

EMC

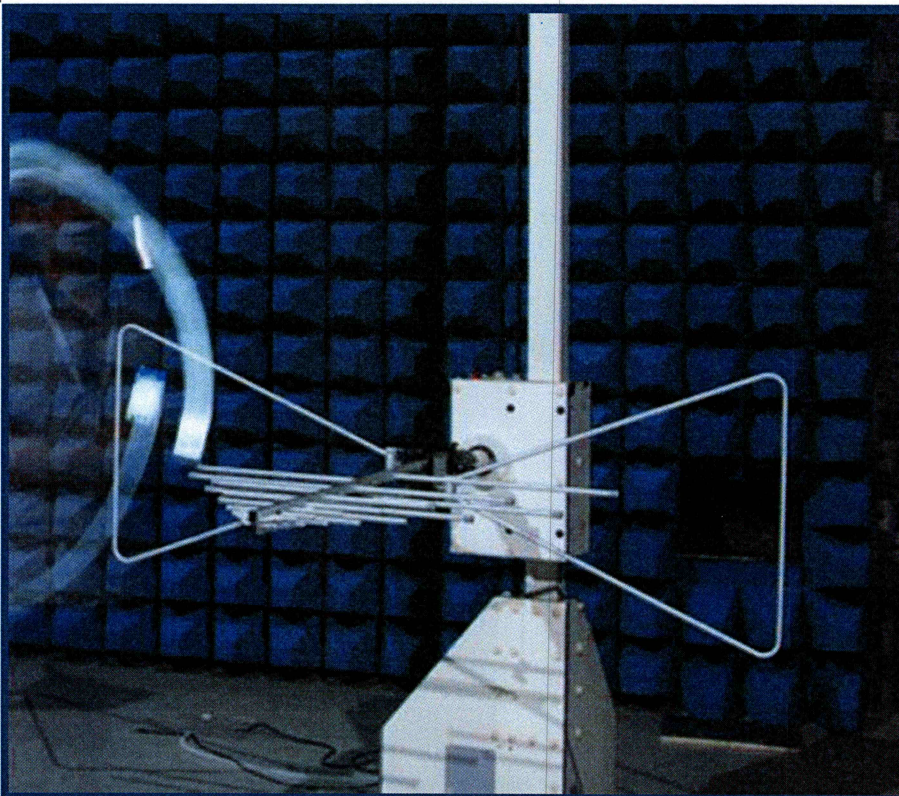
TEST REPORT

ISSUED BY
Shenzhen BALUN Technology Co., Ltd.



FOR
Mobile Phone

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



Tested by: Liu Zhenxiang

Liu Zhenxiang

Date

Jul. 06, 2021

Approved by:

Liao Jianming
(Technical Director)

Date

Jul. 06, 2021

Report No.: BL-SZ2150983-401

EUT Name: Mobile Phone

Model Name: RMX3151

Brand Name: realme

Test Standard: 47 CFR Part 15 Subpart B

FCC ID: 2AUYFRMX3151

Test Conclusion: Pass

Test Date: Jun. 01, 2021 ~ Jun. 10, 2021

Date of Issue: Jul. 06, 2021

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Revision History

Version	Issue Date	Revisions Content
<u>Rev. 01</u>	<u>Jul. 06, 2021</u>	<u>Initial Issue</u>

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1 GENERAL INFORMATION

1.1 Identification of the Testing Laboratory

Company Name	Shenzhen BALUN Technology Co.,Ltd.
Address	Block B, 1st FL, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Phone Number	+86 755 6685 0100
Fax Number	+86 755 6182 4271

1.2 Identification of the Responsible Testing Location

Test Location	Shenzhen BALUN Technology Co.,Ltd.
Address	Block B, 1st FL, Baisha Science and Technology Park, Shahe Xi Road, 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.
Description	All measurement facilities used to collect the measurement data are located at Block B, FL 1, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China 518055

1.3 Laboratory Condition

Ambient Temperature	20°C to 25°C
Ambient Relative Humidity	45% to 55%
Ambient Pressure	100 kPa to 102 kPa

1.4 Announce

- (1) The test report refer to the BALUN report mode v7.0.
- (2) The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.
- (3) The test report is invalid if there is any evidence and/or falsification.
- (4) The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein.
- (5) This document may not be altered or revised in any way unless done so by BALUN and all revisions are duly noted in the revisions section.
- (6) Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.
- (7) The laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant.

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	RMX3151
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	11
Software Version	realme UI V2.0
Dimensions (Approx.)	164.1 x 75.5 x 8.5 (mm)
Weight (Approx.)	Glass: 194g (with battery)

2.5 Ancillary Equipment

Ancillary Equipment 1	Li-Polymer Battery 1	
	Brand Name	realme
	Model No.	BLP877
	Serial No.	N/A
	Capacitance	Rated: 4890mAh/18.92Wh Typical: 5000mAh/19.35Wh
	Rated Voltage	3.87V
	Limited Voltage	4.45 V
	Manufacturer	Huizhou Desay Battery Co., LTD
Ancillary Equipment 2	Li-Polymer Battery (alternative) 2	
	Brand Name	realme
	Model No.	BLP877
	Serial No.	N/A
	Capacitance	Rated: 4890mAh/18.92Wh Typical: 5000mAh/19.35Wh
	Rated Voltage	3.87V
	Limited Voltage	4.45 V
	Manufacturer	Dongguan NVT Technology Co., Ltd.
Ancillary Equipment 3	Li-Polymer Battery (alternative) 3	
	Brand Name	realme
	Model No.	BLP877
	Serial No.	N/A
	Capacitance	Rated: 4890mAh/18.92Wh Typical: 5000mAh/19.35Wh
	Rated Voltage	3.87V
	Limited Voltage	4.45 V
	Manufacturer	TWS TECHNOLOGY (GUANGZHOU) LIMITED
Ancillary Equipment 4	Power Supply Unit 1	
	Brand Name	realme
	Model No.	OP92KAUH
	Serial No.	N/A
	Rated Input	100-240VAC~ 50/60Hz 0.5A
	Rated Output	5VDC 2A or 9VDC 2A (US Plug)
Ancillary Equipment 5	Power Supply Unit 1(alternative) 2	
	Brand Name	realme
	Model No.	OP92JAUH
	Serial No.	N/A
	Rated Input	100-240VAC~ 50/60Hz 0.5A
	Rated Output	5VDC 2A or 9VDC 2A (US Plug)

Ancillary Equipment 6	Power Supply Unit 1(alternative) 3	
	Brand Name	realme
	Model No.	OP92YAUH
	Serial No.	N/A
	Rated Input	100-240VAC~ 50/60Hz 0.5A
	Rated Output	5VDC 2A or 9VDC 2A (US Plug)
Ancillary Equipment 7	Power Supply Unit 1(alternative) 4	
	Brand Name	realme
	Model No.	OP92CAUH
	Serial No.	N/A
	Rated Input	100-240VAC~ 50/60Hz 0.5A
	Rated Output	5VDC 2A or 9VDC 2A (US Plug)
Ancillary Equipment 8	USB Cable	
	Model No.	DL143
	Length (Approx.)	1.0 m
Ancillary Equipment 9	USB Cable	
	Model No.	DL150
	Length (Approx.)	1.0 m
Note 1: Letter in () means plug type.		
Note 2: All adapters are tested, only the worst data of OP92KAUH (US Plug) shown in this report.		
Note 3: All batteries are tested, only the worst data of BLP877 (Huizhou Desay Battery Co., LTD) 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/HSPA+ Band 2/4/5
	4G Network LTE FDD Band 2/4/5/7/12/17/26/66
	LTE TDD Band 38/41
	Bluetooth (BR+EDR+BLE)
	2.4G WIFI 802.11b, 802.11g, 802.11n(HT20/40)
	5G WIFI 802.11a, 802.11n(HT20/40), 802.11ac(VHT20/40/80)
	U-NII-1/2A/2C/3, GPS, GLONASS, BDS, Galileo, NFC

The requirement for the following technical information of the EUT was tested in this report:

The Highest Speed of Processor	2.05 GHz
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3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 15 Subpart B (10-1-19 Edition)	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)	2.96 dB
Radiated emissions (30 MHz-1 GHz)	3.67 dB
Radiated emissions (1 GHz-18 GHz)	3.57 dB
Radiated emissions (18 GHz-40 GHz)	5.16 dB

4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments

Environment Parameter	Selected Values During Tests			
	Temperature	Voltage	Relative Humidity	Ambient Pressure
Normal Temperature, Normal Voltage (NTNV)	23°C to 25°C	AC 120 V/60 Hz or DC 3.87 V from Battery	50% to 55%	100 kPa to 102 kPa

4.2 Test Equipment List

Radiated Emission Test For Frequency Below 1 GHz (10 m)						
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	ROHDE&SCHWARZ	ESRP	101036	2021.06.08	2022.06.07	☒
Test Antenna-Bi-Log	SCHWARZBECK	VULB 9168	9168-0883	2020.05.11	2022.05.10	☒
Anechoic Chamber	EMC Electronic Co., Ltd	20.10*11.60 *7.35m	N/A	2018.08.08	2021.08.07	☒
Test Software	BALUN	BL410_E	V19.918	--	--	☒

Radiated Emission Test For Frequency Below 1 GHz (3 m)						
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	KEYSIGHT	N9038A	MY53220118	2020.09.18	2021.09.17	☒
Test Antenna-Bi-Log	SCHWARZBECK	VULB 9163	9163-624	2019.07.02	2021.07.01	☒
Anechoic Chamber	YIHENG	9m*6m*6m	N/A	2018.07.18	2021.07.27	☒
Test Software	BALUN	BL410_E	V19.918	--	--	☒

Radiated Emission Test For Frequency 1 GHz-18 GHz						
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	KEYSIGHT	N9038A	MY53220118	2020.09.18	2021.09.17	☒
Test Antenna-Horn	SCHWARZBECK	BBHA 9120D	9120D-1917	2019.07.02	2021.07.01	☒
Anechoic Chamber	YIHENG	9m*6m*6m	N/A	2018.07.18	2021.07.17	☒
Test Software	BALUN	BL410_E	V19.918	--	--	☒

Conducted disturbance Test						
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	KEYSIGHT	N9010B	MY5711030 9	2021.06.08	2022.06.07	☒
LISN	SCHWARZBECK	NSLK 8127	8127-687	2021.06.08	2022.06.07	☒
Shielded Enclosure	YiHeng Electronic Co., Ltd	3.4m*3.1m*2 .8m	N/A	2018.08.16	2021.08.15	☒
Test Software	BALUN	BL410_E	V19.918	--	--	☒

4.3 Test Enclosure list

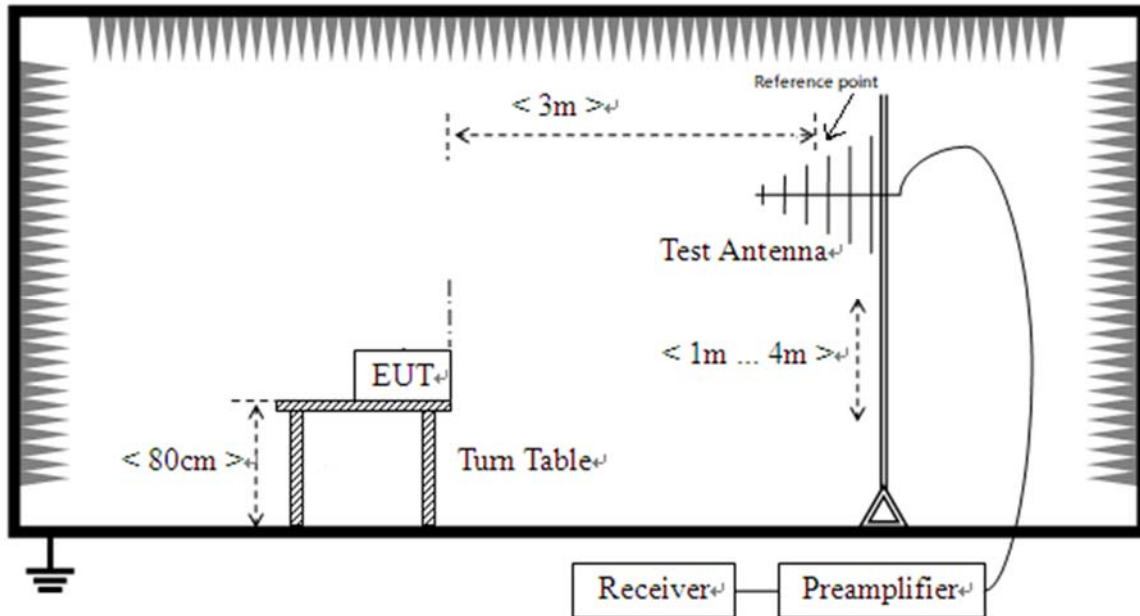
Description	Manufacturer	Model	Serial No.	Length	Description	Use
PC	Dell	015K3N	N/A	N/A	Special Handled	☐
Laptop	Apple	A1465	N/A	N/A	N/A	☒
Printer	HP	DESKJET 1000	N/A	N/A	N/A	☐
Keyboard	Logitech	Y-BP62a	N/A	N/A	N/A	☐
Mouse	Logitech	M100	N/A	N/A	N/A	☐
USB disk	Kingston	N/A	N/A	N/A	N/A	☐
TF Card	Kingston	N/A	N/A	N/A	N/A	☒
VGA Cable	N/A	N/A	N/A	1.5 m	Shielded with core	☐
HDMI Cable	N/A	N/A	N/A	1.5 m	Shielded with core	☐
DVI Cable	N/A	N/A	N/A	1.5 m	Shielded with core	☐
Coaxial video cable	N/A	N/A	N/A	2.0 m	Shielded with core	☐
iPhone	Apple	A1586	N/A	N/A	N/A	☐
Phone	MI	M4	N/A	N/A	N/A	☐
Bluetooth Earphone	SAMSUNG	Gear Circle	N/A	N/A	N/A	☐
WIFI Router	TP-LINK	TL-WDR7500	N/A	N/A	N/A	☐
Earphone	N/A	OPPO	N/A	1.1 m	N/A	☒
Car Battery	Camel	55530	N/A	N/A	12 V/55 Ah	☐
Artificial load	N/A	N/A	N/A	N/A	2.5 Ω /100 W	☐
Artificial load	N/A	N/A	N/A	N/A	5 Ω /100 W	☐
Electronic Load	ITECH	IT8511	N/A	N/A	N/A	☐
USB Cable	N/A	N/A	N/A	1.5 m	Shielded with core	☐
DC Power Supply	ITECH	IT6863A	60001401068 7210006	N/A	N/A	☐
LCD Monitor	SAMSUNG	UA32C4000P	N/A	N/A	N/A	☐
LCD Monitor	Dell	U241HB	N/A	N/A	N/A	☐
RJ45 Cable	N/A	N/A	N/A	1.5 m	Shielded with core	☐

4.4 Test Configurations

Test Configurations (TC) No.	Description
TC01	<u>The Camera Test Mode</u> EUT + Adapter + USB Cable + Battery + Earphone + TF Card
TC02	<u>The Video Play Test Mode</u> EUT + Adapter + USB Cable + Battery + Earphone + TF Card
TC03	<u>The USB Test Mode</u> EUT + USB Cable + Battery + Laptop+ Earphone + TF Card
TC04	<u>The GSM 850 MHz RX Test Mode</u> GSM 850 MHz RX + EUT +Adapter + USB Cable + Battery
TC05	<u>The WCDMA Band 5 RX Test Mode</u> WCDMA Band 5 RX + EUT +Adapter + USB Cable + Battery
TC06	<u>The FDD LTE Band 5 RX Test Mode</u> LTE Band 5 RX + EUT +Adapter + USB Cable + Battery
TC07	<u>The FDD LTE Band 12 RX Test Mode</u> LTE Band 12 RX + EUT +Adapter + USB Cable + Battery
TC08	<u>The FDD LTE Band 17 RX Test Mode</u> LTE Band 17 RX + EUT +Adapter + USB Cable + Battery

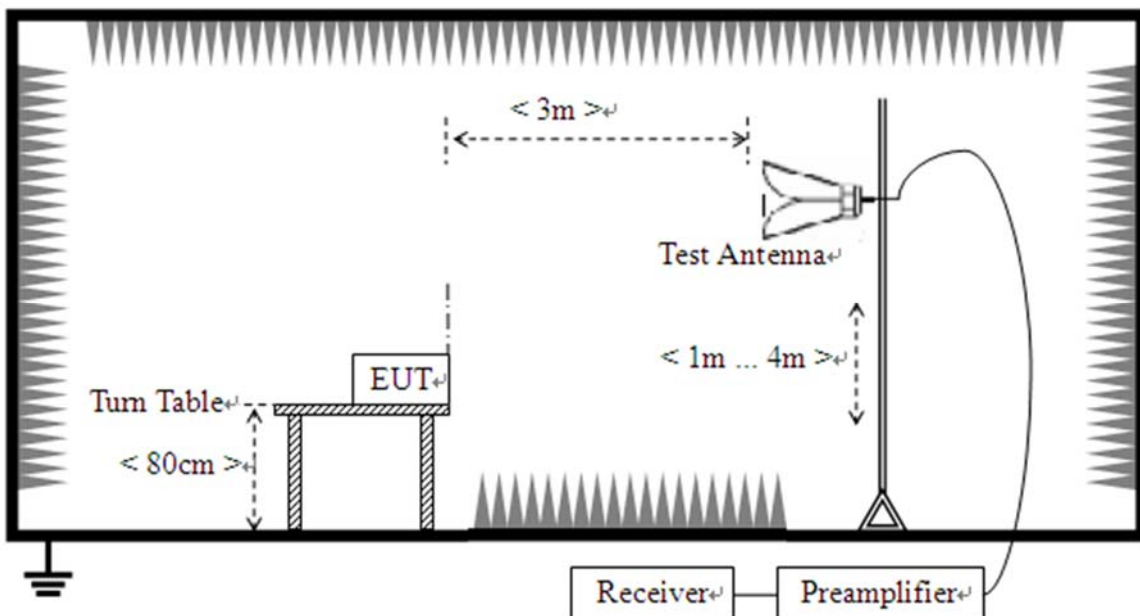
4.5 Test Setups

Test Setup 1



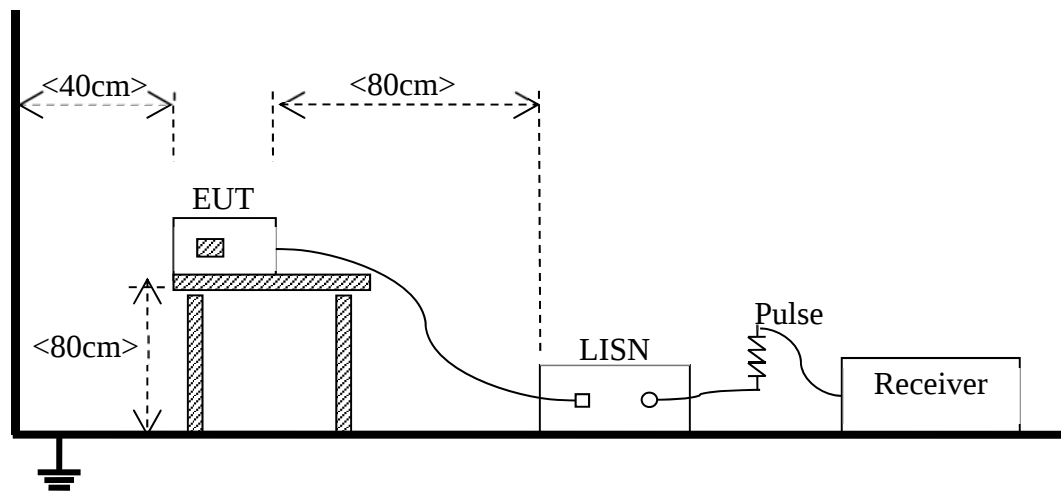
(For Radiated Emission Test (30 MHz-1 GHz))

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 Env.	NTNV
	Test Setup	Test Setup 1&2
	Test Configuration	TC01~TC08 ^{Note}
Conducted Emission, AC Ports	Test Env.	NTNV
	Test Setup	Test Setup 3
	Test Configuration	TC01~TC08 ^{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 Camera 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 (dB $\mu\text{V/m}$)	Field Strength (dB $\mu\text{V/m}$)	Field Strength ($\mu\text{V/m}$)	Field Strength (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 (dB $\mu\text{V/m}$) = $20 \times \log [\text{Field Strength } (\mu\text{V/m})]$.
- 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.

5.1.1.4 Test Result

Please refer to ANNEX A.1.

NOTE:

1. Results (dB $\mu\text{V/m}$) = Reading (dB μV) + 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.

5.1.2.4 Test Result

Please refer to ANNEX A.2.

NOTE:

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

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.

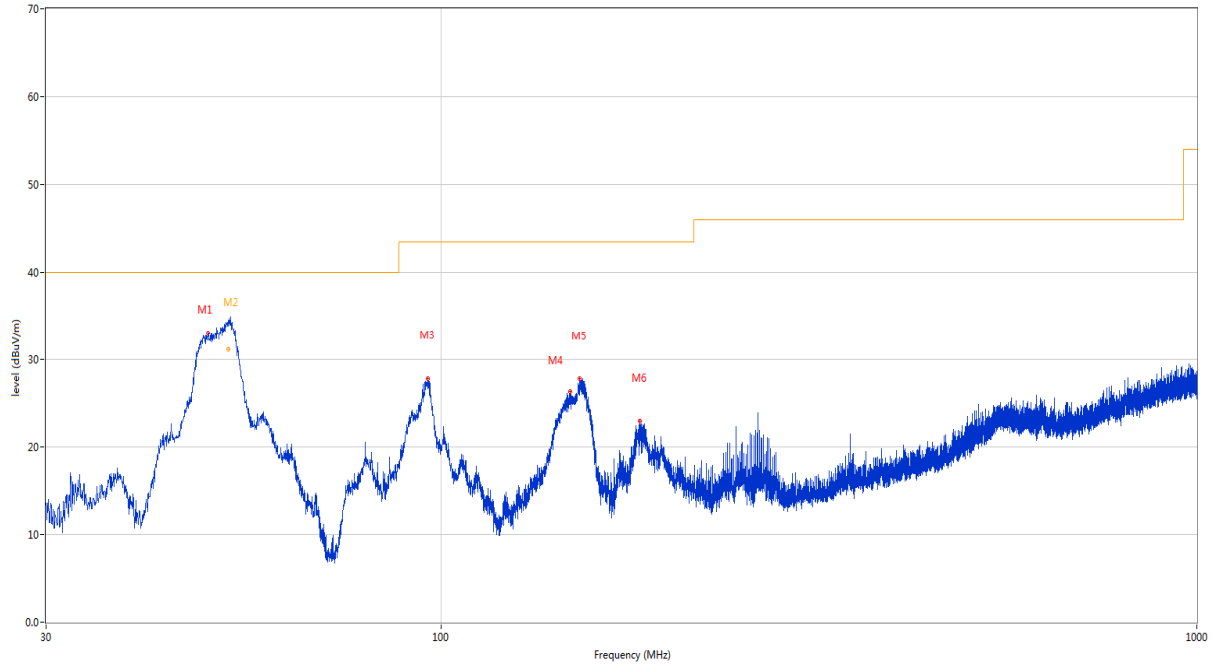
Note 3: The Radiated Emission from 18G-40G is noise only, do not show on the report.

Note 4: 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

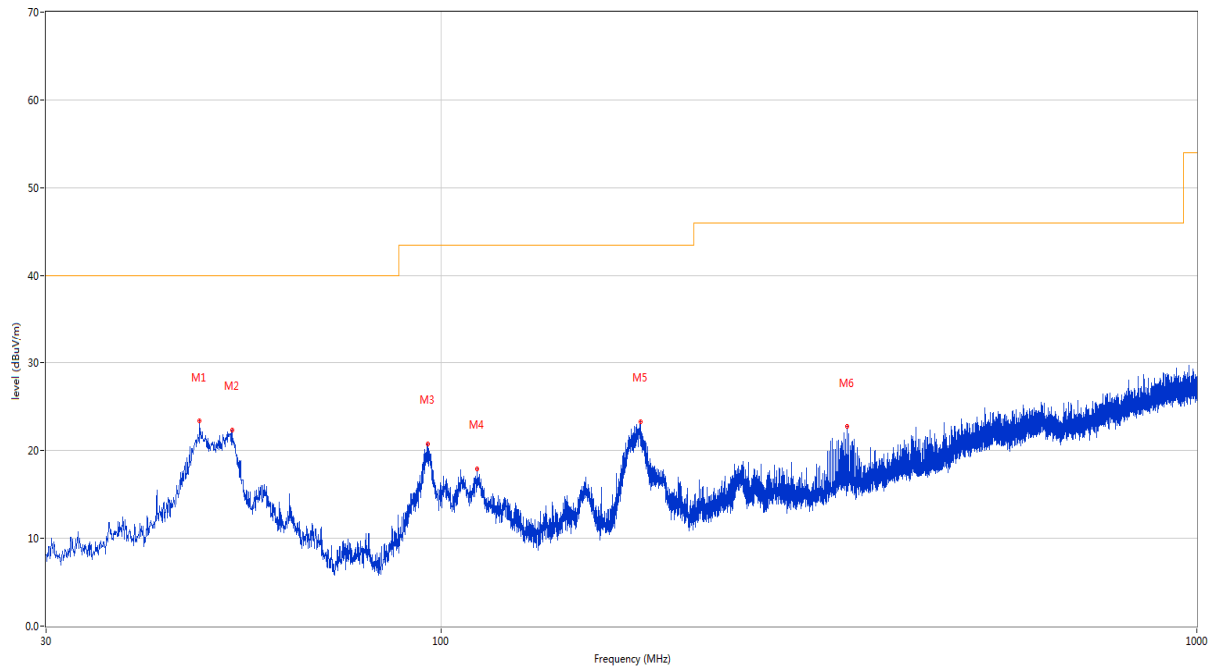
The Camera Test Mode

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



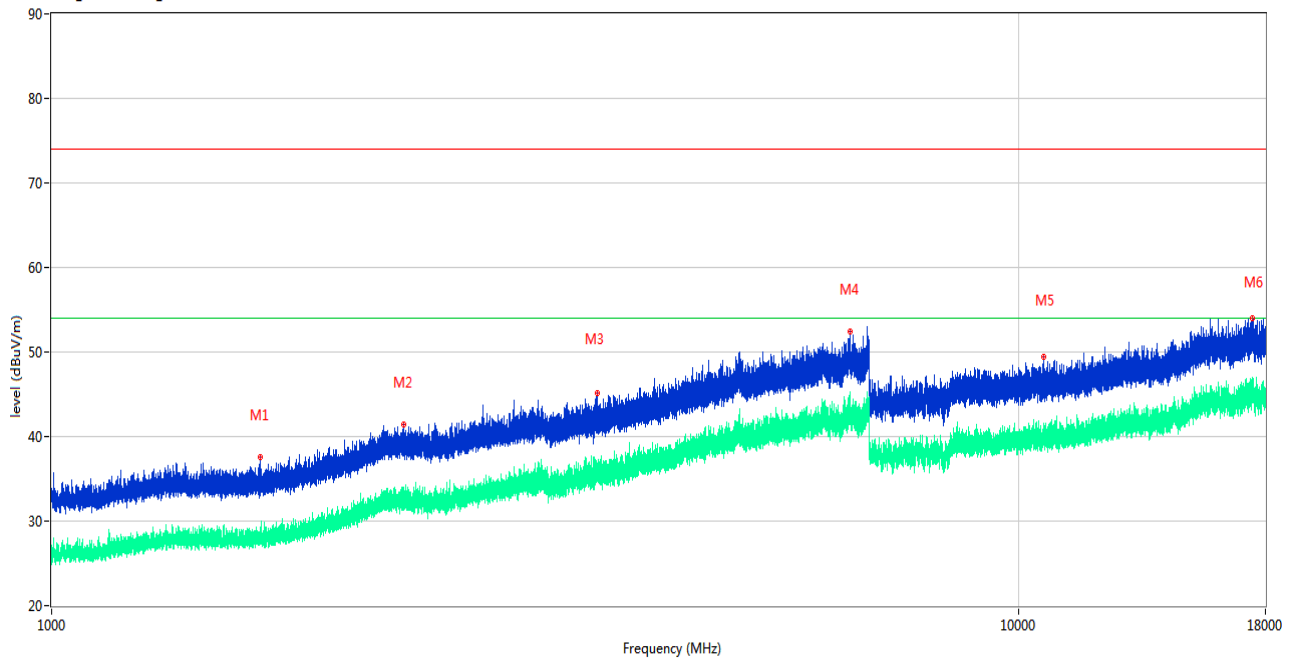
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	49.157	33.08	-22.40	40.0	-6.92	Peak	276.40	100	Vertical	Pass
2	52.223	33.69	-23.06	40.0	-6.31	Peak	260.10	101	Vertical	N/A
2*	52.223	31.19	-23.06	40.0	-8.81	QP	260.10	101	Vertical	Pass
3	96.008	27.83	-24.73	43.5	-15.67	Peak	289.00	100	Vertical	Pass
4	148.292	26.32	-27.99	43.5	-17.18	Peak	260.10	100	Vertical	Pass
5	152.511	27.78	-27.75	43.5	-15.72	Peak	276.40	100	Vertical	Pass
6	183.066	22.90	-25.27	43.5	-20.60	Peak	45.90	100	Vertical	Pass

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



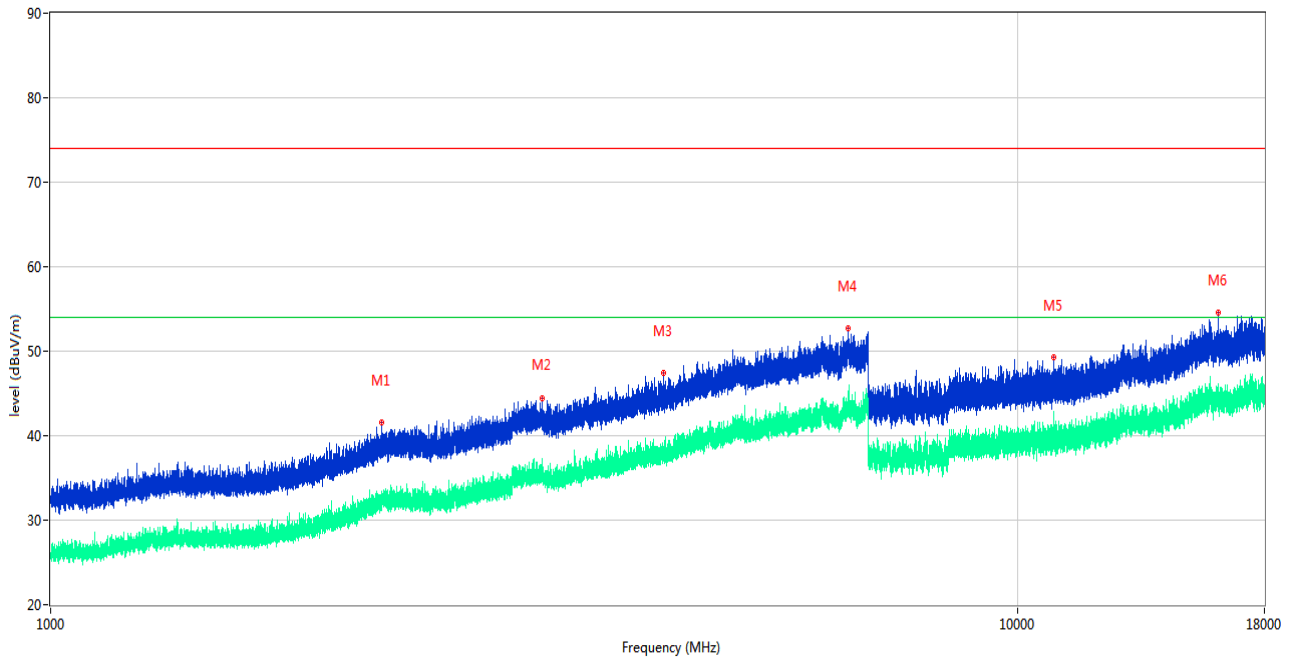
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	47.897	23.32	-22.66	40.0	-16.68	Peak	261.60	100	Horizontal	Pass
2	52.892	22.32	-23.02	40.0	-17.68	Peak	315.80	100	Horizontal	Pass
3	96.057	20.76	-24.74	43.5	-22.74	Peak	54.40	200	Horizontal	Pass
4	111.577	17.90	-24.48	43.5	-25.60	Peak	3.60	200	Horizontal	Pass
5	183.502	23.28	-25.29	43.5	-20.22	Peak	80.40	100	Horizontal	Pass
6	344.668	22.69	-20.23	46.0	-23.31	Peak	258.50	100	Horizontal	Pass

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



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1643.800	37.57	-17.44	74.0	-36.43	Peak	12.00	100	Vertical	Pass
1**	1643.800	27.98	-17.44	54.0	-26.02	AV	12.00	100	Vertical	Pass
2	2312.300	41.40	-12.89	74.0	-32.60	Peak	12.00	100	Vertical	Pass
2**	2312.300	31.88	-12.89	54.0	-22.12	AV	12.00	100	Vertical	Pass
3	3663.600	45.19	-6.82	74.0	-28.81	Peak	314.00	100	Vertical	Pass
3**	3663.600	34.98	-6.82	54.0	-19.02	AV	314.00	100	Vertical	Pass
4	6691.200	52.45	-0.29	74.0	-21.55	Peak	262.00	100	Vertical	Pass
4**	6691.200	43.45	-0.29	54.0	-10.55	AV	262.00	100	Vertical	Pass
5	10621.350	49.36	-1.21	74.0	-24.64	Peak	212.00	100	Vertical	Pass
5**	10621.350	39.21	-1.21	54.0	-14.79	AV	212.00	100	Vertical	Pass
6	17456.364	54.02	2.84	74.0	-19.98	Peak	58.00	100	Vertical	Pass
6**	17456.364	45.70	2.84	54.0	-8.30	AV	58.00	100	Vertical	Pass

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

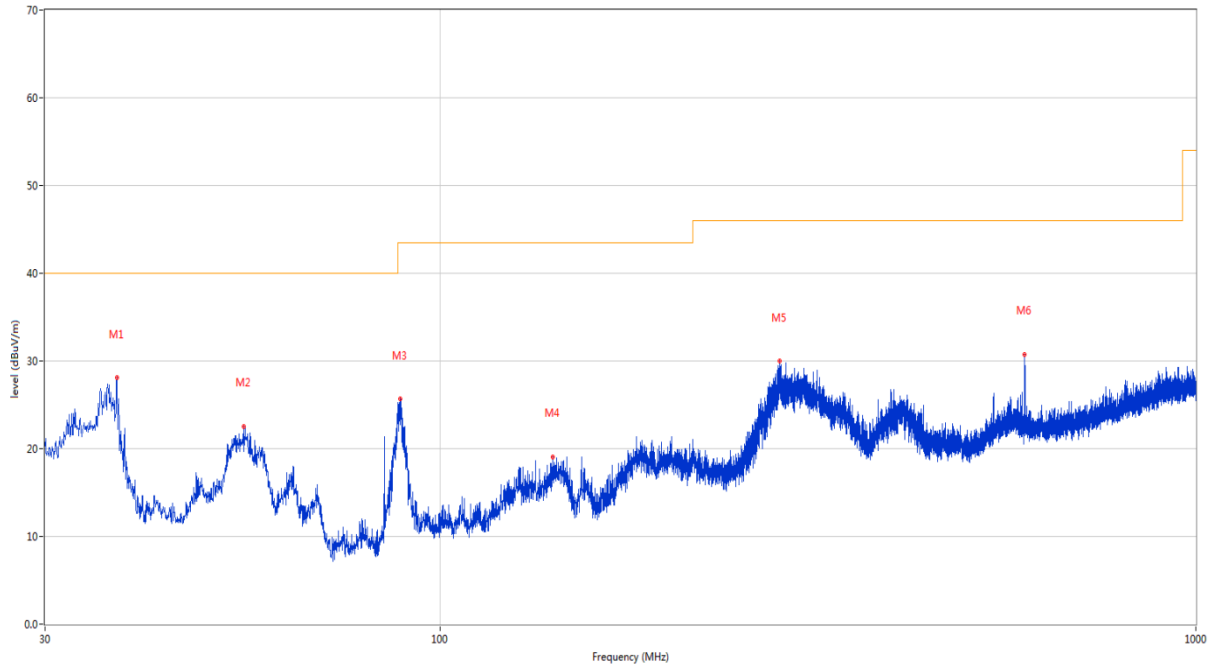


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2199.400	41.64	-13.20	74.0	-32.36	Peak	233.00	100	Horizontal	Pass
1**	2199.400	31.93	-13.20	54.0	-22.07	AV	233.00	100	Horizontal	Pass
2	3223.600	44.46	-6.96	74.0	-29.54	Peak	314.00	100	Horizontal	Pass
2**	3223.600	35.49	-6.96	54.0	-18.51	AV	314.00	100	Horizontal	Pass
3	4308.200	47.42	-4.71	74.0	-26.58	Peak	42.00	100	Horizontal	Pass
3**	4308.200	37.66	-4.71	54.0	-16.34	AV	42.00	100	Horizontal	Pass
4	6684.000	52.77	-0.32	74.0	-21.23	Peak	190.00	100	Horizontal	Pass
4**	6684.000	43.31	-0.32	54.0	-10.69	AV	190.00	100	Horizontal	Pass
5	10895.912	49.26	0.11	74.0	-24.74	Peak	86.00	100	Horizontal	Pass
5**	10895.912	40.91	0.11	54.0	-13.09	AV	86.00	100	Horizontal	Pass
6	16131.526	54.64	1.03	74.0	-19.36	Peak	78.00	100	Horizontal	Pass
6**	16131.526	44.70	1.03	54.0	-9.30	AV	78.00	100	Horizontal	Pass

Test Data and Plots

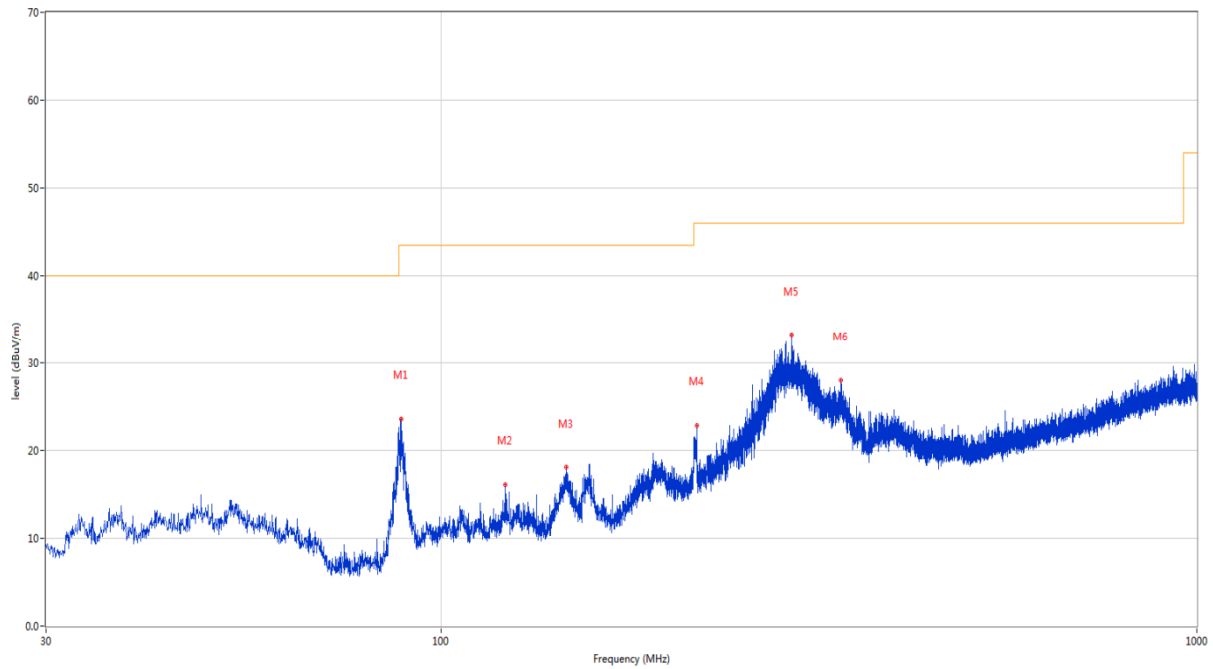
The USB Test Mode

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



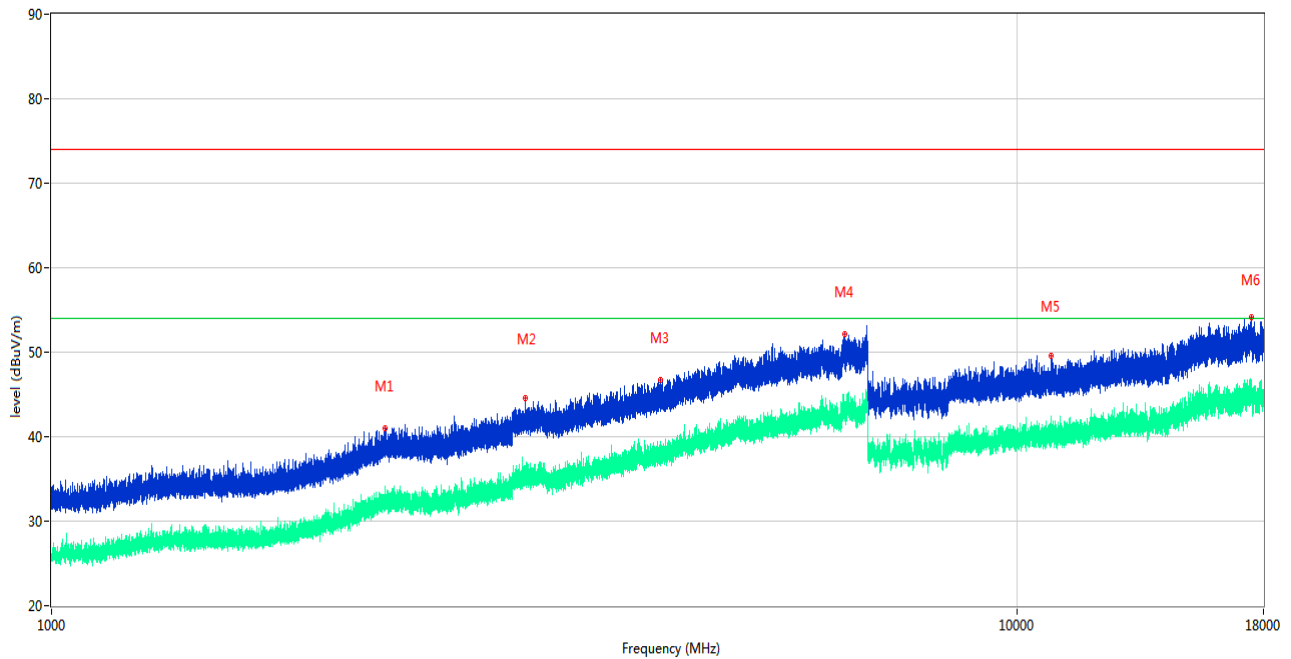
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	37.324	28.11	-24.59	40.0	-11.89	Peak	204.20	100	Vertical	Pass
2	55.026	22.57	-23.23	40.0	-17.43	Peak	34.80	100	Vertical	Pass
3	88.636	25.69	-26.39	43.5	-17.81	Peak	359.70	100	Vertical	Pass
4	140.774	19.09	-27.58	43.5	-24.41	Peak	214.00	100	Vertical	Pass
5	281.133	29.96	-21.74	46.0	-16.04	Peak	26.70	200	Vertical	Pass
6	594.006	30.75	-14.68	46.0	-15.25	Peak	223.50	100	Vertical	Pass

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



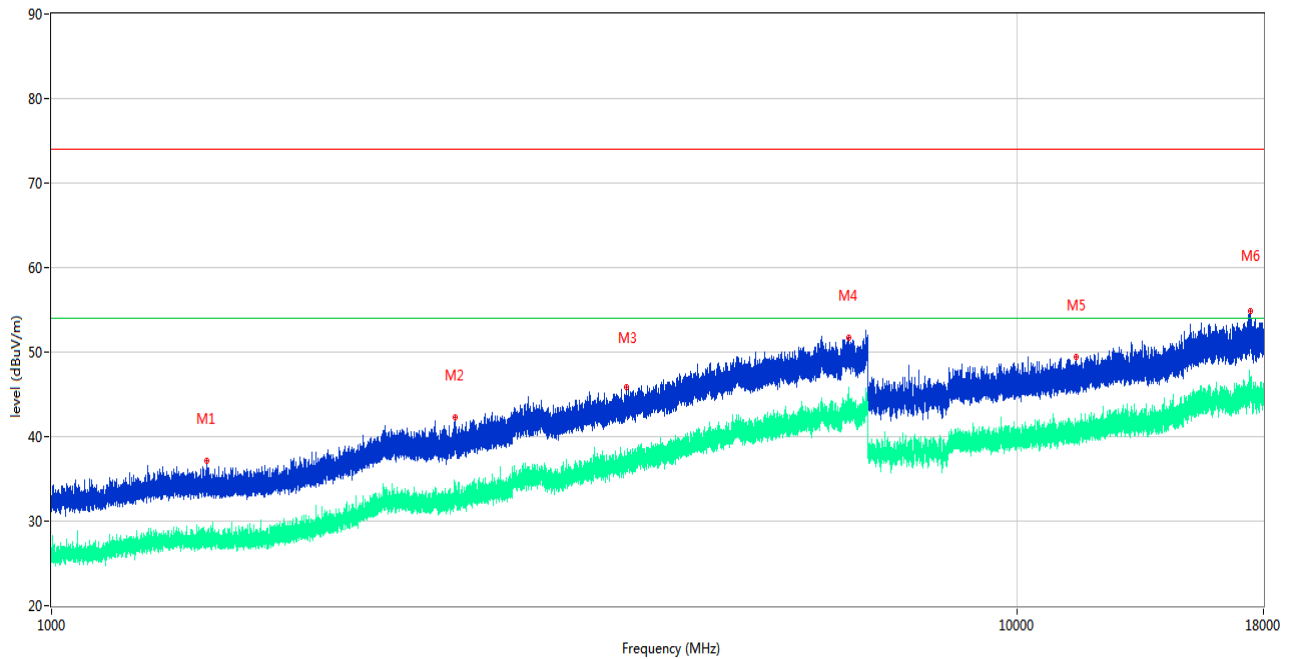
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	88.442	23.61	-26.42	43.5	-19.89	Peak	62.00	200	Horizontal	Pass
2	121.665	16.11	-25.88	43.5	-27.39	Peak	4.50	200	Horizontal	Pass
3	146.303	18.06	-27.61	43.5	-25.44	Peak	192.40	200	Horizontal	Pass
4	217.938	22.87	-24.12	46.0	-23.13	Peak	111.40	100	Horizontal	Pass
5	290.687	33.24	-21.67	46.0	-12.76	Peak	139.60	100	Horizontal	Pass
6	337.684	27.96	-20.13	46.0	-18.04	Peak	98.50	100	Horizontal	Pass

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



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2213.100	41.07	-12.94	74.0	-32.93	Peak	100.00	100	Vertical	Pass
1**	2213.100	32.11	-12.94	54.0	-21.89	AV	100.00	100	Vertical	Pass
2	3097.000	44.64	-8.34	74.0	-29.36	Peak	263.00	100	Vertical	Pass
2**	3097.000	36.25	-8.34	54.0	-17.75	AV	263.00	100	Vertical	Pass
3	4271.800	46.76	-4.49	74.0	-27.24	Peak	263.00	100	Vertical	Pass
3**	4271.800	39.50	-4.49	54.0	-14.50	AV	263.00	100	Vertical	Pass
4	6627.400	52.13	-0.29	74.0	-21.87	Peak	0.00	100	Vertical	Pass
4**	6627.400	42.75	-0.29	54.0	-11.25	AV	0.00	100	Vertical	Pass
5	10851.637	49.58	0.19	74.0	-24.42	Peak	140.00	100	Vertical	Pass
5**	10851.637	39.59	0.19	54.0	-14.41	AV	140.00	100	Vertical	Pass
6	17470.538	54.18	2.90	74.0	-19.82	Peak	282.00	100	Vertical	Pass
6**	17470.538	45.56	2.90	54.0	-8.44	AV	282.00	100	Vertical	Pass

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



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1449.200	37.10	-17.41	74.0	-36.90	Peak	134.00	100	Horizontal	Pass
1**	1449.200	27.92	-17.41	54.0	-26.08	AV	134.00	100	Horizontal	Pass
2	2616.900	42.23	-11.62	74.0	-31.77	Peak	360.00	100	Horizontal	Pass
2**	2616.900	32.67	-11.62	54.0	-21.33	AV	360.00	100	Horizontal	Pass
3	3938.600	45.87	-5.56	74.0	-28.13	Peak	339.00	100	Horizontal	Pass
3**	3938.600	35.95	-5.56	54.0	-18.05	AV	339.00	100	Horizontal	Pass
4	6687.600	51.65	-0.24	74.0	-22.35	Peak	351.00	100	Horizontal	Pass
4**	6687.600	44.09	-0.24	54.0	-9.91	AV	351.00	100	Horizontal	Pass
5	11502.250	49.37	-0.01	74.0	-24.63	Peak	68.00	100	Horizontal	Pass
5**	11502.250	40.03	-0.01	54.0	-13.97	AV	68.00	100	Horizontal	Pass
6	17462.661	54.82	2.86	74.0	-19.18	Peak	198.00	100	Horizontal	Pass
6**	17462.661	45.77	2.86	54.0	-8.23	AV	198.00	100	Horizontal	Pass

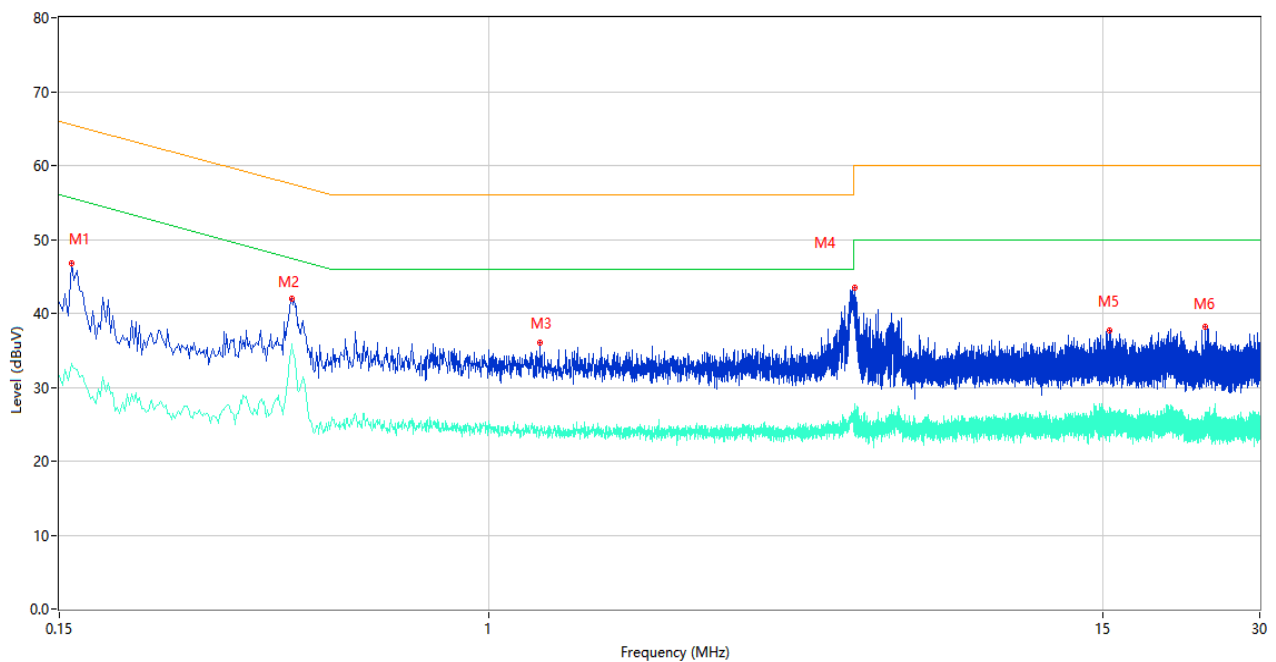
A.2 Conducted Emission

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

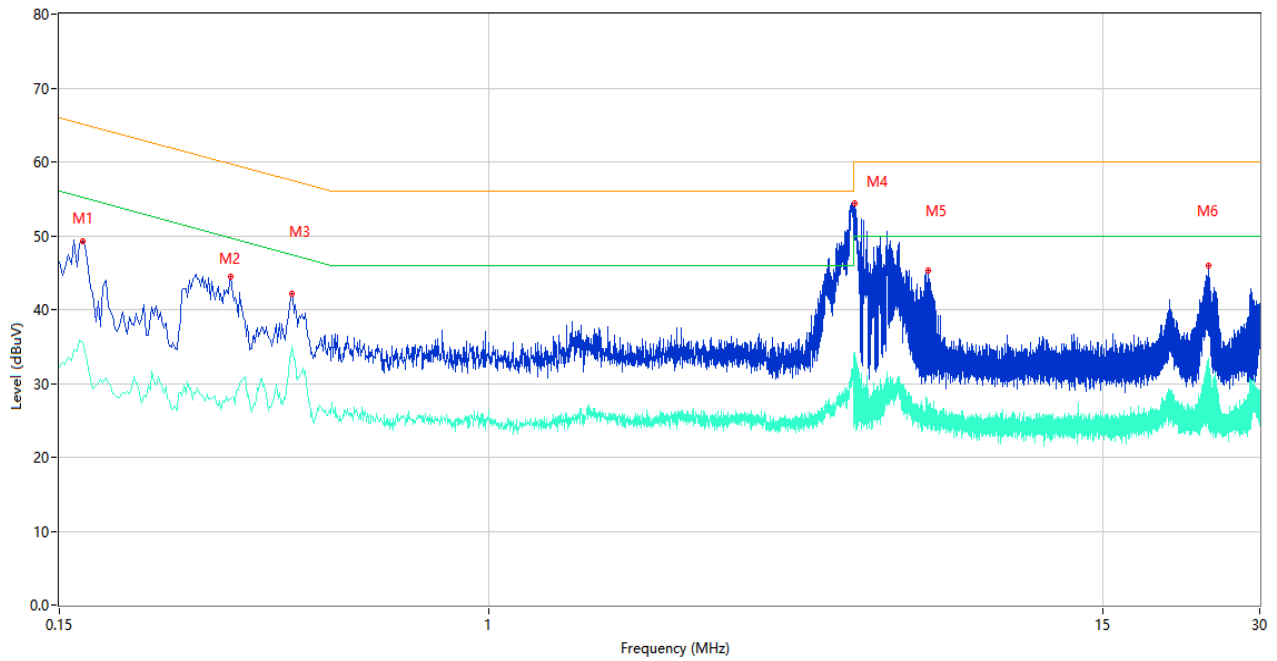
The Camera Test Mode

A.2.1 L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.150	41.48	10.41	66.00	-24.52	Peak	L	Pass
1**	0.150	31.51	10.41	56.00	-24.49	AV	L	Pass
2	0.418	41.99	10.31	57.49	-15.50	Peak	L	Pass
2**	0.418	35.92	10.31	47.49	-11.57	AV	L	Pass
3	1.254	36.02	10.25	56.00	-19.98	Peak	L	Pass
3**	1.254	23.88	10.25	46.00	-22.12	AV	L	Pass
4	5.010	43.44	10.31	60.00	-16.56	Peak	L	Pass
4**	5.010	23.55	10.31	50.00	-26.45	AV	L	Pass
5	15.438	37.64	10.42	60.00	-22.36	Peak	L	Pass
5**	15.438	26.11	10.42	50.00	-23.89	AV	L	Pass
6	23.618	38.12	10.63	60.00	-21.88	Peak	L	Pass
6**	23.618	26.40	10.63	50.00	-23.60	AV	L	Pass

A.2.2 N Phase

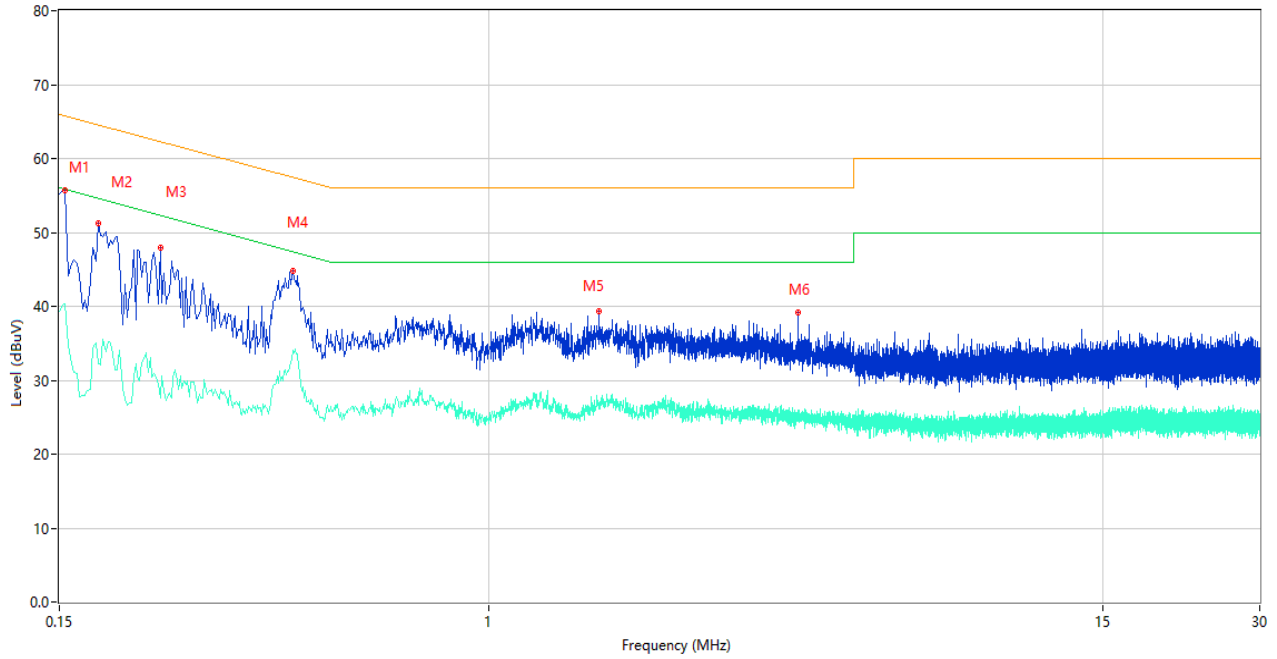


No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.166	49.34	10.40	65.16	-15.82	Peak	N	Pass
1**	0.166	35.53	10.40	55.16	-19.63	AV	N	Pass
2	0.320	44.54	10.33	59.71	-15.17	Peak	N	Pass
2**	0.320	27.96	10.33	49.71	-21.75	AV	N	Pass
3	0.418	42.14	10.31	57.49	-15.35	Peak	N	Pass
3**	0.418	35.12	10.31	47.49	-12.37	AV	N	Pass
4	5.022	54.33	10.31	60.00	-5.67	Peak	N	N/A
4*	5.022	48.60	10.31	60.00	-11.40	QP	N	Pass
4**	5.022	34.03	10.31	50.00	-15.97	AV	N	Pass
5	6.930	45.24	10.34	60.00	-14.76	Peak	N	Pass
5**	6.930	26.29	10.34	50.00	-23.71	AV	N	Pass
6	23.982	45.91	10.64	60.00	-14.09	Peak	N	Pass
6**	23.982	32.45	10.64	50.00	-17.55	AV	N	Pass

Test Data and Plots

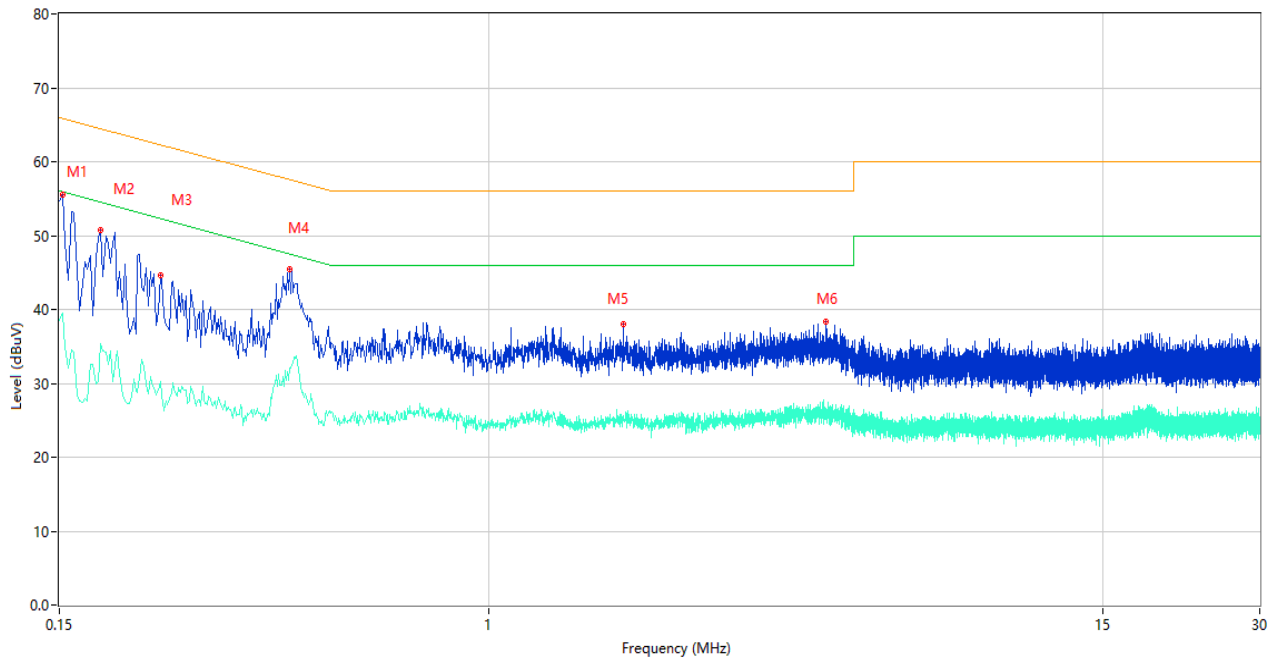
The USB Test Mode

A.2.3 L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.154	55.65	10.41	65.78	-10.13	Peak	L	Pass
1**	0.154	40.30	10.41	55.78	-15.48	AV	L	Pass
2	0.178	51.18	10.39	64.58	-13.40	Peak	L	Pass
2**	0.178	32.28	10.39	54.58	-22.30	AV	L	Pass
3	0.234	47.88	10.35	62.31	-14.43	Peak	L	Pass
3**	0.234	27.59	10.35	52.31	-24.72	AV	L	Pass
4	0.420	44.81	10.31	57.45	-12.64	Peak	L	Pass
4**	0.420	34.10	10.31	47.45	-13.35	AV	L	Pass
5	1.622	39.42	10.26	56.00	-16.58	Peak	L	Pass
5**	1.622	26.76	10.26	46.00	-19.24	AV	L	Pass
6	3.916	39.13	10.30	56.00	-16.87	Peak	L	Pass
6**	3.916	24.96	10.30	46.00	-21.04	AV	L	Pass

A.2.4 N Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.152	55.62	10.41	65.89	-10.27	Peak	N	Pass
1**	0.152	39.51	10.41	55.89	-16.38	AV	N	Pass
2	0.180	50.71	10.39	64.49	-13.78	Peak	N	Pass
2**	0.180	35.43	10.39	54.49	-19.06	AV	N	Pass
3	0.234	47.88	10.35	62.31	-14.43	Peak	N	Pass
3**	0.234	27.59	10.35	52.31	-24.72	AV	N	Pass
4	0.414	45.53	10.31	57.57	-12.04	Peak	N	Pass
4**	0.414	32.10	10.31	47.57	-15.47	AV	N	Pass
5	1.804	38.06	10.25	56.00	-17.94	Peak	N	Pass
5**	1.804	25.62	10.25	46.00	-20.38	AV	N	Pass
6	4.430	38.34	10.31	56.00	-17.66	Peak	N	Pass
6**	4.430	26.68	10.31	46.00	-19.32	AV	N	Pass

ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-SZ2150983-AE-1.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-SZ2150983-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SZ2150983-AI.PDF”.

--END OF REPORT--