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EMC

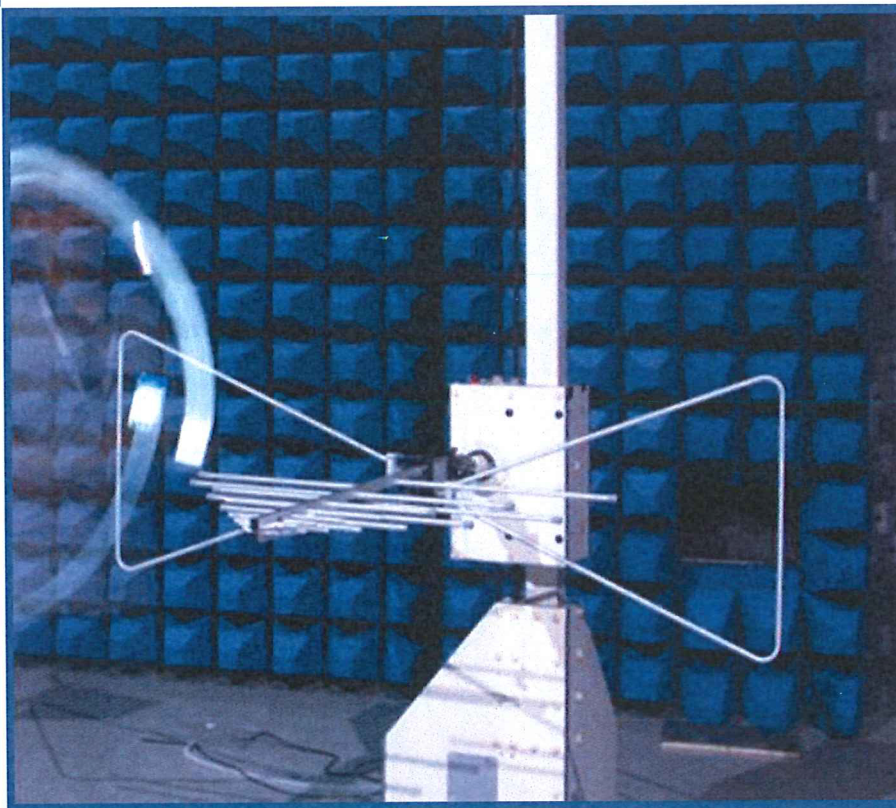
TEST REPORT

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 Dec 30, 2020

Approved by:

Wei Yanquan  
(Chief Engineer)

Date Dec 30, 2020



Report No.: BL-SZ20C0188-401

EUT Name: Mobile Phone

Model Name: RMX2156

Brand Name: realme

Test Standard: 47 CFR Part 15 Subpart B

FCC ID: 2AUYFRMX2156

Test Conclusion: Pass

Test Date: Dec. 07, 2020 ~ Dec. 11, 2020

Date of Issue: Dec. 30, 2020

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**Revision History**

<u>Version</u>	<u>Issue Date</u>	<u>Revisions Content</u>
<u>Rev. 01</u>	<u>Dec. 30, 2020</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
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 v6.9.
- (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

N/A	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	RMX2156
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	V4
Software Version	realme UI1.0
Dimensions (Approx.)	162.35*75.46*9.45mm
Weight (Approx.)	198g

## 2.5 Ancillary Equipment

Ancillary Equipment 1	Li-Polymer Battery	
	Brand Name	realme
	Model No.	BLP807
	Serial No.	N/A
	Capacitance	Rated: 4900mAh/18.96Wh Typical: 5000mAh/19.35Wh
	Rated Voltage	3.87 V
	Limited Voltage	4.45 V
	Manufacturer	TWS Technology (Guangzhou) Limited
Ancillary Equipment 2	Li-Polymer Battery (alternative) 2	
	Brand Name	realme
	Model No.	BLP807
	Serial No.	N/A
	Capacitance	Rated: 4900mAh/18.96Wh Typical: 5000mAh/19.35Wh
	Rated Voltage	3.87 V
	Limited Voltage	4.45 V
	Manufacturer	NAVITASYS TECHNOLOGY LIMITED
Ancillary Equipment 3	Power Supply Unit 1	
	Brand Name	realme
	Model No.	VC56JAUH
	Serial No.	N/A
	Rated Input	100-240VAC 50/60Hz 1.2A
	Rated Output	5.0VDC 2A or 5.0VDC 6A (US Plug)
Ancillary Equipment 4	Power Supply Unit(alternative) 2	
	Brand Name	realme
	Model No.	VC56HAUH
	Serial No.	N/A
	Rated Input	100-240VAC 50/60Hz 1.2A
	Rated Output	5.0VDC 2A or 5.0VDC 6A (US Plug)
Ancillary Equipment 5	Power Supply Unit(alternative) 3	
	Brand Name	realme
	Model No.	VC56HBUH
	Serial No.	N/A
	Rated Input	100-240VAC 50/60Hz 1.2A
	Rated Output	5.0VDC 2A or 5.0VDC 6A (US Plug)
Ancillary Equipment 6	USB Cable	
	Model No.	DL129
	Length (Approx.)	1.0 m
<p>Note 1: Letter in () means plug type.</p> <p>Note 2: All adapters are tested, only the worst data of VC56HBUH (US Plug) shown in this report.</p> <p>Note 3: All batteries are tested, only the worst data of BLP807 (NAVITASYS TECHNOLOGY LIMITED) shown in this report.</p>		

## 2.6 Technical Information

Network and Wireless connectivity	2G Network GSM/GPRS/EDGE 850/1900 MHz 3G Network WCDMA/HSDPA/HSUPA/HSPA+/DC-HSDPA Band 2/4/5 4G Network FDD LTE Band 2/4/5/7 TDD LTE Band 38/41 Bluetooth 5.0 (BR+EDR+BLE) 2.4G WIFI 802.11b, 802.11g, 802.11n(HT20/40) 5G WIFI 802.11a, 802.11n(HT20/40) and 802.11ac(VHT20/40/80) Band 1/2A/2C/3, GPS, GLONASS, BDS, 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	2.05 GHz
About the Product	The equipment is Mobile Phone, intended for used with information technology equipment.

### 3 SUMMARY OF TEST RESULTS

#### 3.1 Test Standards

No.	Identity	Document Title
1	FCC 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

Note: The EUT has a permanently and irreplaceable attached antenna, which complies with the requirement FCC 15.203 & RSS-Gen 8.3.

Note 2: The only difference between the EUT (test samples in this report) and testing sample of report BL-SZ2070204-402, which was issued by Shenzhen BALUN Technology Co., Ltd. on Jul. 31, 2020 as below:

1. Updated the model name is RMX2156.
2. Updated the FCC ID to 2AUYFRMX2156.
3. Rear cameras change to 3 cameras.
4. Add alternative power adapter VC56HBUH.

The other hardware circuits and software are the same, and all test items are re-tested.

#### 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)	3.66 dB
Radiated emissions (1 GHz-18 GHz)	5.57 dB
Radiated emissions (18 GHz-40 GHz)	6.12 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	2020.06.09	2021.06.08	<input type="checkbox"/>
Test Antenna-Bi-Log	SCHWARZBECK	VULB 9168	9168-0883	2020.05.11	2022.05.10	<input type="checkbox"/>
Anechoic Chamber	EMC Electronic Co., Ltd	20.10*11.60*7.35m	N/A	2018.08.08	2021.08.07	<input type="checkbox"/>
Test Software	BALUN	BL410_E	V19.918	--	--	<input type="checkbox"/>

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	<input checked="" type="checkbox"/>
Test Antenna-Bi-Log	SCHWARZBECK	VULB 9163	9163-624	2019.07.02	2021.07.01	<input checked="" type="checkbox"/>
Anechoic Chamber	YIHENG	9m*6m*6m	N/A	2018.07.18	2021.07.27	<input checked="" type="checkbox"/>
Test Software	BALUN	BL410_E	V19.918	--	--	<input checked="" type="checkbox"/>

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	<input checked="" type="checkbox"/>
Test Antenna-Horn	SCHWARZBECK	BBHA 9120D	9120D-1917	2019.07.02	2021.07.01	<input checked="" type="checkbox"/>
Anechoic Chamber	YIHENG	9m*6m*6m	N/A	2018.07.18	2021.07.17	<input checked="" type="checkbox"/>
Test Software	BALUN	BL410_E	V19.918	--	--	<input checked="" type="checkbox"/>

Conducted disturbance Test						
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	KEYSIGHT	N9010B	MY5711030 9	2020.06.08	2021.06.07	<input checked="" type="checkbox"/>
LISN	SCHWARZBECK	NSLK 8127	8127-687	2020.06.09	2021.06.08	<input checked="" type="checkbox"/>
Shielded Enclosure	YiHeng Electronic Co., Ltd	3.4m*3.1m*2 .8m	N/A	2018.08.16	2021.08.15	<input checked="" type="checkbox"/>
Test Software	BALUN	BL410_E	V19.918	--	--	<input checked="" type="checkbox"/>

### 4.3 Test Enclosure list

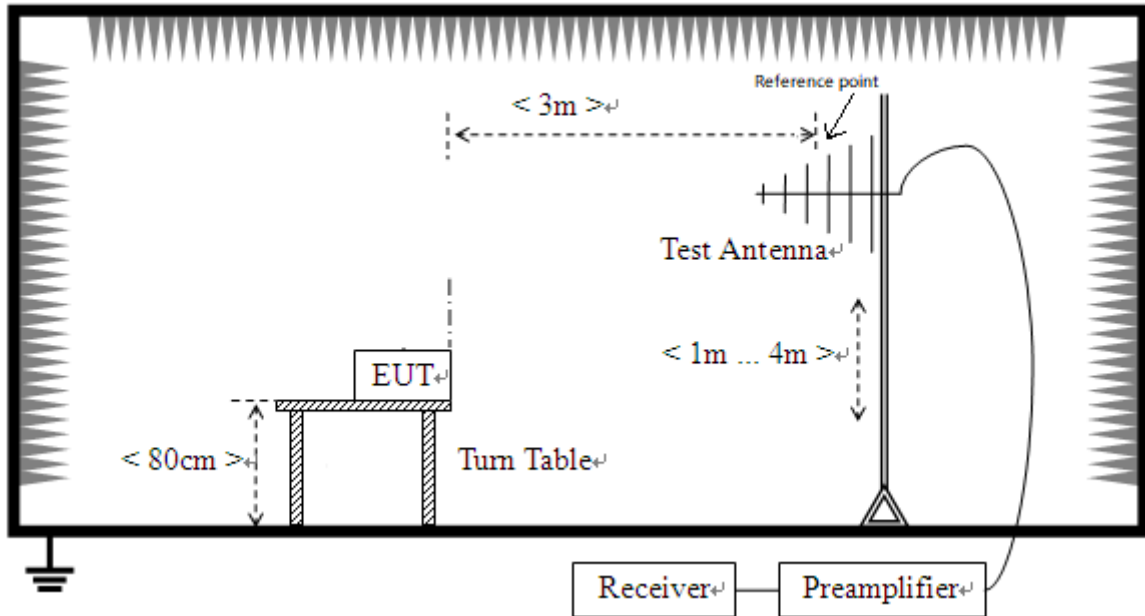
Description	Manufacturer	Model	Serial No.	Length	Description	Use
PC	Dell	015K3N	N/A	N/A	Special Handled	<input type="checkbox"/>
Laptop	Apple	A1465	N/A	N/A	N/A	<input checked="" type="checkbox"/>
Printer	HP	DESKJET 1000	N/A	N/A	N/A	<input type="checkbox"/>
Keyboard	Logitech	Y-BP62a	N/A	N/A	N/A	<input type="checkbox"/>
Mouse	Logitech	M100	N/A	N/A	N/A	<input type="checkbox"/>
USB disk	Kingston	N/A	N/A	N/A	N/A	<input type="checkbox"/>
TF Card	Kingston	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>
VGA Cable	N/A	N/A	N/A	1.5 m	Shielded with core	<input type="checkbox"/>
HDMI Cable	N/A	N/A	N/A	1.5 m	Shielded with core	<input type="checkbox"/>
DVI Cable	N/A	N/A	N/A	1.5 m	Shielded with core	<input type="checkbox"/>
Coaxial video cable	N/A	N/A	N/A	2.0 m	Shielded with core	<input type="checkbox"/>
iPhone	Apple	A1586	N/A	N/A	N/A	<input type="checkbox"/>
Phone	MI	M4	N/A	N/A	N/A	<input type="checkbox"/>
Bluetooth Earphone	SAMSUNG	Gear Circle	N/A	N/A	N/A	<input type="checkbox"/>
Wireless Communication s Test Set	R&S	CMW500	142028	N/A	Cal. Due 2021.06.08	<input type="checkbox"/>
WIFI Router	TP-LINK	TL-WDR7500	N/A	N/A	N/A	<input type="checkbox"/>
Earphone	N/A	OPPO	N/A	1.1 m	N/A	<input checked="" type="checkbox"/>
Car Battery	Camel	55530	N/A	N/A	12 V/55 Ah	<input type="checkbox"/>
Artificial load	N/A	N/A	N/A	N/A	2.5 Ω/100 W	<input type="checkbox"/>
Artificial load	N/A	N/A	N/A	N/A	5 Ω/100 W	<input type="checkbox"/>
Electronic Load	ITECH	IT8511	N/A	N/A	N/A	<input type="checkbox"/>
USB Cable	N/A	N/A	N/A	1.5 m	Shielded with core	<input type="checkbox"/>
DC Power Supply	ITECH	IT6863A	60001401068 7210006	N/A	N/A	<input type="checkbox"/>
LCD Monitor	SAMSUNG	UA32C4000P	N/A	N/A	N/A	<input type="checkbox"/>
LCD Monitor	Dell	U241HB	N/A	N/A	N/A	<input type="checkbox"/>
RJ45 Cable	N/A	N/A	N/A	1.5 m	Shielded with core	<input type="checkbox"/>

#### 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

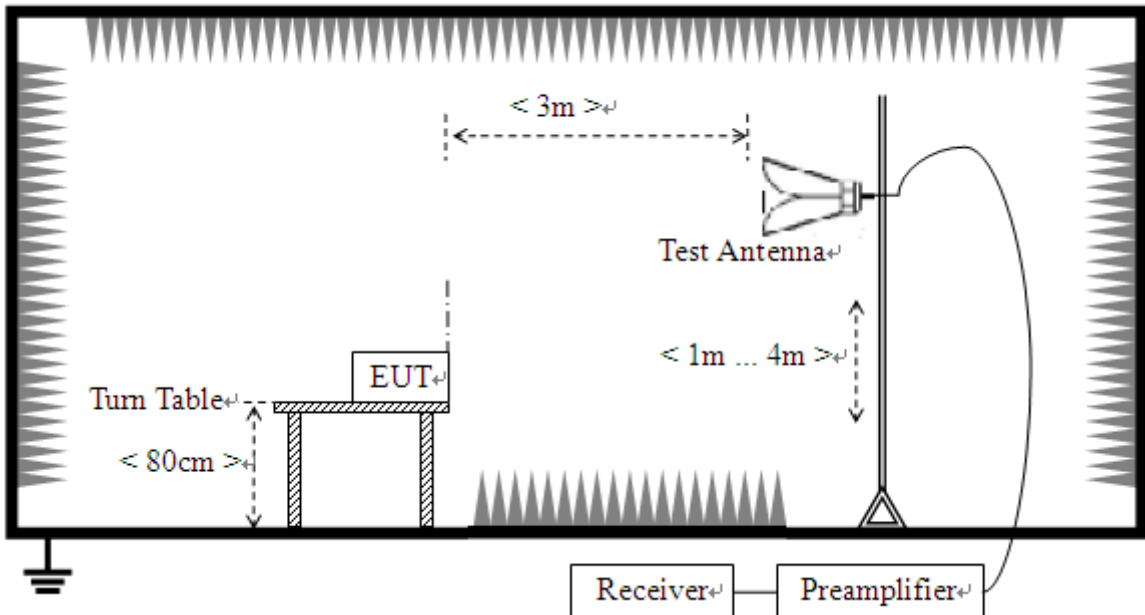
## 4.5 Test Setups

### Test Setup 1



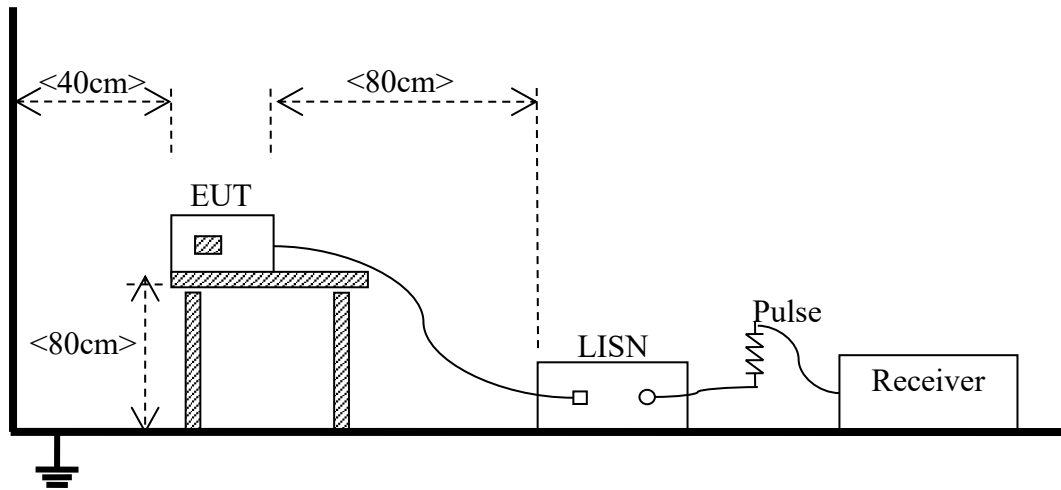
(For Radiated Emission Test (30 MHz-1 GHz))

### 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~TC03 <sup>Note</sup>
Conducted Emission, AC Ports	Test Env.	NTNV
	Test Setup	Test Setup 3
	Test Configuration	TC01~TC03 <sup>Note</sup>

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 ( $\text{dB}\mu\text{V/m}$ )	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.

##### 5.1.1.4 Test Result

Please refer to ANNEX A.1.

NOTE:

1. Results ( $\text{dBUV/m}$ ) = Reading ( $\text{dBUV}$ ) + Factor ( $\text{dB/m}$ )

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

2. Factor ( $\text{dB/m}$ ) = Antenna Factor ( $\text{dB/m}$ ) + Cable Factor ( $\text{dB}$ ) – Amplifier Gain ( $\text{dB}$ )

3. Over limit = Results – Limit.



## 5.1.2 Conducted Emission

### 5.1.2.1 Test Limit

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

Frequency range (MHz)	Class B	
	Quasi-peak (dB $\mu$ V)	Average (dB $\mu$ 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  $\Omega$ /50  $\mu$ 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:

$$1. \text{ Results (dBuV/m)} = \text{Reading (dBuV)} + \text{Factor (dB/m)}$$

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

$$2. \text{ Factor} = \text{Insertion loss} + \text{Cable loss}$$

$$3. \text{ Over limit} = \text{Results} - \text{Limit.}$$

## 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.

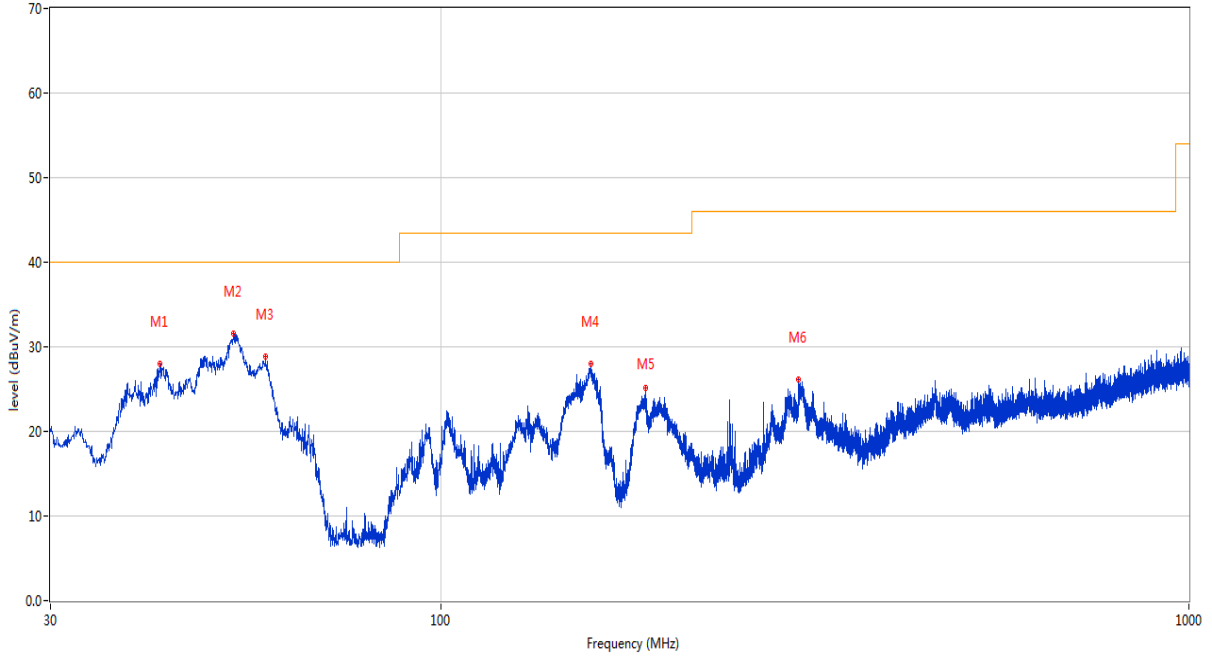
Note 3: The Radiated Emission from 18G-40G is noise only, do not show on the report.

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

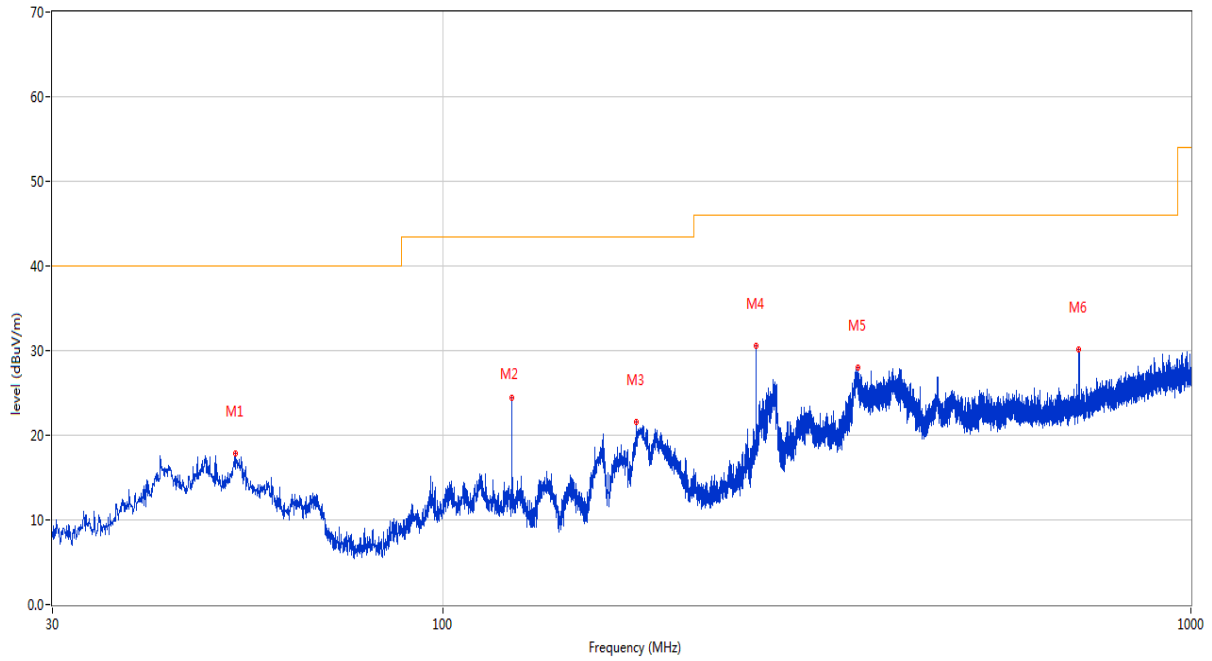
The Camera Test Mode

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



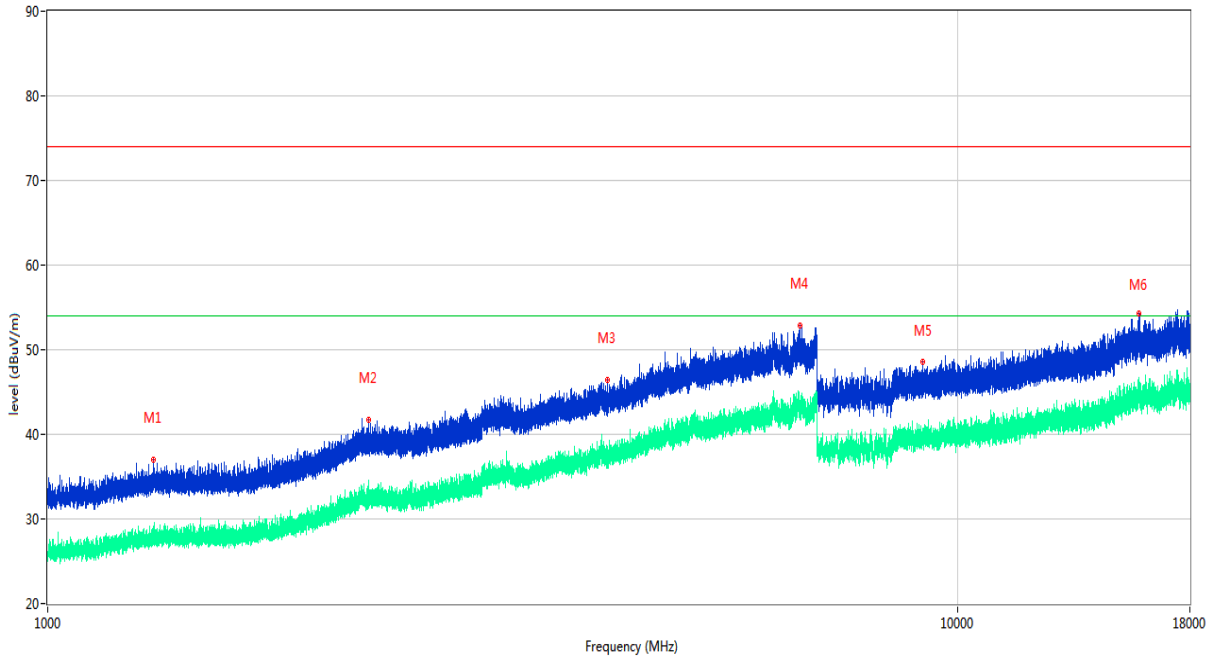
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	41.980	27.93	-23.46	40.0	-12.07	Peak	223.00	100	Vertical	Pass
2	52.698	31.60	-23.05	40.0	-8.40	Peak	231.30	100	Vertical	Pass
3	58.178	28.92	-24.10	40.0	-11.08	Peak	337.20	100	Vertical	Pass
4	158.525	27.93	-27.53	43.5	-15.57	Peak	274.20	100	Vertical	Pass
5	187.770	25.19	-25.41	43.5	-18.31	Peak	353.60	100	Vertical	Pass
6	300.485	26.18	-21.82	46.0	-19.82	Peak	341.40	100	Vertical	Pass

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



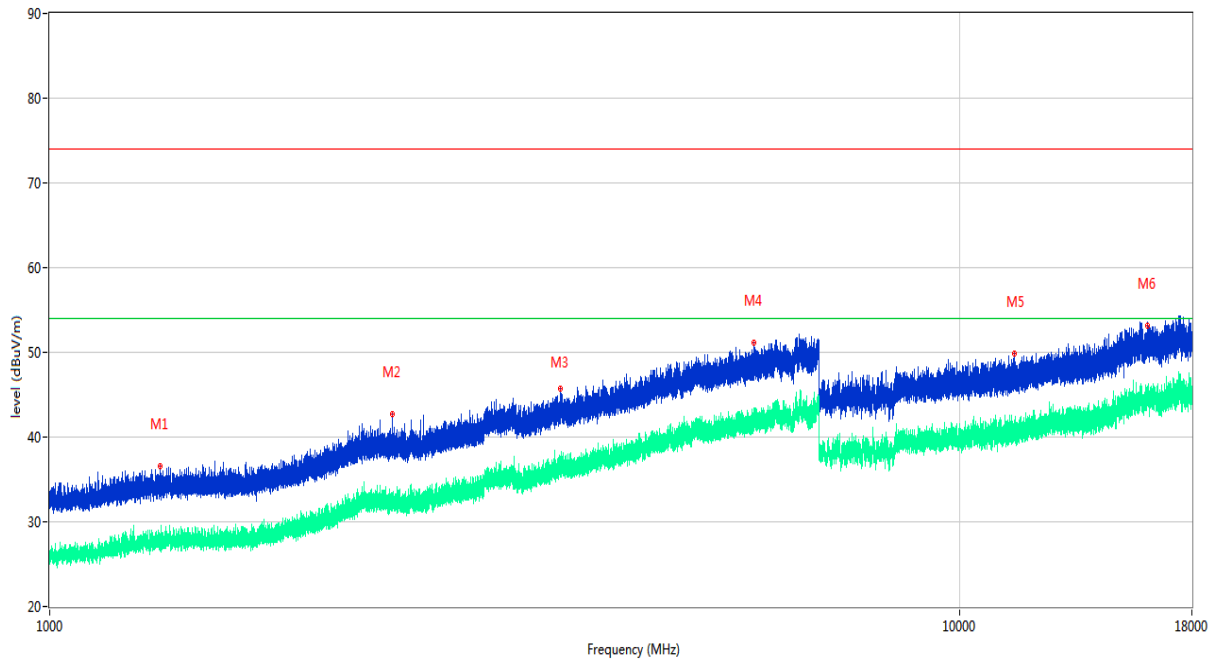
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	52.698	17.80	-23.05	40.0	-22.20	Peak	319.30	100	Horizontal	Pass
2	123.557	24.43	-26.58	43.5	-19.07	Peak	58.00	200	Horizontal	Pass
3	181.174	21.51	-25.86	43.5	-21.99	Peak	100.70	200	Horizontal	Pass
4	261.781	30.54	-22.23	46.0	-15.46	Peak	251.40	100	Horizontal	Pass
5	358.297	27.95	-19.79	46.0	-18.05	Peak	73.20	100	Horizontal	Pass
6	708.661	30.18	-12.92	46.0	-15.82	Peak	66.40	200	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	1306.900	37.07	-17.36	74.0	-36.93	Peak	190.00	150	Vertical	Pass
1**	1306.900	27.44	-17.36	54.0	-26.56	AV	190.00	150	Vertical	Pass
2	2251.500	41.73	-12.65	74.0	-32.27	Peak	0.00	150	Vertical	Pass
2**	2251.500	34.54	-12.65	54.0	-19.46	AV	0.00	150	Vertical	Pass
3	4127.200	46.36	-5.30	74.0	-27.64	Peak	0.00	150	Vertical	Pass
3**	4127.200	36.64	-5.30	54.0	-17.36	AV	0.00	150	Vertical	Pass
4	6709.600	52.79	-1.12	74.0	-21.21	Peak	100.00	150	Vertical	Pass
4**	6709.600	42.49	-1.12	54.0	-11.51	AV	100.00	150	Vertical	Pass
5	9156.537	48.53	-1.60	74.0	-25.47	Peak	333.00	150	Vertical	Pass
5**	9156.537	38.79	-1.60	54.0	-15.21	AV	333.00	150	Vertical	Pass
6	15817.575	54.28	1.97	74.0	-19.72	Peak	240.00	150	Vertical	Pass
6**	15817.575	44.49	1.97	54.0	-9.51	AV	240.00	150	Vertical	Pass

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

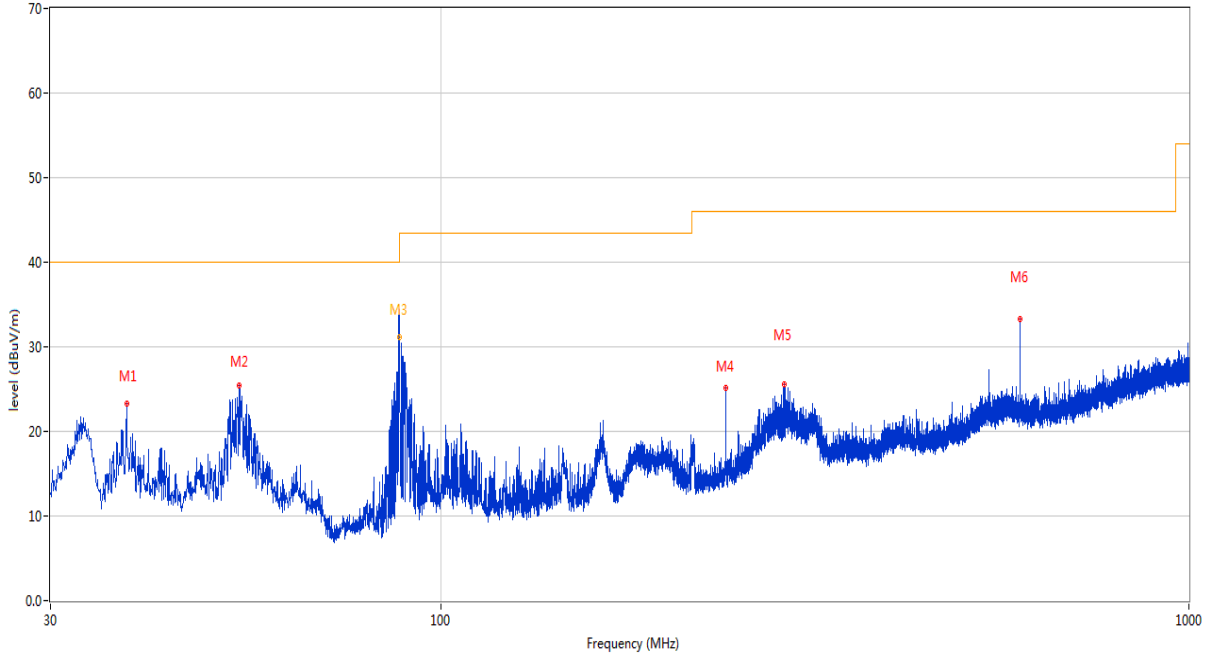


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1323.500	36.54	-17.47	74.0	-37.46	Peak	116.00	150	Horizontal	Pass
1**	1323.500	28.09	-17.47	54.0	-25.91	AV	116.00	150	Horizontal	Pass
2	2380.800	42.74	-12.57	74.0	-31.26	Peak	63.00	150	Horizontal	Pass
2**	2380.800	32.27	-12.57	54.0	-21.73	AV	63.00	150	Horizontal	Pass
3	3637.200	45.69	-6.70	74.0	-28.31	Peak	164.00	150	Horizontal	Pass
3**	3637.200	35.91	-6.70	54.0	-18.09	AV	164.00	150	Horizontal	Pass
4	5947.800	51.11	-1.38	74.0	-22.89	Peak	350.00	150	Horizontal	Pass
4**	5947.800	42.41	-1.38	54.0	-11.59	AV	350.00	150	Horizontal	Pass
5	11489.313	49.93	0.07	74.0	-24.07	Peak	16.00	150	Horizontal	Pass
5**	11489.313	40.27	0.07	54.0	-13.73	AV	16.00	150	Horizontal	Pass
6	16106.849	53.14	0.90	74.0	-20.86	Peak	255.00	150	Horizontal	Pass
6**	16106.849	44.13	0.90	54.0	-9.87	AV	255.00	150	Horizontal	Pass

Test Data and Plots

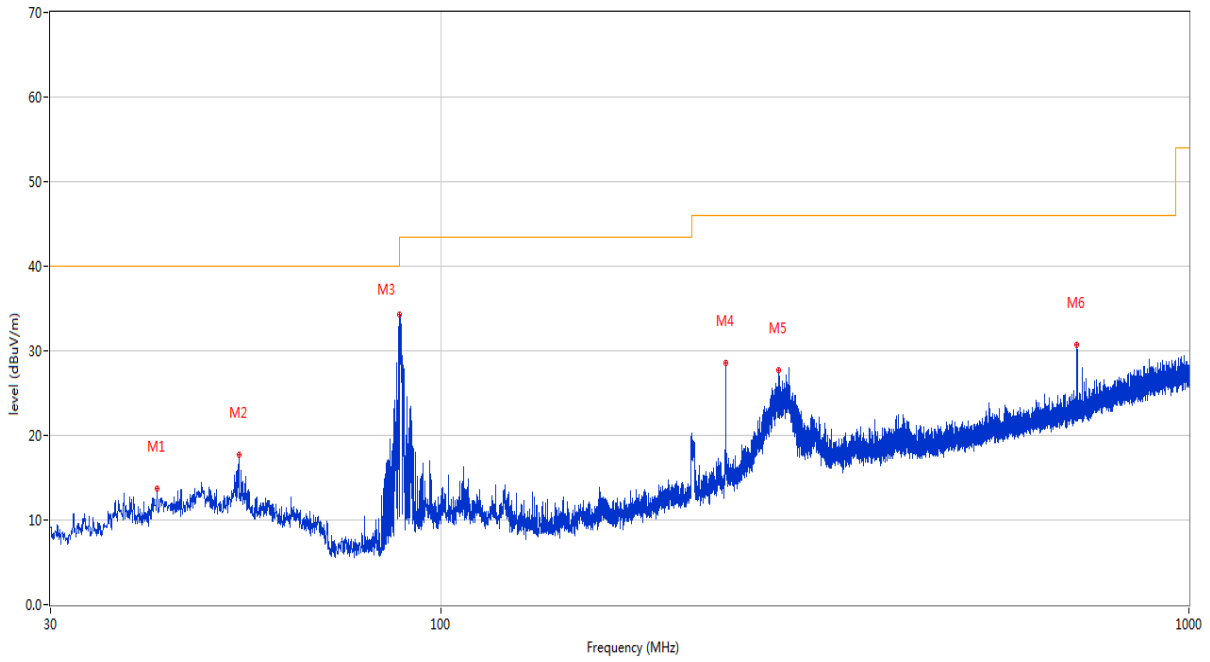
The USB Test Mode

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	37.906	23.33	-24.50	40.0	-16.67	Peak	315.30	100	Vertical	Pass
2	53.668	25.42	-22.95	40.0	-14.58	Peak	3.90	100	Vertical	Pass
3	87.957	34.40	-26.49	40.0	-5.60	Peak	242.80	100	Vertical	N/A
3*	87.957	31.12	-26.49	40.0	-8.88	QP	242.80	100	Vertical	Pass
4	240.005	25.21	-23.06	46.0	-20.79	Peak	214.50	200	Vertical	Pass
5	287.195	25.60	-22.03	46.0	-20.40	Peak	18.00	200	Vertical	Pass
6	594.006	33.31	-14.68	46.0	-12.69	Peak	158.40	100	Vertical	Pass

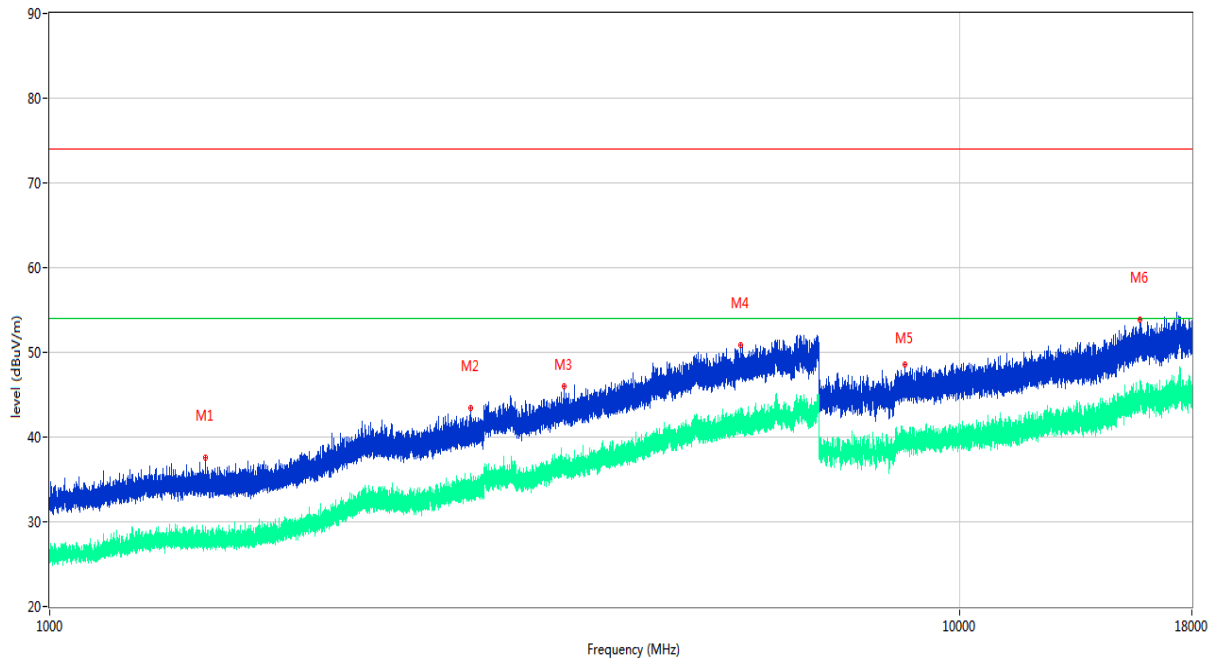
A.1.6 Test Antenna Horizontal, 30 MHz – 1 GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	41.640	13.71	-23.58	40.0	-26.29	Peak	134.00	200	Horizontal	Pass
2	53.571	17.68	-22.94	40.0	-22.32	Peak	0.00	200	Horizontal	Pass
3	88.006	34.35	-26.48	43.5	-9.15	Peak	57.30	200	Horizontal	Pass
4	240.005	28.62	-23.06	46.0	-17.38	Peak	246.80	100	Horizontal	Pass
5	282.249	27.67	-21.79	46.0	-18.33	Peak	111.30	100	Horizontal	Pass
6	708.661	30.72	-12.92	46.0	-15.28	Peak	333.70	200	Horizontal	Pass

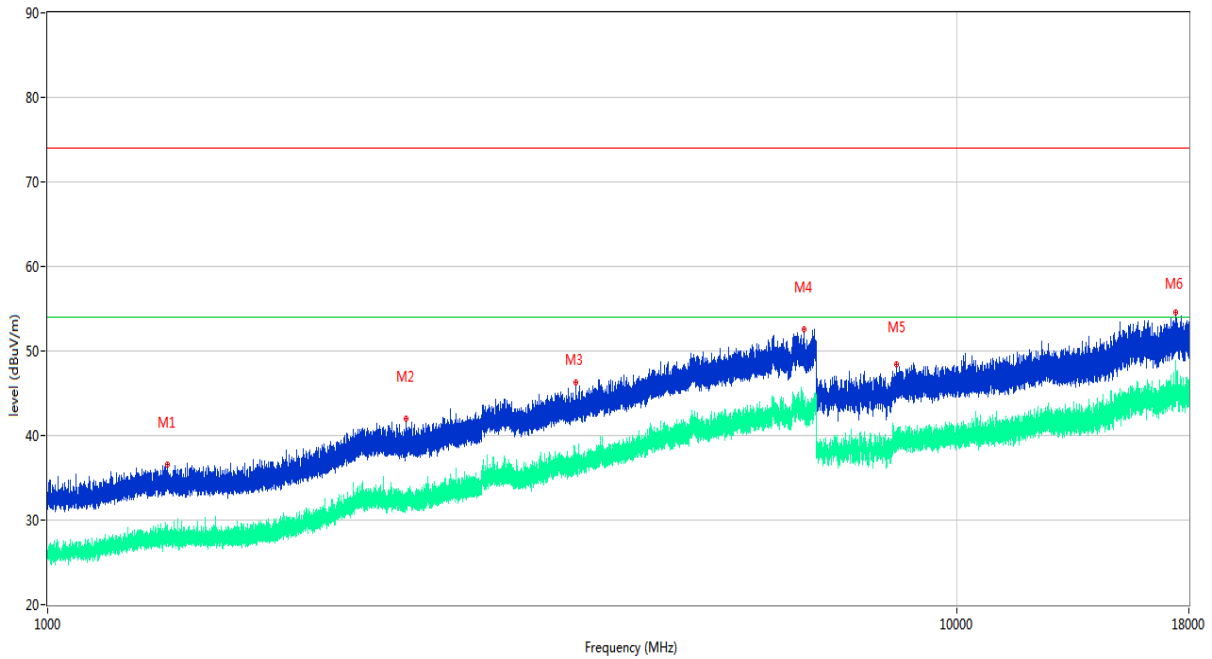


A.1.7 Test Antenna Vertical, 1 GHz – 18 GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1483.900	37.57	-17.51	74.0	-36.43	Peak	178.00	150	Vertical	Pass
1**	1483.900	27.89	-17.51	54.0	-26.11	AV	178.00	150	Vertical	Pass
2	2904.500	43.49	-9.27	74.0	-30.51	Peak	39.00	150	Vertical	Pass
2**	2904.500	33.64	-9.27	54.0	-20.36	AV	39.00	150	Vertical	Pass
3	3678.200	45.95	-6.39	74.0	-28.05	Peak	273.00	150	Vertical	Pass
3**	3678.200	36.95	-6.39	54.0	-17.05	AV	273.00	150	Vertical	Pass
4	5747.600	50.85	-2.25	74.0	-23.15	Peak	222.00	150	Vertical	Pass
4**	5747.600	41.87	-2.25	54.0	-12.13	AV	222.00	150	Vertical	Pass
5	8703.150	48.59	-1.85	74.0	-25.41	Peak	360.00	150	Vertical	Pass
5**	8703.150	39.50	-1.85	54.0	-14.50	AV	360.00	150	Vertical	Pass
6	15802.613	53.86	2.30	74.0	-20.14	Peak	157.00	150	Vertical	Pass
6**	15802.613	45.82	2.30	54.0	-8.18	AV	157.00	150	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	1353.600	36.58	-17.36	74.0	-37.42	Peak	113.00	150	Horizontal	Pass
1**	1353.600	28.40	-17.36	54.0	-25.60	AV	113.00	150	Horizontal	Pass
2	2476.700	41.95	-12.41	74.0	-32.05	Peak	136.00	150	Horizontal	Pass
2**	2476.700	31.62	-12.41	54.0	-22.38	AV	136.00	150	Horizontal	Pass
3	3811.200	46.27	-5.41	74.0	-27.73	Peak	349.00	150	Horizontal	Pass
3**	3811.200	36.18	-5.41	54.0	-17.82	AV	349.00	150	Horizontal	Pass
4	6787.800	52.52	-0.68	74.0	-21.48	Peak	121.00	150	Horizontal	Pass
4**	6787.800	42.98	-0.68	54.0	-11.02	AV	121.00	150	Horizontal	Pass
5	8585.275	48.42	-2.08	74.0	-25.58	Peak	15.00	150	Horizontal	Pass
5**	8585.275	39.67	-2.08	54.0	-14.33	AV	15.00	150	Horizontal	Pass
6	17427.225	54.51	3.55	74.0	-19.49	Peak	360.00	150	Horizontal	Pass
6**	17427.225	45.42	3.55	54.0	-8.58	AV	360.00	150	Horizontal	Pass

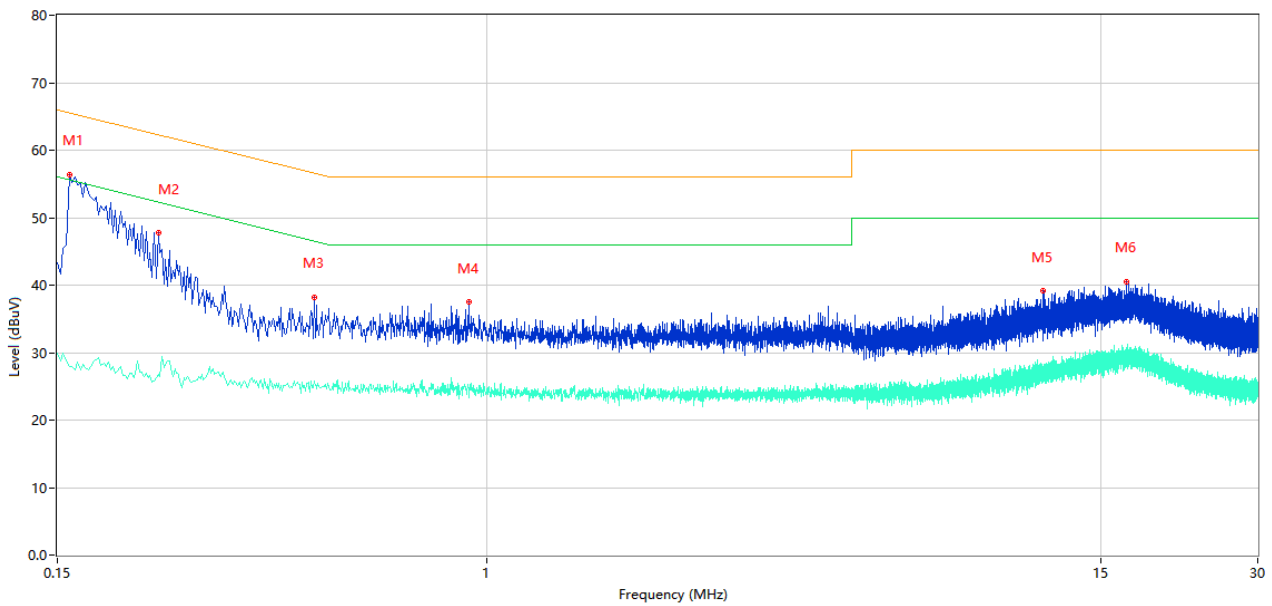
## A.2 Conducted Emission

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

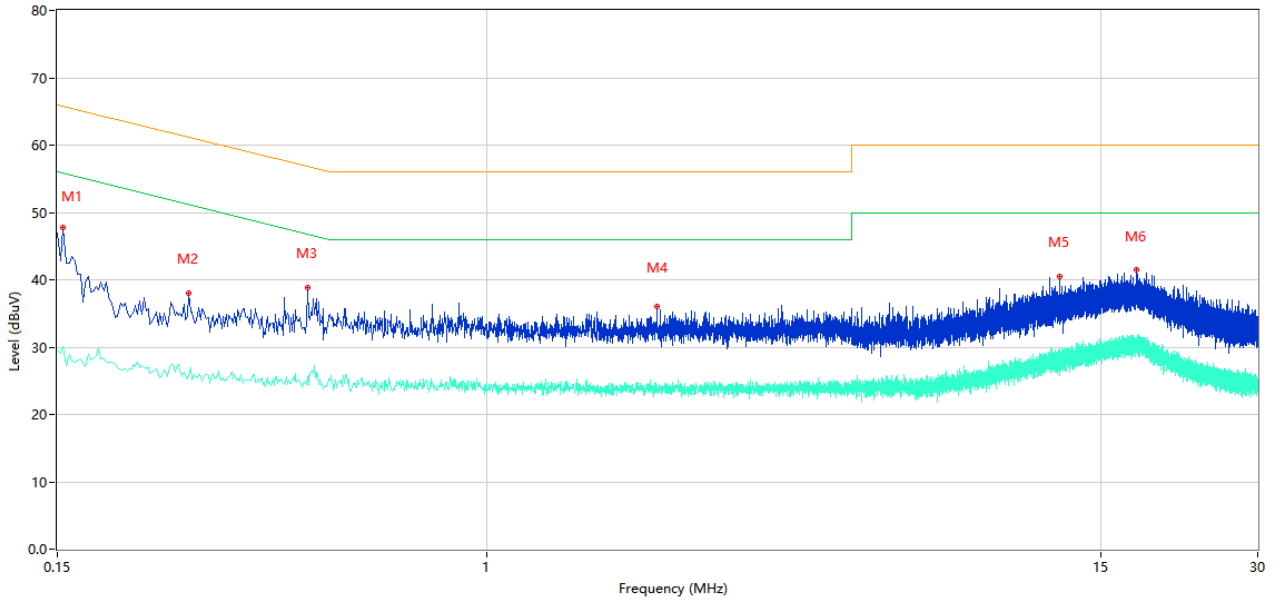
#### The Camera Test Mode

##### A.2.1 L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.158	56.37	10.40	65.57	-9.20	Peak	L	Pass
1**	0.158	27.87	10.40	55.57	-27.70	AV	L	Pass
2	0.234	47.79	10.35	62.31	-14.52	Peak	L	Pass
2**	0.234	26.81	10.35	52.31	-25.50	AV	L	Pass
3	0.466	38.25	10.30	56.58	-18.33	Peak	L	Pass
3**	0.466	25.72	10.30	46.58	-20.86	AV	L	Pass
4	0.922	37.47	10.24	56.00	-18.53	Peak	L	Pass
4**	0.922	24.83	10.24	46.00	-21.17	AV	L	Pass
5	11.646	39.09	10.38	60.00	-20.91	Peak	L	Pass
5**	11.646	26.99	10.38	50.00	-23.01	AV	L	Pass
6	16.832	40.48	10.46	60.00	-19.52	Peak	L	Pass
6**	16.832	29.34	10.46	50.00	-20.66	AV	L	Pass

A.2.2 N Phase

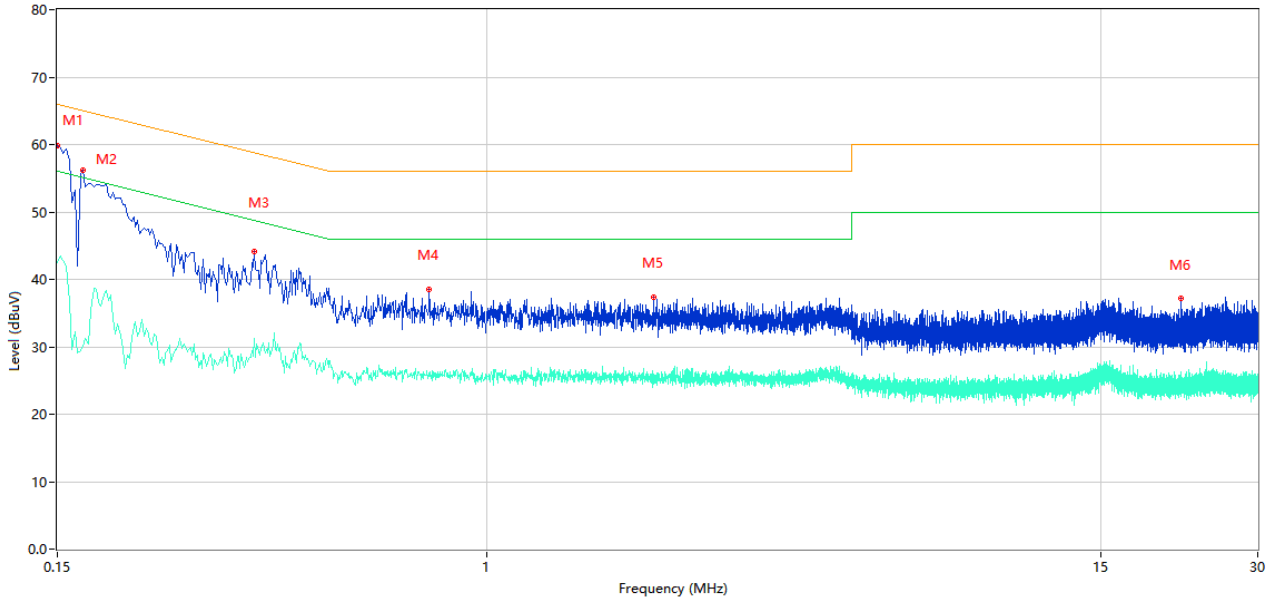


No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.154	47.73	10.41	65.78	-18.05	Peak	N	Pass
1**	0.154	30.03	10.41	55.78	-25.75	AV	N	Pass
2	0.268	37.97	10.34	61.18	-23.21	Peak	N	Pass
2**	0.268	25.79	10.34	51.18	-25.39	AV	N	Pass
3	0.452	38.91	10.30	56.84	-17.93	Peak	N	Pass
3**	0.452	25.57	10.30	46.84	-21.27	AV	N	Pass
4	2.116	36.11	10.26	56.00	-19.89	Peak	N	Pass
4**	2.116	24.19	10.26	46.00	-21.81	AV	N	Pass
5	12.540	40.44	10.39	60.00	-19.56	Peak	N	Pass
5**	12.540	29.92	10.39	50.00	-20.08	AV	N	Pass
6	17.570	41.52	10.48	60.00	-18.48	Peak	N	Pass
6**	17.570	30.50	10.48	50.00	-19.50	AV	N	Pass

Test Data and Plots

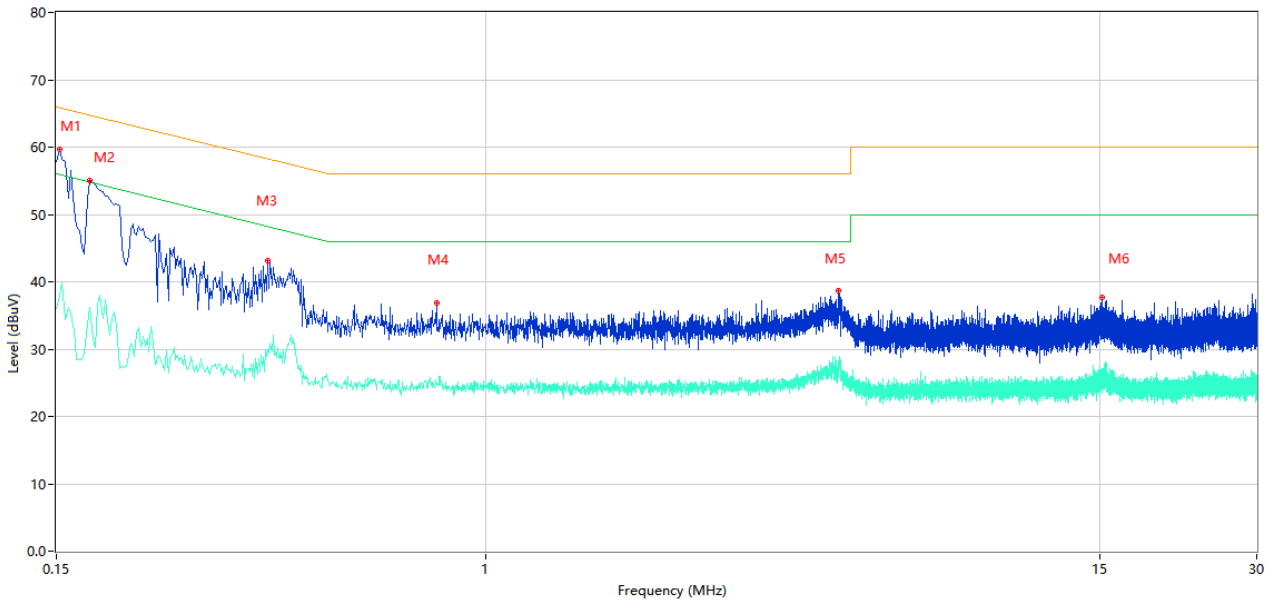
The USB Test Mode

A.2.3 L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.150	59.83	10.41	66.00	-6.17	Peak	L	Pass
1**	0.150	42.42	10.41	56.00	-13.58	AV	L	Pass
2	0.168	56.13	10.40	65.06	-8.93	Peak	L	Pass
2**	0.168	30.06	10.40	55.06	-25.00	AV	L	Pass
3	0.358	44.05	10.31	58.77	-14.72	Peak	L	Pass
3**	0.358	31.16	10.31	48.77	-17.61	AV	L	Pass
4	0.774	38.58	10.26	56.00	-17.42	Peak	L	Pass
4**	0.774	25.95	10.26	46.00	-20.05	AV	L	Pass
5	2.084	37.43	10.26	56.00	-18.57	Peak	L	Pass
5**	2.084	25.87	10.26	46.00	-20.13	AV	L	Pass
6	21.430	37.17	10.58	60.00	-22.83	Peak	L	Pass
6**	21.430	25.31	10.58	50.00	-24.69	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	59.71	10.41	65.89	-6.18	Peak	N	Pass
1**	0.152	37.87	10.41	55.89	-18.02	AV	N	Pass
2	0.174	55.05	10.39	64.77	-9.72	Peak	N	Pass
2**	0.174	36.17	10.39	54.77	-18.60	AV	N	Pass
3	0.382	43.10	10.30	58.24	-15.14	Peak	N	Pass
3**	0.382	29.89	10.30	48.24	-18.35	AV	N	Pass
4	0.804	36.80	10.27	56.00	-19.20	Peak	N	Pass
4**	0.804	24.58	10.27	46.00	-21.42	AV	N	Pass
5	4.746	38.73	10.30	56.00	-17.27	Peak	N	Pass
5**	4.746	28.13	10.30	46.00	-17.87	AV	N	Pass
6	15.188	37.68	10.41	60.00	-22.32	Peak	N	Pass
6**	15.188	23.47	10.41	50.00	-26.53	AV	N	Pass

## **ANNEX B TEST SETUP PHOTOS**

Please refer the document "BL-SZ20C0188-AE-1.PDF".

## **ANNEX C EUT EXTERNAL PHOTOS**

Please refer the document "BL-SZ20C0188-AW.PDF".

## **ANNEX D EUT INTERNAL PHOTOS**

Please refer the document "BL-SZ20C0188-AI.PDF".

--END OF REPORT--