

EMC

TEST REPORT

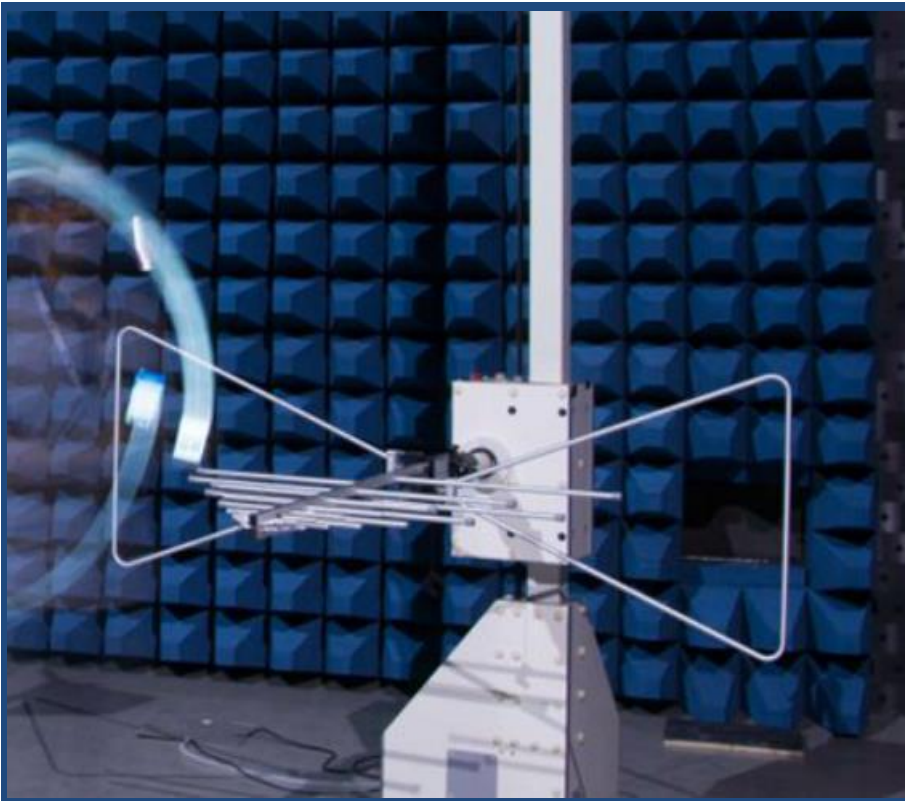
ISSUED BY
Shenzhen BALUN Technology Co., Ltd.



FOR
Mobile phone

ISSUED TO
Guangdong OPPO Mobile Telecommunications Corp., Ltd.

NO.18 Haibin Road, Wusha Village, Chang'an Town, Dongguan City,
Guangdong, China



Tested by: Zhang Guoxi
Zhang Guoxi
Date Jan. 12, 2022

Approved by: Liao Jianming
Liao Jianming
(Technical Director)
Date Jan. 12, 2022

Report No.: BL-SZ21A0580-401
EUT Name: Mobile phone
Model Name: CPH2371
Brand Name: OPPO
Test Standard: 47 CFR Part 15 Subpart B
FCC ID: R9C-CPH2371

Test Conclusion: Pass
Test Date: Oct. 29, 2021 ~ Nov. 22, 2021
Date of Issue: Jan. 12, 2022

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Revision History

Version	Issue Date	Revisions Content
<u>Rev. 01</u>	<u>Dec. 23, 2021</u>	<u>Initial Issue</u>
<u>Rev. 02</u>	<u>Dec. 27, 2021</u>	<u>Add FCC ID information</u>
<u>Rev. 03</u>	<u>Jan. 12, 2022</u>	<u>Updated Section 2.6 Technical Information</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 refer to the BALUN report mode 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	Guangdong OPPO Mobile Telecommunications Corp., Ltd.
Address	NO.18 Haibin Road, Wusha Village, Chang'an Town, Dongguan City, Guangdong, China

2.2 Manufacturer Information

Manufacturer	Guangdong OPPO Mobile Telecommunications Corp., Ltd.
Address	NO.18 Haibin Road, Wusha Village, Chang'an Town, Dongguan City, Guangdong, China

2.3 Factory Information

Factory	Guangdong OPPO Mobile Telecommunications Corp., Ltd.
Address	NO.18 Haibin Road, Wusha Village, Chang'an Town, Dongguan City, Guangdong, China

2.4 General Description for Equipment under Test (EUT)

EUT Name	Mobile Phone
Model Name Under Test	CPH2371
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	11
Software Version	ColorOS V12
Dimensions (Approx.)	160.6*73.2*7.81mm
Weight (Approx.)	173g (with battery)

2.5 Ancillary Equipment

Ancillary Equipment 1	Li-Polymer Battery 1	
	Brand Name	OPPO
	Model No.	BLP855
	Serial No.	N/A
	Capacitance	Rated: 2200mAh/17.02Wh Typical: 2250mAh/17.41Wh
	Rated Voltage	7.74 V
	Limited Voltage	8.90 V
	Manufacturer	Dongguan NVT Technology Co., Ltd.
Ancillary Equipment 2	Power Supply Unit 1	
	Brand Name	OPPO
	Model No.	VCA7JFUH
	Serial No.	N/A(GOLDEN LAKE)
	Rated Input 1	100-130VAC 50/60Hz 1.8A
	Rated Output 1	5VDC 2A or 10VDC 5A Max
	Rated Input 2	100-240VAC 50/60Hz 1.8A
	Rated Output 2	5VDC 2A or 10VDC 6.5A Max
Ancillary Equipment 3	Power Supply Unit(alternative) 2	
	Brand Name	OPPO
	Model No.	VCA7JFUH
	Serial No.	N/A(yohoo)
	Rated Input 1	100-130VAC 50/60Hz 1.8A
	Rated Output 1	5VDC 2A or 10VDC 5A Max
	Rated Input 2	100-240VAC 50/60Hz 1.8A
	Rated Output 2	5VDC 2A or 10VDC 6.5A Max
Ancillary Equipment 4	Power Supply Unit(alternative) 3	
	Brand Name	OPPO
	Model No.	VCA7JFUH
	Serial No.	N/A(Chenyang)
	Rated Input 1	100-130VAC 50/60Hz 1.8A
	Rated Output 1	5VDC 2A or 10VDC 5A Max
	Rated Input 2	100-240VAC 50/60Hz 1.8A
	Rated Output 2	5VDC 2A or 10VDC 6.5A Max
Ancillary Equipment 5	Power Supply Unit(alternative) 4	
	Brand Name	OPPO
	Model No.	VCA7JBUH
	Serial No.	N/A(GOLDEN LAKE)
	Rated Input	100-240VAC 50/60Hz 1.8A
	Rated Output	5VDC 3A or 10VDC 6.5A Max PDO:5V=3A / 9V=3A/ 12V=3A/ 15V=3A/ 20V=2.25A PPS:3.3-16.0V 3.0A MAX(45.0W MAX)

Ancillary Equipment 6	Power Supply Unit(alternative) 5	
	Brand Name	OPPO
	Model No.	VCA7JAUH
	Serial No.	N/A(GOLDEN LAKE)
	Rated Input 1	100-130VAC 50/60Hz 1.8A
	Rated Output 1	5VDC 2A or 10VDC 5A Max
	Rated Input 2	100-240VAC 50/60Hz 1.8A
	Rated Output 2	5VDC 2A or 10VDC 6.5A Max
Ancillary Equipment 7	Power Supply Unit(alternative) 6	
	Brand Name	OPPO
	Model No.	VCA7JDUH
	Serial No.	N/A(GOLDEN LAKE)
	Rated Input 1	100-130VAC 50/60Hz 1.8A
	Rated Output 1	5VDC 2A or 10VDC 5A Max
	Rated Input 2	100-240VAC 50/60Hz 1.8A
	Rated Output 2	5VDC 2A or 10VDC 6.5A Max
Ancillary Equipment 8	USB Cable	
	Model No.	DL129
	Length (Approx.)	1.0 m
Ancillary Equipment 9	Headset	
	Model No.	MH156
	Length (Approx.)	1.0 m
Note 1: Letter in () means plug type.		
Note 2: All adapters are tested, only the worst data of VCA7JBUH (US Plug 100-240VAC) 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/DC-HSDPA/HSPA+ Band 2/4/5 4G Network FDD LTE Band 2/4/5/7/12/17/26/66 TDD LTE Band 38/41 LTE CA Uplink (UL): CA_7C, CA_38C, CA_41C 5G Network SA: NR n5/n7/n38/n41 NSA(EN-DC): DC_7A_n66A, DC_66A_n66A, DC_5A_n7A, DC_7A_n7A, DC_66A_n7A, DC_7A_n5A Bluetooth (BR+EDR+BLE) 2.4G WIFI 802.11b, 802.11g, 802.11n (HT20/40), 802.11VHT20/40, 802.11ax (HE20/40) 5G WIFI 802.11a, 802.11n(HT20/40), 802.11ac(VHT20/40/80), 802.11ax(HE20/40/80) U-NII-1/2A/2C/3 GPS, GLONASS, BDS, Galileo, SBAS, 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	2.4GHz
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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 or DC 7.74 V form 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&SCHWA RZ	ESRP	101036	2021.10.08	2022.10.09	☐
Test Antenna- Bi-Log	SCHWARZBECK	VULB 9163	9163-624	2019.07.02	2022.07.01	☐
Anechoic Chamber	EMC Electronic Co., Ltd	20.10*11.60 *7.35m	N/A	2021.08.15	2024.08.14	☐
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	MY55330120	2021.10.20	2022.10.19	☒
Test Antenna- Bi-Log	SCHWARZBECK	VULB 9163	9163-624	2019.07.02	2022.07.01	☒
Anechoic Chamber	YIHENG	9m*6m*6m	N/A	2021.09.04	2024.09.03	☒
Test Software	BALUN	BL410_E	V19.918	--	--	☒

Radiated Emission Test For Frequency Above 1 GHz						
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	KEYSIGHT	N9038A	MY55330120	2021.10.20	2022.10.19	☒
Test Antenna- Horn	SCHWARZBECK	BBHA 9120D	9120D-1917	2019.07.02	2022.07.01	☒
Anechoic Chamber	YIHENG	9m*6m*6m	N/A	2021.09.04	2024.09.03	☒
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	MY55330120	2021.10.20	2022.10.19	☒
Test Antenna-Horn	SCHWARZBECK	BBHA 9120D	9120D-1917	2019.07.02	2022.07.01	☒
Anechoic Chamber	YIHENG	9m*6m*6m	N/A	2021.09.04	2024.09.03	☒
Test Software	BALUN	BL410_E	V19.918	--	--	☒

Radiated Emission Test For Frequency Above 18 GHz						
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	ROHDE & SCHWARZ	FSV40	101544	2021.04.01	2022.03.31	☐
Test Antenna-Horn	A-INFOMW	LB-180400KF	J211060273	2021.07.02	2024.07.01	☐
Anechoic Chamber	YIHENG	9m*6m*6m	N/A	2021.09.04	2024.09.03	☐
Test Software	BALUN	BL410_E	V19.918	--	--	☐

Conducted disturbance Test						
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	KEYSIGHT	N9010B	MY57110309	2021.10.10	2022.10.09	☒
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	2021.08.14	2024.08.13	☒
Test Software	BALUN	BL410_E	V19.918	--	--	☒

4.3 Test Enclosure list

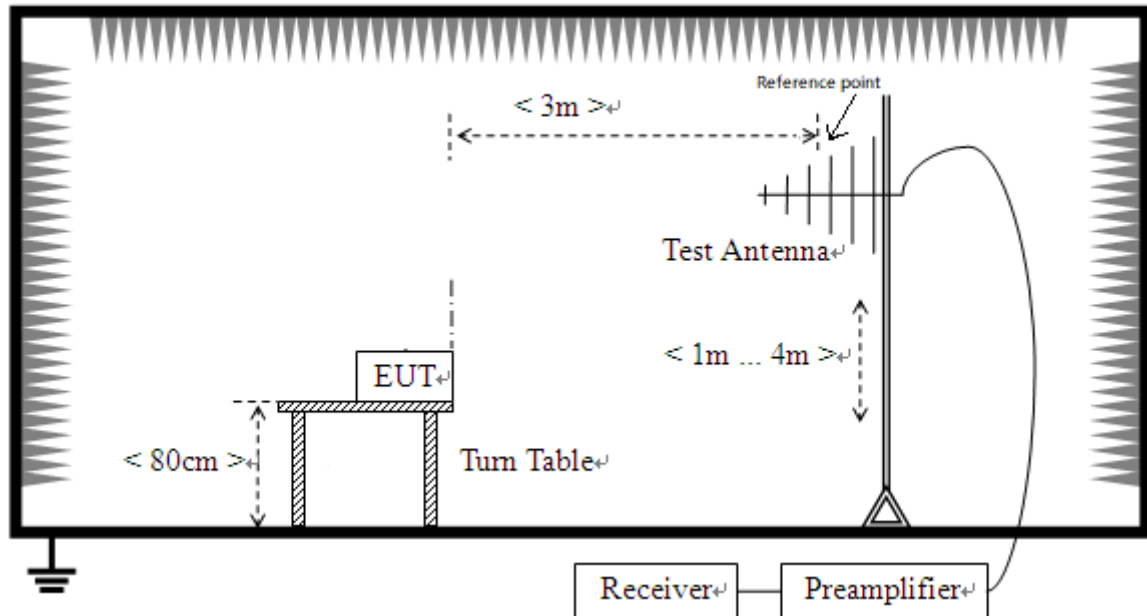
Description	Manufacturer	Model	Serial No.	Length	Description	Use
PC	Dell	015K3N	N/A	N/A	Special Handled	☐
Laptop	Apple	A1465	N/A	N/A	N/A	☒
Printer	HP	DESKJET 1000	N/A	N/A	N/A	☐
Keyboard	Logitech	Y-BP62a	N/A	N/A	N/A	☐
Mouse	Logitech	M100	N/A	N/A	N/A	☐
USB disk	Kingston	N/A	N/A	N/A	N/A	☐
TF Card	Kingston	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	☐
Wireless Communication s Test Set	R&S	CMW500	142028	N/A	Cal. Due 2022.01.13	☒
WIFI Router	TP-LINK	TL-WDR7500	N/A	N/A	N/A	☐
Headset	N/A	N/A	N/A	N/A	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	☐
Wireless Charger	OPPO	OAWV02	N/A	N/A	Output: 45W (Max.)	☐
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 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 17 RX Test Mode</u> LTE Band 17 RX + EUT +Adapter + USB Cable + Battery + TF Card + Headset
TC07	<u>The FDD LTE Band 26 RX Test Mode</u> LTE Band 26 RX + EUT +Adapter + USB Cable + Battery + TF Card + Headset
TC08	<u>The n5 Test Mode</u> n5 RX + EUT + Adapter + USB Cable + Battery + TF Card + Headset
TC09	<u>The Camera Test Mode</u> EUT + Adapter + USB Cable + Battery + TF Card + Headset
TC10	<u>The Video Play Test Mode</u> EUT + Adapter + USB Cable + Battery + TF Card + Headset
TC11	<u>The USB Test Mode</u> EUT + USB Cable + Battery + Laptop + TF Card + Headset
TC12	<u>The USB Test Mode</u> EUT + USB Cable + Battery + Type C plug to USB3.0 +TF Card+ Headset + iPhone xr

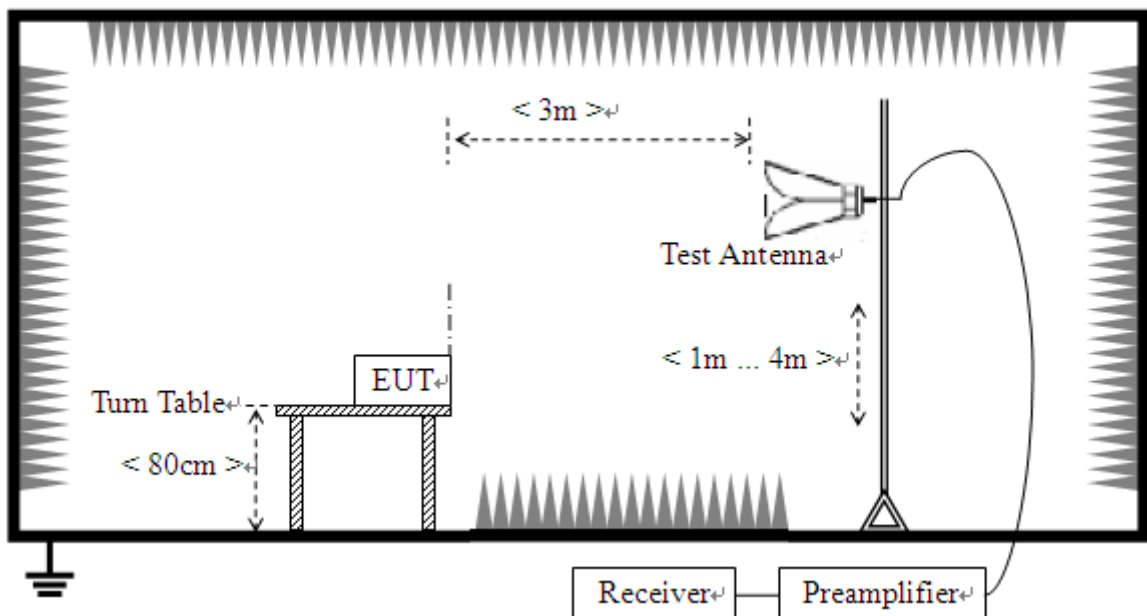
4.5 Test Setups

Test Setup 1



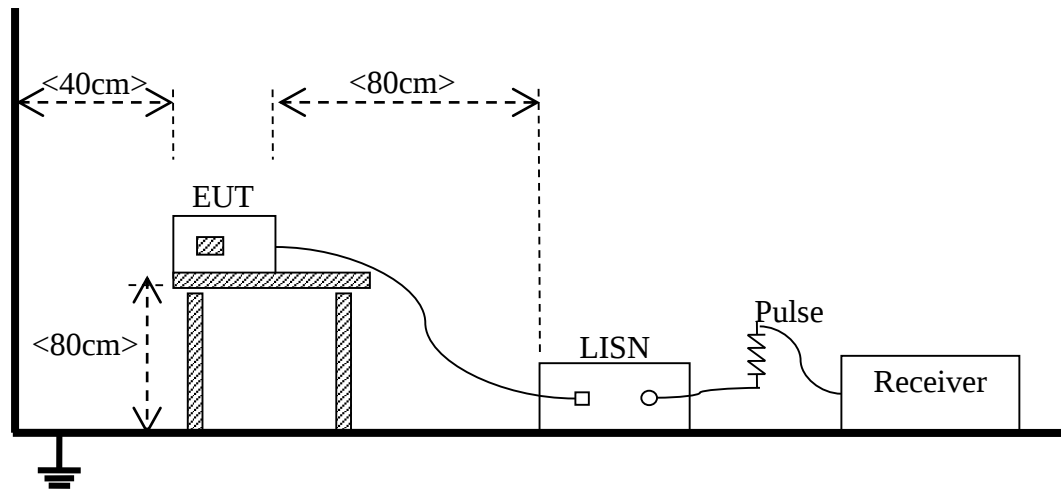
(For Radiated Emission Test (30 MHz-1 GHz))

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~TC11 ^{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) = 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.

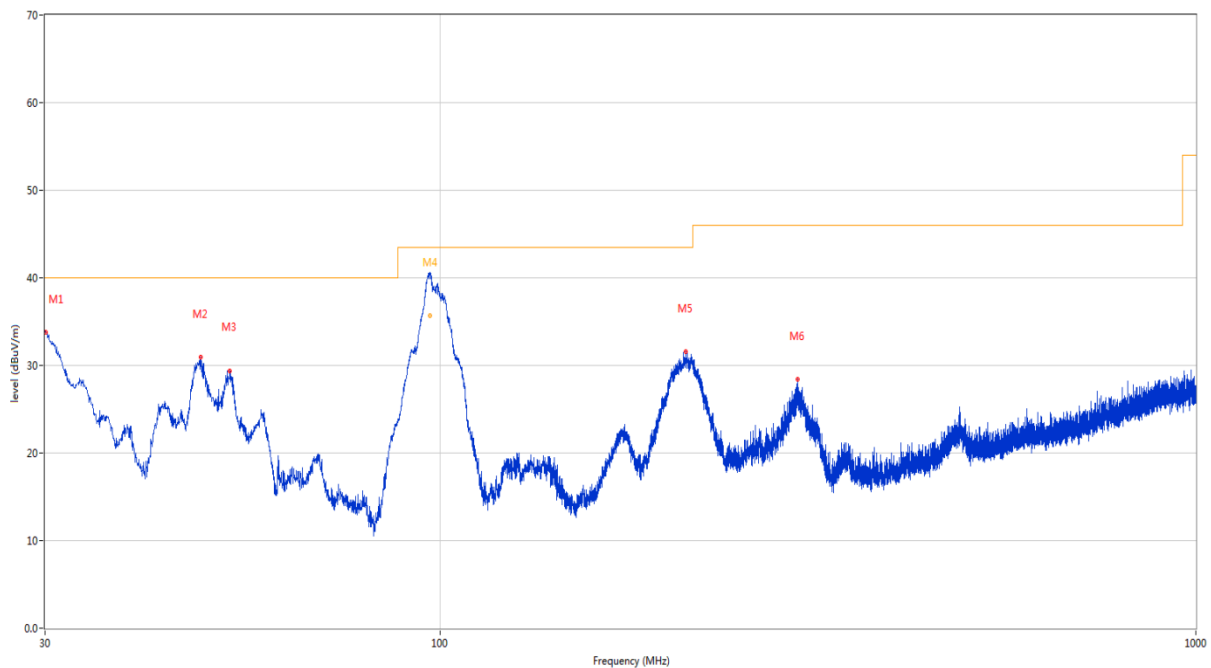
Note 2: For the test data above 1 GHz, according the ANSI C63.4-2014, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

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

Test Data and Plots

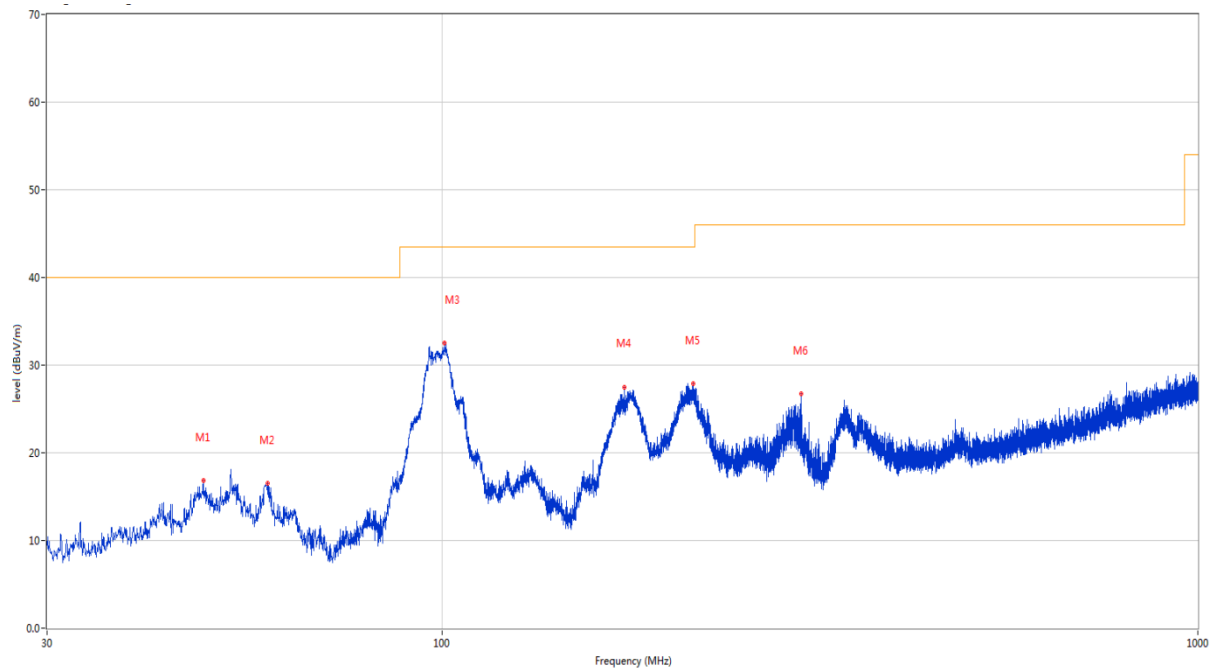
The Camera Test Mode

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



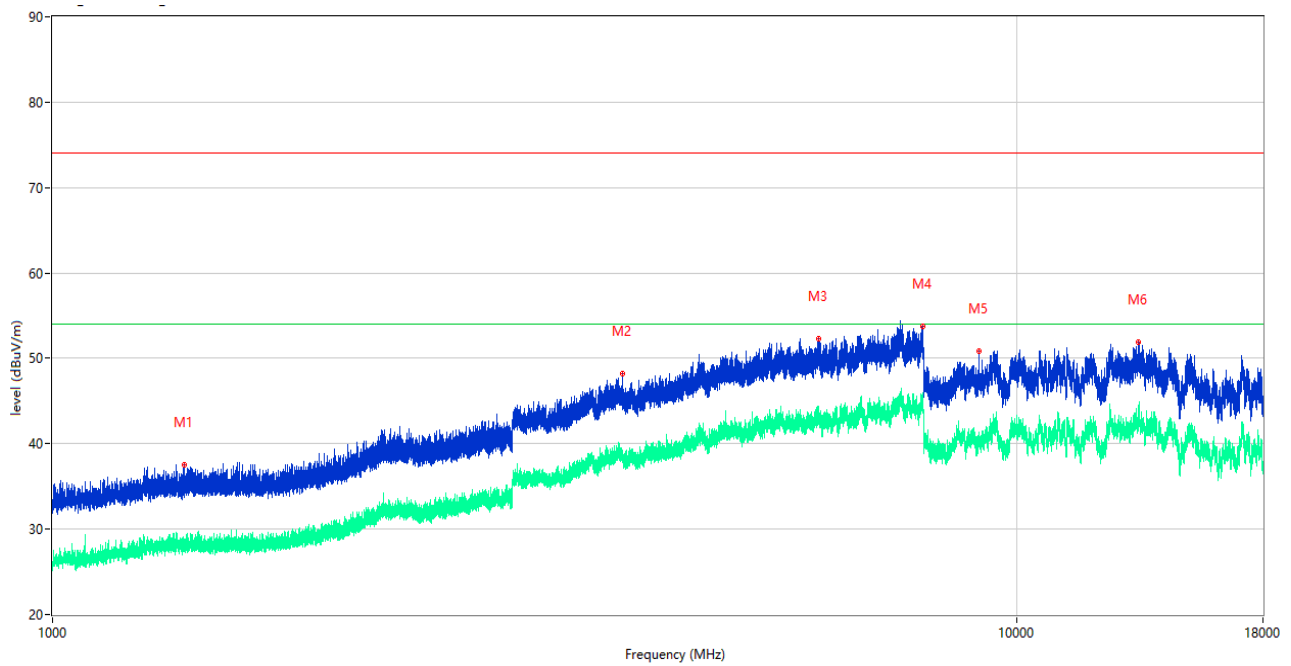
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	30.049	33.77	-25.95	40.0	-6.23	Peak	86.10	100	Vertical	Pass
2	48.187	30.90	-22.60	40.0	-9.10	Peak	65.10	100	Vertical	Pass
3	52.698	29.39	-23.05	40.0	-10.61	Peak	124.00	100	Vertical	Pass
4	96.982	37.50	-24.83	43.5	-6.00	Peak	157.60	101	Vertical	N/A
4*	96.982	35.67	-24.83	43.5	-7.83	QP	157.60	101	Vertical	Pass
5	211.196	31.54	-24.01	43.5	-11.96	Peak	73.60	100	Vertical	Pass
6	297.332	28.38	-21.47	46.0	-17.62	Peak	52.60	100	Vertical	Pass

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



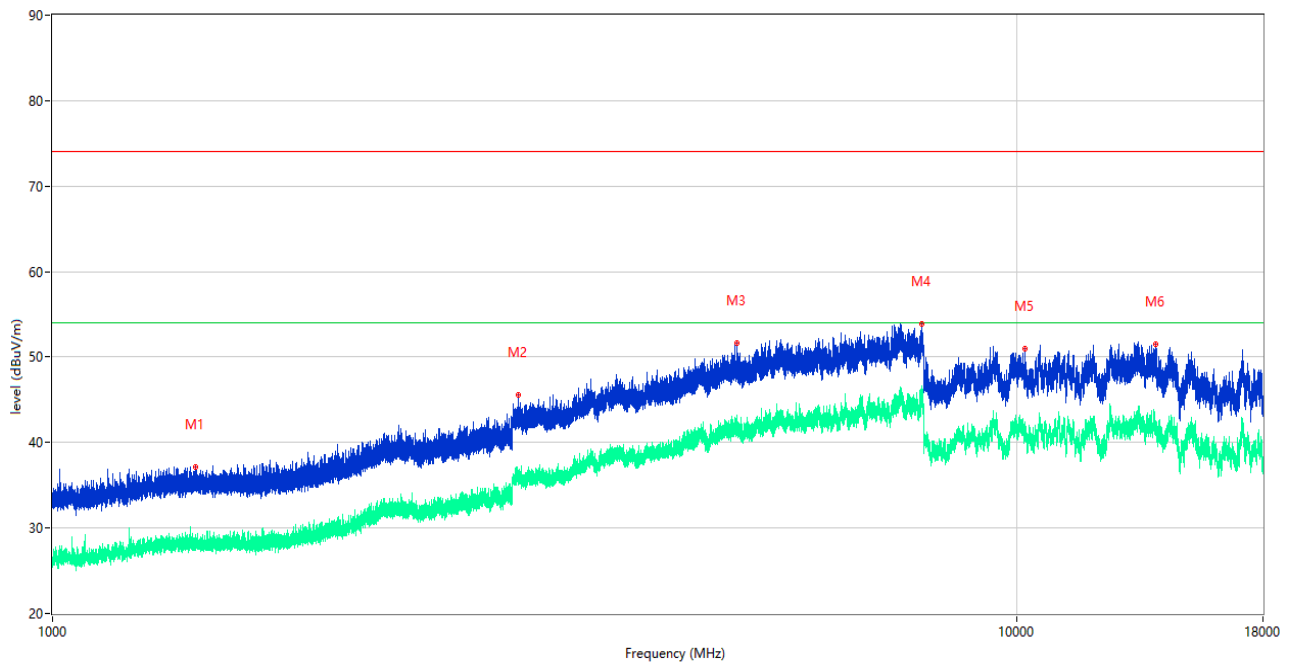
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	48.285	16.79	-22.58	40.0	-23.21	Peak	186.60	100	Horizontal	Pass
2	58.809	16.48	-24.04	40.0	-23.52	Peak	338.10	200	Horizontal	Pass
3	100.713	32.48	-24.69	43.5	-11.02	Peak	299.90	200	Horizontal	Pass
4	174.094	27.44	-26.54	43.5	-16.06	Peak	360.00	200	Horizontal	Pass
5	214.930	27.88	-23.75	43.5	-15.62	Peak	136.00	100	Horizontal	Pass
6	298.399	26.74	-21.54	46.0	-19.26	Peak	140.40	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	1370.400	37.48	-17.13	74.0	-36.52	Peak	340.00	150	Vertical	Pass
1**	1370.400	28.15	-17.13	54.0	-25.85	AV	340.00	150	Vertical	Pass
2	3897.250	48.22	-3.85	74.0	-25.78	Peak	33.00	150	Vertical	Pass
2**	3897.250	38.54	-3.85	54.0	-15.46	AV	33.00	150	Vertical	Pass
3	6234.000	52.29	-0.52	74.0	-21.71	Peak	205.00	150	Vertical	Pass
3**	6234.000	43.36	-0.52	54.0	-10.64	AV	205.00	150	Vertical	Pass
4	7989.000	53.72	0.86	74.0	-20.28	Peak	360.00	150	Vertical	Pass
4**	7989.000	43.85	0.86	54.0	-10.15	AV	360.00	150	Vertical	Pass
5	9143.500	50.85	-2.15	74.0	-23.15	Peak	294.00	150	Vertical	Pass
5**	9143.500	40.15	-2.15	54.0	-13.85	AV	294.00	150	Vertical	Pass
6	13364.500	51.91	1.63	74.0	-22.09	Peak	206.00	150	Vertical	Pass
6**	13364.500	42.72	1.63	54.0	-11.28	AV	206.00	150	Vertical	Pass

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

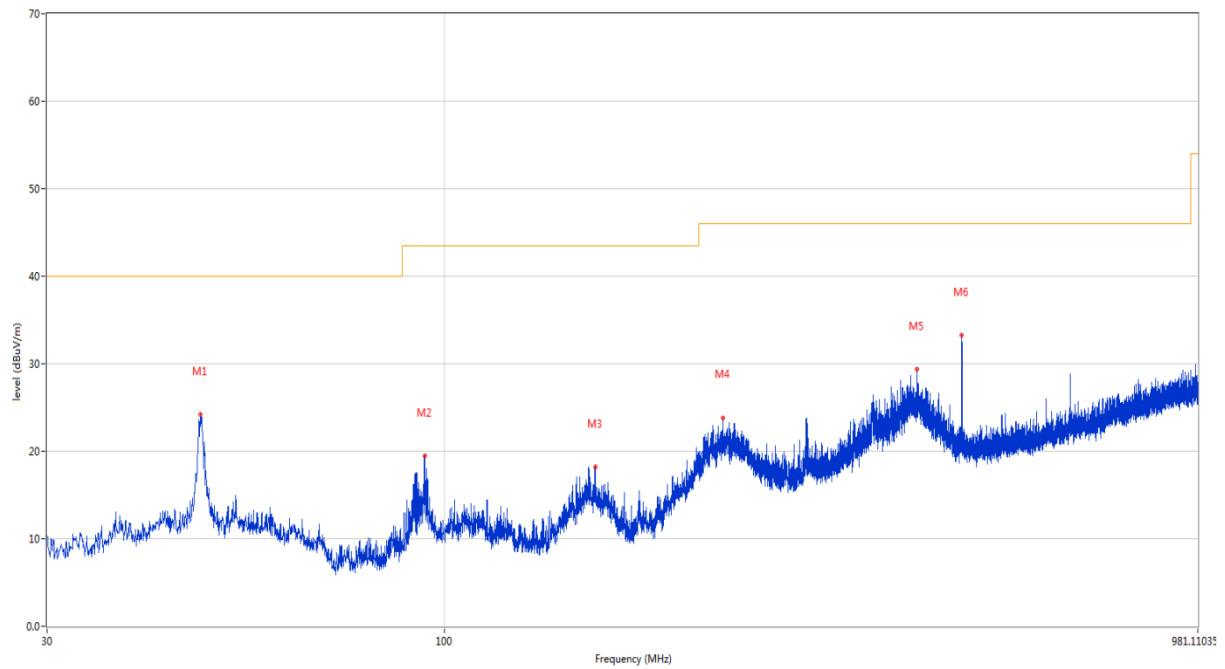


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1405.400	37.09	-16.98	74.0	-36.91	Peak	226.00	150	Horizontal	Pass
1**	1405.400	28.58	-16.98	54.0	-25.42	AV	226.00	150	Horizontal	Pass
2	3040.250	45.63	-7.24	74.0	-28.37	Peak	215.00	150	Horizontal	Pass
2**	3040.250	35.64	-7.24	54.0	-18.36	AV	215.00	150	Horizontal	Pass
3	5129.000	51.70	-0.97	74.0	-22.30	Peak	68.00	150	Horizontal	Pass
3**	5129.000	41.65	-0.97	54.0	-12.35	AV	68.00	150	Horizontal	Pass
4	7964.000	53.83	1.60	74.0	-20.17	Peak	239.00	150	Horizontal	Pass
4**	7964.000	44.72	1.60	54.0	-9.28	AV	239.00	150	Horizontal	Pass
5	10194.000	51.01	-1.89	74.0	-22.99	Peak	316.00	150	Horizontal	Pass
5**	10194.000	41.27	-1.89	54.0	-12.73	AV	316.00	150	Horizontal	Pass
6	13927.500	51.54	0.08	74.0	-22.46	Peak	228.00	150	Horizontal	Pass
6**	13927.500	41.78	0.08	54.0	-12.22	AV	228.00	150	Horizontal	Pass

Test Data and Plots

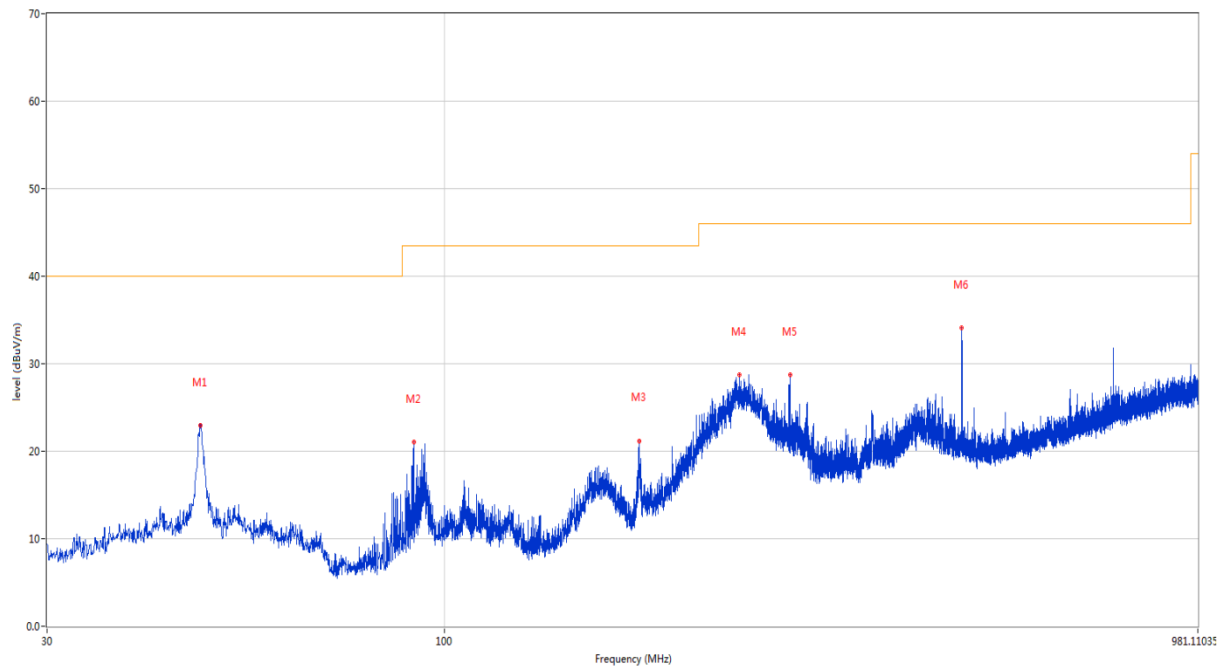
The USB Test Mode

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



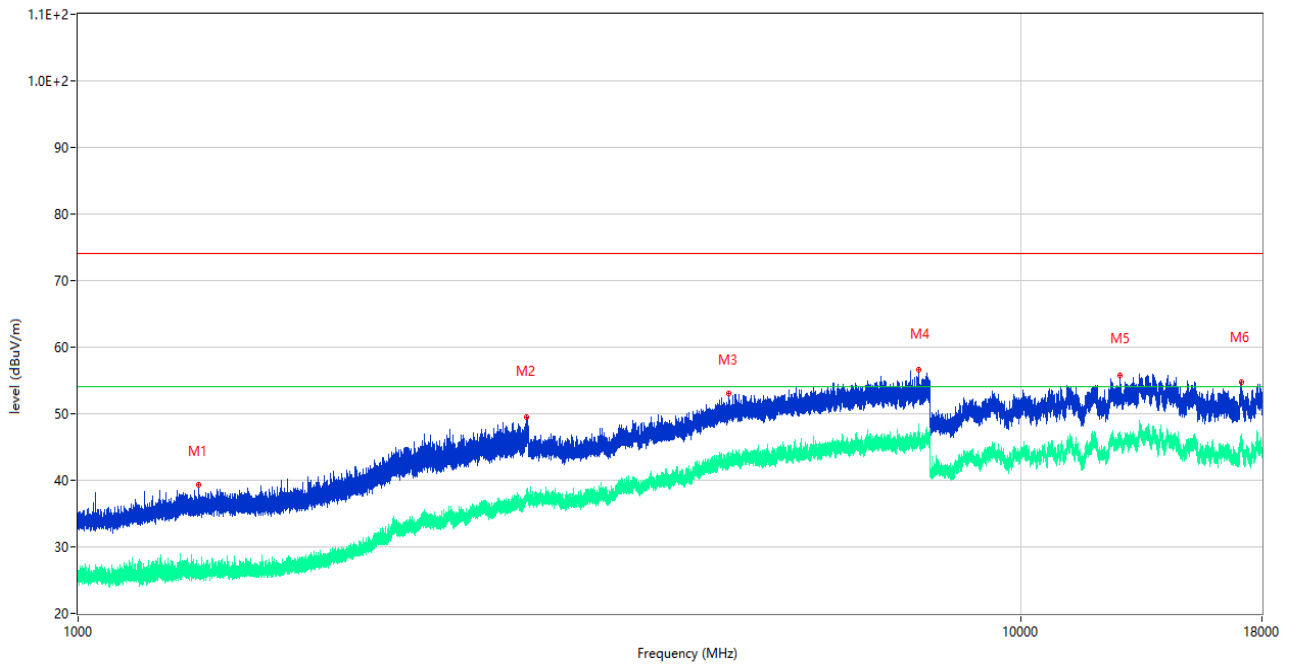
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	47.703	24.16	-22.71	40.0	-15.84	Peak	76.60	100	Vertical	Pass
2	94.214	19.48	-25.25	43.5	-24.02	Peak	199.90	100	Vertical	Pass
3	157.943	18.19	-27.59	43.5	-25.31	Peak	332.80	100	Vertical	Pass
4	232.536	23.78	-23.26	46.0	-22.22	Peak	199.90	200	Vertical	Pass
5	419.164	29.36	-18.42	46.0	-16.64	Peak	187.30	100	Vertical	Pass
6	480.031	33.29	-17.01	46.0	-12.71	Peak	29.10	100	Vertical	Pass

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



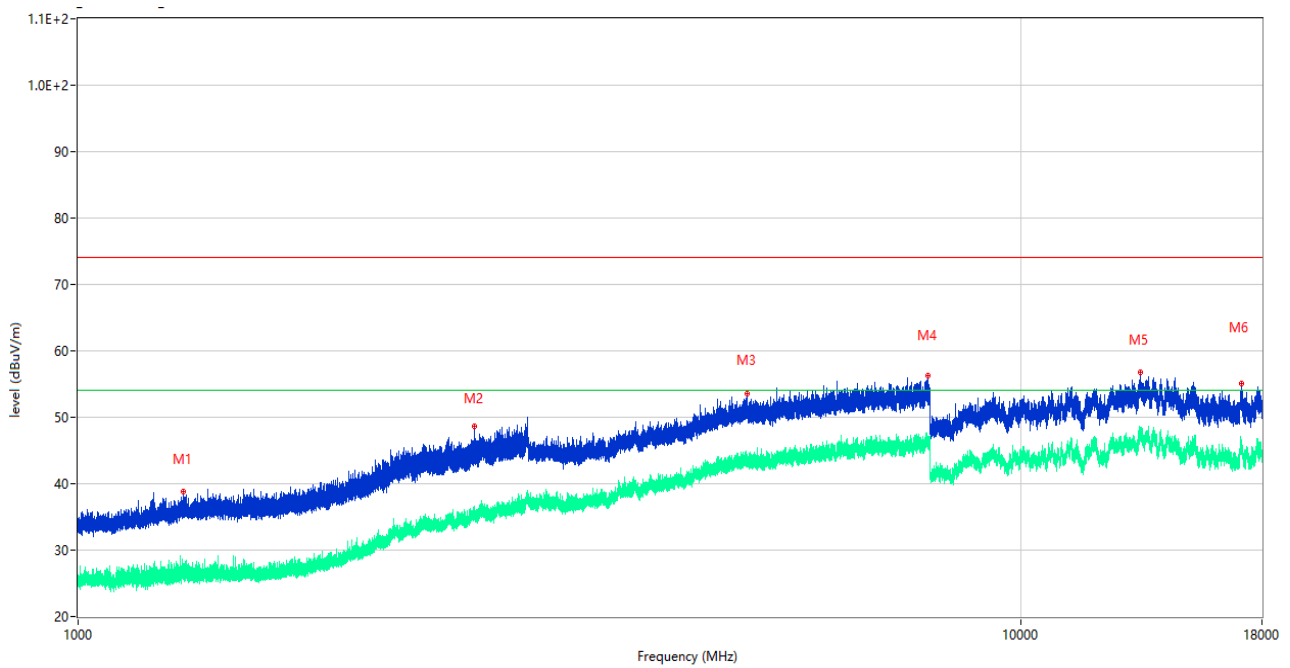
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	47.751	22.97	-22.70	40.0	-17.03	Peak	360.00	200	Horizontal	Pass
2	91.110	21.03	-25.84	43.5	-22.47	Peak	276.20	200	Horizontal	Pass
3	180.447	19.98	-26.00	43.5	-23.52	Peak	96.30	100	Horizontal	Pass
4	244.418	28.71	-22.81	46.0	-17.29	Peak	104.80	100	Horizontal	Pass
5	285.255	28.78	-22.14	46.0	-17.22	Peak	249.70	100	Horizontal	Pass
6	480.031	32.41	-17.01	46.0	-13.59	Peak	121.90	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	1341.300	39.39	-4.37	74.0	-34.61	Peak	360.00	150	Vertical	Pass
1**	1341.300	26.15	-4.37	54.0	-27.85	AV	360.00	150	Vertical	Pass
2	2991.100	49.47	8.90	74.0	-24.53	Peak	16.00	150	Vertical	Pass
2**	2991.100	38.69	8.90	54.0	-15.31	AV	16.00	150	Vertical	Pass
3	4897.250	53.01	0.26	74.0	-20.99	Peak	193.00	150	Vertical	Pass
3**	4897.250	42.43	0.26	54.0	-11.57	AV	193.00	150	Vertical	Pass
4	7789.500	56.67	3.12	74.0	-17.33	Peak	316.00	150	Vertical	Pass
4**	7789.500	45.95	3.12	54.0	-8.05	AV	316.00	150	Vertical	Pass
5	12742.500	55.68	3.38	74.0	-18.32	Peak	292.00	150	Vertical	Pass
5**	12742.500	45.93	3.38	54.0	-8.07	AV	292.00	150	Vertical	Pass
6	17107.500	54.82	3.63	74.0	-19.18	Peak	61.00	150	Vertical	Pass
6**	17107.500	46.23	3.63	54.0	-7.77	AV	61.00	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	1293.600	38.74	-4.74	74.0	-35.26	Peak	315.00	150	Horizontal	Pass
1**	1293.600	26.09	-4.74	54.0	-27.91	AV	315.00	150	Horizontal	Pass
2	2630.300	48.61	6.19	74.0	-25.39	Peak	128.00	150	Horizontal	Pass
2**	2630.300	35.42	6.19	54.0	-18.58	AV	128.00	150	Horizontal	Pass
3	5118.750	53.57	0.21	74.0	-20.43	Peak	279.00	150	Horizontal	Pass
3**	5118.750	43.62	0.21	54.0	-10.38	AV	279.00	150	Horizontal	Pass
4	7954.250	56.25	3.02	74.0	-17.75	Peak	46.00	150	Horizontal	Pass
4**	7954.250	46.65	3.02	54.0	-7.35	AV	46.00	150	Horizontal	Pass
5	13367.000	56.83	5.12	74.0	-17.17	Peak	103.00	150	Horizontal	Pass
5**	13367.000	46.83	5.12	54.0	-7.17	AV	103.00	150	Horizontal	Pass
6	17107.000	55.13	3.64	74.0	-18.87	Peak	210.00	150	Horizontal	Pass
6**	17107.000	45.98	3.64	54.0	-8.02	AV	210.00	150	Horizontal	Pass

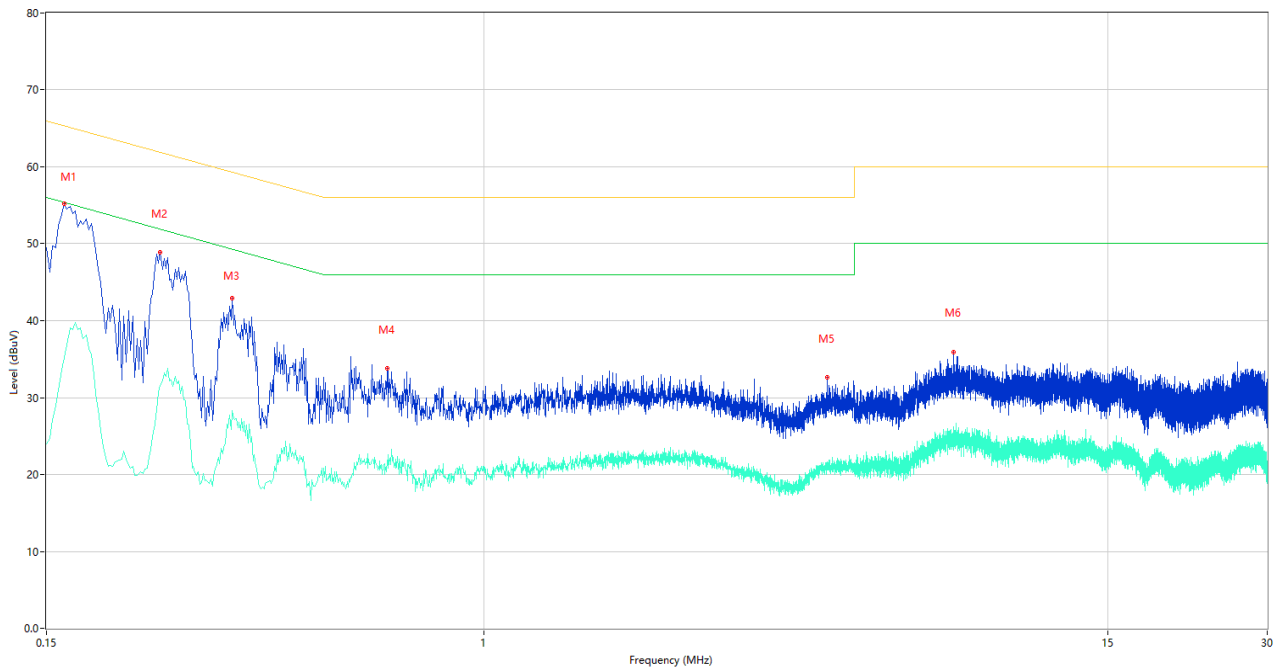
A.2 Conducted Emission

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

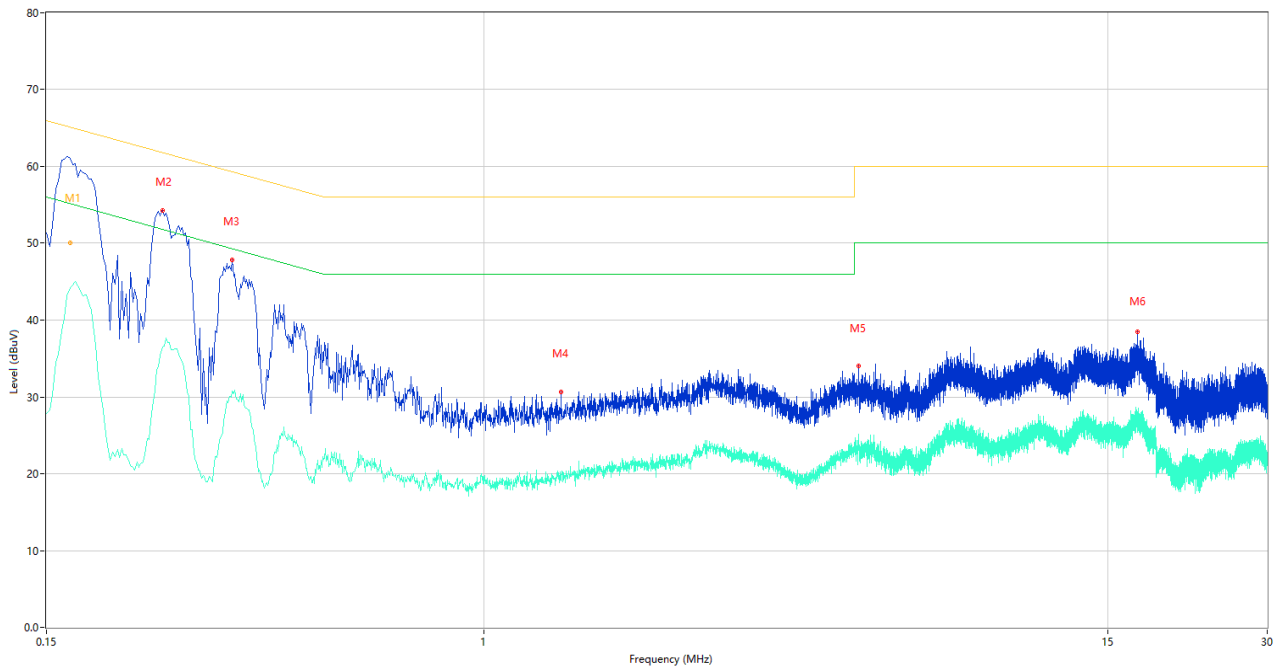
The Camera Test Mode

A.2.1 L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.162	55.16	10.17	65.36	-10.20	Peak	L	Pass
1**	0.162	35.19	10.17	55.36	-20.17	AV	L	Pass
2	0.246	48.85	10.08	61.89	-13.04	Peak	L	Pass
2**	0.246	31.61	10.08	51.89	-20.28	AV	L	Pass
3	0.336	42.90	10.07	59.30	-16.40	Peak	L	Pass
3**	0.336	28.33	10.07	49.30	-20.97	AV	L	Pass
4	0.658	33.80	10.09	56.00	-22.20	Peak	L	Pass
4**	0.658	21.89	10.09	46.00	-24.11	AV	L	Pass
5	4.450	32.60	10.02	56.00	-23.40	Peak	L	Pass
5**	4.450	21.64	10.02	46.00	-24.36	AV	L	Pass
6	7.698	35.85	10.02	60.00	-24.15	Peak	L	Pass
6**	7.698	24.88	10.02	50.00	-25.12	AV	L	Pass

A.2.2 N Phase

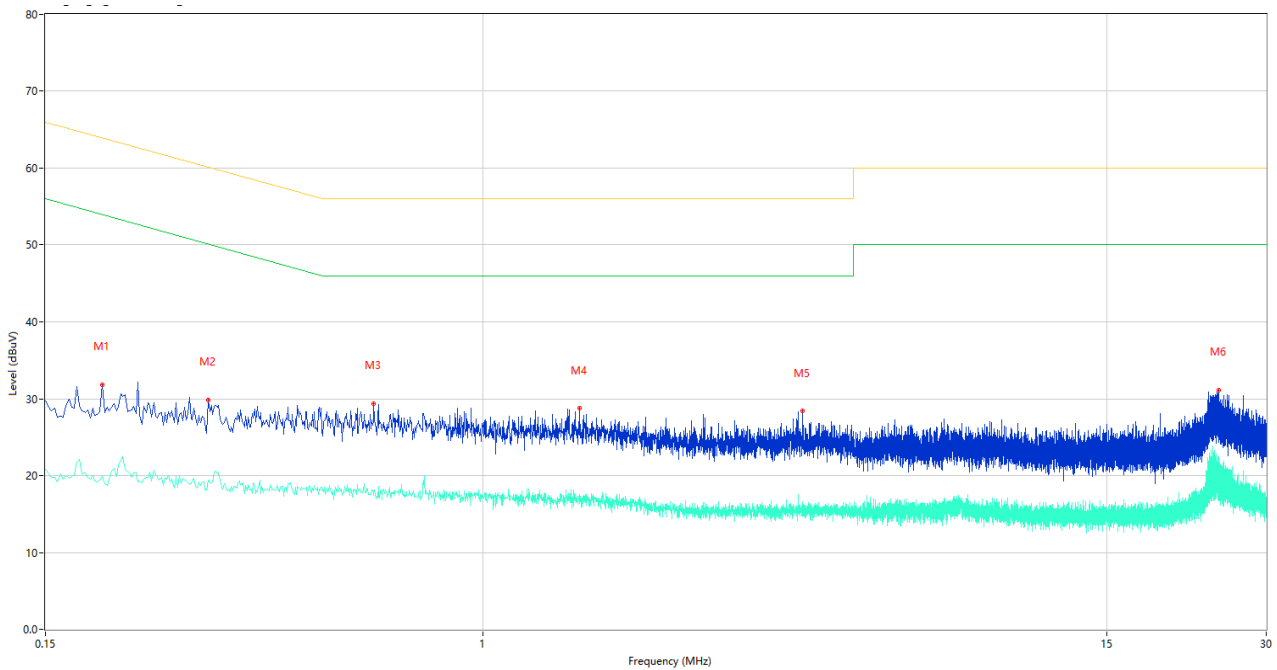


No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.166	60.68	10.16	65.16	-4.48	Peak	N	N/A
1*	0.166	50.06	10.16	65.16	-15.10	QP	N	Pass
1**	0.166	44.22	10.16	55.16	-10.94	AV	N	Pass
2	0.248	54.27	10.08	61.82	-7.55	Peak	N	Pass
2**	0.248	36.44	10.08	51.82	-15.38	AV	N	Pass
3	0.336	47.89	10.07	59.30	-11.41	Peak	N	Pass
3**	0.336	30.71	10.07	49.30	-18.59	AV	N	Pass
4	1.400	30.63	9.96	56.00	-25.37	Peak	N	Pass
4**	1.400	19.68	9.96	46.00	-26.32	AV	N	Pass
5	5.092	34.01	9.94	60.00	-25.99	Peak	N	Pass
5**	5.092	23.47	9.94	50.00	-26.53	AV	N	Pass
6	17.092	38.49	10.18	60.00	-21.51	Peak	N	Pass
6**	17.092	27.45	10.18	50.00	-22.55	AV	N	Pass

Test Data and Plots

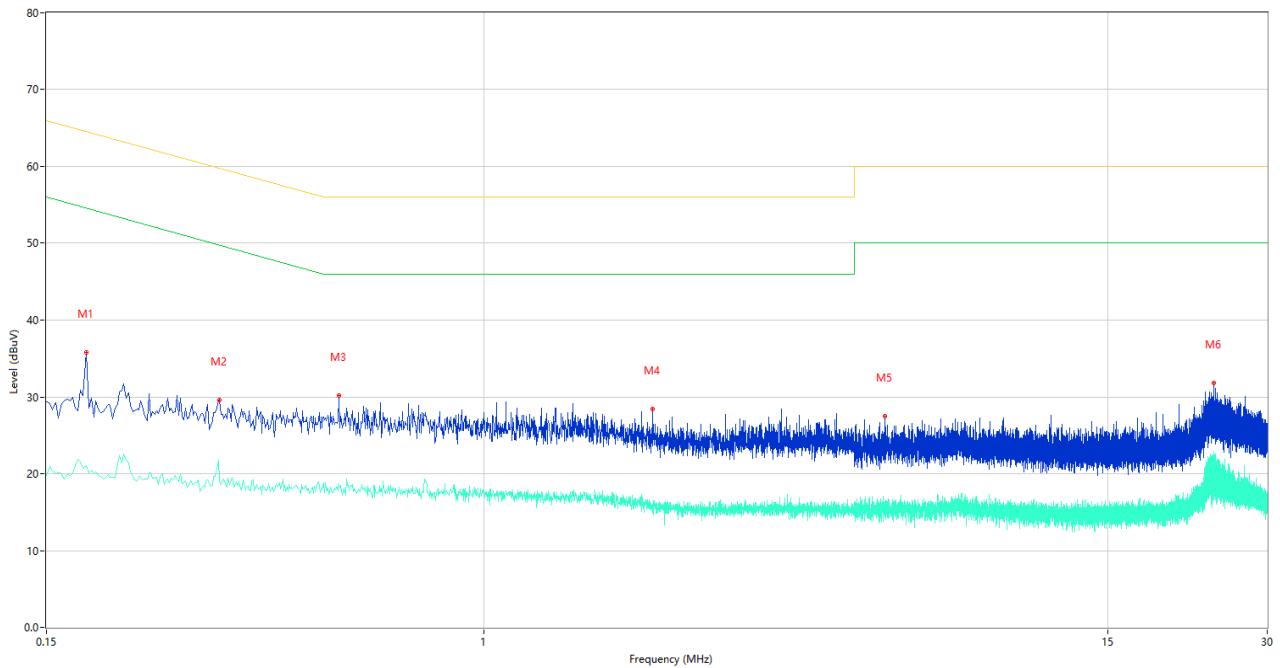
The USB Test Mode

A.2.3 L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.192	31.84	10.11	63.95	-32.11	Peak	L	Pass
1**	0.192	19.83	10.11	53.95	-34.12	AV	L	Pass
2	0.304	29.87	10.07	60.13	-30.26	Peak	L	Pass
2**	0.304	19.41	10.07	50.13	-30.72	AV	L	Pass
3	0.624	29.34	10.09	56.00	-26.66	Peak	L	Pass
3**	0.624	17.45	10.09	46.00	-28.55	AV	L	Pass
4	1.522	28.79	9.94	56.00	-27.21	Peak	L	Pass
4**	1.522	17.59	9.94	46.00	-28.41	AV	L	Pass
5	4.014	28.40	10.09	56.00	-27.60	Peak	L	Pass
5**	4.014	16.59	10.09	46.00	-29.41	AV	L	Pass
6	24.432	31.16	10.16	60.00	-28.84	Peak	L	Pass
6**	24.432	21.50	10.16	50.00	-28.50	AV	L	Pass

A.2.4 N Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.178	35.76	10.14	64.58	-28.82	Peak	N	Pass
1**	0.178	21.05	10.14	54.58	-33.53	AV	N	Pass
2	0.318	29.61	10.07	59.76	-30.15	Peak	N	Pass
2**	0.318	19.05	10.07	49.76	-30.71	AV	N	Pass
3	0.534	30.19	10.11	56.00	-25.81	Peak	N	Pass
3**	0.534	18.66	10.11	46.00	-27.34	AV	N	Pass
4	2.084	28.37	9.88	56.00	-27.63	Peak	N	Pass
4**	2.084	15.77	9.88	46.00	-30.23	AV	N	Pass
5	5.718	27.44	10.04	60.00	-32.56	Peak	N	Pass
5**	5.718	15.80	10.04	50.00	-34.20	AV	N	Pass
6	23.822	31.77	10.18	60.00	-28.23	Peak	N	Pass
6**	23.822	21.78	10.18	50.00	-28.22	AV	N	Pass

ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-SZ21A0580-AE-1.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-SZ21A0580-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SZ21A0580-AI.PDF”.

--END OF REPORT--