

EMC

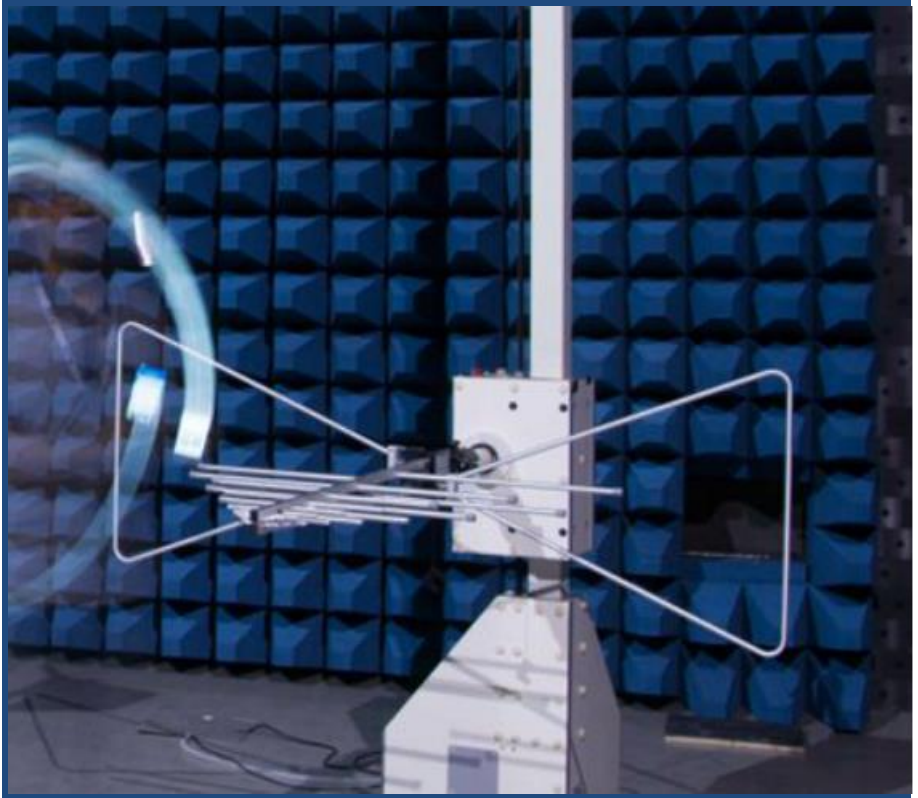
TEST REPORT

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: Sijie Zheng
Sijie Zheng
Date Feb. 18, 2022

Approved by: Liao Jianming
Liao Jianming
(Technical Director)
Date Feb. 18, 2022

Report No.: BL-SZ21B0287-401
EUT Name: Mobile Phone
Model Name: RMX3472
Brand Name: realme
Test Standard: 47 CFR Part 15 Subpart B
FCC ID: 2AUYFRMX3472

Test Conclusion: Pass
Test Date: Nov. 22, 2021 ~ Nov. 30, 2021
Date of Issue: Feb. 18, 2022

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Revision History

<u>Version</u>	<u>Issue Date</u>	<u>Revisions Content</u>
<u>Rev. 01</u>	<u>Feb. 14, 2022</u>	<u>Initial Issue</u>
<u>Rev. 02</u>	<u>Feb. 18, 2022</u>	<u>Section 4.2 Add Test Equipment List</u> <u>Section 5 Add Test Procedure</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	30% to 60%
Ambient Pressure	100 kPa to 102 kPa

1.4 Announce

- (1) The test report reference to the report template version v7.2.
- (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	N/A
Address	N/A

2.4 General Description for Equipment under Test (EUT)

EUT Name	Mobile Phone
Model Name Under Test	RMX3472
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	11
Software Version	realme UI V3.0
Dimensions (Approx.)	164.3*75.6*8.5mm
Weight (Approx.)	192g (with battery)

2.5 Ancillary Equipment

Ancillary Equipment 1	Li-Polymer Battery 1	
	Brand Name	realme
	Model No.	BLP911
	Serial No.	N/A
	Capacitance	Rated: 4880mAh/18.88Wh Typical: 5000mAh/19.35Wh
	Rated Voltage	3.87V
	Limited Voltage	4.45V
	Manufacturer	Sunwoda Electronic CO., LTD.
Ancillary Equipment 2	Li-Polymer Battery (alternative) 2	
	Brand Name	realme
	Model No.	BLP911
	Serial No.	N/A
	Capacitance	Rated: 4880mAh/18.88Wh Typical: 5000mAh/19.35Wh
	Rated Voltage	3.87V
	Limited Voltage	4.45V
	Manufacturer	TWS Technology (Guangzhou) Limited
Ancillary Equipment 3	Li-Polymer Battery (alternative) 3	
	Brand Name	realme
	Model No.	BLP911
	Serial No.	N/A
	Capacitance	Rated: 4880mAh/18.88Wh Typical: 5000mAh/19.35Wh
	Rated Voltage	3.87V
	Limited Voltage	4.45V
	Manufacturer	Chongqing CosMX BATTERY CO., LTD.
Ancillary Equipment 4	Power Supply Unit 1	
	Brand Name	realme
	Model No.	VCB3HAEH(Huntkey)
	Serial No.	N/A
	Rated Input	100-240VAC 50/60Hz 1.2A
	Rated Output	5VDC 2A or 5~11VDC 3A Max
Ancillary Equipment 5	Power Supply Unit (alternative) 2	
	Brand Name	realme
	Model No.	VCB3HAEH(GOLDEN LAKE)
	Serial No.	N/A
	Rated Input	100-240VAC 50/60Hz 1.2A
	Rated Output	5VDC 2A or 5~11VDC 3A Max
Ancillary Equipment 6	Power Supply Unit (alternative) 3	
	Brand Name	realme
	Model No.	VCB3HDEH(Huntkey)

	Serial No.	N/A
	Rated Input	100-240VAC 50/60Hz 1.2A
	Rated Output	5VDC 2A or 5~11VDC 3A Max
Ancillary Equipment 7	Power Supply Unit (alternative) 4	
	Brand Name	realme
	Model No.	VCB3HDEH(GOLDEN LAKE)
	Serial No.	N/A
	Rated Input	100-240VAC 50/60Hz 1.2A
	Rated Output	5VDC 2A or 5~11VDC 3A Max
Ancillary Equipment 8	Power Supply Unit (alternative) 5	
	Brand Name	realme
	Model No.	VCB3HDEH(yohoo)
	Serial No.	N/A
	Rated Input	100-240VAC 50/60Hz 1.2A
	Rated Output	5VDC 2A or 5~11VDC 3A Max
Ancillary Equipment 9	Power Supply Unit(alternative) 6	
	Brand Name	realme
	Model No.	VCB3HBYH(GOLDEN LAKE)
	Serial No.	N/A
	Rated Input	100-240VAC 50/60Hz 1.2A
	Rated Output	5VDC 2A or 5~11VDC 3A Max
Ancillary Equipment 10	Power Supply Unit(alternative) 7	
	Brand Name	realme
	Model No.	VCB3HDYH(Huntkey)
	Serial No.	N/A
	Rated Input	100-240VAC 50/60Hz 1.2A
	Rated Output	5VDC 2A or 5~11VDC 3A Max
Ancillary Equipment 11	Power Supply Unit(alternative) 8	
	Brand Name	realme
	Model No.	VCB3HAUH(Huntkey)
	Serial No.	N/A
	Rated Input	100-240VAC 50/60Hz 1.2A
	Rated Output	5VDC 2A or 5~11VDC 3A Max
Ancillary Equipment 12	Power Supply Unit(alternative) 9	
	Brand Name	realme
	Model No.	VCB3HAUH(GOLDEN LAKE)
	Serial No.	N/A
	Rated Input	100-240VAC 50/60Hz 1.2A
	Rated Output	5VDC 2A or 5~11VDC 3A Max
Ancillary Equipment 13	Power Supply Unit(alternative) 10	
	Brand Name	realme
	Model No.	VCB3HDUH(Huntkey)
	Serial No.	N/A
	Rated Input	100-240VAC 50/60Hz 1.2A

	Rated Output	5VDC 2A or 5~11VDC 3A Max
Ancillary Equipment 14	Power Supply Unit(alternative) 11	
	Brand Name	realme
	Model No.	VCB3HDUH(GOLDEN LAKE)
	Serial No.	N/A
	Rated Input	100-240VAC 50/60Hz 1.2A
	Rated Output	5VDC 2A or 5~11VDC 3A Max
Ancillary Equipment 15	Power Supply Unit(alternative) 12	
	Brand Name	realme
	Model No.	VCB3HDUH(yohoo)
	Serial No.	N/A
	Rated Input	100-240VAC 50/60Hz 1.2A
	Rated Output	5VDC 2A or 5~11VDC 3A Max
Ancillary Equipment 16	Power Supply Unit(alternative) 13	
	Brand Name	realme
	Model No.	VCB3GAPH(LITE-ON)
	Serial No.	N/A
	Rated Input	100-240VAC 50/60Hz 1.2A
	Rated Output	5VDC 2A or 5~11VDC 3A Max
Ancillary Equipment 17	Power Supply Unit(alternative) 14	
	Brand Name	realme
	Model No.	VCB3ACPH (yohoo)
	Serial No.	N/A
	Rated Input	100-240VAC 50/60Hz 1.2A
	Rated Output	5VDC 2A or 5~11VDC 3A Max
Ancillary Equipment 18	USB Cable	
	Model No.	DL143
	Length (Approx.)	1.0 m
Ancillary Equipment 19	USB Cable	
	Model No.	DL150
	Length (Approx.)	1.0 m
Ancillary Equipment 20	Headset	
	Model No.	MH156
	Length (Approx.)	1.2 m
Note 1: Letter in () means plug type.		
Note 2: All adapters are tested, only the worst data of VCB3HAUH 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 FDD LTE Band 2/4/5/7/8/12/13/17/26/66 TDD LTE Band 38/41 LTE CA Uplink (UL): CA_7C, CA_38C, CA_41C 5G Network SA: NR n5/n7/n38/n41/n66 NSA: DC_2A_n7A, DC_5A_n7A, DC_5A_n66A, DC_7A_n5A, DC_7A_n66A, DC_12A_n66A, DC_26A_n41A, DC_66A_n5A, DC_66A_n7A 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, NFC, GPS, GLONASS, BDS, Galileo
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The requirement for the following technical information of the EUT was tested in this report:

The Highest Speed of Processor	2.2GHz
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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)	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)	20°C to 25°C	AC 120 V/60 Hz DC 3.87 V from Battery	30% to 60%	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 RZ	ESRP	101036	2021.10.08	2022.10.09	<input type="checkbox"/>
Test Antenna- Bi-Log	SCHWARZBECK	VULB 9163	9163-624	2019.07.02	2022.07.01	<input type="checkbox"/>
Anechoic Chamber	EMC Electronic Co., Ltd	20.10*11.60 *7.35m	N/A	2021.08.15	2024.08.14	<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	MY55330120	2021.10.20	2022.10.19	<input checked="" type="checkbox"/>
Test Antenna- Bi-Log	SCHWARZBECK	VULB 9163	9163-624	2019.07.02	2022.07.01	<input checked="" type="checkbox"/>
Anechoic Chamber	YIHENG	9m*6m*6m	N/A	2021.09.04	2024.09.03	<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	MY55330120	2021.10.20	2022.10.19	<input checked="" type="checkbox"/>
Test Antenna- Horn	SCHWARZBECK	BBHA 9120D	9120D-1917	2019.07.02	2022.07.01	<input checked="" type="checkbox"/>
Anechoic Chamber	YIHENG	9m*6m*6m	N/A	2021.09.04	2024.09.03	<input checked="" type="checkbox"/>
Test Software	BALUN	BL410_E	V19.918	--	--	<input checked="" type="checkbox"/>

Radiated Emission Test For Frequency above 18GHz						
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	ROHDE & SCHWARZ	FSV40	101544	2021.04.01	2022.03.31	<input checked="" type="checkbox"/>
Test Antenna-Horn	A-INFOMW	LB-180400KF	J211060273	2021.07.02	2024.07.01	<input checked="" type="checkbox"/>
Anechoic Chamber	YIHENG	9m*6m*6m	N/A	2021.09.04	2024.09.03	<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	MY57110309	2021.10.10	2022.10.09	<input checked="" type="checkbox"/>
LISN	SCHWARZBECK	NSLK 8127	8127-687	2021.06.08	2022.06.07	<input checked="" type="checkbox"/>
Shielded Enclosure	YiHeng Electronic Co., Ltd	3.4m*3.1m*2.8m	N/A	2021.08.14	2024.08.13	<input checked="" type="checkbox"/>
Test Software	BALUN	BL410_E	V19.918	--	--	<input checked="" type="checkbox"/>

4.3 Test Enclosure list

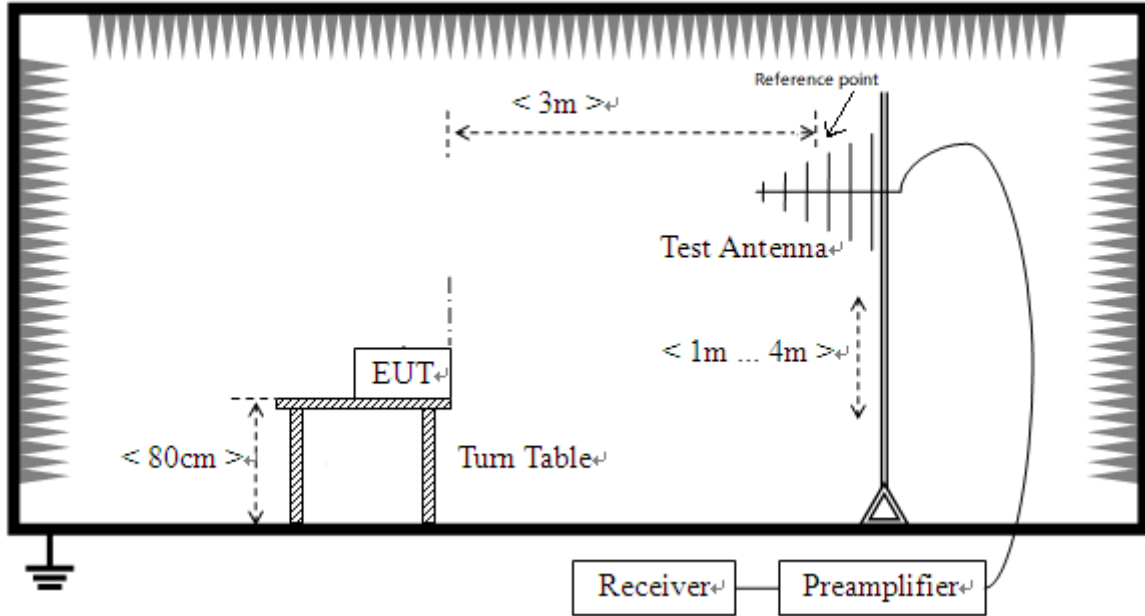
Description	Manufacturer	Model	Serial No.	Length	Description	Use
Laptop	Honor	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>
TF Card	Kingston	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>

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 + TF Card + Headset
TC02	<u>The EGPRS 850 MHz RX Test Mode</u> EGPRS 850 MHz RX + EUT +Adapter + USB Cable + Battery + TF Card + Headset
TC03	<u>The WCDMA Band 5 RX Test Mode</u> WCDMA Band 5 RX + EUT +Adapter + USB Cable + Battery + TF Card + Headset
TC04	<u>The FDD LTE Band 5 RX Test Mode</u> LTE Band 5 RX + EUT +Adapter + USB Cable + Battery + TF Card + Headset
TC05	<u>The FDD LTE Band 12 RX Test Mode</u> LTE Band 12 RX + EUT +Adapter + USB Cable + Battery + TF Card + Headset
TC06	<u>The FDD LTE Band 13 RX Test Mode</u> LTE Band 13 RX + EUT +Adapter + USB Cable + Battery + TF Card + Headset
TC07	<u>The FDD LTE Band 17 RX Test Mode</u> LTE Band 17 RX + EUT +Adapter + USB Cable + Battery + TF Card + Headset
TC08	<u>The FDD LTE Band 26 RX Test Mode</u> LTE Band 26 RX + EUT +Adapter + USB Cable + Battery + TF Card + Headset
TC09	<u>The n5 Test Mode</u> n5 RX + EUT + Adapter + USB Cable + Battery + TF Card + Headset
TC10	<u>The Camera Test Mode</u> EUT + Adapter + USB Cable + Battery + TF Card + Headset
TC11	<u>The Video Play Test Mode</u> EUT + Adapter + USB Cable + Battery + TF Card + Headset
TC12	<u>The USB Test Mode</u> EUT + USB Cable + Battery + Laptop + TF Card + Headset

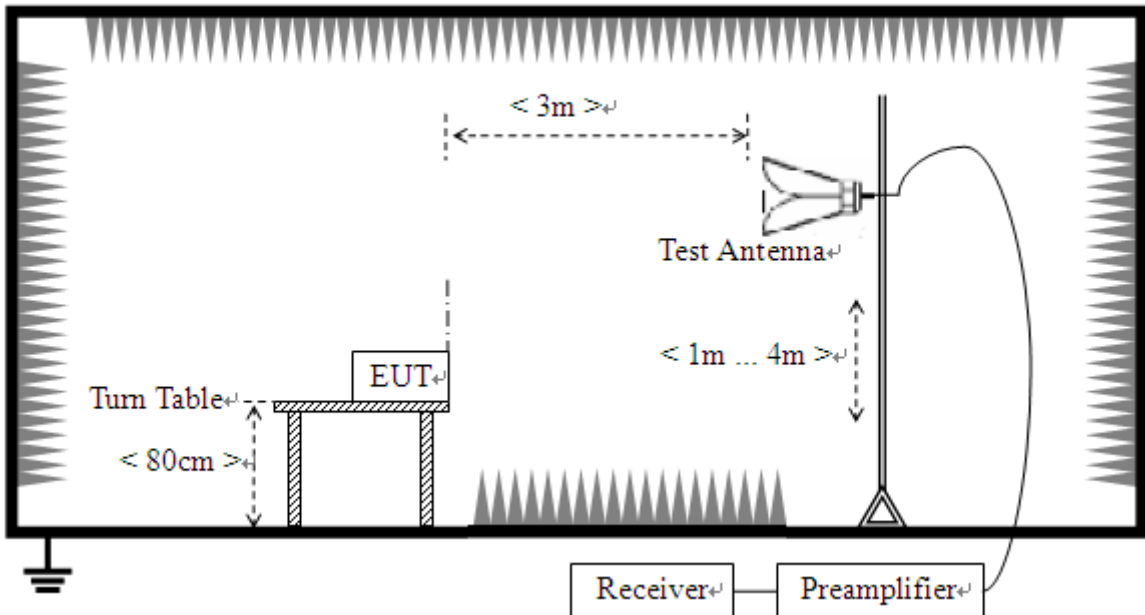
4.5 Test Setups

Test Setup 1



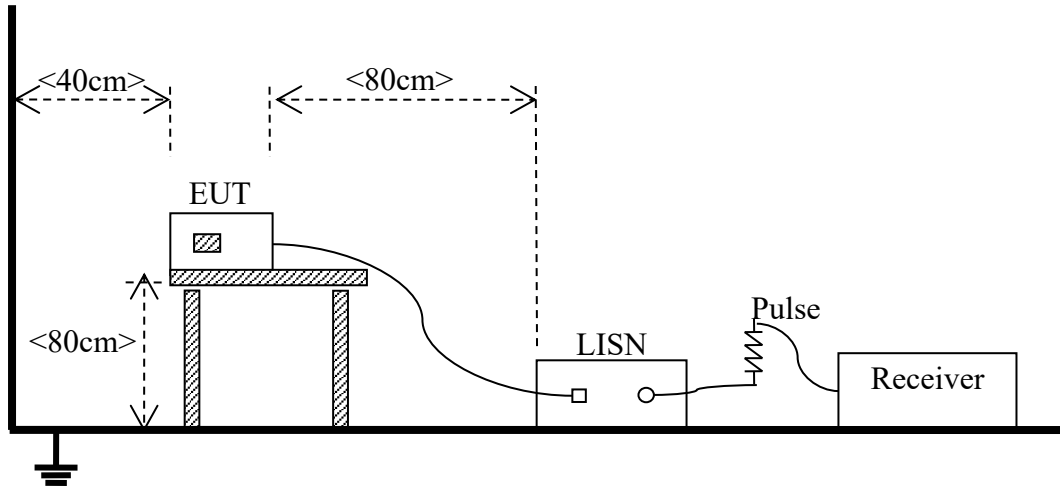
(For Radiated Emission Test (30 MHz-1 GHz))

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~TC12 ^{Note}
Conducted Emission, AC Ports	Test Env.	NTNV
	Test Setup	Test Setup 3
	Test Configuration	TC01~TC12 ^{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 ($\text{dB}\mu\text{V/m}$)	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 (dBuV/m) = Reading (dBuV/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 (dBuV) = Reading (dBuV) + 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.

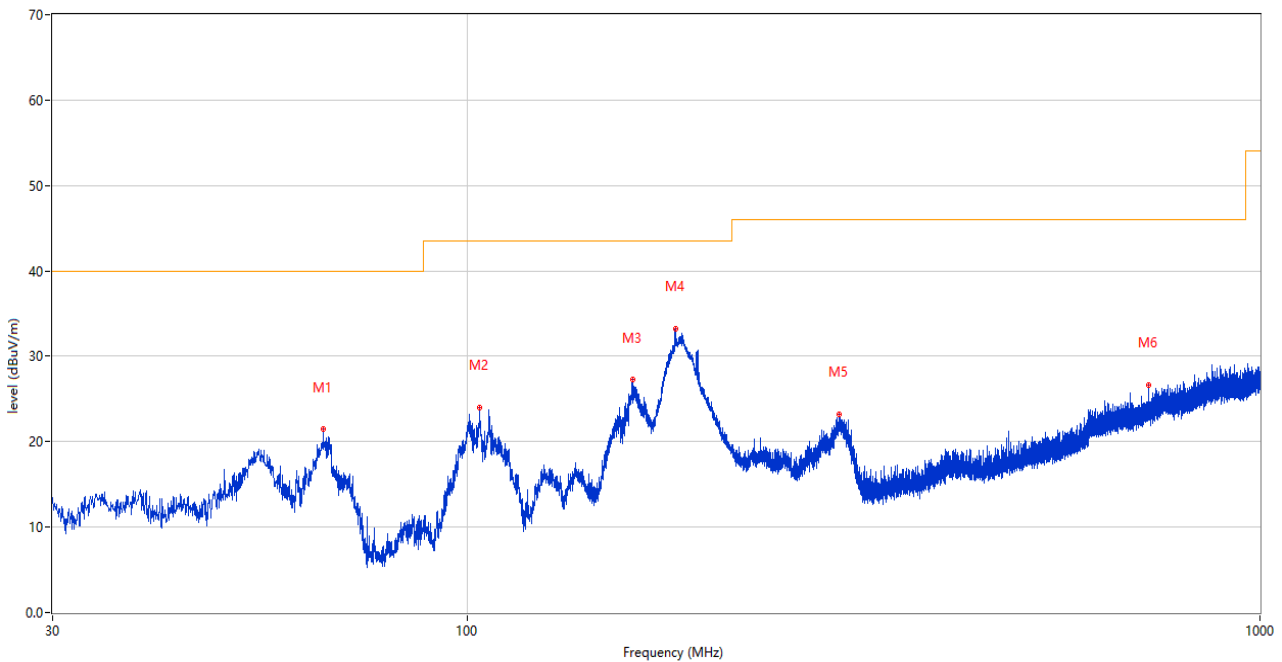
Note 2: For the test data above 1 GHz, according the ANSI C63.4-2014, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

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

Test Data and Plots

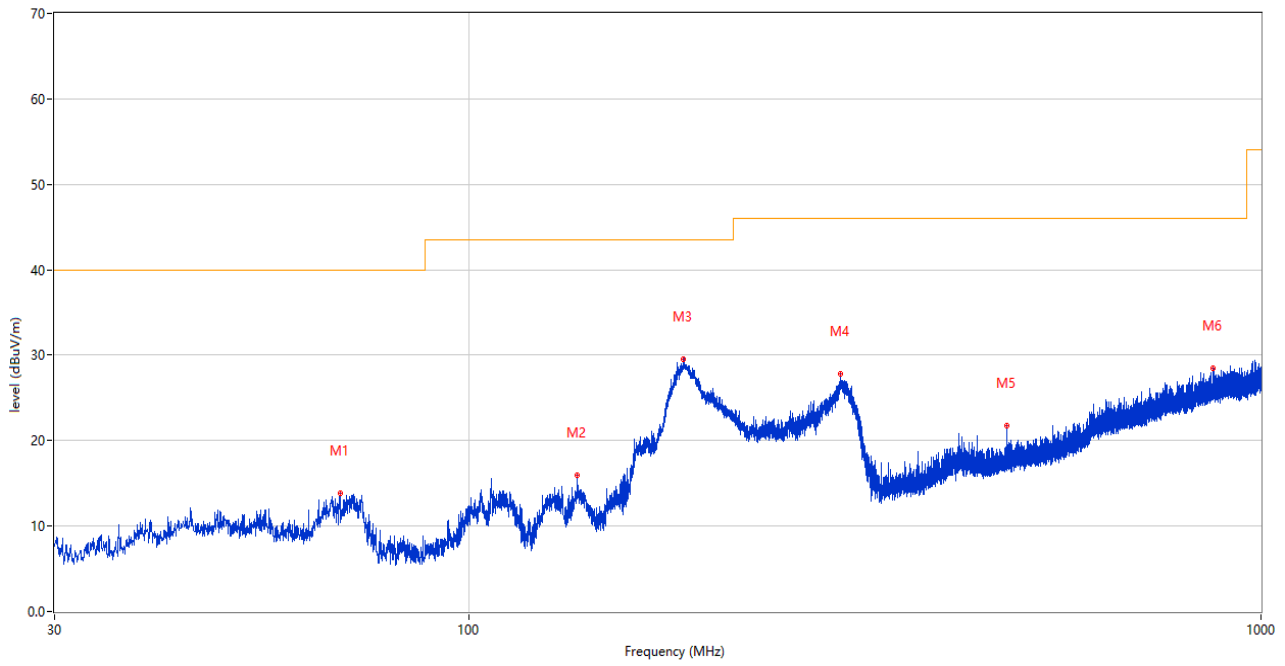
The Camera Test Mode

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



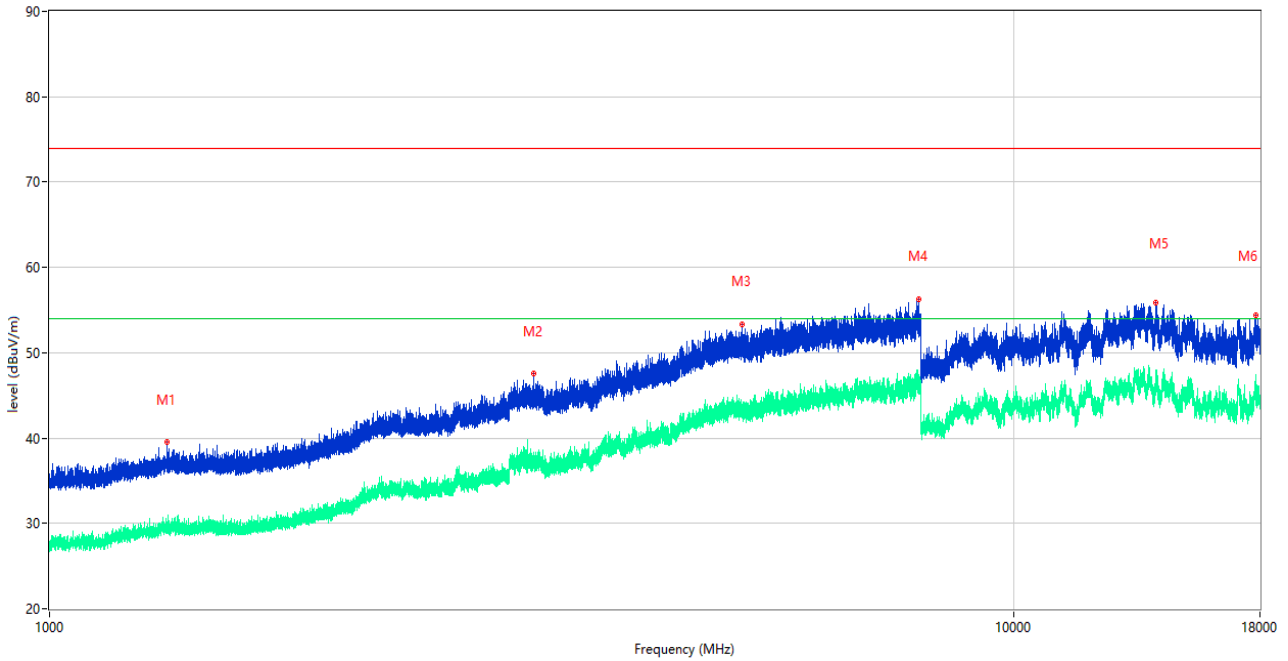
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	65.841	21.43	-27.77	40.0	-18.57	Peak	185.00	100	Vertical	Pass
2	103.575	24.04	-26.50	43.5	-19.46	Peak	263.00	100	Vertical	Pass
3	161.872	27.23	-29.51	43.5	-16.27	Peak	327.00	100	Vertical	Pass
4	183.066	33.26	-28.22	43.5	-10.24	Peak	71.00	100	Vertical	Pass
5	294.664	23.19	-23.79	46.0	-22.81	Peak	124.00	100	Vertical	Pass
6	723.404	26.61	-13.44	46.0	-19.39	Peak	57.00	200	Vertical	Pass

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



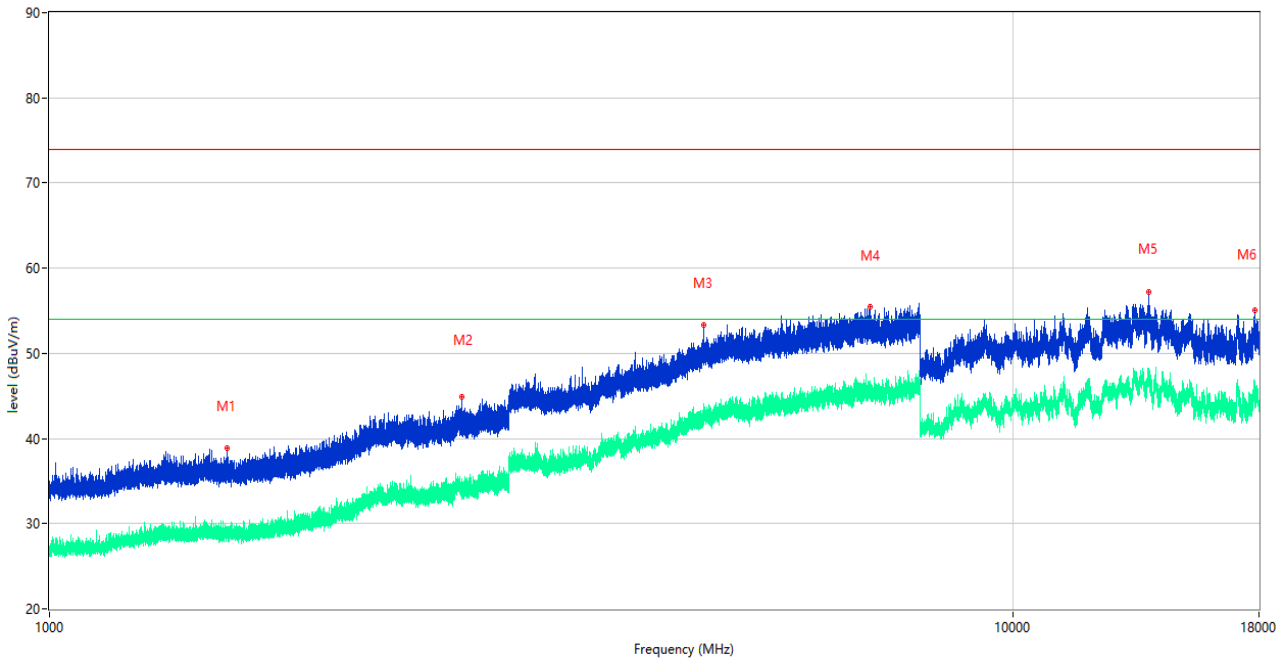
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	68.800	13.87	-28.89	40.0	-26.13	Peak	361.00	200	Horizontal	Pass
2	137.185	15.93	-30.16	43.5	-27.57	Peak	319.00	200	Horizontal	Pass
3	186.510	29.50	-27.90	43.5	-14.00	Peak	97.00	200	Horizontal	Pass
4	294.664	27.77	-23.79	46.0	-18.23	Peak	256.00	100	Horizontal	Pass
5	477.655	21.73	-19.20	46.0	-24.27	Peak	320.00	200	Horizontal	Pass
6	870.844	28.49	-10.39	46.0	-17.51	Peak	323.00	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	1322.400	39.48	-16.52	74.0	-34.52	Peak	123.00	150	Vertical	Pass
1**	1322.400	29.37	-16.52	54.0	-24.63	AV	123.00	150	Vertical	Pass
2	3178.750	47.60	-4.97	74.0	-26.40	Peak	116.00	150	Vertical	Pass
2**	3178.750	36.82	-4.97	54.0	-17.18	AV	116.00	150	Vertical	Pass
3	5225.250	53.28	0.45	74.0	-20.72	Peak	347.00	150	Vertical	Pass
3**	5225.250	43.98	0.45	54.0	-10.02	AV	347.00	150	Vertical	Pass
4	7978.500	56.23	2.11	74.0	-17.77	Peak	190.00	150	Vertical	Pass
4**	7978.500	45.29	2.11	54.0	-8.71	AV	190.00	150	Vertical	Pass
5	14046.500	55.89	5.30	74.0	-18.11	Peak	224.00	150	Vertical	Pass
5**	14046.500	47.40	5.30	54.0	-6.60	AV	224.00	150	Vertical	Pass
6	17828.999	54.33	1.91	74.0	-19.67	Peak	154.00	150	Vertical	Pass
6**	17828.999	45.59	1.91	54.0	-8.41	AV	154.00	150	Vertical	Pass

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

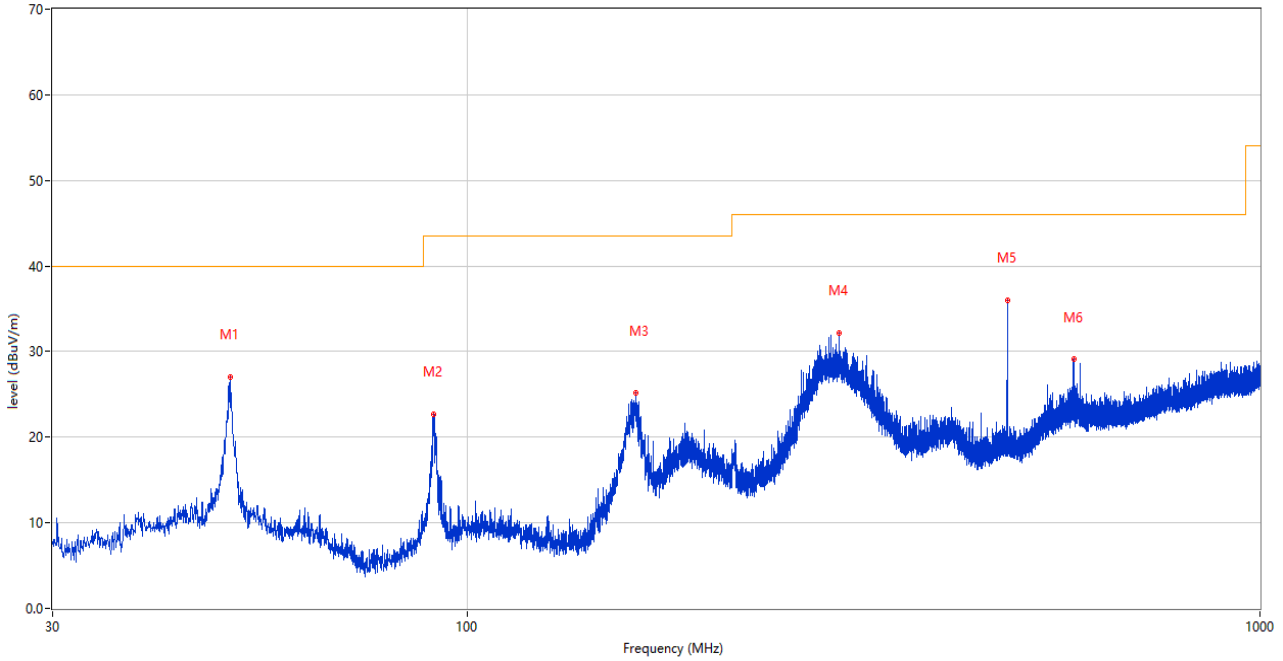


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1528.900	38.81	-16.74	74.0	-35.19	Peak	94.00	150	Horizontal	Pass
1**	1528.900	28.98	-16.74	54.0	-25.02	AV	94.00	150	Horizontal	Pass
2	2681.200	44.96	-9.75	74.0	-29.04	Peak	357.00	150	Horizontal	Pass
2**	2681.200	33.67	-9.75	54.0	-20.33	AV	357.00	150	Horizontal	Pass
3	4776.750	53.32	0.41	74.0	-20.68	Peak	316.00	150	Horizontal	Pass
3**	4776.750	42.84	0.41	54.0	-11.16	AV	316.00	150	Horizontal	Pass
4	7106.250	55.45	2.14	74.0	-18.55	Peak	185.00	150	Horizontal	Pass
4**	7106.250	45.55	2.14	54.0	-8.45	AV	185.00	150	Horizontal	Pass
5	13827.500	57.18	5.46	74.0	-16.82	Peak	66.00	150	Horizontal	Pass
5**	13827.500	46.61	5.46	54.0	-7.39	AV	66.00	150	Horizontal	Pass
6	17816.500	55.11	2.34	74.0	-18.89	Peak	48.00	150	Horizontal	Pass
6**	17816.500	45.30	2.34	54.0	-8.70	AV	48.00	150	Horizontal	Pass

Test Data and Plots

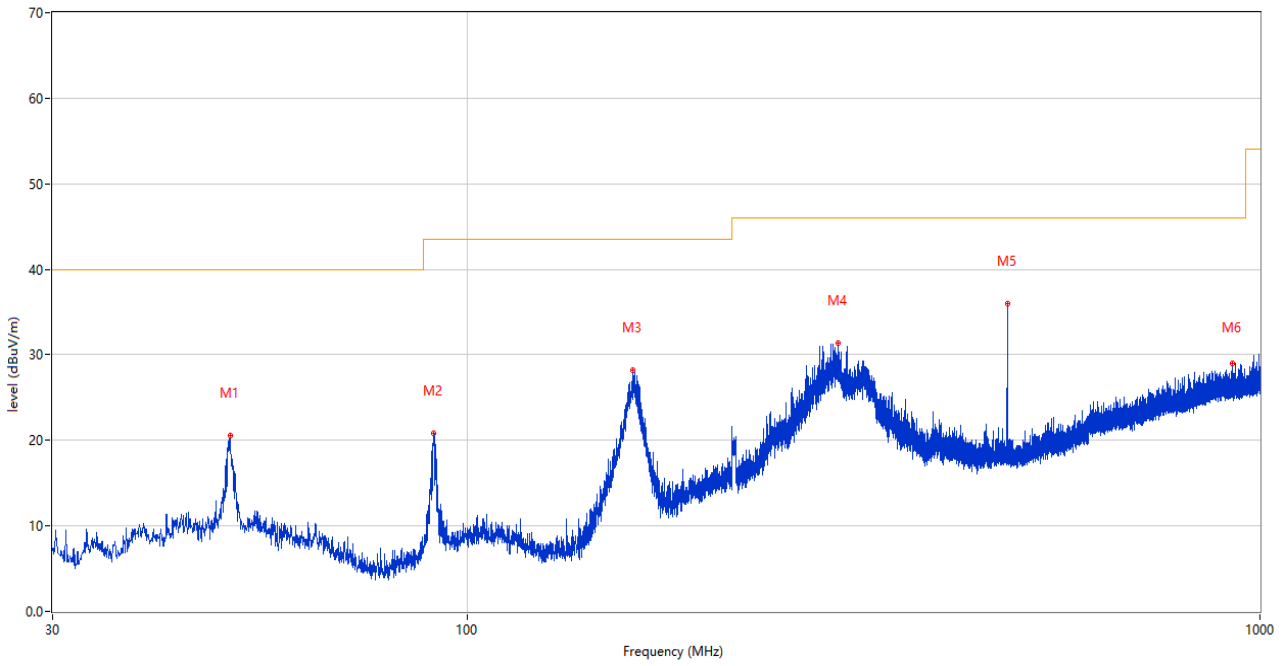
The USB Test Mode

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



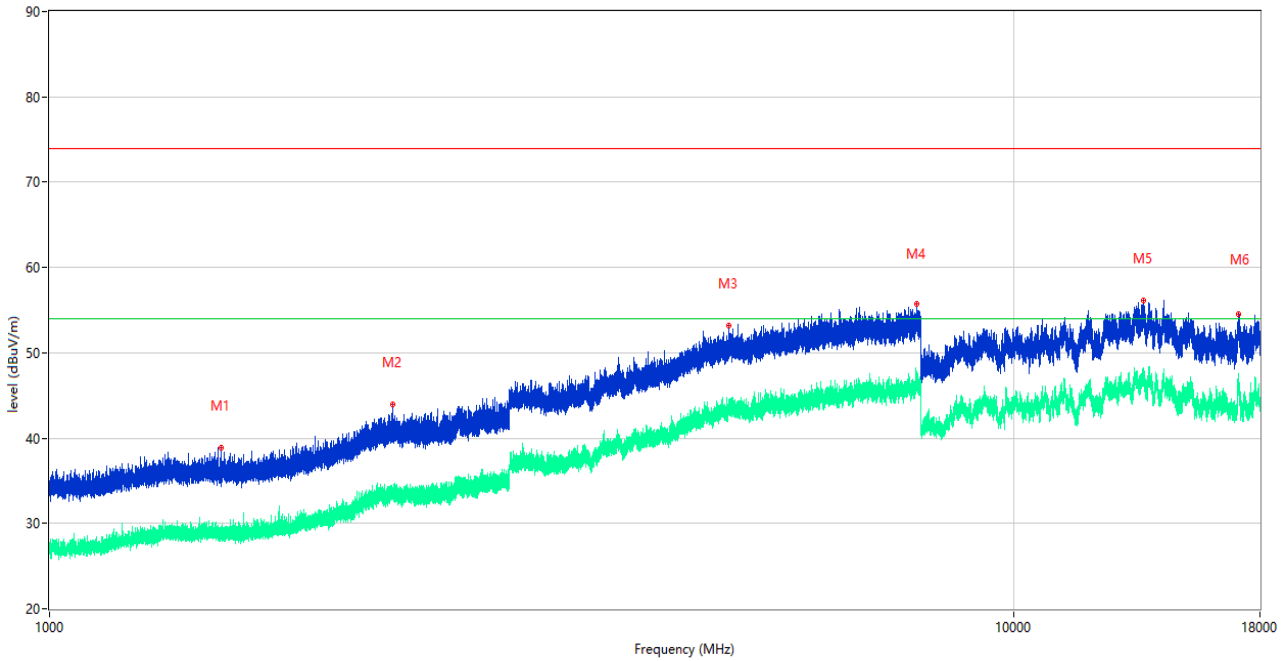
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	50.224	27.03	-25.59	40.0	-12.97	Peak	78.00	100	Vertical	Pass
2	90.674	22.65	-28.37	43.5	-20.85	Peak	361.00	200	Vertical	Pass
3	162.987	25.13	-29.48	43.5	-18.37	Peak	222.00	100	Vertical	Pass
4	294.616	32.15	-23.79	46.0	-13.85	Peak	361.00	200	Vertical	Pass
5	479.983	36.04	-19.19	46.0	-9.96	Peak	314.00	100	Vertical	Pass
6	583.530	29.07	-16.50	46.0	-16.93	Peak	172.00	100	Vertical	Pass

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



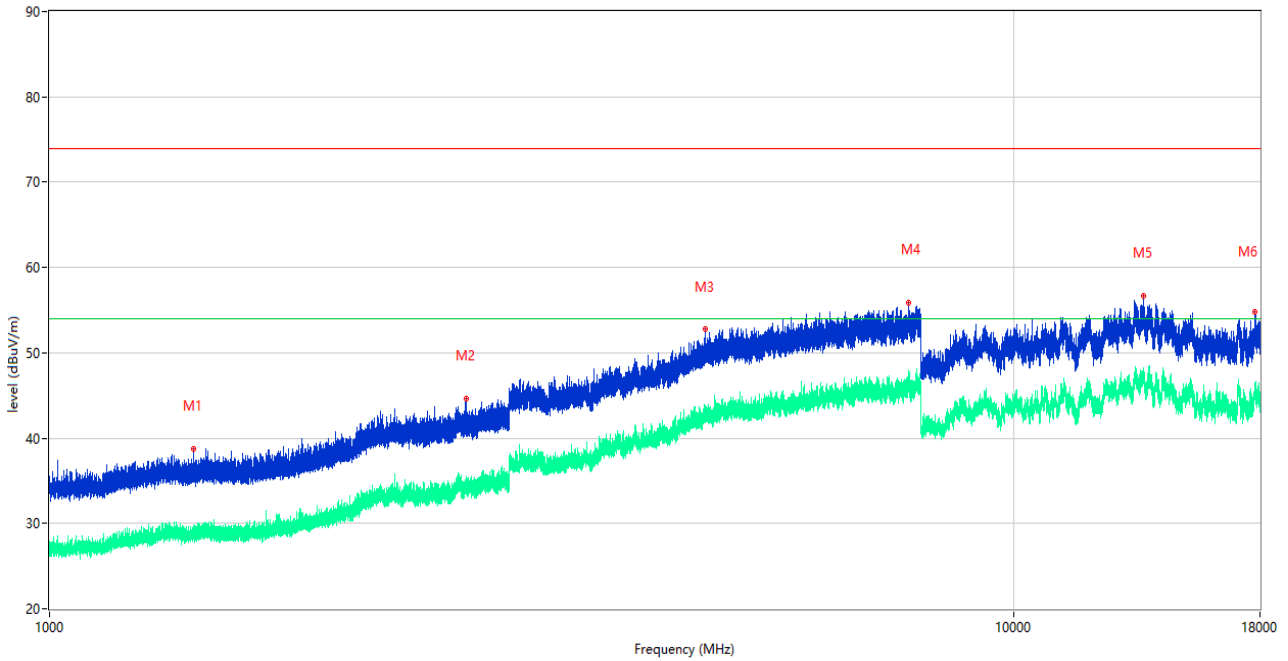
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	50.224	20.52	-25.59	40.0	-19.48	Peak	353.00	200	Horizontal	Pass
2	90.819	20.89	-28.34	43.5	-22.61	Peak	360.00	200	Horizontal	Pass
3	161.775	28.26	-29.51	43.5	-15.24	Peak	360.00	200	Horizontal	Pass
4	293.500	31.43	-23.85	46.0	-14.57	Peak	214.00	100	Horizontal	Pass
5	479.983	35.98	-19.19	46.0	-10.02	Peak	349.00	100	Horizontal	Pass
6	923.516	28.94	-9.63	46.0	-17.06	Peak	26.00	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	1505.500	38.85	-16.82	74.0	-35.15	Peak	309.00	150	Vertical	Pass
1**	1505.500	29.00	-16.82	54.0	-25.00	AV	309.00	150	Vertical	Pass
2	2271.900	43.90	-11.92	74.0	-30.10	Peak	194.00	150	Vertical	Pass
2**	2271.900	33.11	-11.92	54.0	-20.89	AV	194.00	150	Vertical	Pass
3	5058.500	53.17	0.03	74.0	-20.83	Peak	29.00	150	Vertical	Pass
3**	5058.500	42.89	0.03	54.0	-11.11	AV	29.00	150	Vertical	Pass
4	7924.500	55.72	2.99	74.0	-18.28	Peak	184.00	150	Vertical	Pass
4**	7924.500	45.72	2.99	54.0	-8.28	AV	184.00	150	Vertical	Pass
5	13626.000	56.19	4.93	74.0	-17.81	Peak	171.00	150	Vertical	Pass
5**	13626.000	46.44	4.93	54.0	-7.56	AV	171.00	150	Vertical	Pass
6	17100.500	54.54	3.74	74.0	-19.46	Peak	258.00	150	Vertical	Pass
6**	17100.500	46.20	3.74	54.0	-7.80	AV	258.00	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	1409.900	38.80	-16.69	74.0	-35.20	Peak	360.00	150	Horizontal	Pass
1**	1409.900	28.37	-16.69	54.0	-25.63	AV	360.00	150	Horizontal	Pass
2	2702.000	44.59	-10.30	74.0	-29.41	Peak	247.00	150	Horizontal	Pass
2**	2702.000	34.00	-10.30	54.0	-20.00	AV	247.00	150	Horizontal	Pass
3	4785.500	52.84	0.96	74.0	-21.16	Peak	250.00	150	Horizontal	Pass
3**	4785.500	43.72	0.96	54.0	-10.28	AV	250.00	150	Horizontal	Pass
4	7783.500	55.87	3.17	74.0	-18.13	Peak	57.00	150	Horizontal	Pass
4**	7783.500	46.80	3.17	54.0	-7.20	AV	57.00	150	Horizontal	Pass
5	13635.000	56.61	5.01	74.0	-17.39	Peak	208.00	150	Horizontal	Pass
5**	13635.000	46.78	5.01	54.0	-7.22	AV	208.00	150	Horizontal	Pass
6	17802.000	54.84	2.84	74.0	-19.16	Peak	346.00	150	Horizontal	Pass
6**	17802.000	45.77	2.84	54.0	-8.23	AV	346.00	150	Horizontal	Pass

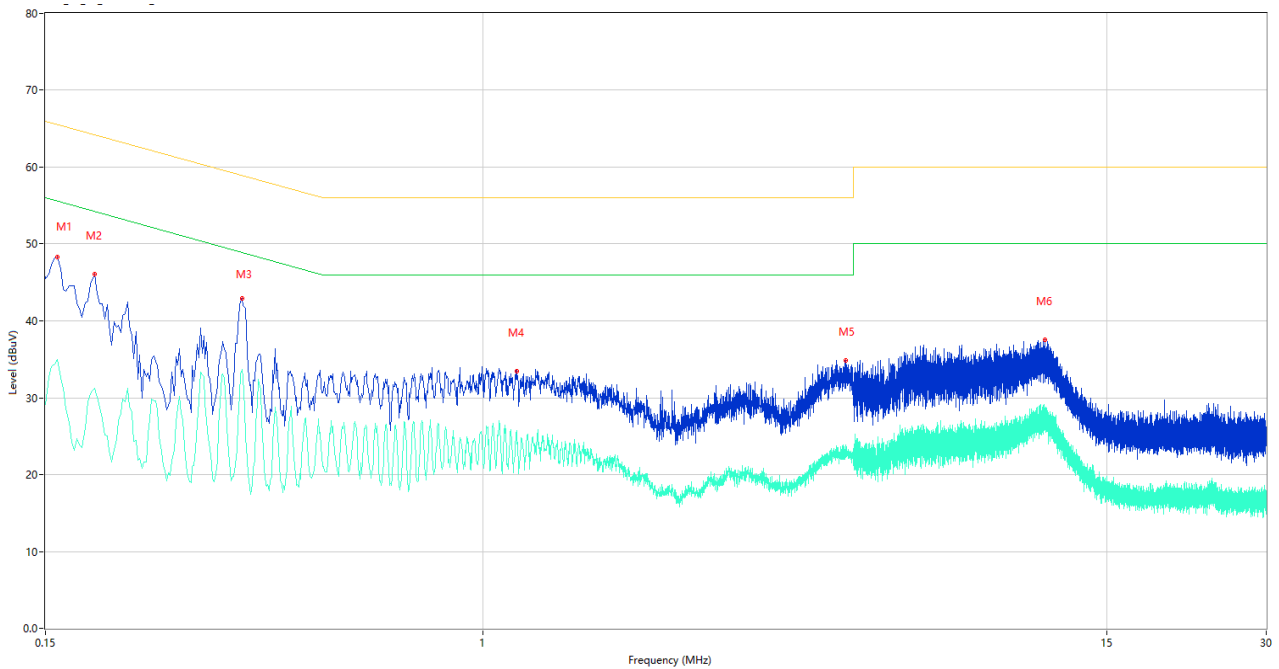
A.2 Conducted Emission

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

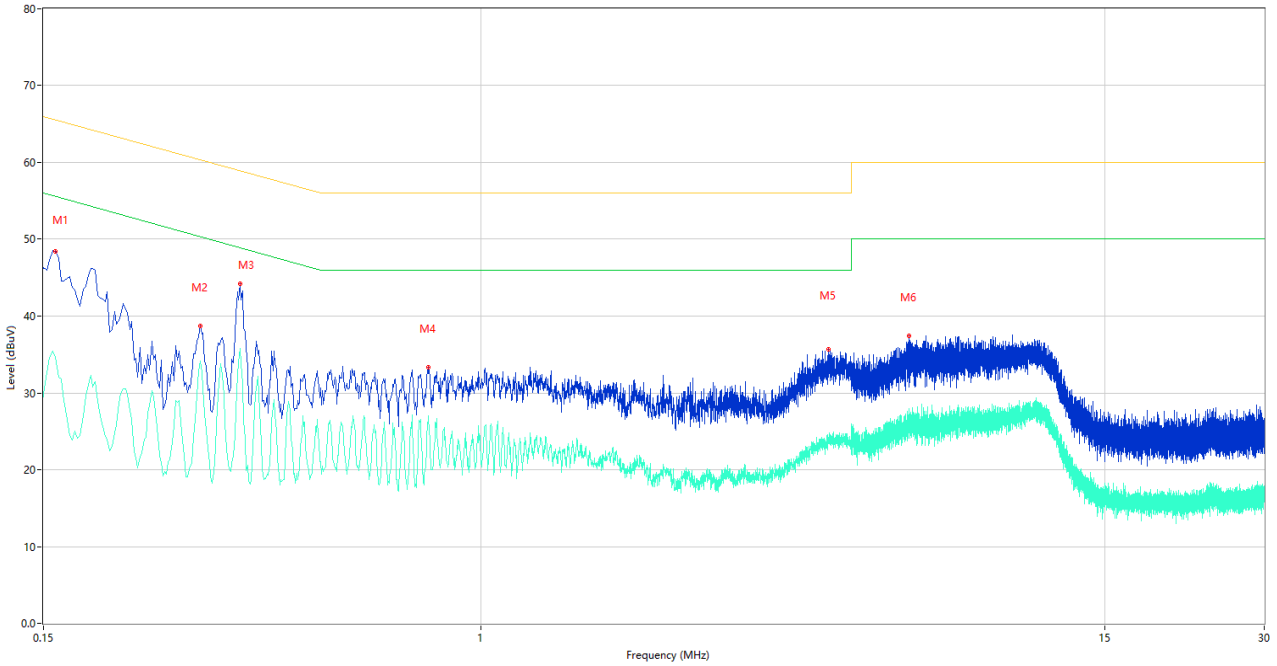
The Camera Test Mode

A.2.1 L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.158	48.33	10.18	65.57	-17.24	Peak	L	Pass
1**	0.158	35.02	10.18	55.57	-20.55	AV	L	Pass
2	0.186	46.11	10.12	64.21	-18.10	Peak	L	Pass
2**	0.186	31.25	10.12	54.21	-22.96	AV	L	Pass
3	0.352	42.90	10.08	58.92	-16.02	Peak	L	Pass
3**	0.352	33.72	10.08	48.92	-15.20	AV	L	Pass
4	1.162	33.42	10.00	56.00	-22.58	Peak	L	Pass
4**	1.162	24.01	10.00	46.00	-21.99	AV	L	Pass
5	4.842	34.88	9.96	56.00	-21.12	Peak	L	Pass
5**	4.842	23.85	9.96	46.00	-22.15	AV	L	Pass
6	11.504	37.55	10.10	60.00	-22.45	Peak	L	Pass
6**	11.504	28.54	10.10	50.00	-21.46	AV	L	Pass

A.2.2 N Phase

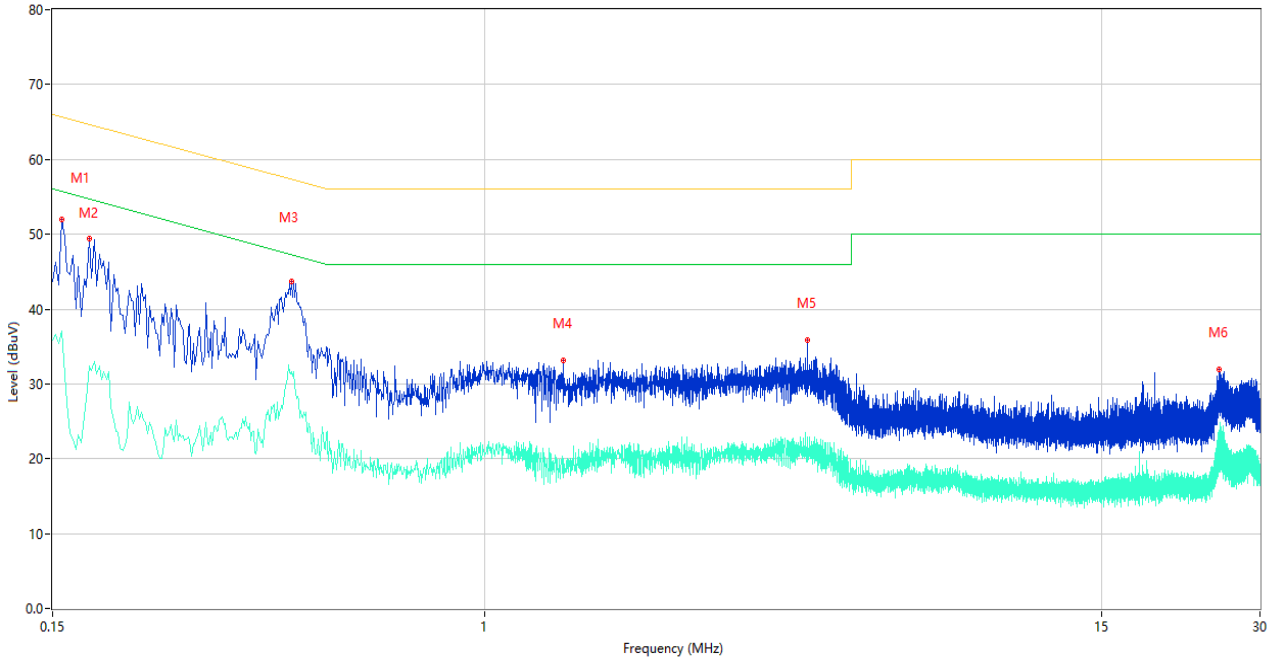


No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.158	48.42	10.18	65.57	-17.15	Peak	N	Pass
1**	0.158	34.67	10.18	55.57	-20.90	AV	N	Pass
2	0.296	38.77	10.07	60.35	-21.58	Peak	N	Pass
2**	0.296	34.12	10.07	50.35	-16.23	AV	N	Pass
3	0.352	44.19	10.08	58.92	-14.73	Peak	N	Pass
3**	0.352	35.85	10.08	48.92	-13.07	AV	N	Pass
4	0.796	33.31	10.06	56.00	-22.69	Peak	N	Pass
4**	0.796	27.01	10.06	46.00	-18.99	AV	N	Pass
5	4.532	35.63	10.00	56.00	-20.37	Peak	N	Pass
5**	4.532	24.17	10.00	46.00	-21.83	AV	N	Pass
6	6.432	37.44	9.97	60.00	-22.56	Peak	N	Pass
6**	6.432	27.92	9.97	50.00	-22.08	AV	N	Pass

Test Data and Plots

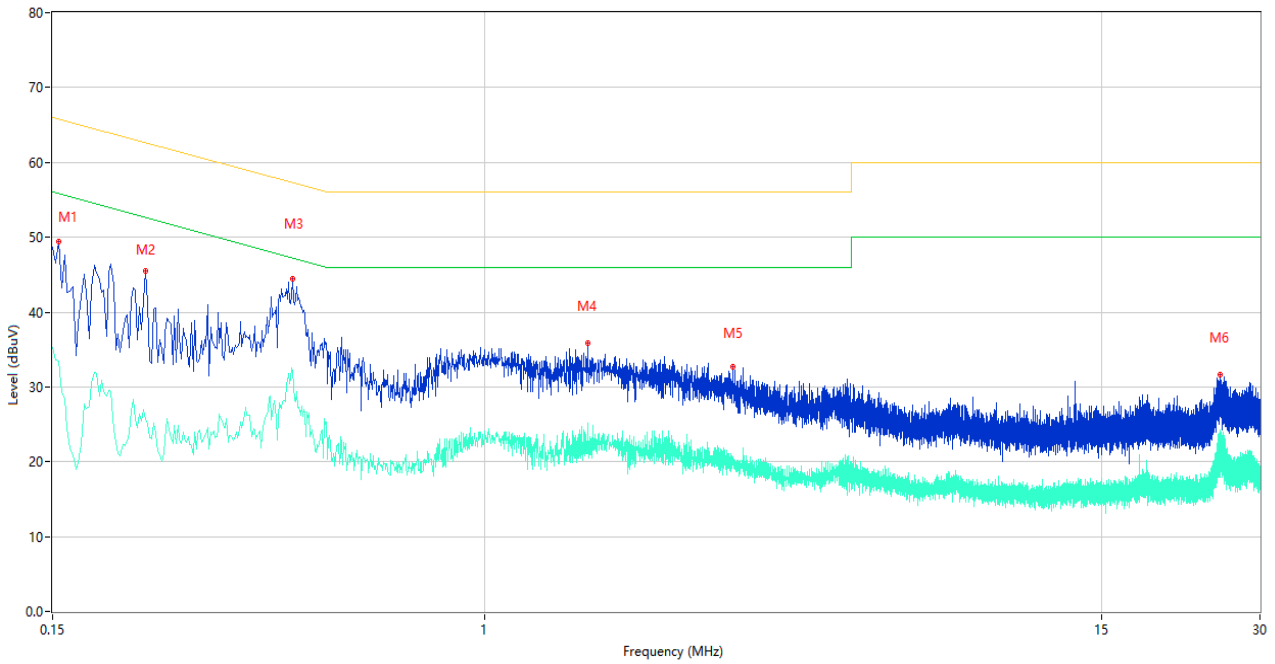
The USB Test Mode

A.2.3 L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.150	43.75	10.19	66.00	-22.25	Peak	L	Pass
1**	0.150	35.85	10.19	56.00	-20.15	AV	L	Pass
2	0.176	49.35	10.14	64.67	-15.32	Peak	L	Pass
2**	0.176	32.46	10.14	54.67	-22.21	AV	L	Pass
3	0.428	43.63	10.10	57.29	-13.66	Peak	L	Pass
3**	0.428	31.65	10.10	47.29	-15.64	AV	L	Pass
4	1.412	33.17	9.96	56.00	-22.83	Peak	L	Pass
4**	1.412	20.03	9.96	46.00	-25.97	AV	L	Pass
5	4.114	35.82	10.07	56.00	-20.18	Peak	L	Pass
5**	4.114	22.14	10.07	46.00	-23.86	AV	L	Pass
6	25.072	31.96	10.16	60.00	-28.04	Peak	L	Pass
6**	25.072	22.61	10.16	50.00	-27.39	AV	L	Pass

A.2.4 N Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.154	49.37	10.18	65.78	-16.41	Peak	N	Pass
1**	0.154	33.39	10.18	55.78	-22.39	AV	N	Pass
2	0.226	45.42	10.09	62.60	-17.18	Peak	N	Pass
2**	0.226	25.74	10.09	52.60	-26.86	AV	N	Pass
3	0.430	44.47	10.10	57.25	-12.78	Peak	N	Pass
3**	0.430	32.14	10.10	47.25	-15.11	AV	N	Pass
4	1.568	35.90	9.93	56.00	-20.10	Peak	N	Pass
4**	1.568	24.40	9.93	46.00	-21.60	AV	N	Pass
5	2.974	32.63	10.06	56.00	-23.37	Peak	N	Pass
5**	2.974	19.93	10.06	46.00	-26.07	AV	N	Pass
6	25.212	31.57	10.16	60.00	-28.43	Peak	N	Pass
6**	25.212	24.11	10.16	50.00	-25.89	AV	N	Pass

ANNEX B TEST SETUP PHOTOS

Please refer the document "BL-SZ21B0287-AE-1.PDF".

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document "BL-SZ21B0287-AW.PDF".

ANNEX D EUT INTERNAL PHOTOS

Please refer the document "BL-SZ21B0287-AI.PDF".

--END OF REPORT--