY55330120	2022.09.09	2023.09.08	<input checked="" type="checkbox"/>
Amplifier (1-12GHz)	Advanced Microwave	WLA652A	1740103	2022.12.07	2023.12.06	<input checked="" type="checkbox"/>
Amplifier (0.8-21GHz)	Mini-Circuits	ZVA-213-S+	225321316	2022.12.07	2023.12.06	<input checked="" type="checkbox"/>
Test Antenna-Horn	SCHWARZBECK	BBHA 9120D	01917	2022.06.09	2025.06.08	<input checked="" type="checkbox"/>
Anechoic Chamber	YiHeng	9m*6m*6m	142	2021.08.19	2024.08.18	<input checked="" type="checkbox"/>
Description	Manufacturer	Name		Version		Use
Test Software	BALUN	BL410-E		V22.930		<input checked="" type="checkbox"/>

Conducted disturbance Test						
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	KEYSIGHT	N9010B	MY57110309	2022.09.09	2023.09.08	<input checked="" type="checkbox"/>
LISN	SCHWARZBECK	NSLK 8127	8127-687	2023.05.16	2024.05.15	<input checked="" type="checkbox"/>
ISN	TESEQ	ISN T800	34449	2022.11.11	2023.11.10	<input type="checkbox"/>
ISN	TESEQ	ISN T8-Cat6	53561	2023.04.23	2024.04.22	<input type="checkbox"/>
Shielded Room	YiHeng Electronic Co., Ltd	3.5m*3.1m*2.8m	112	2022.02.19	2025.02.18	<input checked="" type="checkbox"/>
Description	Manufacturer	Name		Version		Use
Test Software	BALUN	BL410-E		V22.930		<input checked="" type="checkbox"/>

4.3 Test Enclosure list

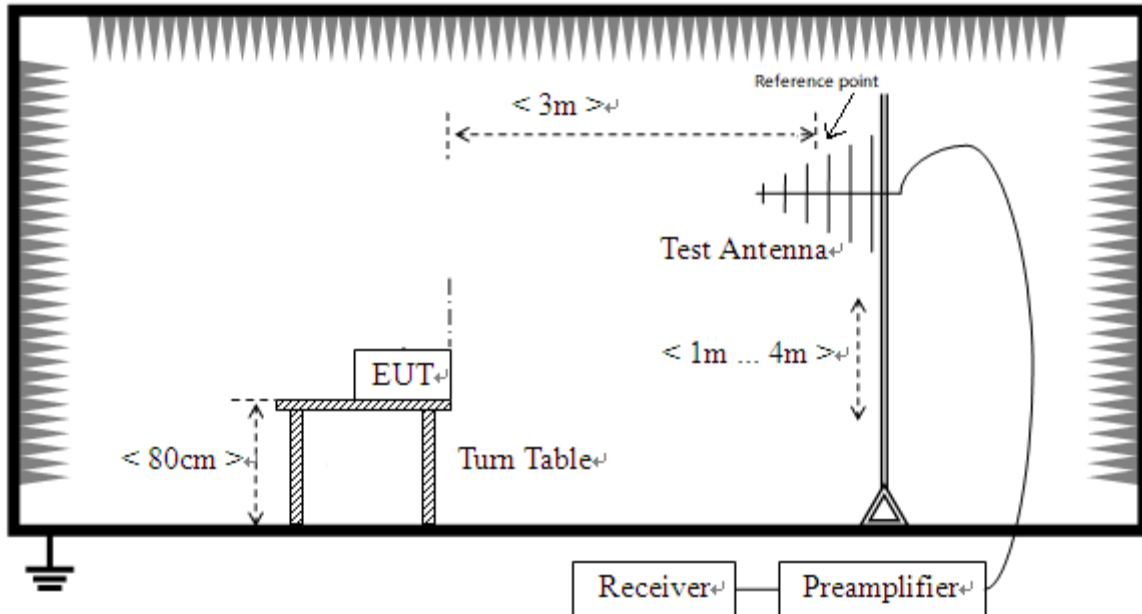
Description	Manufacturer	Model	Serial No.	Length	Description	Use
Wireless Communications Test Set	R&S	CMW500	127801	N/A	Cal. Due 2023.12.27	<input checked="" type="checkbox"/>
Laptop	Lenovo	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>
Data connector	N/A	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>
USB disk	Sandisk	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>
Headset	N/A	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>
TF card	KingSton	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>

4.4 Test Configurations

Test Configurations (TC) No.	Description
TC01	<u>The GSM 850 MHz RX Test Mode</u> GSM 850 MHz RX + EUT +Adapter + USB Cable + Battery + Headset + TF card
TC02	<u>The EGPRS 850 MHz RX Test Mode</u> EGPRS 850 MHz RX + EUT +Adapter + USB Cable + Battery + Headset + TF card
TC03	<u>The WCDMA Band 5 RX Test Mode</u> WCDMA Band 5 RX + EUT +Adapter + USB Cable + Battery + Headset + TF card
TC04	<u>The FDD LTE Band 5 RX Test Mode</u> LTE Band 5 RX + EUT +Adapter + USB Cable + Battery + Headset + TF card
TC05	<u>The FDD LTE Band 12 RX Test Mode</u> LTE Band 12 RX + EUT +Adapter + USB Cable + Battery + Headset + TF card
TC06	<u>The FDD LTE Band 13 RX Test Mode</u> LTE Band 13 RX + EUT +Adapter + USB Cable + Battery + Headset + TF card
TC07	<u>The FDD LTE Band 17 RX Test Mode</u> LTE Band 17 RX + EUT +Adapter + USB Cable + Battery + Headset + TF card
TC08	<u>The FDD LTE Band 26 RX Test Mode</u> LTE Band 26 RX + EUT +Adapter + USB Cable + Battery + Headset + TF card
TC09	<u>The n5 Test Mode</u> n5 RX + EUT + Adapter + USB Cable + Battery + Headset + TF card
TC10	<u>The Camera Test Mode</u> EUT + Adapter + USB Cable + Battery + Headset + TF card
TC11	<u>The Video Play Test Mode</u> EUT + Adapter + USB Cable + Battery + Headset + TF card
TC12	<u>The USB Test Mode</u> EUT + USB Cable + Battery + Laptop + Headset + TF card
TC13	<u>The OTG Test Mode</u> EUT + Battery + Data connector + USB Disk + Headset + TF card
TC14	<u>The Type-C Headset Test Mode</u> EUT + Type-C Headset + Battery + Headset + TF card

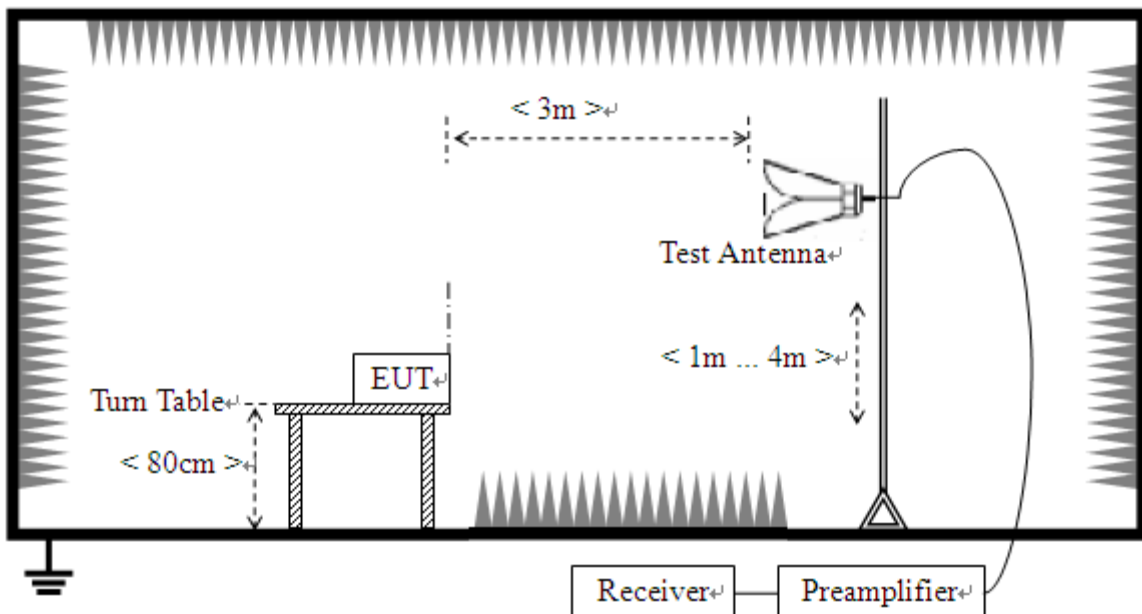
4.5 Test Setups

Test Setup 1



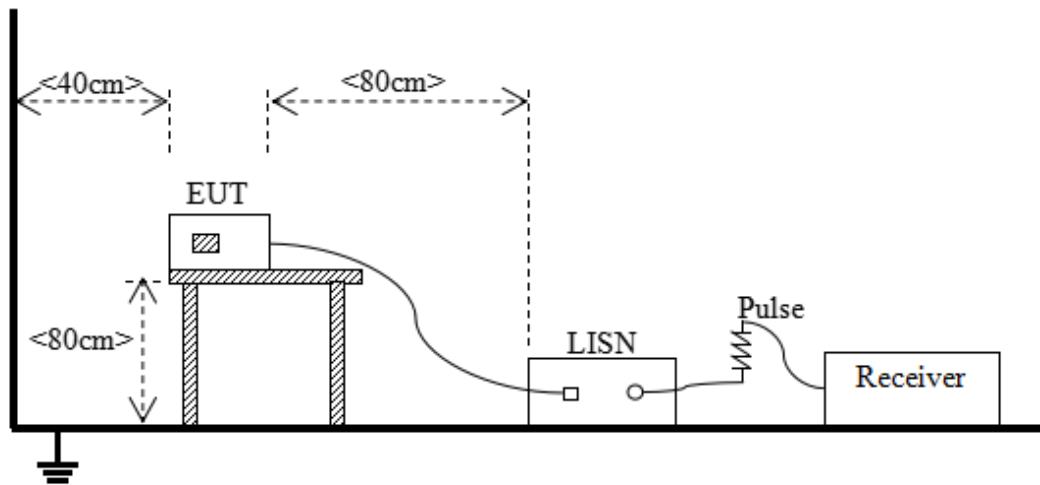
(For Radiated Emission Test (30 MHz-1 GHz))

Test Setup 2



(For Radiated Emission Test (above 1 GHz))

Test Setup 3



(For Conducted Emission, AC Ports Test)

4.6 Test Conditions

Test Case	Test Conditions	
Radiated Emission	Test Setup	Test Setup 1&2
	Test Configuration	TC01~TC14 ^{Note}
Conducted Emission, AC Ports	Test Setup	Test Setup 3
	Test Configuration	TC01~TC14 ^{Note}

Note: Based on client request, all normal using modes of the normal function were tested but only the worst test data of the worst mode is reported by this report. The GSM 850 MHz RX Test Mode is the worst mode in this report.

5 TEST ITEMS

5.1 Emission Tests

5.1.1 Radiated Emission

5.1.1.1 Limit

Frequency range (MHz)	Class B (at 3 m)		Class B (at 10 m)	Class A (at 10 m)	
	Field Strength ($\mu\text{V/m}$)	Field Strength ($\text{dB}\mu\text{V/m}$)	Field Strength ($\text{dB}\mu\text{V/m}$)	Field Strength ($\mu\text{V/m}$)	Field Strength ($\text{dB}\mu\text{V/m}$)
30 - 88	100	40	30	90	39
88 - 216	150	43.5	33.5	150	43.5
216 - 960	200	46	36	210	46.4
Above 960	500	54	44	300	49.5

NOTE:

- 1) Field Strength ($\text{dB}\mu\text{V/m}$) = $20 \cdot \log$ [Field Strength ($\mu\text{V/m}$)].
- 2) In the emission tables above, the tighter limit applies at the band edges.

5.1.1.2 Test Setup

Refer to 4.5 section (test setup 1 to test setup 2) for radiated emission test, the photo of test setup please refer to ANNEX B.

5.1.1.3 Test Procedure

All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

An initial pre-scan was performed in the chamber using the EMI Receiver in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by Bi-Log antenna with 2 orthogonal polarities.

The measurement frequency range is from 30 MHz to the 5th harmonic of the maximum frequency of the EUT internal source. The Turn Table is actuated to turn from 0° to 360° , and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented.

Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

RBW = 1 MHz for $f \geq 1$ GHz, 100 kHz for $f < 1$ GHz

VBW \geq RBW

Sweep = auto

Detector function = peak for $f < 1$ GHz, peak & RMS Average for $f \geq 1$ GHz

Trace = max hold

5.1.1.4 Test Result

Please refer to ANNEX A.1.

NOTE:

1. Results (dB μ V/m) = Reading (dB μ V/m) + Factor (dB/m)

The reading level is calculated by software which is not shown in the sheet

2. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) – Amplifier Gain (dB)

3. Over limit = Results – Limit.

5.1.2 Conducted Emission

5.1.2.1 Test Limit

Frequency range (MHz)	Class A	
	Quasi-peak (dB μ V)	Average (dB μ V)
0.15 - 0.50	79	66
0.50 - 30	73	60

Frequency range (MHz)	Class B	
	Quasi-peak (dB μ V)	Average (dB μ V)
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
5 - 30	60	50

NOTE:

- 1) The lower limit shall apply at the band edges.
- 2) The limit decreases linearly with the logarithm of the frequency in the range 0.15 - 0.50 MHz.

5.1.2.2 Test Setup

Refer to 4.5 section test (test setup 3) for conducted emission, the photo of test setup please refer to ANNEX B.

5.1.2.3 Test Procedure

The EUT is connected to the power mains through a LISN which provides 50 Ω /50 μ H of coupling impedance for the measuring instrument. The test frequency range is from 150 kHz to 30 MHz. The maximum conducted interference is searched using Peak (PK), Quasi-peak (QP) and Average (AV) detectors; the emission levels that are more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed.

Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 50/60 Hz and 240 VAC, 50/60 Hz) for which the device is capable of operation. A device rated for 50/60 Hz operation need not be tested at both frequencies provided the radiated and line conducted emissions are the same at both frequencies.

Use the following spectrum analyzer settings:

RBW = 9 kHz

VBW \geq RBW

Sweep = 10ms

Detector function = peak & Average

Trace = max hold

5.1.2.4 Test Result

Please refer to ANNEX A.2.

NOTE:

1. Results (dB μ V) = Reading (dB μ V) + Factor (dB)

The reading level is calculated by software which is not shown in the sheet

2. Factor = Insertion loss + Cable loss

3. Over limit = Results – Limit.

ANNEX A TEST RESULTS

A.1 Radiated Emission

Note 1: The symbol of "--" in the table which means not application.

Note 2: For the test data above 1 GHz, according the ANSI C63.4-2014, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

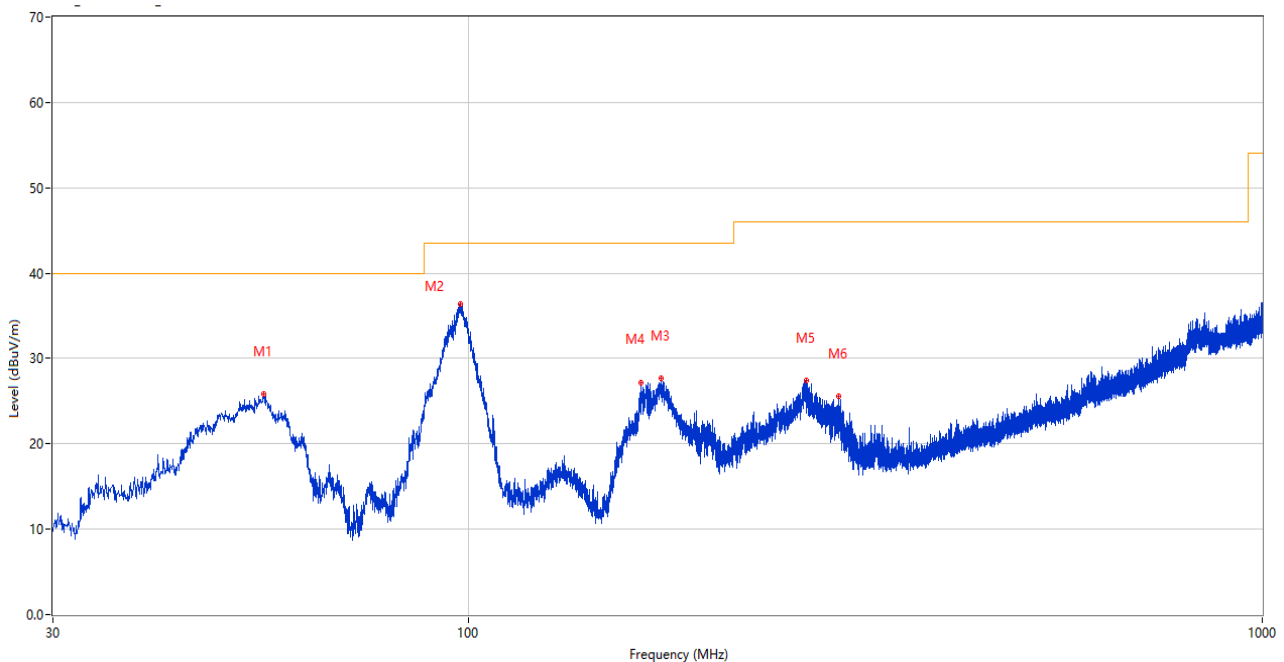
Note 3: The Radiated Emission from 18G-40G is noise only, do not show on the report.

Note 4: All the configurations were pre tested, only the worst configuration has been reported in this report.

Test Data and Plots

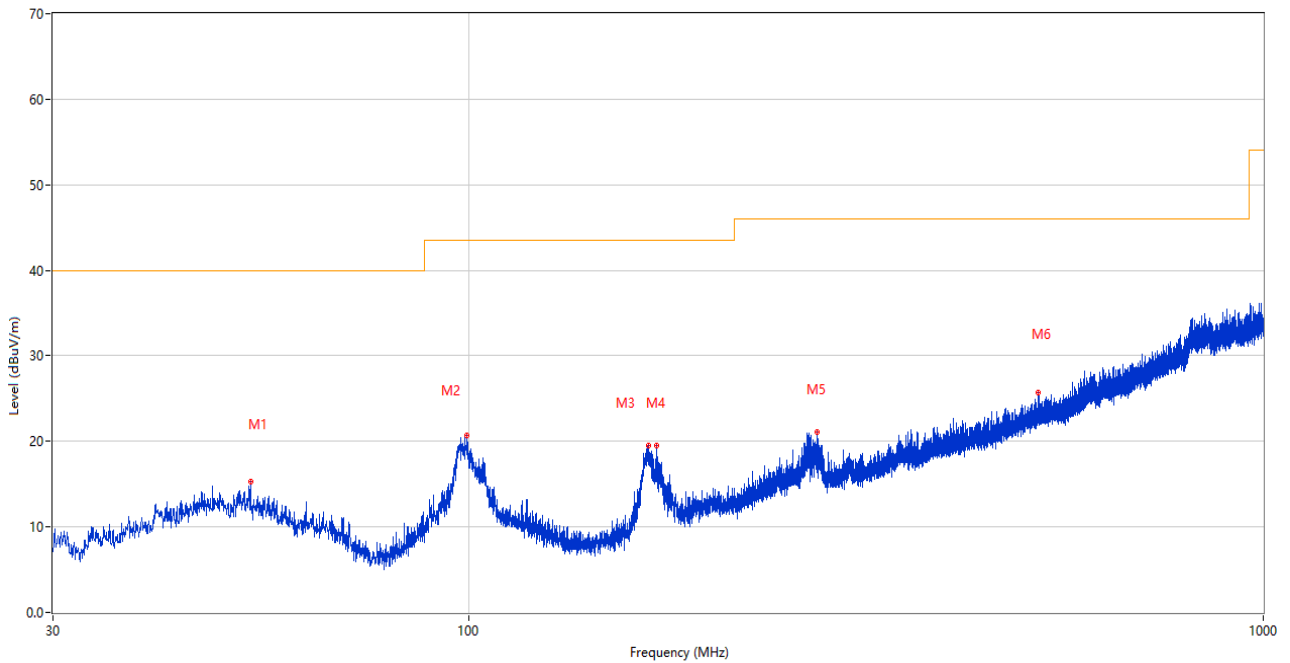
The GSM 850 MHz RX Test Mode

A.1.1 Test Antenna Vertical, 30 MHz – 1 GHz



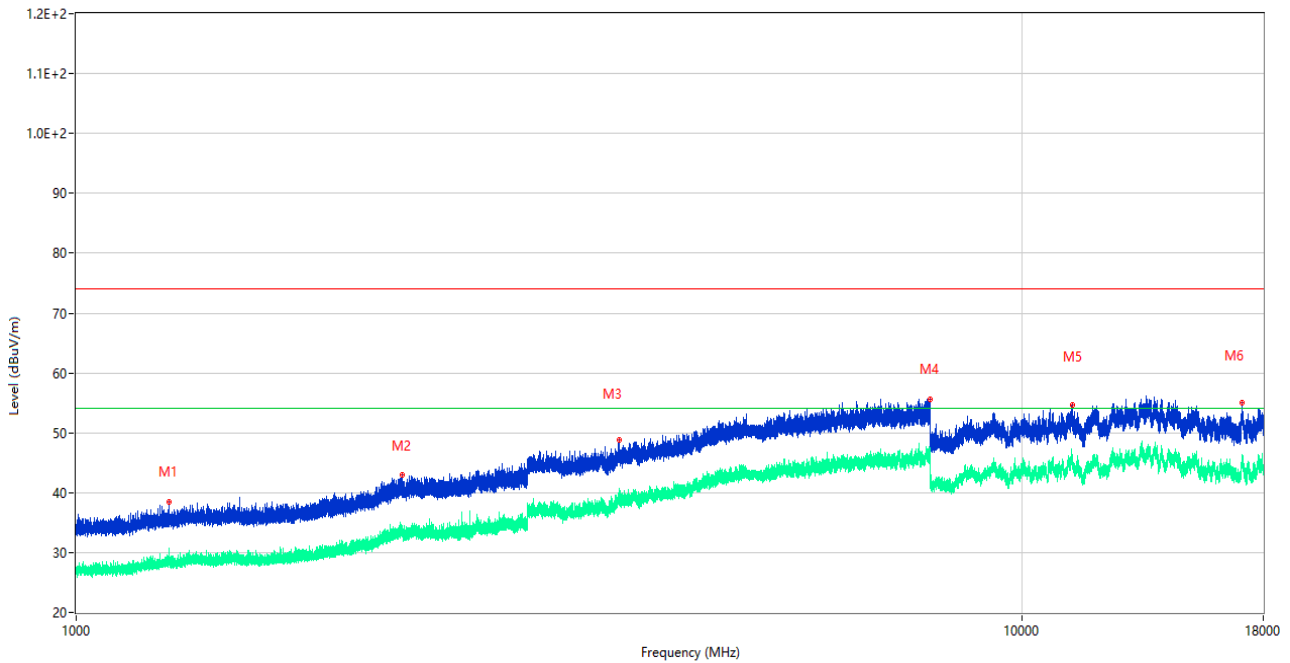
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	55.317	25.90	-24.81	40.0	14.10	Peak	172.00	100	Vertical	Pass
2	97.803	36.39	-25.57	43.5	7.11	Peak	78.00	100	Vertical	Pass
3	175.209	27.63	-26.85	43.5	15.87	Peak	358.00	100	Vertical	Pass
4	165.024	27.21	-27.36	43.5	16.29	Peak	0.00	100	Vertical	Pass
5	266.680	27.41	-21.83	46.0	18.59	Peak	278.00	100	Vertical	Pass
6	292.870	25.53	-20.96	46.0	20.47	Peak	243.00	100	Vertical	Pass

A.1.2 Test Antenna Horizontal, 30 MHz – 1 GHz



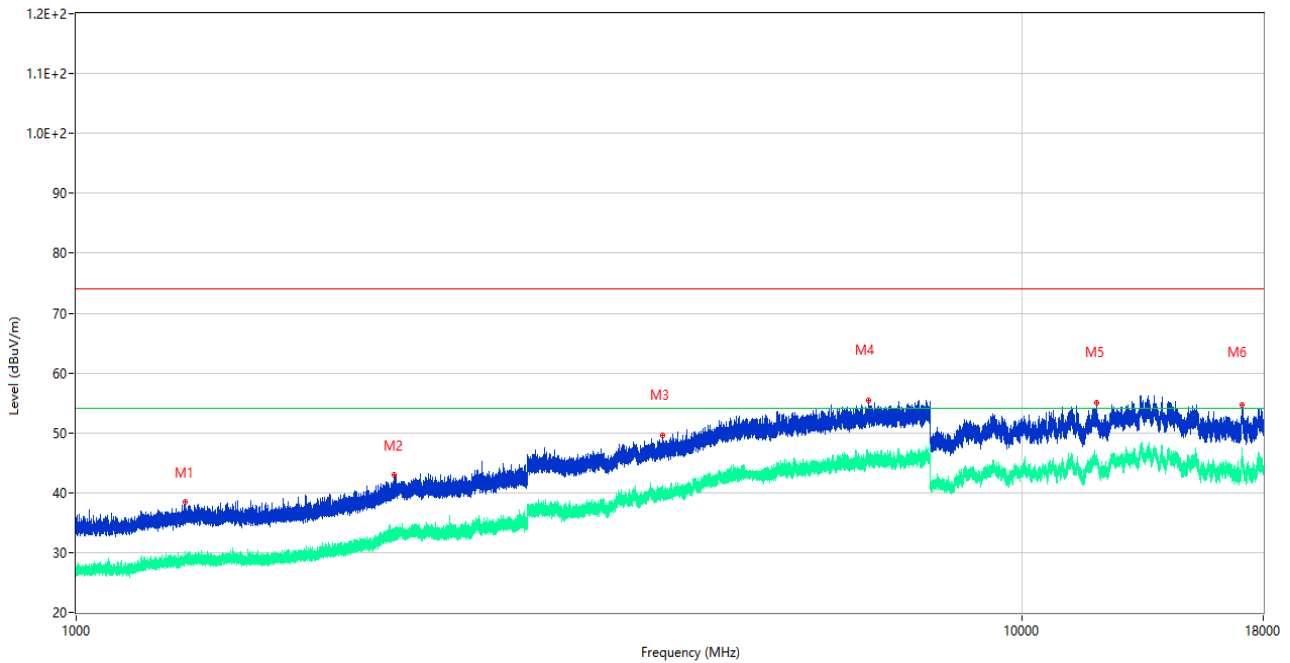
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	53.183	15.28	-24.41	40.0	24.72	Peak	135.00	100	Horizontal	Pass
2	99.598	20.66	-25.20	43.5	22.84	Peak	134.00	200	Horizontal	Pass
3	168.662	19.46	-27.24	43.5	24.04	Peak	78.00	200	Horizontal	Pass
4	172.250	19.53	-26.96	43.5	23.97	Peak	83.00	200	Horizontal	Pass
5	274.682	21.08	-21.68	46.0	24.92	Peak	228.00	100	Horizontal	Pass
6	521.644	25.67	-13.77	46.0	20.33	Peak	0.00	100	Horizontal	Pass

A.1.3 Test Antenna Vertical, 1 GHz – 18 GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1253.800	38.53	-16.88	74.0	35.47	Peak	204.00	100	Vertical	Pass
1**	1253.800	28.84	-16.88	54.0	25.16	AV	204.00	100	Vertical	Pass
2	2213.400	42.90	-11.95	74.0	31.10	Peak	83.00	100	Vertical	Pass
2**	2213.400	33.59	-11.95	54.0	20.41	AV	83.00	100	Vertical	Pass
3	3750.750	48.80	-2.75	74.0	25.20	Peak	148.00	100	Vertical	Pass
3**	3750.750	38.52	-2.75	54.0	15.48	AV	148.00	100	Vertical	Pass
4	8000.000	55.67	2.92	74.0	18.33	Peak	186.00	100	Vertical	Pass
4**	8000.000	46.70	2.92	54.0	7.30	AV	186.00	100	Vertical	Pass
5	11314.000	54.67	2.00	74.0	19.33	Peak	200.00	100	Vertical	Pass
5**	11314.000	45.86	2.00	54.0	8.14	AV	200.00	100	Vertical	Pass
6	17103.000	54.96	3.70	74.0	19.04	Peak	37.00	100	Vertical	Pass
6**	17103.000	45.56	3.70	54.0	8.44	AV	37.00	100	Vertical	Pass

A.1.4 Test Antenna Horizontal, 1 GHz – 18 GHz

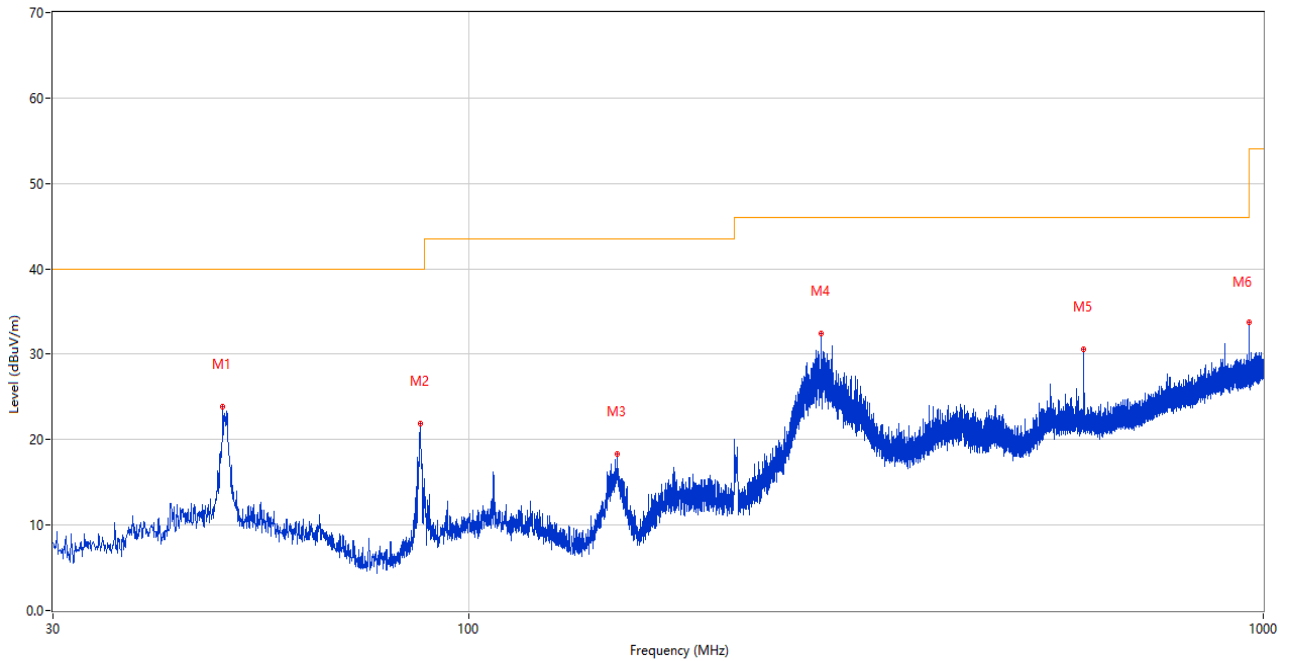


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1304.100	38.44	-16.43	74.0	35.56	Peak	132.00	100	Horizontal	Pass
1**	1304.100	30.16	-16.43	54.0	23.84	AV	132.00	100	Horizontal	Pass
2	2170.500	42.93	-12.32	74.0	31.07	Peak	340.00	100	Horizontal	Pass
2**	2170.500	33.29	-12.32	54.0	20.71	AV	340.00	100	Horizontal	Pass
3	4166.250	49.64	-2.43	74.0	24.36	Peak	102.00	100	Horizontal	Pass
3**	4166.250	39.95	-2.43	54.0	14.05	AV	102.00	100	Horizontal	Pass
4	6880.000	55.44	1.55	74.0	18.56	Peak	361.00	100	Horizontal	Pass
4**	6880.000	45.92	1.55	54.0	8.08	AV	361.00	100	Horizontal	Pass
5	11999.500	54.95	2.63	74.0	19.05	Peak	360.00	100	Horizontal	Pass
5**	11999.500	46.31	2.63	54.0	7.69	AV	360.00	100	Horizontal	Pass
6	17084.500	54.67	3.14	74.0	19.33	Peak	308.00	100	Horizontal	Pass
6**	17084.500	45.05	3.14	54.0	8.95	AV	308.00	100	Horizontal	Pass

Test Data and Plots

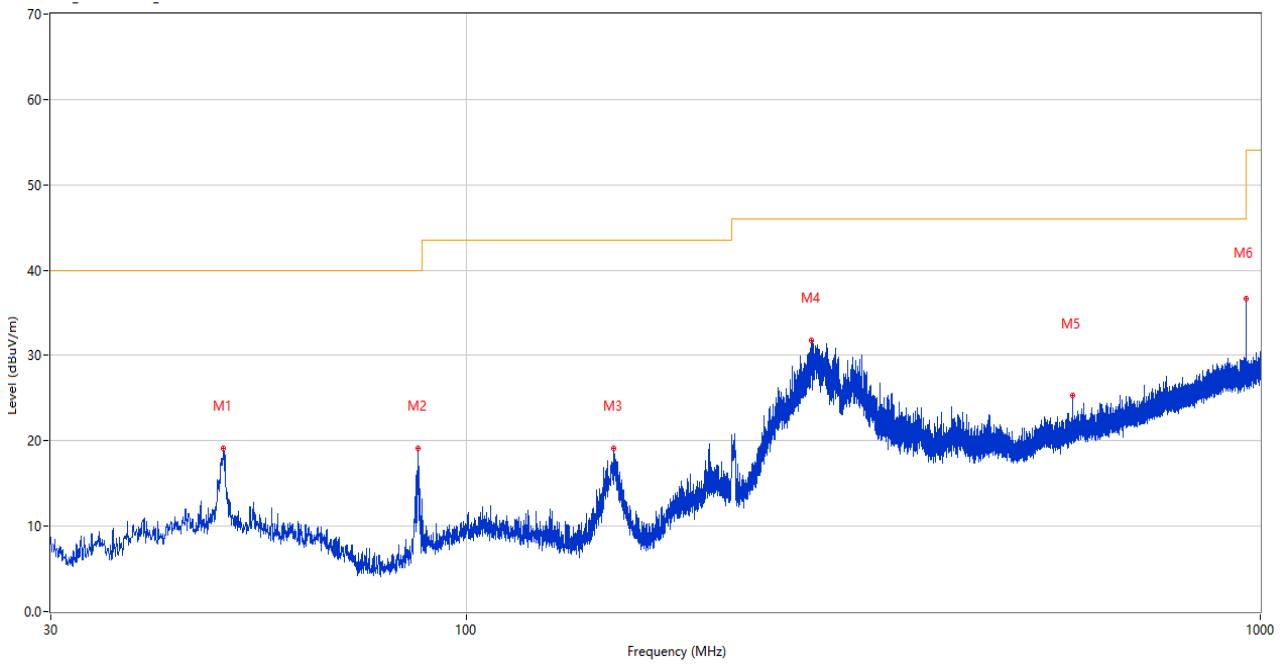
The USB Test Mode

A.1.5 Test Antenna Vertical, 30 MHz – 1 GHz



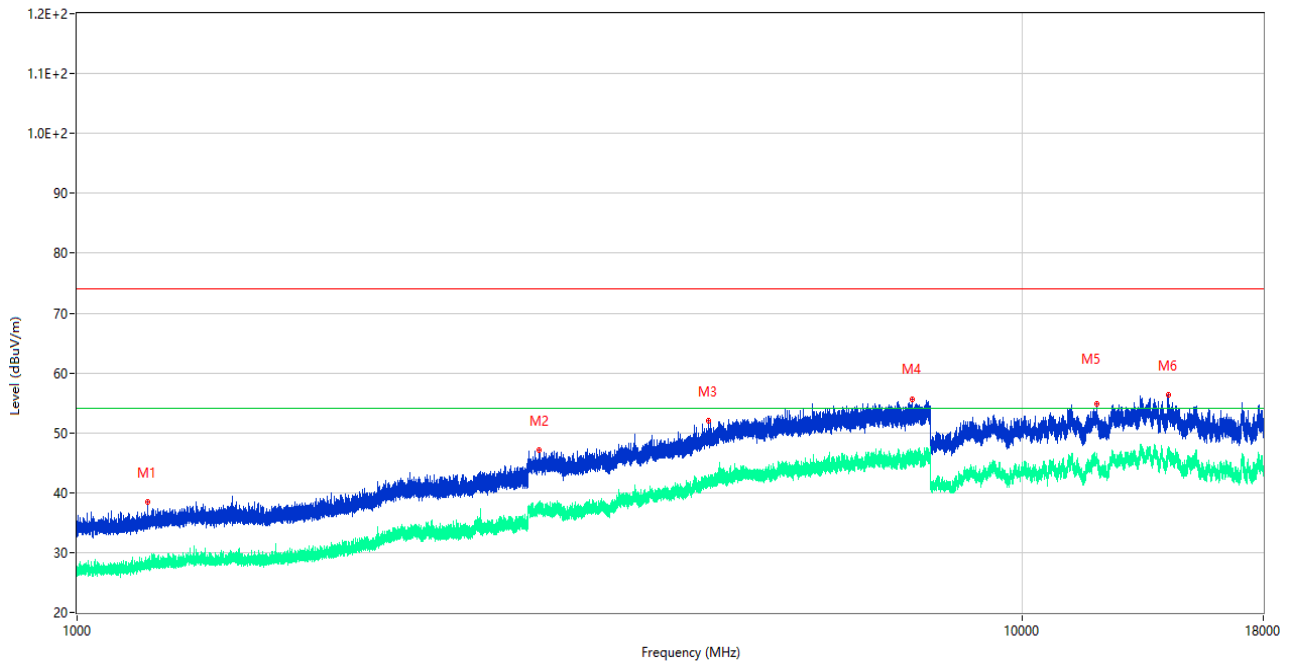
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	49.060	23.90	-25.41	40.0	16.10	Peak	101.00	100	Vertical	Pass
2	86.939	21.94	-29.42	40.0	18.06	Peak	170.00	100	Vertical	Pass
3	153.820	18.32	-29.90	43.5	25.18	Peak	256.00	100	Vertical	Pass
4	277.835	32.49	-24.25	46.0	13.51	Peak	0.00	200	Vertical	Pass
5	594.006	30.59	-16.07	46.0	15.41	Peak	164.00	200	Vertical	Pass
6	959.987	33.76	-9.29	46.0	12.24	Peak	87.00	100	Vertical	Pass

A.1.6 Test Antenna Horizontal, 30 MHz – 1 GHz



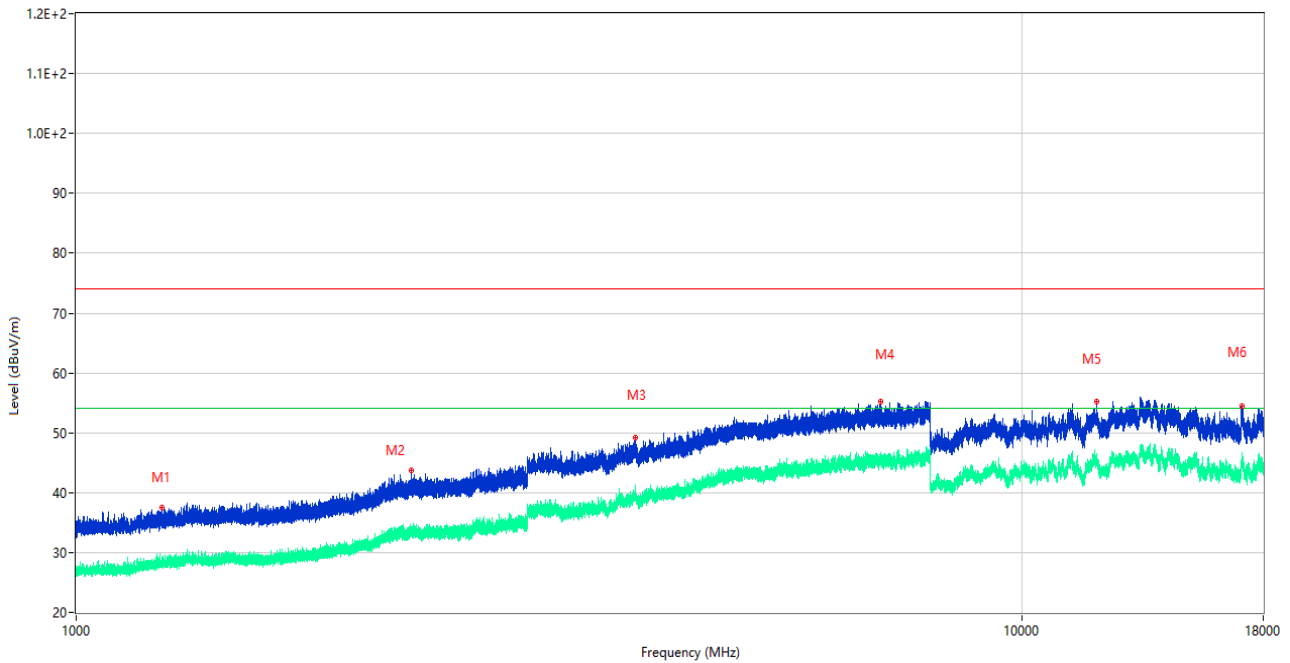
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	49.497	19.09	-25.52	40.0	20.91	Peak	320.00	200	Horizontal	Pass
2	86.939	19.10	-29.42	40.0	20.90	Peak	27.00	200	Horizontal	Pass
3	153.287	19.17	-29.86	43.5	24.33	Peak	149.00	100	Horizontal	Pass
4	272.160	31.73	-24.42	46.0	14.27	Peak	80.00	100	Horizontal	Pass
5	580.766	25.38	-16.58	46.0	20.62	Peak	240.00	200	Horizontal	Pass
6	959.987	36.59	-9.29	46.0	9.41	Peak	242.00	100	Horizontal	Pass

A.1.7 Test Antenna Vertical, 1 GHz – 18 GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1186.600	38.37	-17.38	74.0	35.63	Peak	145.00	100	Vertical	Pass
1**	1186.600	27.88	-17.38	54.0	26.12	AV	145.00	100	Vertical	Pass
2	3079.000	47.13	-5.83	74.0	26.87	Peak	262.00	100	Vertical	Pass
2**	3079.000	37.78	-5.83	54.0	16.22	AV	262.00	100	Vertical	Pass
3	4659.500	51.93	-0.73	74.0	22.07	Peak	225.00	100	Vertical	Pass
3**	4659.500	42.36	-0.73	54.0	11.64	AV	225.00	100	Vertical	Pass
4	7646.500	55.66	2.42	74.0	18.34	Peak	26.00	100	Vertical	Pass
4**	7646.500	45.80	2.42	54.0	8.20	AV	26.00	100	Vertical	Pass
5	11993.000	54.78	2.63	74.0	19.22	Peak	161.00	100	Vertical	Pass
5**	11993.000	45.25	2.63	54.0	8.75	AV	161.00	100	Vertical	Pass
6	14293.500	56.33	4.94	74.0	17.67	Peak	88.00	100	Vertical	Pass
6**	14293.500	46.15	4.94	54.0	7.85	AV	88.00	100	Vertical	Pass

A.1.8 Test Antenna Horizontal, 1 GHz – 18 GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1231.200	37.54	-17.15	74.0	36.46	Peak	95.00	100	Horizontal	Pass
1**	1231.200	27.86	-17.15	54.0	26.14	AV	95.00	100	Horizontal	Pass
2	2263.100	43.77	-12.31	74.0	30.23	Peak	234.00	100	Horizontal	Pass
2**	2263.100	32.87	-12.31	54.0	21.13	AV	234.00	100	Horizontal	Pass
3	3901.750	49.12	-2.31	74.0	24.88	Peak	9.00	100	Horizontal	Pass
3**	3901.750	39.01	-2.31	54.0	14.99	AV	9.00	100	Horizontal	Pass
4	7099.250	55.22	2.29	74.0	18.78	Peak	0.00	100	Horizontal	Pass
4**	7099.250	45.43	2.29	54.0	8.57	AV	0.00	100	Horizontal	Pass
5	12004.500	55.23	2.50	74.0	18.77	Peak	20.00	100	Horizontal	Pass
5**	12004.500	45.21	2.50	54.0	8.79	AV	20.00	100	Horizontal	Pass
6	17099.500	54.49	3.73	74.0	19.51	Peak	345.00	100	Horizontal	Pass
6**	17099.500	45.69	3.73	54.0	8.31	AV	345.00	100	Horizontal	Pass

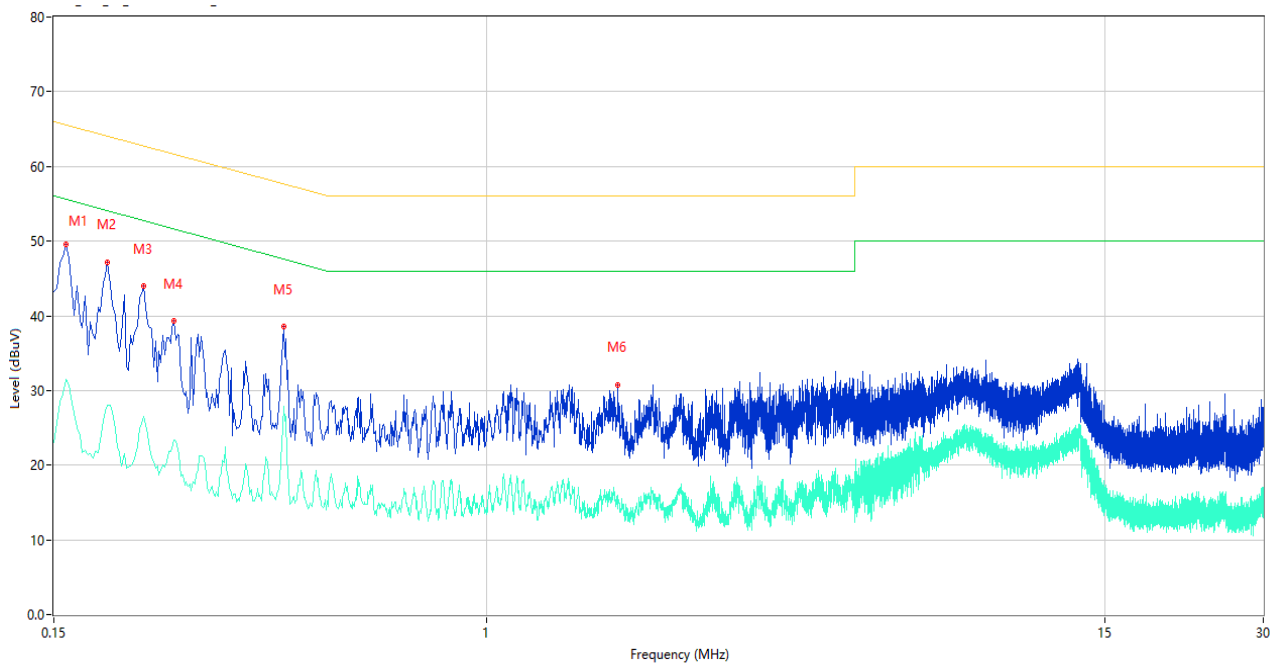
A.2 Conducted Emission

Note: Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 50/60 Hz and 240 VAC, 50/60 Hz) for which the device is capable of operation. So, The configuration 120 VAC, 60 Hz and 240 VAC, 50 Hz were tested respectively, but only the worst configuration (120 VAC, 60 Hz) shown here.

Test Data and Plots

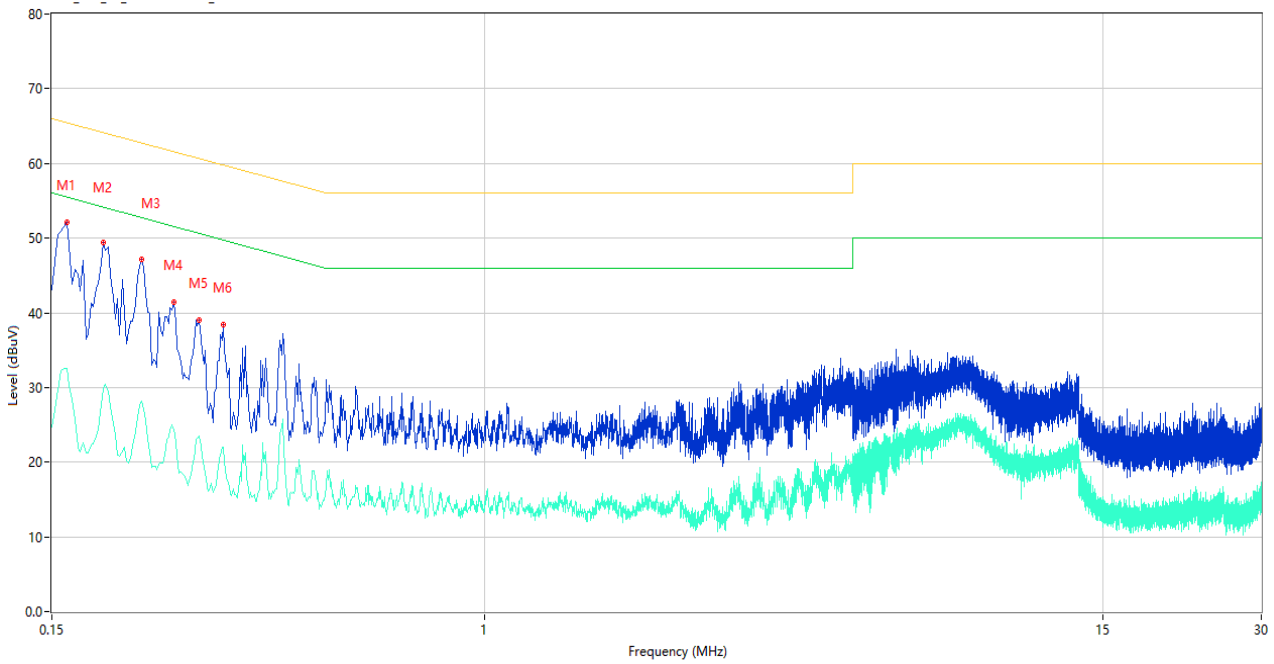
The GSM 850 MHz RX Test Mode

A.2.1 L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.158	49.50	9.83	65.57	16.07	Peak	L	Pass
1**	0.158	31.49	9.83	55.57	24.08	AV	L	Pass
2	0.190	47.21	9.79	64.04	16.83	Peak	L	Pass
2**	0.190	28.03	9.79	54.04	26.01	AV	L	Pass
3	0.222	43.96	9.78	62.74	18.78	Peak	L	Pass
3**	0.222	26.46	9.78	52.74	26.28	AV	L	Pass
4	0.254	39.31	9.79	61.63	22.32	Peak	L	Pass
4**	0.254	23.28	9.79	51.63	28.35	AV	L	Pass
5	0.410	38.57	10.37	57.65	19.08	Peak	L	Pass
5**	0.410	27.81	10.37	47.65	19.84	AV	L	Pass
6	1.774	30.81	10.13	56.00	25.19	Peak	L	Pass
6**	1.774	15.90	10.13	46.00	30.10	AV	L	Pass

A.2.2 N Phase

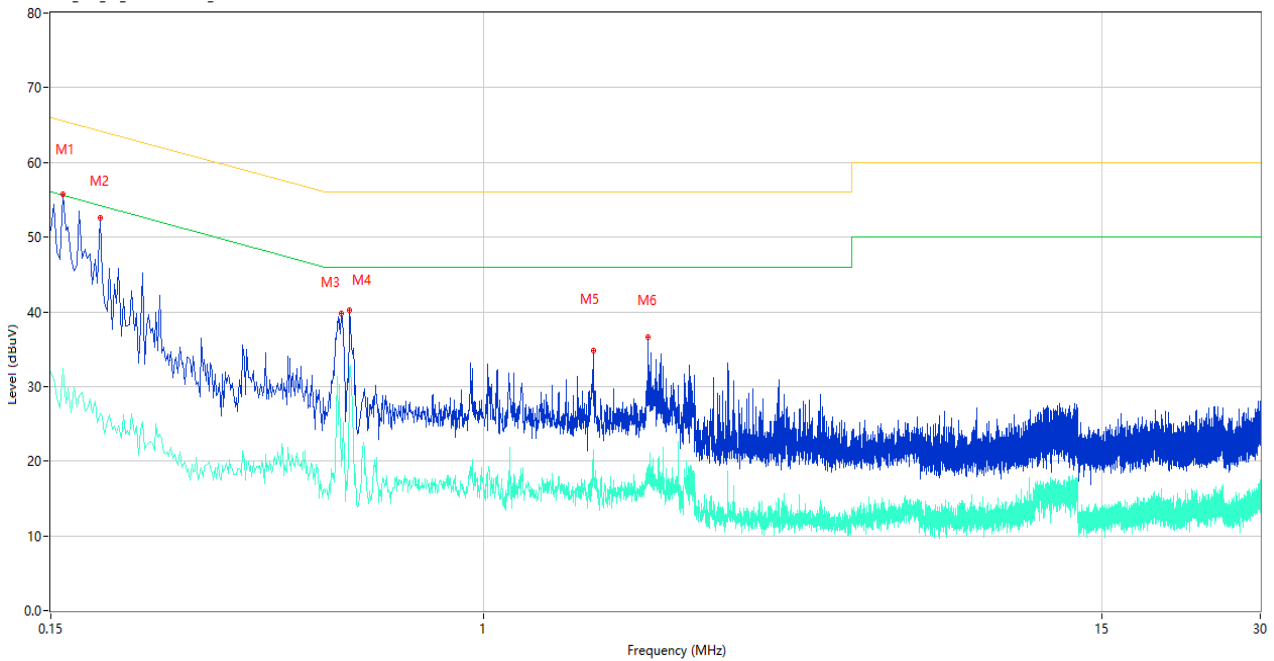


No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.160	52.14	9.83	65.46	13.32	Peak	N	Pass
1**	0.160	32.55	9.83	55.46	22.91	AV	N	Pass
2	0.188	49.44	9.79	64.12	14.68	Peak	N	Pass
2**	0.188	29.87	9.79	54.12	24.25	AV	N	Pass
3	0.222	47.10	9.78	62.74	15.64	Peak	N	Pass
3**	0.222	28.14	9.78	52.74	24.60	AV	N	Pass
4	0.256	41.45	9.79	61.56	20.11	Peak	N	Pass
4**	0.256	24.38	9.79	51.56	27.18	AV	N	Pass
5	0.286	39.02	9.80	60.64	21.62	Peak	N	Pass
5**	0.286	23.50	9.80	50.64	27.14	AV	N	Pass
6	0.318	38.40	9.76	59.76	21.36	Peak	N	Pass
6**	0.318	21.99	9.76	49.76	27.77	AV	N	Pass

Test Data and Plots

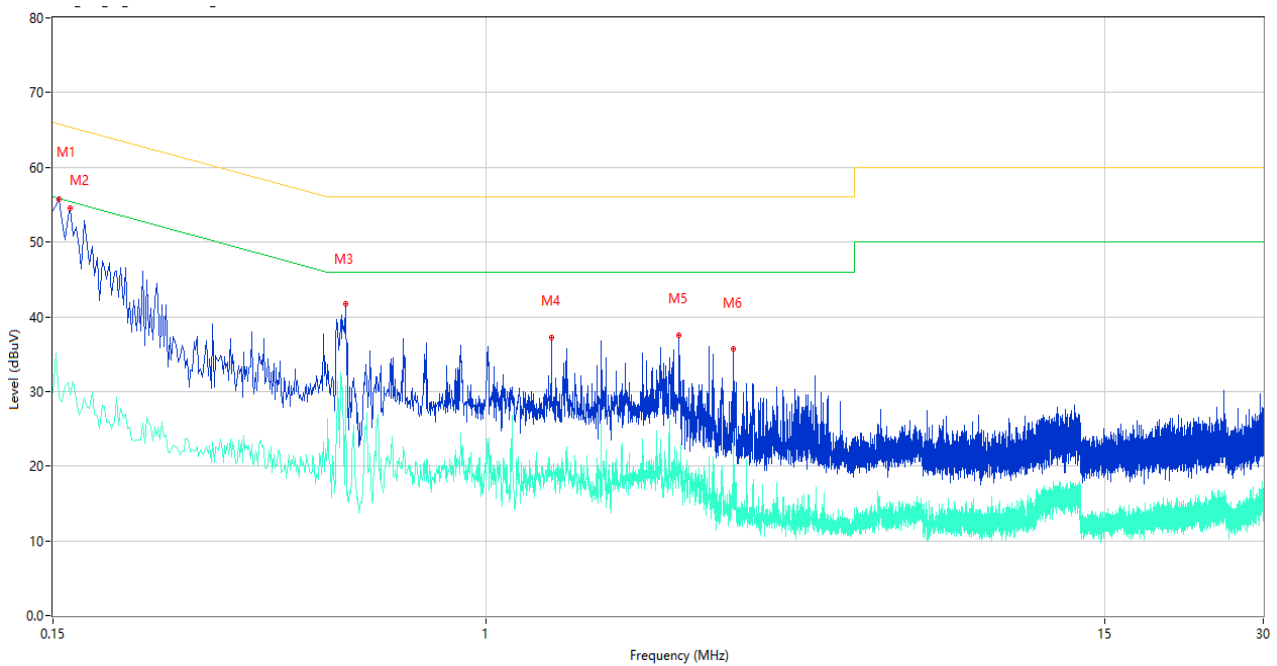
The USB Test Mode

A.2.3 L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.158	55.68	9.83	65.57	9.89	Peak	L	Pass
1**	0.158	32.42	9.83	55.57	23.15	AV	L	Pass
2	0.186	52.56	9.80	64.21	11.65	Peak	L	Pass
2**	0.186	26.38	9.80	54.21	27.83	AV	L	Pass
3	0.536	39.73	10.16	56.00	16.27	Peak	L	Pass
3**	0.536	19.27	10.16	46.00	26.73	AV	L	Pass
4	0.556	40.21	10.22	56.00	15.79	Peak	L	Pass
4**	0.556	32.20	10.22	46.00	13.80	AV	L	Pass
5	1.618	34.80	9.98	56.00	21.20	Peak	L	Pass
5**	1.618	21.58	9.98	46.00	24.42	AV	L	Pass
6	2.056	36.59	10.28	56.00	19.41	Peak	L	Pass
6**	2.056	17.03	10.28	46.00	28.97	AV	L	Pass

A.2.4 N Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.154	55.80	9.84	65.78	9.98	Peak	N	Pass
1**	0.154	29.26	9.84	55.78	26.52	AV	N	Pass
2	0.162	54.50	9.83	65.36	10.86	Peak	N	Pass
2**	0.162	29.48	9.83	55.36	25.88	AV	N	Pass
3	0.540	41.75	10.17	56.00	14.25	Peak	N	Pass
3**	0.540	30.74	10.17	46.00	15.26	AV	N	Pass
4	1.330	37.16	10.21	56.00	18.84	Peak	N	Pass
4**	1.330	19.90	10.21	46.00	26.10	AV	N	Pass
5	2.324	37.52	10.24	56.00	18.48	Peak	N	Pass
5**	2.324	20.77	10.24	46.00	25.23	AV	N	Pass
6	2.950	35.66	10.50	56.00	20.34	Peak	N	Pass
6**	2.950	24.54	10.50	46.00	21.46	AV	N	Pass

ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-SZ2350513-AE-1.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-SZ2350513-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SZ2350513-AI.PDF”.

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--END OF REPORT--