

EMC

TEST REPORT

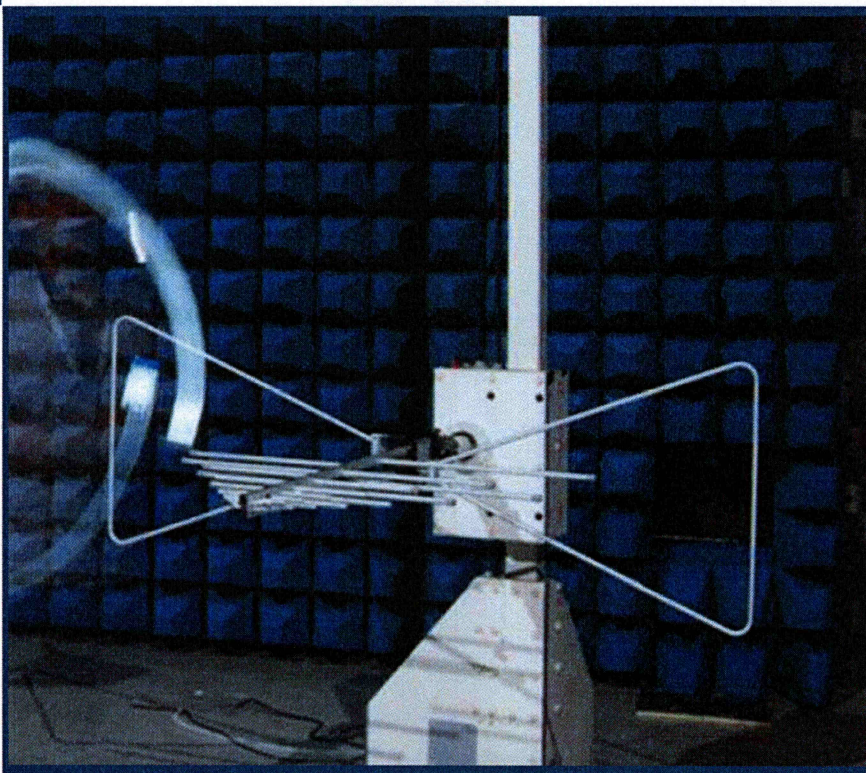
ISSUED BY
Shenzhen BALUN Technology Co., Ltd.



FOR
Mobile Phone

ISSUED TO
vivo Mobile Communication Co., Ltd.

No.168 Jinghai East Rd., Chang'an, Dongguan, Guangdong, China



Tested by: Liu Zhenxiang

Liu Zhenxiang

Date: Jun. 28, 2021

Approved by: Wei Yanquan

Wei Yanquan
(Chief Engineer)

Date: Jun. 28, 2021

Report No.: BL-SZ2150618-401
EUT Name: Mobile Phone
Model Name: V2057
Brand Name: vivo
Test Standard: 47 CFR Part 15 Subpart B
(refer section 3.1)
FCC ID: 2AUCY-V2058

Test Conclusion: Pass
Test Date: Jun. 08, 2021~ Jun. 11, 2021
Date of Issue: Jun. 28, 2021

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Revision History

Version	Issue Date	Revisions Content
<u>Rev. 01</u>	<u>Jun. 28, 2021</u>	<u>Initial Issue</u>

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1 GENERAL INFORMATION

1.1 Identification of the Testing Laboratory

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

1.2 Identification of the Responsible Testing Location

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

1.3 Laboratory Condition

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

1.4 Announce

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

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	vivo Mobile Communication Co., Ltd.
Address	No.168 Jinghai East Rd., Chang'an, Dongguan, Guangdong, China

2.2 Manufacturer Information

Manufacturer	vivo Mobile Communication Co., Ltd.
Address	No.168 Jinghai East Rd., Chang'an, Dongguan, Guangdong, 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	V2057
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	MP_0.1
Software Version	PD2103BF_EX_A_3.6.4
Dimensions (Approx.)	163.96*75.3*8.495mm
Weight (Approx.)	193g

2.5 Ancillary Equipment

Ancillary Equipment 1	Battery	
	Brand Name	vivo
	Model No.	B-Q7
	Serial No.	N/A
	Capacity	Rated capacity: 4910 mAh/19.0Wh Typical capacity: 5000 mAh/19.35Wh
	Rated Voltage	3.87 V
	Limit Charge Voltage	4.45 V
Ancillary Equipment 2	Adapter 1	
	Brand Name	vivo
	Model No.	V1820L0B1-US (US Plug)
	Serial No.	N/A
	Rated Input	100-240 V~, 0.5 A, 50/60 Hz
	Rated Output	5 V= 2 A or 9 V= 2 A or 11 V= 3 A
Ancillary Equipment 3	USB Cable	
	Model No.	BK-C-33
	Length (Approx.)	1.0 m
Ancillary Equipment 4	Headset	
	Model No.	XE160
	Length (Approx.)	1.0 m
Note 1: Letter in () means plug type.		

2.6 Technical Information

Network and Wireless connectivity	2G Network GSM/GPRS/EGPRS 850/1900 MHz 3G Network WCDMA/HSDPA/HSUPA Band 2/4/5 4G Network FDD LTE Band 2/4/5/7/12/17/66 TDD LTE Band 38/41 LTE CA Uplink (UL): CA_7C, CA_38C, CA_41C Bluetooth (BR+EDR+BLE) 2.4G WIFI 802.11b, 802.11g, 802.11n(HT20) 5G WIFI 802.11a, 802.11n(HT20/40), 802.11ac(VHT20/40/80) U-NII-1/2A/2C/3 GPS, GLONASS, BDS, Galileo, FM receiver
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The requirement for the following technical information of the EUT was tested in this report:

The Highest Speed of Processor	2.0 GHz
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3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 15 Subpart B (10-1-19 Edition)	Unintentional Radiators
2	ANSI C63.4-2014	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low- Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

3.2 Verdict

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

Note: The only difference between the EUT (test samples in this report) and testing sample of report BL-SZ2150617-401, which was issued by Shenzhen BALUN Technology Co., Ltd. on Jun. 23, 2021 as below:

1. With different model name(change the model name from V2058 to V2057).
2. With different battery.
3. With different adapter.
4. Change the memory capacity from 8+128GB to 4+128GB(The component is pin-for-pin compatible).
5. With different rear camera(change the rear camera from 64M to 48M).
6. Minor change of the charging circuit(No change of schematic and PCB Layout, just change and move one charging chip from main board to sub-board. The charging specification is from 33W change to 18W. And the component is pin-for-pin compatible).
7. No change in radio parameters has occurred.

There's no change to radio bands' electric/radio characteristics, 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)	3.67 dB
Radiated emissions (1 GHz-18 GHz)	3.57 dB
Radiated emissions (18 GHz-40 GHz)	5.16 dB

4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments

Environment Parameter	Selected Values During Tests			
	Temperature	Voltage	Relative Humidity	Ambient Pressure
Normal Temperature, Normal Voltage (NTNV)	23°C to 25°C	AC 120 V/60 Hz	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&SCHWA RZ	ESRP	101036	2021.06.01	2022.05.31	☐
Test Antenna- Bi-Log	SCHWARZBECK	VULB 9168	9168-0883	2020.05.11	2022.05.10	☐
Anechoic Chamber	EMC Electronic Co., Ltd	20.10*11.60 *7.35m	N/A	2018.08.08	2021.08.07	☐
Test Software	BALUN	BL410_E	V19.918	--	--	☐

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

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

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	2021.01.05	2023.01.04	☒
Anechoic Chamber	YIHENG	9m*6m*6m	N/A	2018.07.18	2021.07.17	☒
Test Software	BALUN	BL410_E	V19.918	--	--	☒

Conducted disturbance Test						
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	KEYSIGHT	N9010B	MY57110309	2021.06.01	2022.05.31	☒
LISN	SCHWARZBECK	NSLK 8127	8127-687	2021.06.08	2022.06.07	☒
Shielded Enclosure	YiHeng Electronic Co., Ltd	3.4m*3.1m*2.8m	N/A	2018.08.16	2021.08.15	☒
Test Software	BALUN	BL410_E	V19.918	--	--	☒

4.3 Test Enclosure list

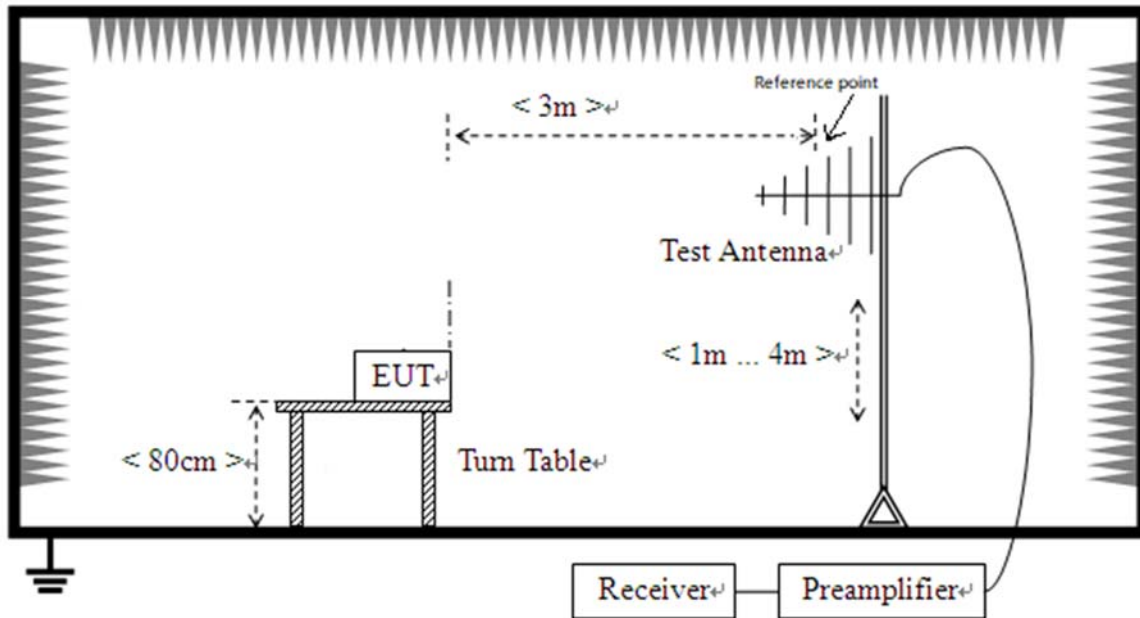
Description	Manufacturer	Model	Serial No.	Length	Description	Use
PC	Dell	015K3N	N/A	N/A	Special Handled	☐
Laptop	Apple	A1465	N/A	N/A	N/A	☐
Printer	HP	DESKJET 1000	N/A	N/A	N/A	☐
Keyboard	Logitech	Y-BP62a	N/A	N/A	N/A	☐
Mouse	Logitech	M100	N/A	N/A	N/A	☐
USB disk	Kingston	N/A	N/A	N/A	N/A	☐
TF Card	Kingston	N/A	N/A	N/A	N/A	☒
VGA Cable	N/A	N/A	N/A	1.5 m	Shielded with core	☐
HDMI Cable	N/A	N/A	N/A	1.5 m	Shielded with core	☐
DVI Cable	N/A	N/A	N/A	1.5 m	Shielded with core	☐
Coaxial video cable	N/A	N/A	N/A	2.0 m	Shielded with core	☐
iPhone	Apple	A1586	N/A	N/A	N/A	☐
Phone	MI	M4	N/A	N/A	N/A	☐
Bluetooth Earphone	SAMSUNG	Gear Circle	N/A	N/A	N/A	☐
Wireless Communication s Test Set	R&S	CMW500	142028	N/A	Cal. Due 2022.06.07	☒
WIFI Router	TP-LINK	TL-WDR7500	N/A	N/A	N/A	☐
Earphone	N/A	OPPO	N/A	1.1 m	N/A	☐
Car Battery	Camel	55530	N/A	N/A	12 V/55 Ah	☐
Artificial load	N/A	N/A	N/A	N/A	2.5 Ω /100 W	☐
Artificial load	N/A	N/A	N/A	N/A	5 Ω /100 W	☐
Electronic Load	ITECH	IT8511	N/A	N/A	N/A	☐
USB Cable	N/A	N/A	N/A	1.5 m	Shielded with core	☐
DC Power Supply	ITECH	IT6863A	60001401068 7210006	N/A	N/A	☐
LCD Monitor	SAMSUNG	UA32C4000P	N/A	N/A	N/A	☐
LCD Monitor	Dell	U241HB	N/A	N/A	N/A	☐
RJ45 Cable	N/A	N/A	N/A	1.5 m	Shielded with core	☐

4.4 Test Configurations

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

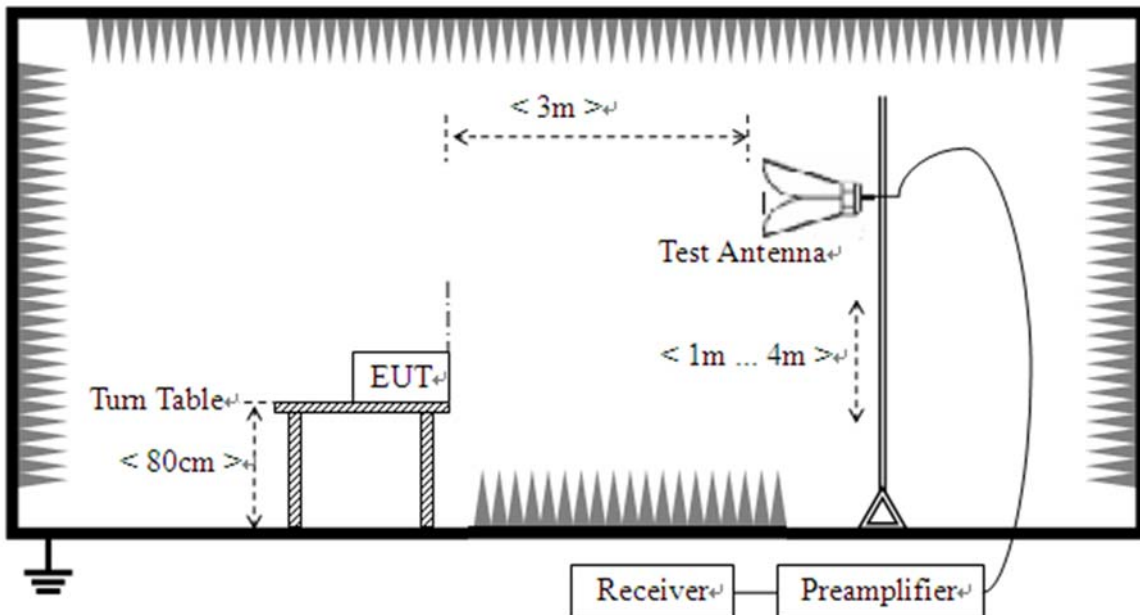
4.5 Test Setups

Test Setup 1



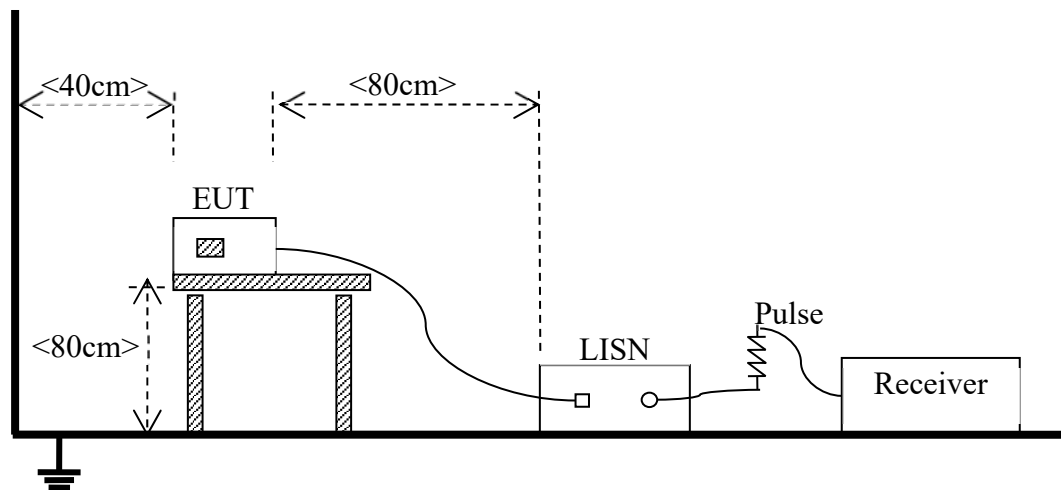
(For Radiated Emission Test (30 MHz-1 GHz))

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~TC08 ^{Note}
Conducted Emission, AC Ports	Test Env.	NTNV
	Test Setup	Test Setup 3
	Test Configuration	TC01~TC08 ^{Note}
Note: Based on client request, all normal using modes of the normal function were tested but only the worst test data of the worst mode is reported by this report. The Camera Test Mode is the worst mode in this report.		

5 TEST ITEMS

5.1 Emission Tests

5.1.1 Radiated Emission

5.1.1.1 Limit

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

NOTE:

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

5.1.1.2 Test Setup

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

5.1.1.3 Test Procedure

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

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

5.1.1.4 Test Result

Please refer to ANNEX A.1.

NOTE:

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

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

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

3. Over limit = Results – Limit.

5.1.2 Conducted Emission

5.1.2.1 Test Limit

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

Frequency range (MHz)	Class B	
	Quasi-peak (dBμV)	Average (dBμV)
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 μH 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.

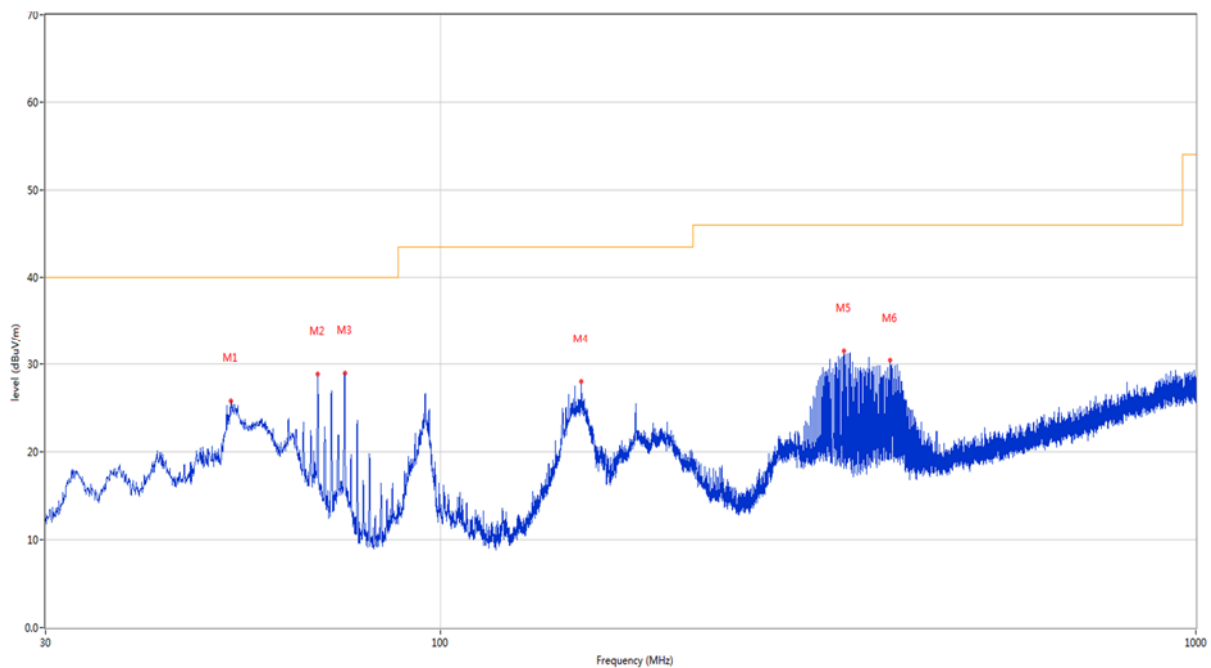
Note 2: For the test data above 1 GHz, according the ANSI C63.4-2014, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

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

Test Data and Plots

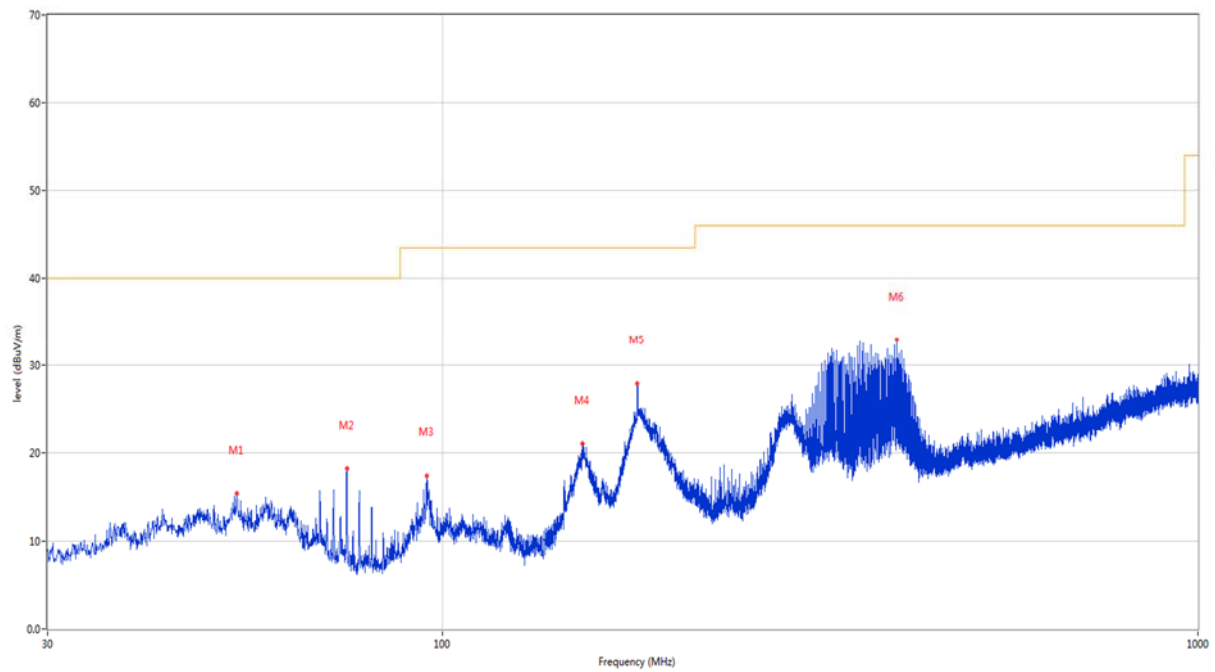
The Camera Test Mode

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



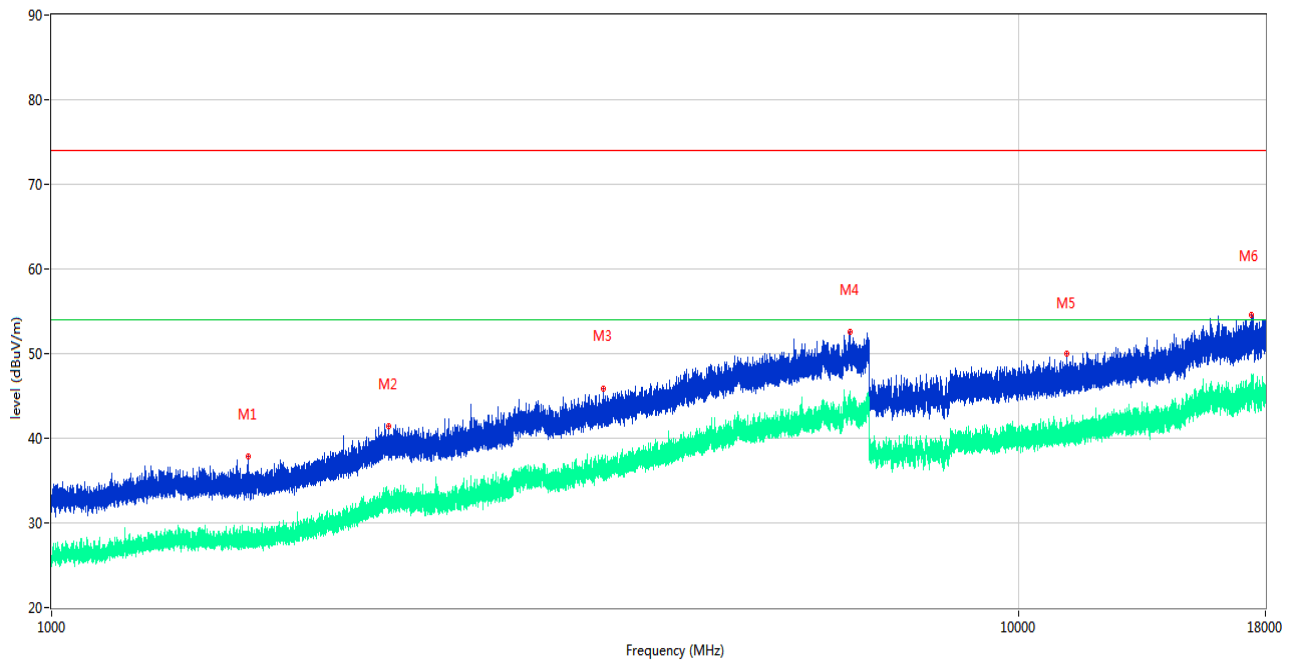
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	52.843	25.75	-23.03	40.0	-14.25	Peak	213.40	100	Vertical	Pass
2	68.800	28.86	-26.36	40.0	-11.14	Peak	111.00	100	Vertical	Pass
3	74.669	28.96	-28.52	40.0	-11.04	Peak	252.60	200	Vertical	Pass
4	153.675	27.95	-27.48	43.5	-15.55	Peak	248.30	100	Vertical	Pass
5	342.486	31.48	-19.83	46.0	-14.52	Peak	202.30	200	Vertical	Pass
6	393.653	30.41	-18.87	46.0	-15.59	Peak	197.10	200	Vertical	Pass

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



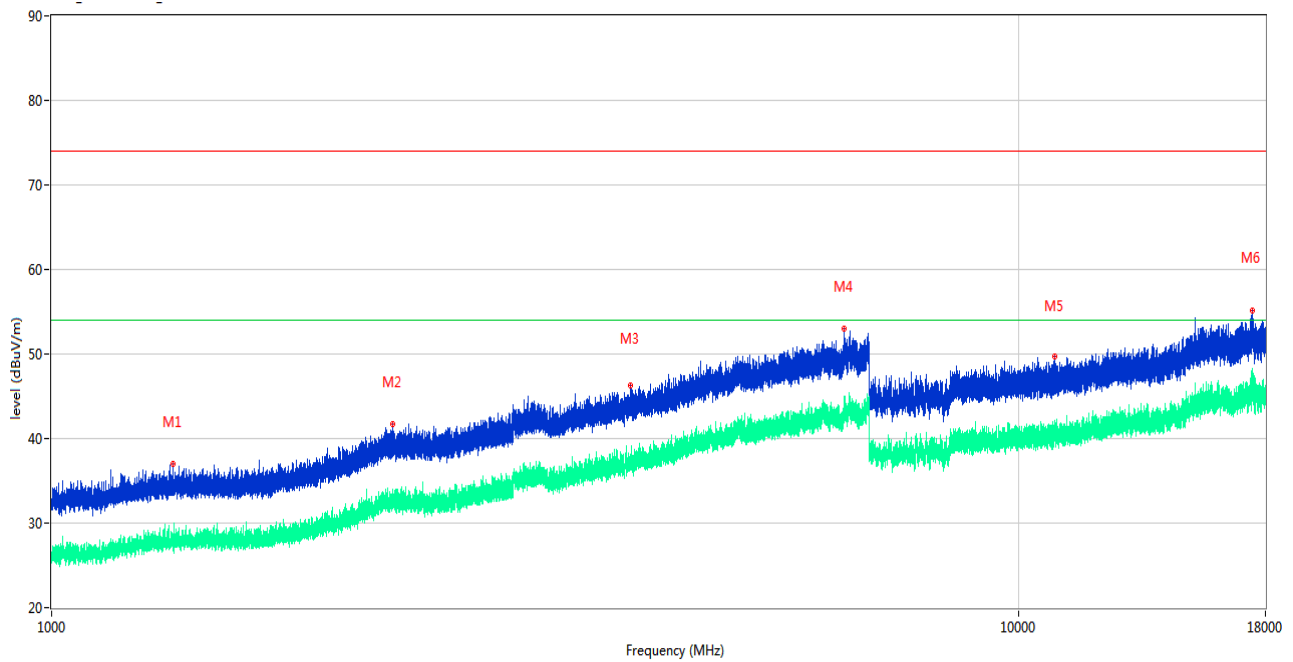
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	53.474	15.35	-22.93	40.0	-24.65	Peak	87.00	200	Horizontal	Pass
2	74.669	18.16	-28.52	40.0	-21.84	Peak	0.00	200	Horizontal	Pass
3	95.281	17.40	-24.92	43.5	-26.10	Peak	262.80	200	Horizontal	Pass
4	153.093	21.03	-27.58	43.5	-22.47	Peak	118.80	200	Horizontal	Pass
5	181.174	27.91	-25.86	43.5	-15.59	Peak	92.40	200	Horizontal	Pass
6	399.618	32.95	-19.06	46.0	-13.05	Peak	100.00	100	Horizontal	Pass

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



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1595.900	37.87	-17.68	74.0	-36.13	Peak	38.00	100	Vertical	Pass
1**	1595.900	27.81	-17.68	54.0	-26.19	AV	38.00	100	Vertical	Pass
2	2230.600	41.37	-12.95	74.0	-32.63	Peak	38.00	100	Vertical	Pass
2**	2230.600	32.35	-12.95	54.0	-21.65	AV	38.00	100	Vertical	Pass
3	3719.200	45.92	-6.50	74.0	-28.08	Peak	186.00	100	Vertical	Pass
3**	3719.200	35.81	-6.50	54.0	-18.19	AV	186.00	100	Vertical	Pass
4	6694.200	52.57	-0.36	74.0	-21.43	Peak	360.00	100	Vertical	Pass
4**	6694.200	44.05	-0.36	54.0	-9.95	AV	360.00	100	Vertical	Pass
5	11228.550	50.07	-0.27	74.0	-23.93	Peak	360.00	100	Vertical	Pass
5**	11228.550	40.77	-0.27	54.0	-13.23	AV	360.00	100	Vertical	Pass
6	17423.286	54.64	3.67	74.0	-19.36	Peak	0.00	100	Vertical	Pass
6**	17423.286	46.63	3.67	54.0	-7.37	AV	0.00	100	Vertical	Pass

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

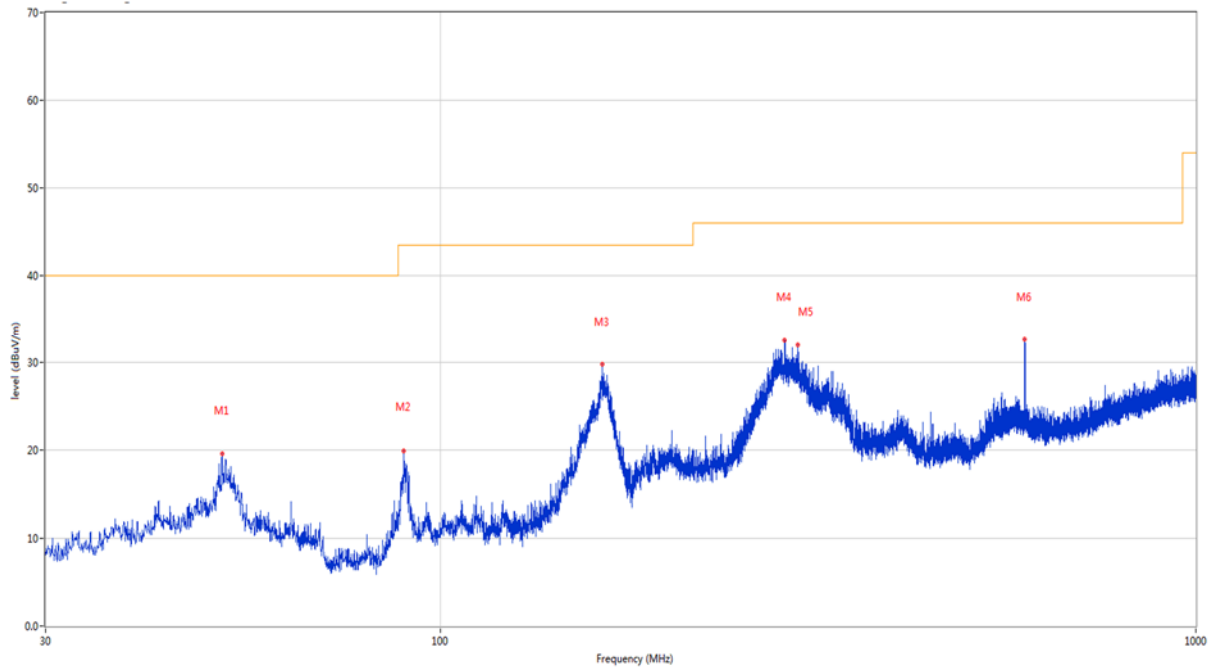


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1333.600	37.00	-17.45	74.0	-37.00	Peak	286.00	100	Horizontal	Pass
1**	1333.600	28.13	-17.45	54.0	-25.87	AV	286.00	100	Horizontal	Pass
2	2254.500	41.77	-12.57	74.0	-32.23	Peak	103.00	100	Horizontal	Pass
2**	2254.500	33.04	-12.57	54.0	-20.96	AV	103.00	100	Horizontal	Pass
3	3966.200	46.28	-4.84	74.0	-27.72	Peak	177.00	100	Horizontal	Pass
3**	3966.200	36.98	-4.84	54.0	-17.02	AV	177.00	100	Horizontal	Pass
4	6606.600	52.98	0.16	74.0	-21.02	Peak	0.00	100	Horizontal	Pass
4**	6606.600	43.23	0.16	54.0	-10.77	AV	0.00	100	Horizontal	Pass
5	10892.174	49.75	0.04	74.0	-24.25	Peak	106.00	100	Horizontal	Pass
5**	10892.174	41.75	0.04	54.0	-12.25	AV	106.00	100	Horizontal	Pass
6	17453.738	55.10	2.84	74.0	-18.90	Peak	360.00	100	Horizontal	Pass
6**	17453.738	45.35	2.84	54.0	-8.65	AV	360.00	100	Horizontal	Pass

Test Data and Plots

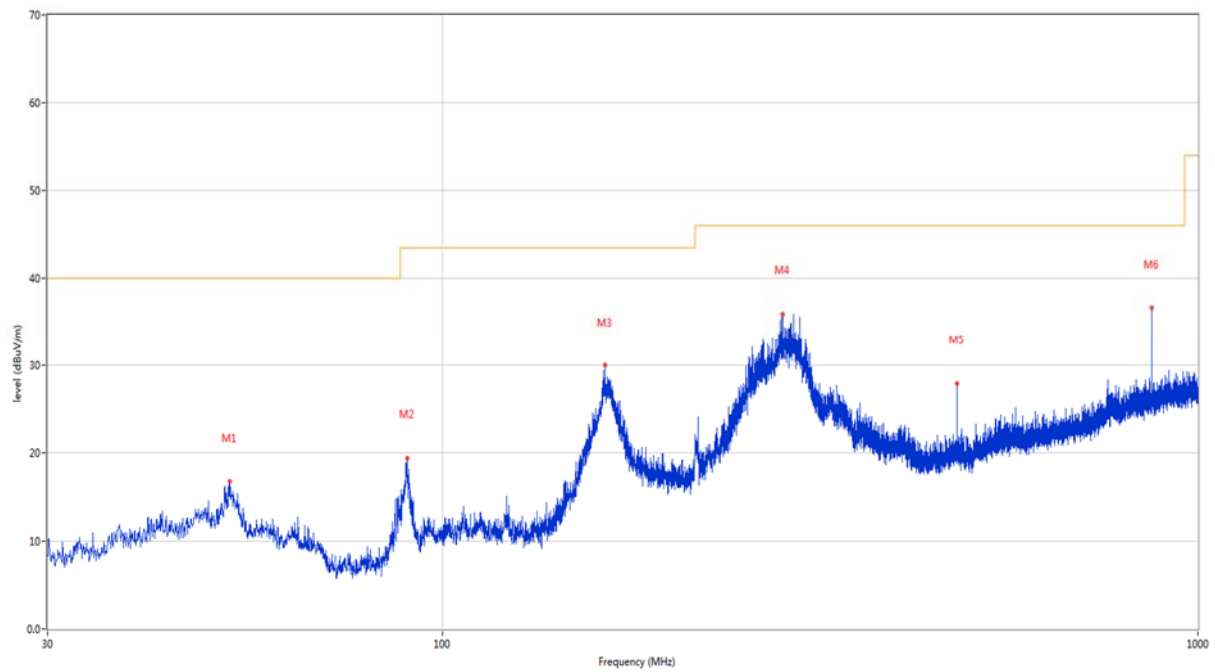
The USB Test Mode

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



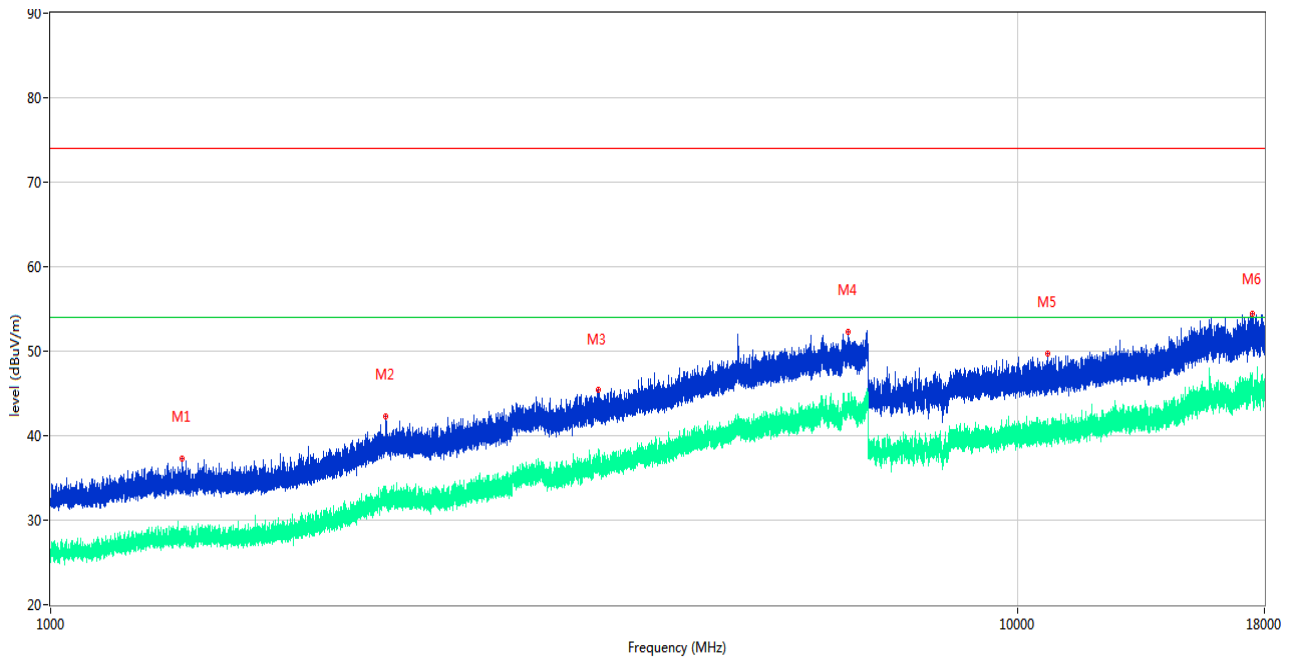
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	51.389	19.57	-23.32	40.0	-20.43	Peak	49.90	100	Vertical	Pass
2	89.412	19.94	-26.29	43.5	-23.56	Peak	16.60	200	Vertical	Pass
3	163.860	29.74	-26.84	43.5	-13.76	Peak	2.50	100	Vertical	Pass
4	285.692	32.58	-22.12	46.0	-13.42	Peak	27.20	200	Vertical	Pass
5	296.896	31.97	-21.57	46.0	-14.03	Peak	59.30	200	Vertical	Pass
6	594.006	32.59	-14.68	46.0	-13.41	Peak	205.80	200	Vertical	Pass

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



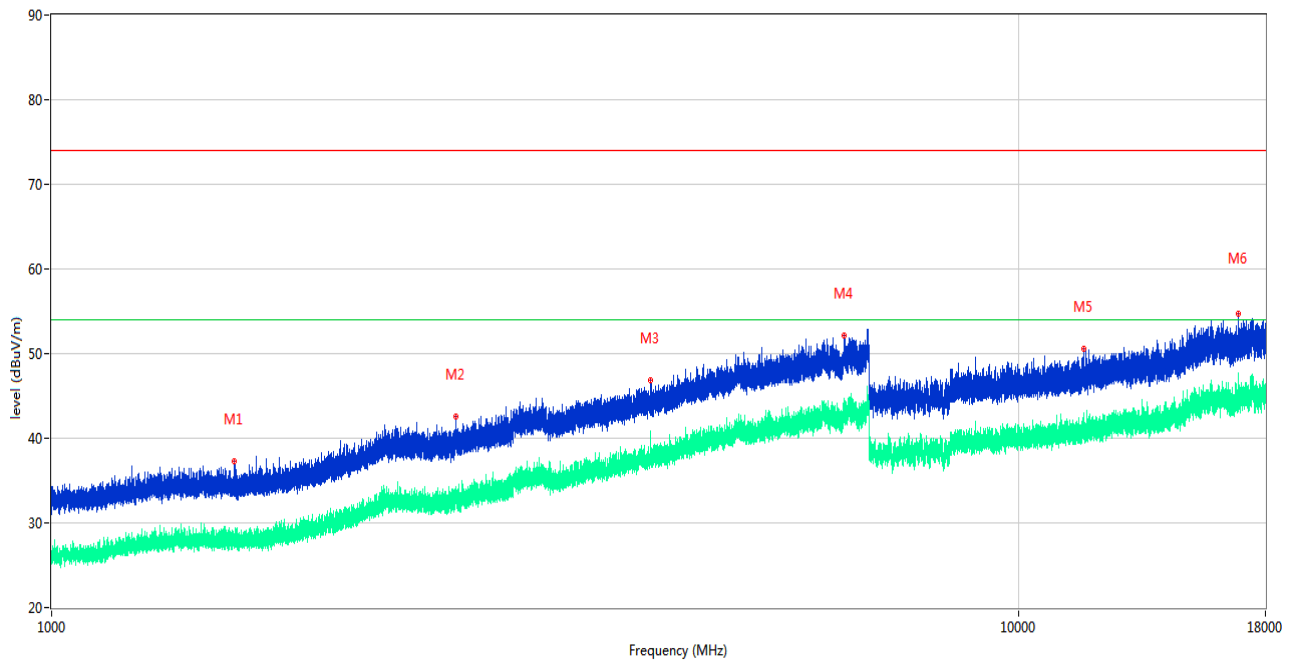
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	52.261	16.71	-23.13	40.0	-23.29	Peak	347.30	200	Horizontal	Pass
2	89.752	19.42	-26.20	43.5	-24.08	Peak	91.60	200	Horizontal	Pass
3	164.054	29.99	-26.83	43.5	-13.51	Peak	237.90	200	Horizontal	Pass
4	281.715	35.86	-21.77	46.0	-10.14	Peak	94.20	100	Horizontal	Pass
5	479.983	27.91	-17.01	46.0	-18.09	Peak	225.50	100	Horizontal	Pass
6	868.177	36.60	-10.79	46.0	-9.40	Peak	81.80	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	1366.500	37.28	-17.41	74.0	-36.72	Peak	246.00	100	Vertical	Pass
1**	1366.500	28.02	-17.41	54.0	-25.98	AV	246.00	100	Vertical	Pass
2	2222.400	42.25	-12.87	74.0	-31.75	Peak	134.00	100	Vertical	Pass
2**	2222.400	33.15	-12.87	54.0	-20.85	AV	134.00	100	Vertical	Pass
3	3688.600	45.44	-5.97	74.0	-28.56	Peak	284.00	100	Vertical	Pass
3**	3688.600	36.18	-5.97	54.0	-17.82	AV	284.00	100	Vertical	Pass
4	6678.600	52.29	-0.55	74.0	-21.71	Peak	207.00	100	Vertical	Pass
4**	6678.600	43.03	-0.55	54.0	-10.97	AV	207.00	100	Vertical	Pass
5	10753.599	49.78	-0.72	74.0	-24.22	Peak	360.00	100	Vertical	Pass
5**	10753.599	40.56	-0.72	54.0	-13.44	AV	360.00	100	Vertical	Pass
6	17485.763	54.47	2.47	74.0	-19.53	Peak	152.00	100	Vertical	Pass
6**	17485.763	46.73	2.47	54.0	-7.27	AV	152.00	100	Vertical	Pass

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



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1543.000	37.23	-17.58	74.0	-36.77	Peak	299.00	100	Horizontal	Pass
1**	1543.000	28.16	-17.58	54.0	-25.84	AV	299.00	100	Horizontal	Pass
2	2619.800	42.56	-11.45	74.0	-31.44	Peak	299.00	100	Horizontal	Pass
2**	2619.800	33.88	-11.45	54.0	-20.12	AV	299.00	100	Horizontal	Pass
3	4160.200	46.91	-4.91	74.0	-27.09	Peak	283.00	100	Horizontal	Pass
3**	4160.200	37.30	-4.91	54.0	-16.70	AV	283.00	100	Horizontal	Pass
4	6596.200	52.14	-0.87	74.0	-21.86	Peak	16.00	100	Horizontal	Pass
4**	6596.200	44.24	-0.87	54.0	-9.76	AV	16.00	100	Horizontal	Pass
5	11688.263	50.57	0.16	74.0	-23.43	Peak	360.00	100	Horizontal	Pass
5**	11688.263	41.11	0.16	54.0	-12.89	AV	360.00	100	Horizontal	Pass
6	16875.187	54.70	1.11	74.0	-19.30	Peak	113.00	100	Horizontal	Pass
6**	16875.187	44.35	1.11	54.0	-9.65	AV	113.00	100	Horizontal	Pass

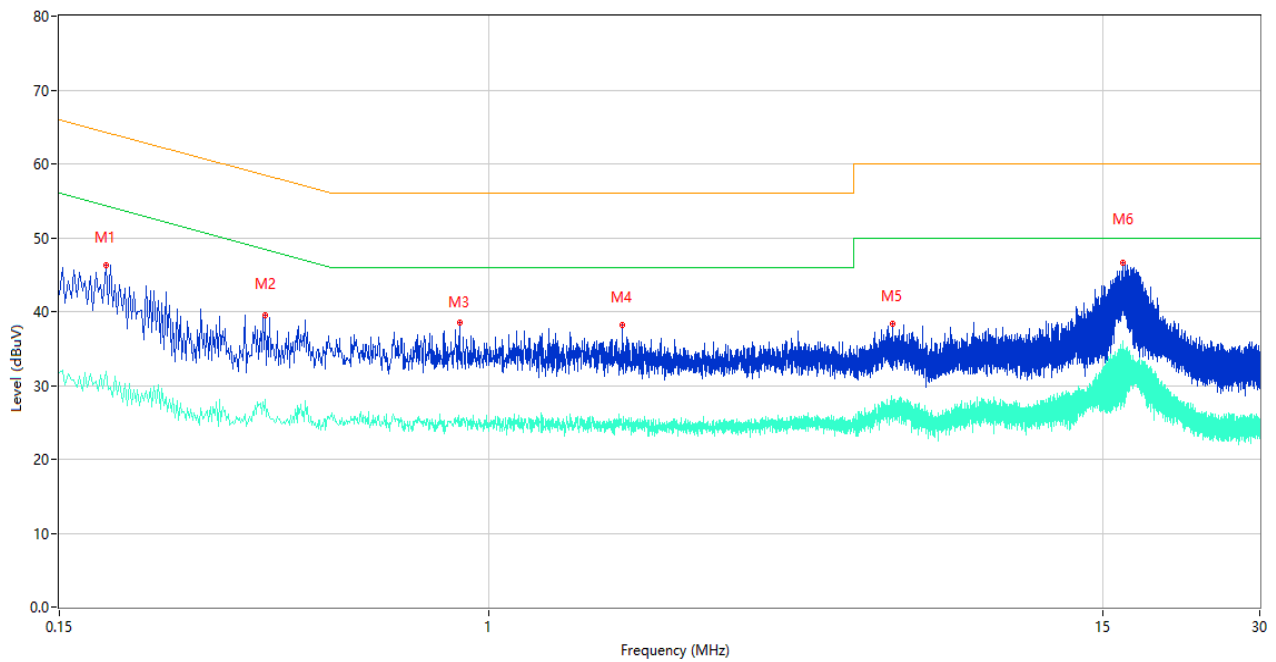
A.2 Conducted Emission

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

Test Data and Plots

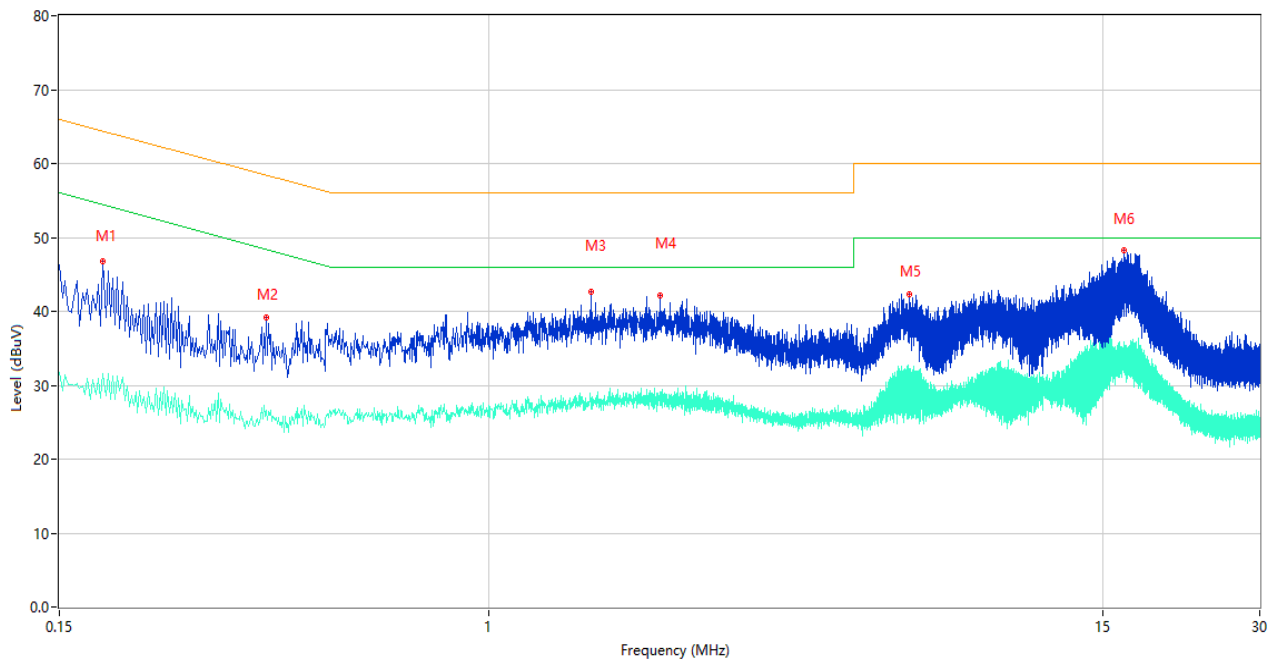
The Camera Test Mode

A.2.1 L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.184	46.35	10.39	64.30	-17.95	Peak	L	Pass
1**	0.184	31.90	10.39	54.30	-22.40	AV	L	Pass
2	0.372	39.46	10.30	58.46	-19.00	Peak	L	Pass
2**	0.372	28.03	10.30	48.46	-20.43	AV	L	Pass
3	0.878	38.51	10.25	56.00	-17.49	Peak	L	Pass
3**	0.878	25.19	10.25	46.00	-20.81	AV	L	Pass
4	1.798	38.23	10.25	56.00	-17.77	Peak	L	Pass
4**	1.798	24.77	10.25	46.00	-21.23	AV	L	Pass
5	5.922	38.27	10.33	60.00	-21.73	Peak	L	Pass
5**	5.922	26.66	10.33	50.00	-23.34	AV	L	Pass
6	16.434	46.63	10.44	60.00	-13.37	Peak	L	Pass
6**	16.434	35.99	10.44	50.00	-14.01	AV	L	Pass

A.2.2 N Phase

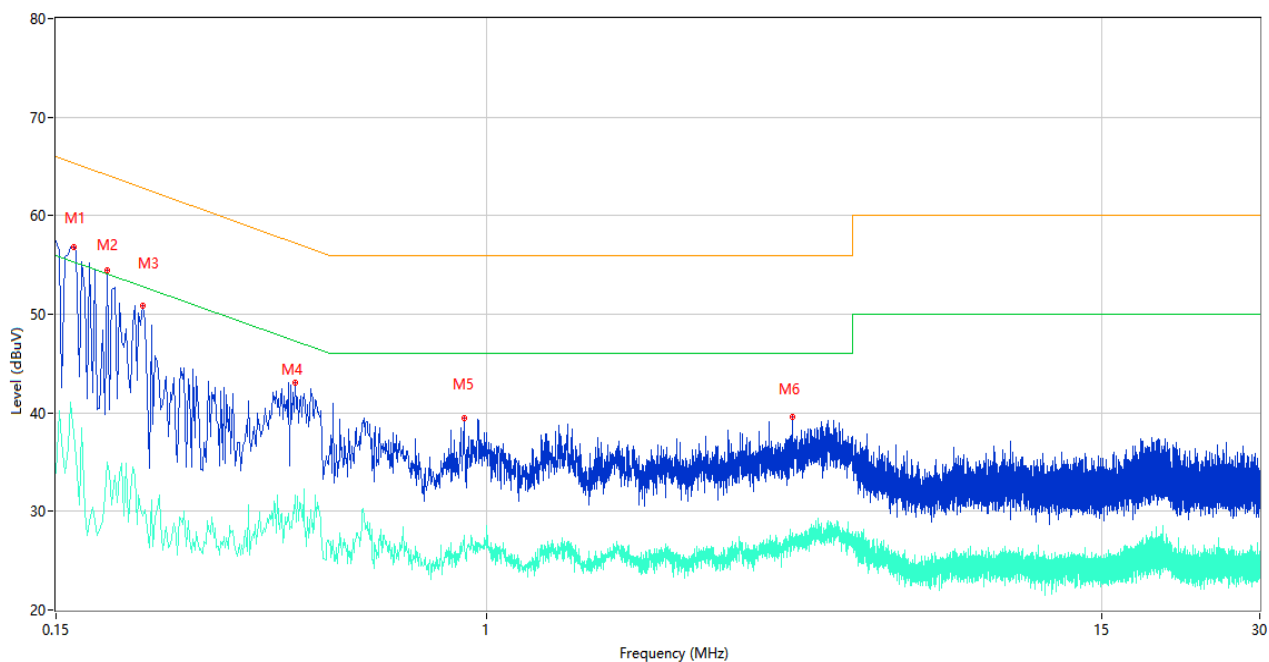


No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.182	46.78	10.39	64.39	-17.61	Peak	N	Pass
1**	0.182	31.63	10.39	54.39	-22.76	AV	N	Pass
2	0.374	39.22	10.30	58.41	-19.19	Peak	N	Pass
2**	0.374	26.54	10.30	48.41	-21.87	AV	N	Pass
3	1.568	42.72	10.24	56.00	-13.28	Peak	N	Pass
3**	1.568	27.87	10.24	46.00	-18.13	AV	N	Pass
4	2.130	42.12	10.26	56.00	-13.88	Peak	N	Pass
4**	2.130	29.08	10.26	46.00	-16.92	AV	N	Pass
5	6.394	42.39	10.33	60.00	-17.61	Peak	N	Pass
5**	6.394	26.92	10.33	50.00	-23.08	AV	N	Pass
6	16.480	48.34	10.45	60.00	-11.66	Peak	N	Pass
6**	16.480	34.41	10.45	50.00	-15.59	AV	N	Pass

Test Data and Plots

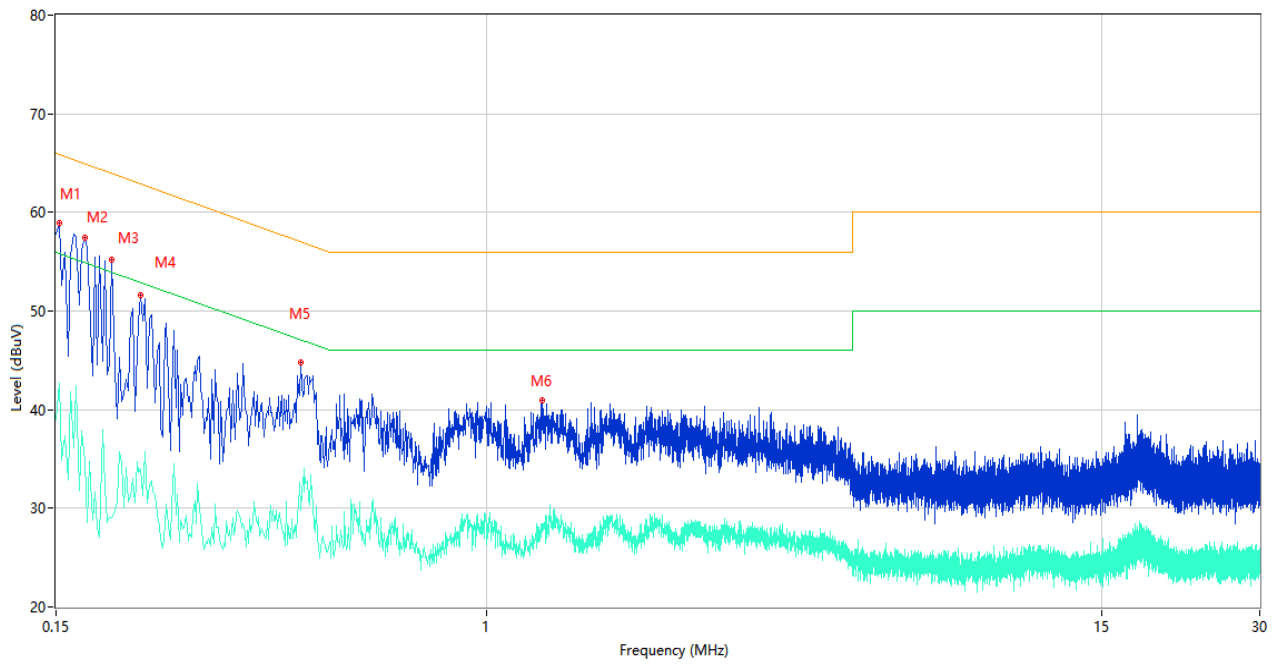
The USB Test Mode

A.2.3 L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.162	56.79	10.40	65.36	-8.57	Peak	L	Pass
1**	0.162	37.91	10.40	55.36	-17.45	AV	L	Pass
2	0.188	54.43	10.38	64.12	-9.69	Peak	L	Pass
2**	0.188	35.01	10.38	54.12	-19.11	AV	L	Pass
3	0.220	50.88	10.37	62.82	-11.94	Peak	L	Pass
3**	0.220	29.58	10.37	52.82	-23.24	AV	L	Pass
4	0.430	43.05	10.31	57.25	-14.20	Peak	L	Pass
4**	0.430	31.69	10.31	47.25	-15.56	AV	L	Pass
5	0.904	39.50	10.24	56.00	-16.50	Peak	L	Pass
5**	0.904	27.53	10.24	46.00	-18.47	AV	L	Pass
6	3.836	39.58	10.29	56.00	-16.42	Peak	L	Pass
6**	3.836	27.48	10.29	46.00	-18.52	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	58.93	10.41	65.89	-6.96	Peak	N	Pass
1**	0.152	42.69	10.41	55.89	-13.20	AV	N	Pass
2	0.170	57.48	10.40	64.96	-7.48	Peak	N	Pass
2**	0.170	34.69	10.40	54.96	-20.27	AV	N	Pass
3	0.192	55.23	10.38	63.95	-8.72	Peak	N	Pass
3**	0.192	29.01	10.38	53.95	-24.94	AV	N	Pass
4	0.218	51.66	10.37	62.89	-11.23	Peak	N	Pass
4**	0.218	34.04	10.37	52.89	-18.85	AV	N	Pass
5	0.440	44.80	10.31	57.06	-12.26	Peak	N	Pass
5**	0.440	29.84	10.31	47.06	-17.22	AV	N	Pass
6	1.272	40.97	10.25	56.00	-15.03	Peak	N	Pass
6**	1.272	28.46	10.25	46.00	-17.54	AV	N	Pass

ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-SZ2150618-AE.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-SZ2150618-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SZ2150618-AI.PDF”.

--END OF REPORT--