

TEST REPORT

Applicant: Guangdong OPPO Mobile Telecommunications Corp., Ltd.
Address: NO.18 Haibin Road, Wusha Village, Chang'an Town, Dongguan City, Guangdong, China
Equipment Type: Mobile Phone
Model Name: CPH2385
Brand Name: OPPO
FCC ID: R9C-AA341
Test Standard: 47 CFR Part 15 Subpart B
Test Date: Mar. 29, 2022 - May 06, 2022
Date of Issue: May 13, 2022

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

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(Technical Director)

Zhang Guoxi

Xia Long

Liao Jianming

Revision History

Version	Issue Date	Revisions Content
<u>Rev. 01</u>	<u>May 13, 2022</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, 1/F, Baisha Science and Technology Park, Shahe West Road, Nanshan District, ShenZhen, GuangDong Province, China
Phone Number	+86 755 6685 0100

1.2 Identification of the Responsible Testing Location

Test Location	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park, Shahe West Road, Nanshan District, ShenZhen, GuangDong Province, 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, 1/F, Baisha Science and Technology Park, Shahe West Road, Nanshan District, ShenZhen, GuangDong Province, China

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	CPH2385
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	11
Software Version	ColorOS V12.1
Dimensions (Approx.)	163.74x75.03x7.99mm
Weight (Approx.)	N/A

2.5 Ancillary Equipment

Ancillary Equipment 1	Li-Polymer Battery 1	
	Brand Name	SUPERVOOC
	Model No.	BLP923
	Serial No.	N/A
	Capacitance	Rated: 4880mAh/18.88Wh Typical: 5000mAh/19.35Wh
	Rated Voltage	3.87 V
	Limited Voltage	4.45 V
	Manufacturer	Dongguan NVT Technology Co., Ltd
Ancillary Equipment 2	Li-Polymer Battery 2	
	Brand Name	SUPERVOOC
	Model No.	BLP923
	Serial No.	N/A
	Capacitance	Rated: 4880mAh/18.88Wh Typical: 5000mAh/19.35Wh
	Rated Voltage	3.87V
	Limited Voltage	4.45 V
	Manufacturer	Chongqing CosMX Battery Co., Ltd.
Ancillary Equipment 3	Li-Polymer Battery 3	
	Brand Name	SUPERVOOC
	Model No.	BLP923
	Serial No.	N/A
	Capacitance	Rated: 4880mAh/18.88Wh Typical: 5000mAh/19.35Wh
	Rated Voltage	3.87V
	Limited Voltage	4.45 V
	Manufacturer	TWS Technology (Guangzhou) Limited
Ancillary Equipment 4	Li-Polymer Battery 4	
	Brand Name	SUPERVOOC
	Model No.	BLP923
	Serial No.	N/A
	Capacitance	Rated: 4880mAh/18.88Wh Typical: 5000mAh/19.35Wh
	Rated Voltage	3.87V
	Limited Voltage	4.45 V
	Manufacturer	PT. Battery Technology Indonesia
Ancillary Equipment 5	Power Supply Unit 1	
	Brand Name	SUPERVOOC
	Model No.	VCB3HDYH (UK Plug)
	Serial No.	Huntkey

	Rated Input	100-240VAC 50/60Hz 1.2A
	Rated Output	5VDC 2A 10W or 5-11VDC 3.0A Max
Ancillary Equipment 6	Power Supply Unit 2	
	Brand Name	SUPERVOOC
	Model No.	VCB3HDEH (EU Plug)
	Serial No.	Huntkey
	Rated Input	100-240VAC 50/60Hz 1.2A
	Rated Output	5VDC 2A 10W or 5-11VDC 3.0A Max
Ancillary Equipment 7	Power Supply Unit 3	
	Brand Name	SUPERVOOC
	Model No.	VCB3HDEH (EU Plug)
	Serial No.	GOLDEN LAKE
	Rated Input	100-240VAC 50/60Hz 1.2A
	Rated Output	5VDC 2A 10W or 5-11VDC 3.0A Max
Ancillary Equipment 8	Power Supply Unit 4	
	Brand Name	SUPERVOOC
	Model No.	VCB3HDEH (EU Plug)
	Serial No.	Yohoo
	Rated Input	100-240VAC 50/60Hz 1.2A
	Rated Output	5VDC 2A 10W or 5-11VDC 3.0A Max
Ancillary Equipment 9	Power Supply Unit 5	
	Brand Name	SUPERVOOC
	Model No.	VCB3HDUH (USA Plug)
	Serial No.	Huntkey
	Rated Input	100-240VAC 50/60Hz 1.2A
	Rated Output	5VDC 2A or 5-11VDC 3.0A Max
Ancillary Equipment 10	Power Supply Unit 6	
	Brand Name	SUPERVOOC
	Model No.	VCB3HDUH (USA Plug)
	Serial No.	GOLDEN LAKE
	Rated Input	100-240VAC 50/60Hz 1.2A
	Rated Output	5VDC 2A or 5-11VDC 3.0A Max
Ancillary Equipment 11	Power Supply Unit 7	
	Brand Name	SUPERVOOC
	Model No.	VCB3HDUH (USA Plug)
	Serial No.	Yohoo
	Rated Input	100-240VAC 50/60Hz 1.2A
	Rated Output	5VDC 2A 10W or 5-11VDC 3.0A Max
Ancillary Equipment 12	Power Supply Unit 8	
	Brand Name	SUPERVOOC
	Model No.	VCB3HDAH (AU Plug)

	Serial No.	Huntkey
	Rated Input	100-240VAC 50/60Hz 1.2A
	Rated Output	5VDC 2A 10W or 5-11VDC 3.0A Max
Ancillary Equipment 13	Power Supply Unit 9	
	Brand Name	SUPERVOOC
	Model No.	VCB3ACPH (EU Plug)
	Serial No.	Yohoo
	Rated Input	100-240VAC 50/60Hz 1.2A
	Rated Output	5VDC 2A 10W or 5-11VDC 3.0A Max
Ancillary Equipment 14	USB Cable 1	
	Model No.	DL143
	Length (Approx.)	1.0 m
Ancillary Equipment 15	USB Cable 2	
	Model No.	DL150
	Length (Approx.)	1.0 m
Ancillary Equipment 16	Headset	
	Model No.	MH156
	Length (Approx.)	1.2 m
<p>Note 1: Letter in () means plug type.</p> <p>Note 2: All adapters are tested, only the worst data of VCB3H DUH-Yohoo (USA Plug) shown in this report.</p> <p>Note 3: All USB Cable are tested, only the worst data of DL143 shown in this report.</p> <p>Note 4: All batteries are tested, only the worst data of BLP923 (PT. Battery Technology Indonesia) 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 Band 5 4G Network FDD LTE Band 5/7 TDD LTE Band 38/41 Bluetooth (BR+EDR+BLE) 2.4G WIFI 802.11b, 802.11g, 802.11n(HT20/40) and VHT20/40 5G WIFI 802.11a, 802.11n(HT20/40) and 802.11ac(VHT20/40/80) 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	2.3 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	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: Compared with the EUT of test report BL-SZ2230843-401, the changes of the EUT of this report as below:

1. Different model name.
2. Update camera specification is 50M+2M.
3. Add the battery cover with leather material.

Therefore, only the 1 test items, which include Radiated Emission were tested in this report, others test data please refer to report BL-SZ2230843-401, which was issued by Shenzhen BALUN Technology Co., Ltd. on Apr. 26, 2022.

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)	3.22 dB
Radiated emissions (30 MHz-1 GHz)-10m	4.80 dB
Radiated emissions (30 MHz-1 GHz)-3m	4.76 dB
Radiated emissions (1 GHz-18 GHz)-3m	4.88 dB

4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments, Test Date and Test Engineer

Test items	Voltage	Temperature	Relative Humidity	Ambient Pressure	Test Date	Test Engineer
Radiated Emission	AC 230V/50Hz AC 120V/60Hz DC 3.87V(battery)	23.6°C	48%	101kPa	May 06, 2022	Jiang Pan
Conducted Emission	AC 230V/50Hz AC 120V/60Hz DC 3.87V(battery)	23.4°C	51%	101kPa	Apr. 06, 2022	Ye Guangqi

4.2 Test Equipment List

Radiated Emission Test For Frequency Below 1 GHz (3m)						
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"/>
Amplifier (30-1GHz)	COM-MV	ZT30-1000M	B2017119081	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"/>
Description	Manufacturer	Name		Version		Use
Test Software	BALUN	BL410-E		V19.918		<input checked="" type="checkbox"/>

Radiated Emission Test For Frequency Above 1 GHz (3m)						
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	Agilent	N9038A	MY55330120	2021.10.20	2022.10.19	<input checked="" type="checkbox"/>
Spectrum Analyzer	ROHDE & SCHWARZ	FSV40	101544	2022.01.04	2023.01.03	<input checked="" type="checkbox"/>
Amplifier (1-12GHz)	Advanced Microwave	WLA652A	1740103	2021.10.20	2022.10.19	<input checked="" type="checkbox"/>
Amplifier (0.8-21GHz)	Mini-Circuits	ZVA-213-S+	225321316	2021.10.20	2022.10.19	<input checked="" type="checkbox"/>
Amplifier (18-40GHz)	COM-MV	KA_LNA18-4 0G-01	18050001	2021.10.20	2022.10.19	<input checked="" type="checkbox"/>
Test Antenna- Horn	SCHWARZBECK	BBHA 9120D	1917	2019.07.02	2022.07.01	<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"/>
Description	Manufacturer	Name		Version		Use
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	3.5m*3.1m*2. 8m	N/A	2022.02.19	2025.02.18	<input checked="" type="checkbox"/>
Description	Manufacturer	Name		Version		Use
Test Software	BALUN	BL410-E		V19.918		<input checked="" type="checkbox"/>

4.3 Test Enclosure list

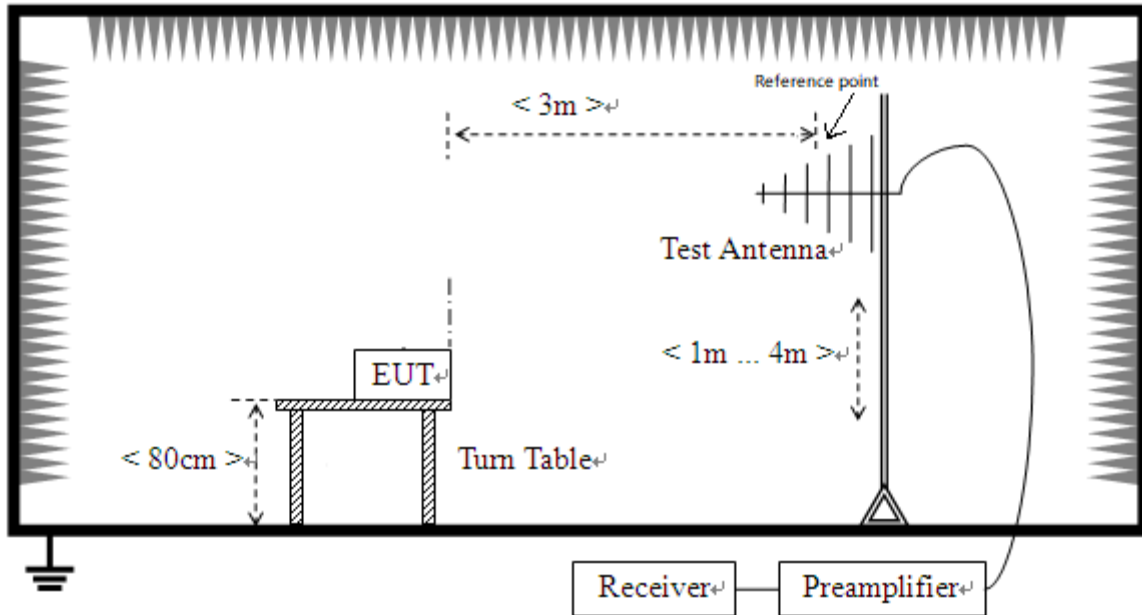
Description	Manufacturer	Model	Serial No.	Length	Description	Use
Wireless Communications Test Set	R&S	CMW500	127801	N/A	Cal. Due 2023.01.03	<input checked="" type="checkbox"/>
Laptop	HONOR	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>
TF Card	Kingston	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>

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 Camera Test Mode</u> EUT + Adapter + USB Cable + Battery + TF Card + Headset
TC06	<u>The Video Play Test Mode</u> EUT + Adapter + USB Cable + Battery + TF Card + Headset
TC07	<u>The USB Test Mode</u> EUT + USB Cable + Battery + Laptop + TF Card + Headset

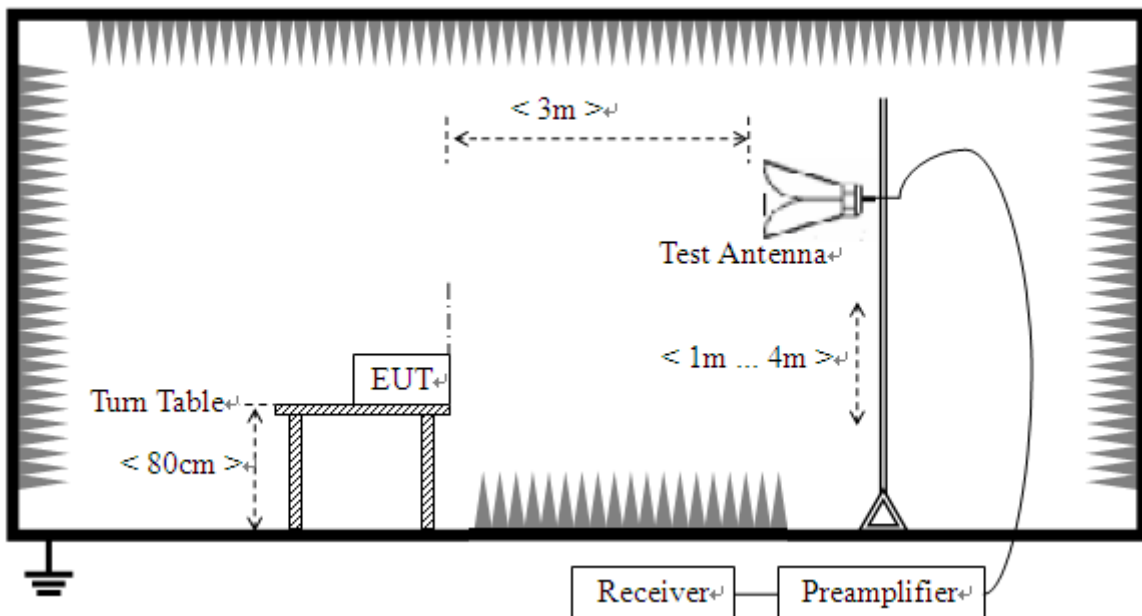
4.5 Test Setups

Test Setup 1



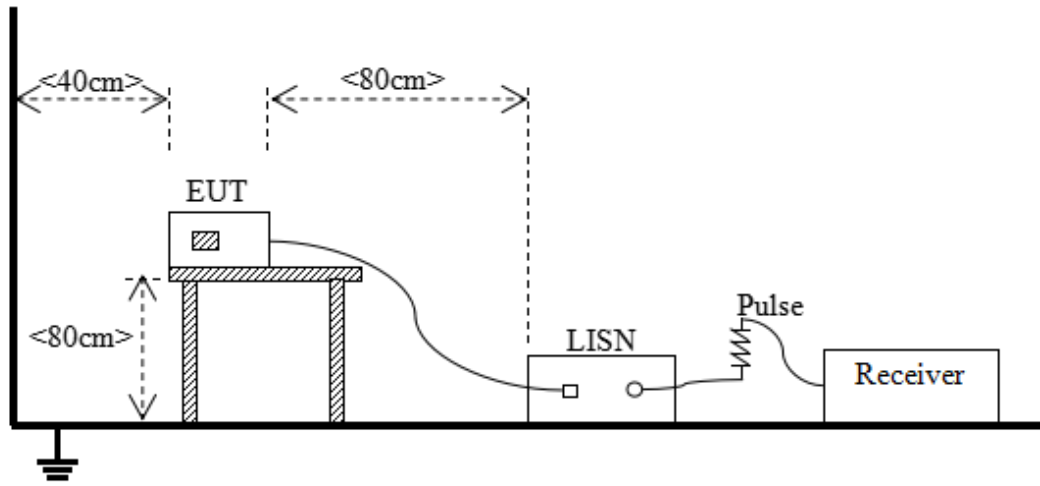
(For Radiated Emission Test (30 MHz-1 GHz))

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 Setup	Test Setup 1&2
	Test Configuration	TC01~TC07 ^{Note}
Conducted Emission, AC Ports	Test Setup	Test Setup 3
	Test Configuration	TC01~TC07 ^{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.

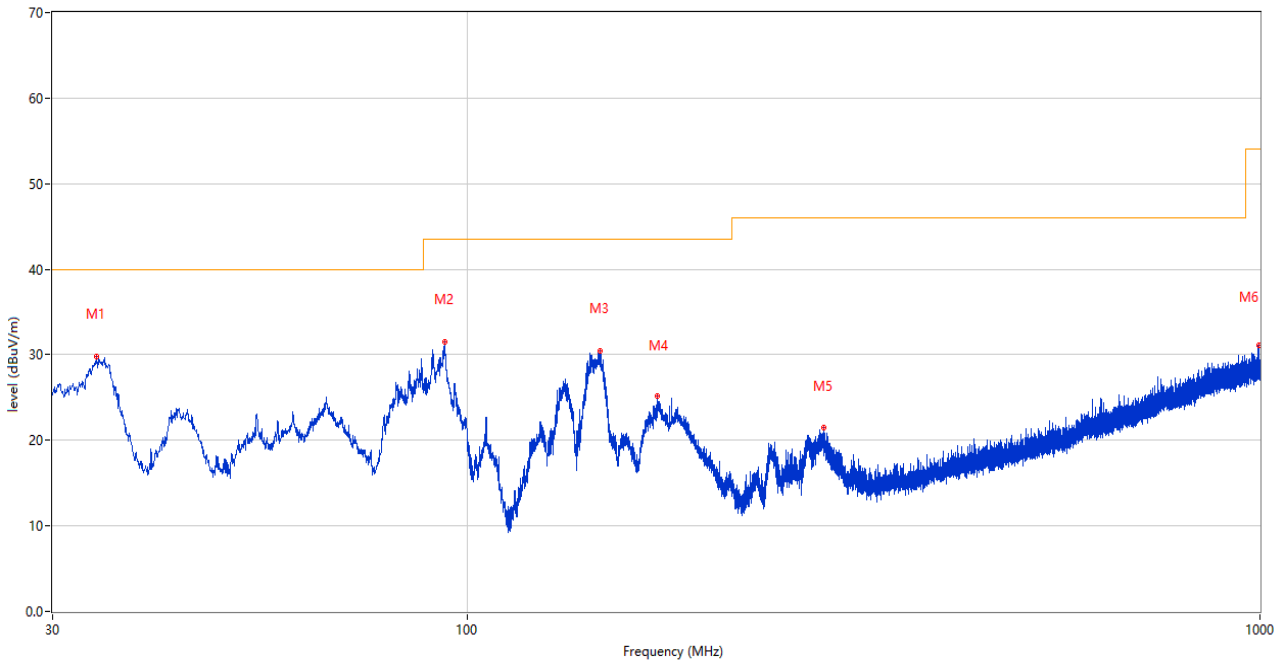
Note 3: The Radiated Emission from 18G-40G is noise only, do not show on the report.

Note 4: All the configurations were pre tested, only the worst configuration has been reported in this report.

Test Data and Plots

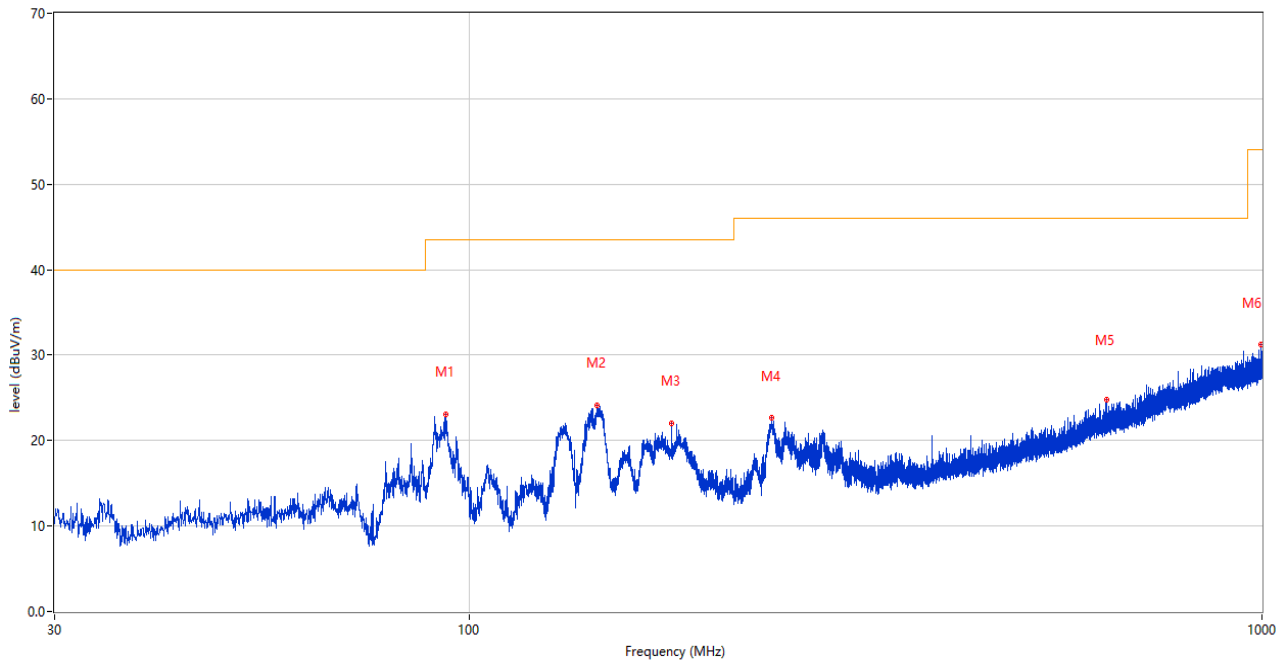
The Camera Test Mode

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



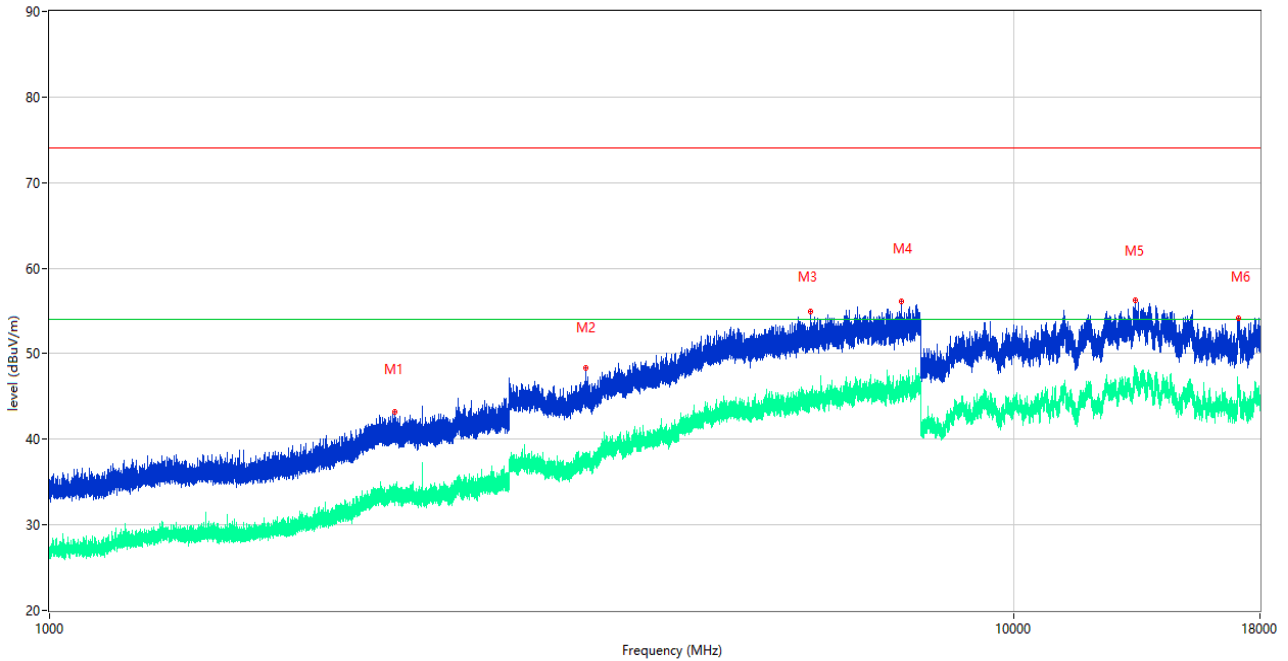
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	34.074	29.77	-28.76	40.0	-10.23	Peak	188.00	100	Vertical	Pass
2	93.680	31.46	-27.73	43.5	-12.04	Peak	23.00	100	Vertical	Pass
3	146.982	30.48	-30.23	43.5	-13.02	Peak	353.00	100	Vertical	Pass
4	173.948	25.17	-28.93	43.5	-18.33	Peak	360.00	100	Vertical	Pass
5	281.812	21.43	-24.15	46.0	-24.57	Peak	121.00	200	Vertical	Pass
6	997.672	31.08	-8.42	54.0	-22.92	Peak	310.00	200	Vertical	Pass

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



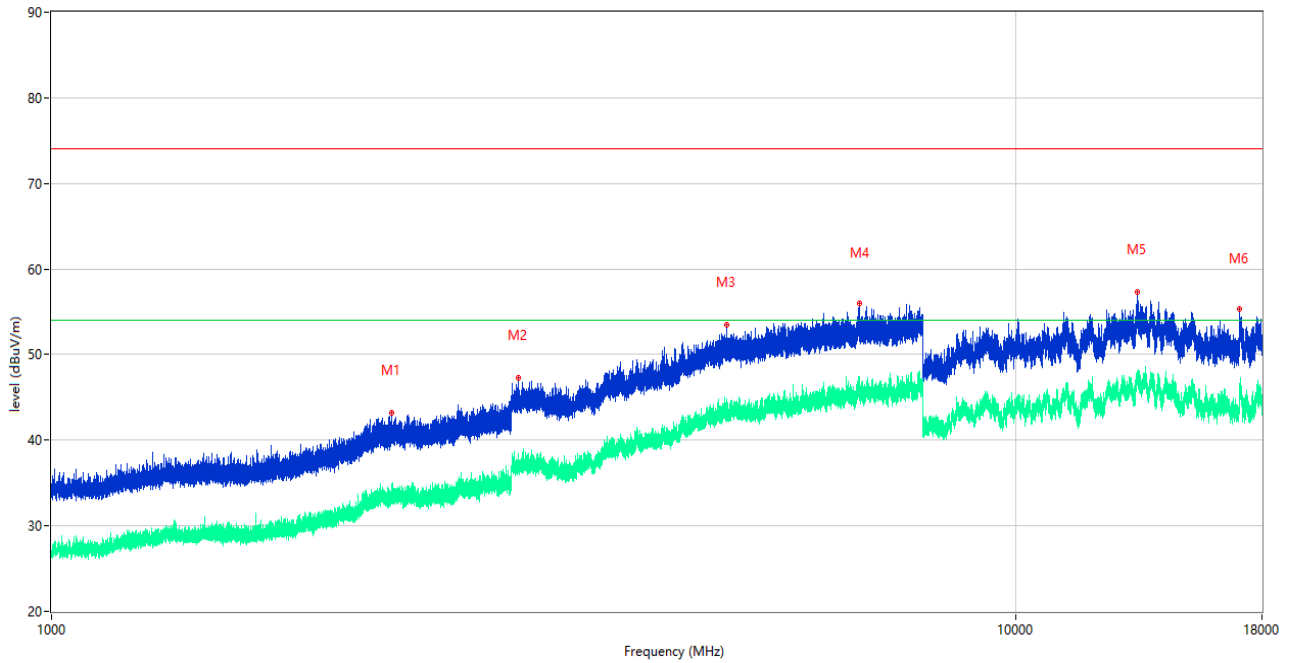
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	93.535	23.12	-27.76	43.5	-20.38	Peak	210.00	200	Horizontal	Pass
2	144.994	24.08	-30.22	43.5	-19.42	Peak	47.00	200	Horizontal	Pass
3	180.010	21.97	-28.51	43.5	-21.53	Peak	89.00	200	Horizontal	Pass
4	240.490	22.61	-25.09	46.0	-23.39	Peak	0.00	200	Horizontal	Pass
5	636.347	24.72	-15.26	46.0	-21.28	Peak	0.00	200	Horizontal	Pass
6	997.721	31.19	-8.42	54.0	-22.81	Peak	0.00	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	2278.300	43.18	-11.76	74.0	-30.82	Peak	303.00	100	Vertical	Pass
1**	2278.300	33.71	-11.76	54.0	-20.29	AV	303.00	100	Vertical	Pass
2	3599.000	48.32	-4.72	74.0	-25.68	Peak	253.00	100	Vertical	Pass
2**	3599.000	37.97	-4.72	54.0	-16.03	AV	253.00	100	Vertical	Pass
3	6153.750	54.98	0.84	74.0	-19.02	Peak	360.00	100	Vertical	Pass
3**	6153.750	44.16	0.84	54.0	-9.84	AV	360.00	100	Vertical	Pass
4	7650.750	56.15	2.29	74.0	-17.85	Peak	143.00	100	Vertical	Pass
4**	7650.750	46.46	2.29	54.0	-7.54	AV	143.00	100	Vertical	Pass
5	13358.000	56.24	5.18	74.0	-17.76	Peak	104.00	100	Vertical	Pass
5**	13358.000	47.06	5.18	54.0	-6.94	AV	104.00	100	Vertical	Pass
6	17099.500	54.13	3.73	74.0	-19.87	Peak	175.00	100	Vertical	Pass
6**	17099.500	45.70	3.73	54.0	-8.30	AV	175.00	100	Vertical	Pass

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

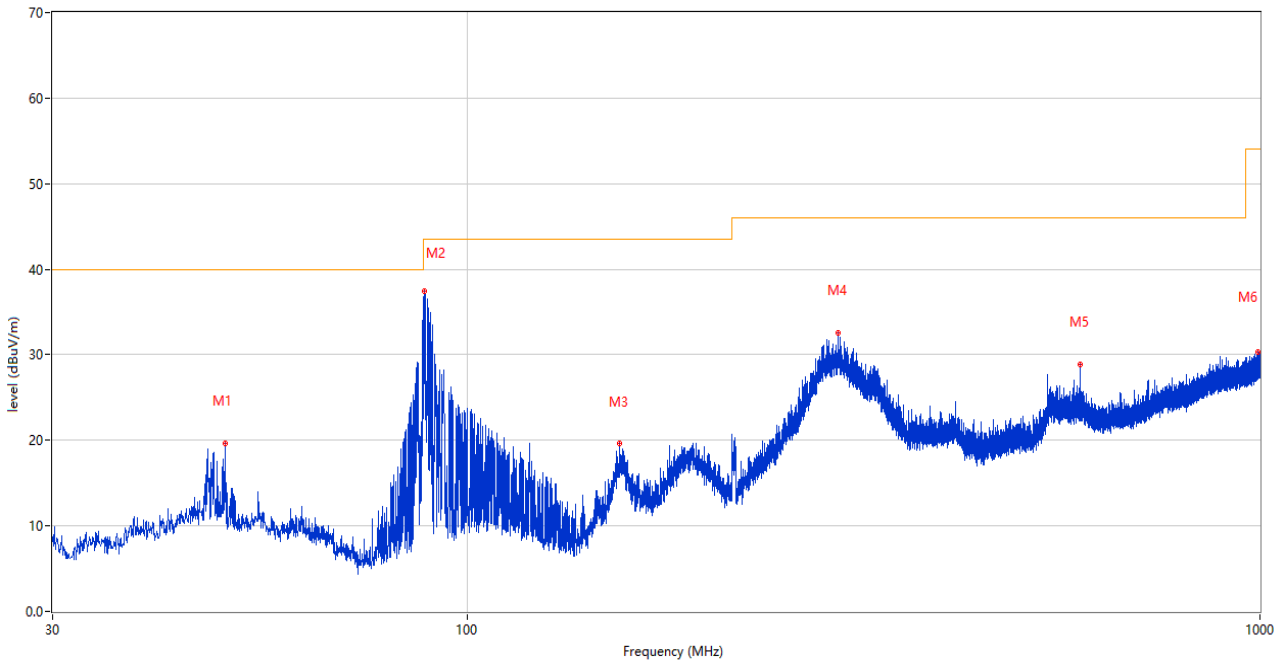


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2254.500	43.24	-11.92	74.0	-30.76	Peak	303.00	100	Horizontal	Pass
1**	2254.500	34.01	-11.92	54.0	-19.99	AV	303.00	100	Horizontal	Pass
2	3050.500	47.22	-5.64	74.0	-26.78	Peak	9.00	100	Horizontal	Pass
2**	3050.500	36.98	-5.64	54.0	-17.02	AV	9.00	100	Horizontal	Pass
3	5016.750	53.44	0.12	74.0	-20.56	Peak	0.00	100	Horizontal	Pass
3**	5016.750	44.14	0.12	54.0	-9.86	AV	0.00	100	Horizontal	Pass
4	6887.500	55.95	1.62	74.0	-18.05	Peak	108.00	100	Horizontal	Pass
4**	6887.500	44.87	1.62	54.0	-9.13	AV	108.00	100	Horizontal	Pass
5	13356.500	57.31	5.19	74.0	-16.69	Peak	238.00	100	Horizontal	Pass
5**	13356.500	46.63	5.19	54.0	-7.37	AV	238.00	100	Horizontal	Pass
6	17077.500	55.35	2.87	74.0	-18.65	Peak	238.00	100	Horizontal	Pass
6**	17077.500	45.59	2.87	54.0	-8.41	AV	238.00	100	Horizontal	Pass

Test Data and Plots

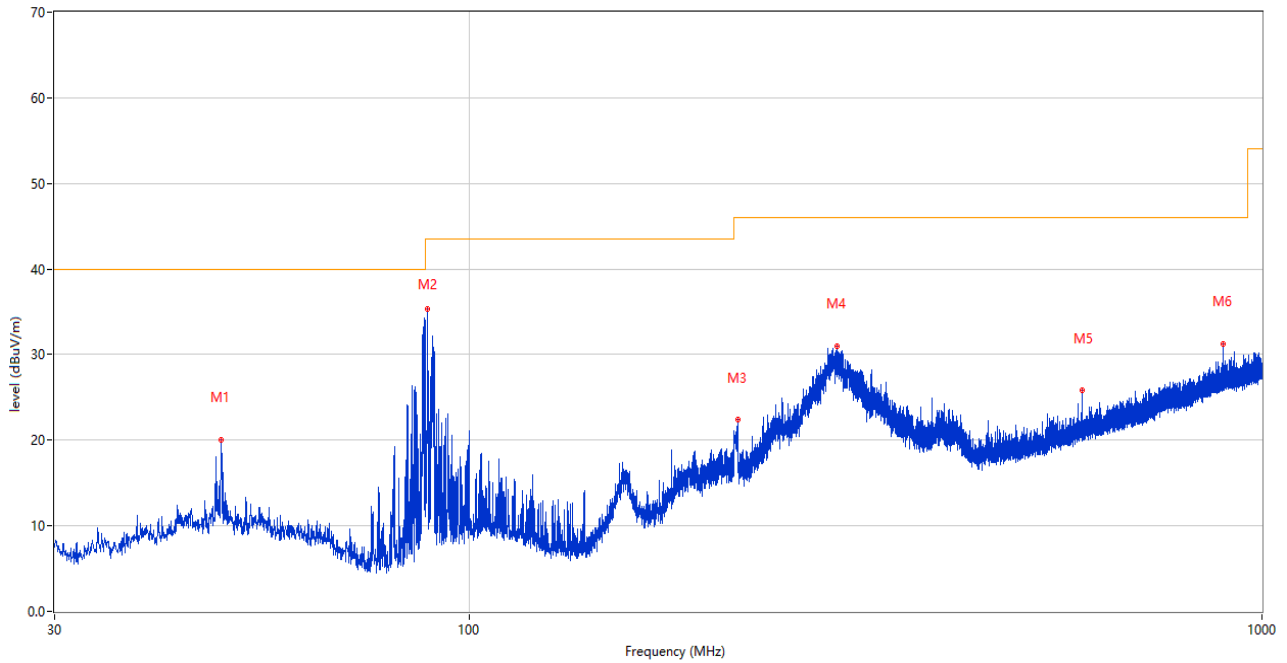
The USB Test Mode

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



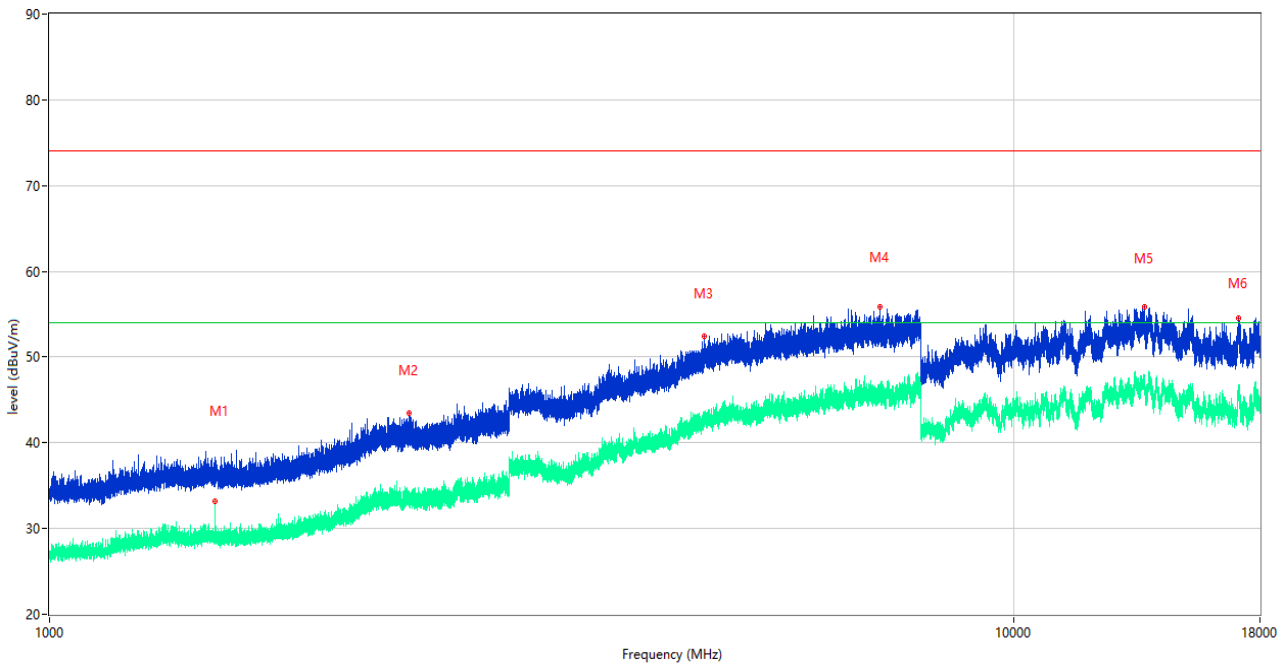
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	49.545	19.61	-25.53	40.0	-20.39	Peak	46.00	100	Vertical	Pass
2	88.297	37.47	-29.03	43.5	-6.03	Peak	113.00	100	Vertical	Pass
3	155.615	19.64	-29.81	43.5	-23.86	Peak	44.00	100	Vertical	Pass
4	293.986	32.53	-23.82	46.0	-13.47	Peak	1.00	200	Vertical	Pass
5	594.055	28.81	-16.07	46.0	-17.19	Peak	121.00	200	Vertical	Pass
6	993.065	30.32	-8.40	54.0	-23.68	Peak	128.00	200	Vertical	Pass

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



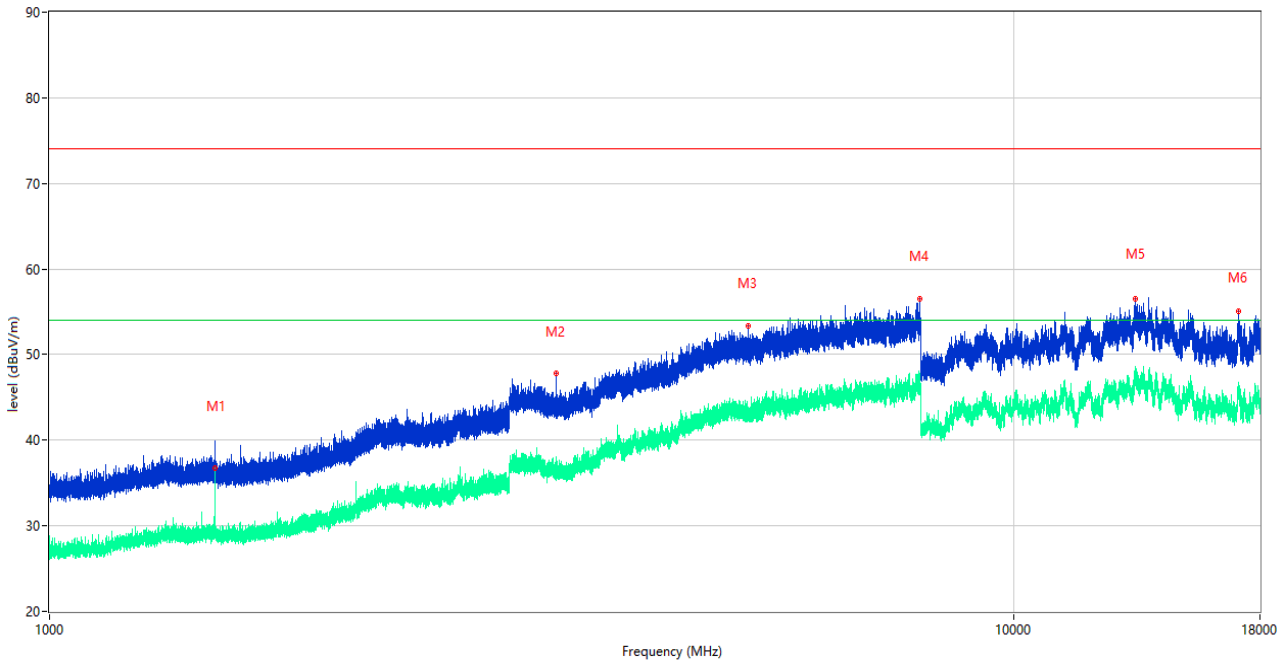
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	48.721	19.99	-25.36	40.0	-20.01	Peak	357.00	200	Horizontal	Pass
2	88.588	35.27	-28.95	43.5	-8.23	Peak	270.00	200	Horizontal	Pass
3	217.986	22.46	-26.32	46.0	-23.54	Peak	73.00	100	Horizontal	Pass
4	291.512	30.92	-23.81	46.0	-15.08	Peak	118.00	100	Horizontal	Pass
5	594.055	25.89	-16.07	46.0	-20.11	Peak	215.00	100	Horizontal	Pass
6	893.106	31.19	-10.02	46.0	-14.81	Peak	317.00	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	1484.900	37.11	-16.62	74.0	-36.89	Peak	78.00	100	Vertical	Pass
1**	1484.900	33.13	-16.62	54.0	-20.87	AV	78.00	100	Vertical	Pass
2	2361.400	43.53	-11.13	74.0	-30.47	Peak	352.00	100	Vertical	Pass
2**	2361.400	33.75	-11.13	54.0	-20.25	AV	352.00	100	Vertical	Pass
3	4774.250	52.43	0.21	74.0	-21.57	Peak	70.00	100	Vertical	Pass
3**	4774.250	43.20	0.21	54.0	-10.80	AV	70.00	100	Vertical	Pass
4	7270.500	55.88	1.87	74.0	-18.12	Peak	360.00	100	Vertical	Pass
4**	7270.500	45.60	1.87	54.0	-8.40	AV	360.00	100	Vertical	Pass
5	13656.001	55.87	4.95	74.0	-18.13	Peak	220.00	100	Vertical	Pass
5**	13656.001	46.71	4.95	54.0	-7.29	AV	220.00	100	Vertical	Pass
6	17110.500	54.56	3.58	74.0	-19.44	Peak	23.00	100	Vertical	Pass
6**	17110.500	46.23	3.58	54.0	-7.77	AV	23.00	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	1485.100	39.91	-16.62	74.0	-34.09	Peak	196.00	100	Horizontal	Pass
1**	1485.100	36.72	-16.62	54.0	-17.28	AV	196.00	100	Horizontal	Pass
2	3350.000	47.78	-5.60	74.0	-26.22	Peak	352.00	100	Horizontal	Pass
2**	3350.000	36.65	-5.60	54.0	-17.35	AV	352.00	100	Horizontal	Pass
3	5299.000	53.34	0.36	74.0	-20.66	Peak	0.00	100	Horizontal	Pass
3**	5299.000	43.27	0.36	54.0	-10.73	AV	0.00	100	Horizontal	Pass
4	7994.250	56.49	2.63	74.0	-17.51	Peak	192.00	100	Horizontal	Pass
4**	7994.250	46.62	2.63	54.0	-7.38	AV	192.00	100	Horizontal	Pass
5	13356.500	56.45	5.19	74.0	-17.55	Peak	301.00	100	Horizontal	Pass
5**	13356.500	47.03	5.19	54.0	-6.97	AV	301.00	100	Horizontal	Pass
6	17087.500	55.08	3.26	74.0	-18.92	Peak	360.00	100	Horizontal	Pass
6**	17087.500	45.56	3.26	54.0	-8.44	AV	360.00	100	Horizontal	Pass

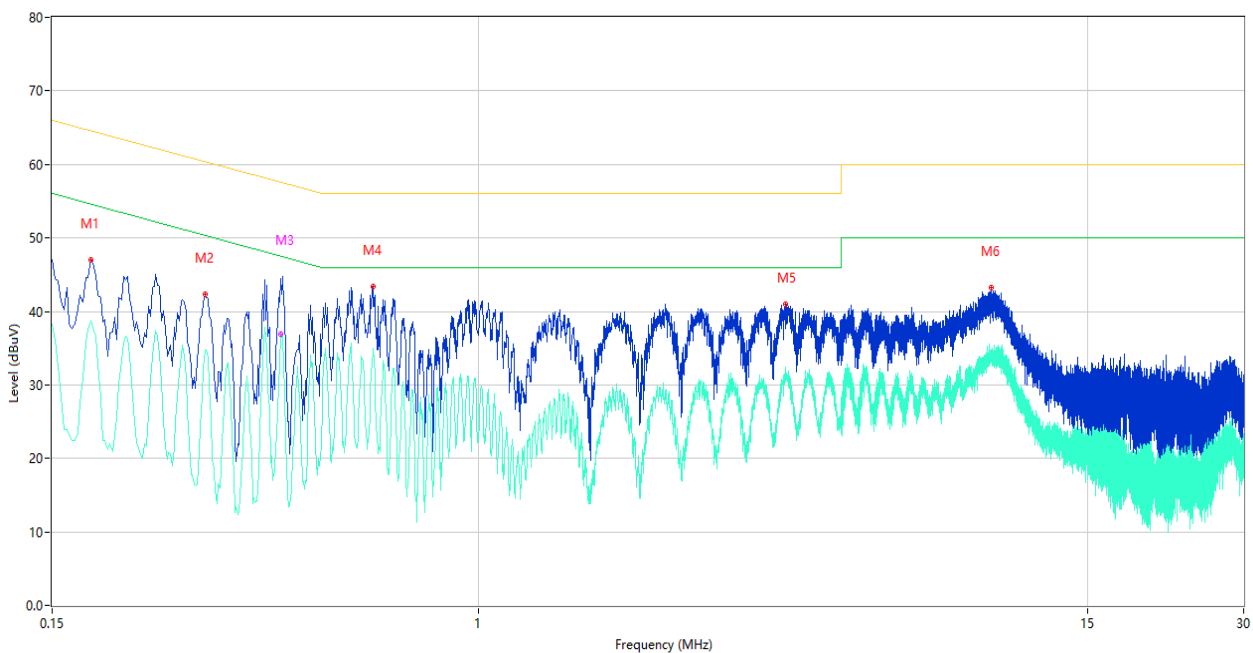
A.2 Conducted Emission

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

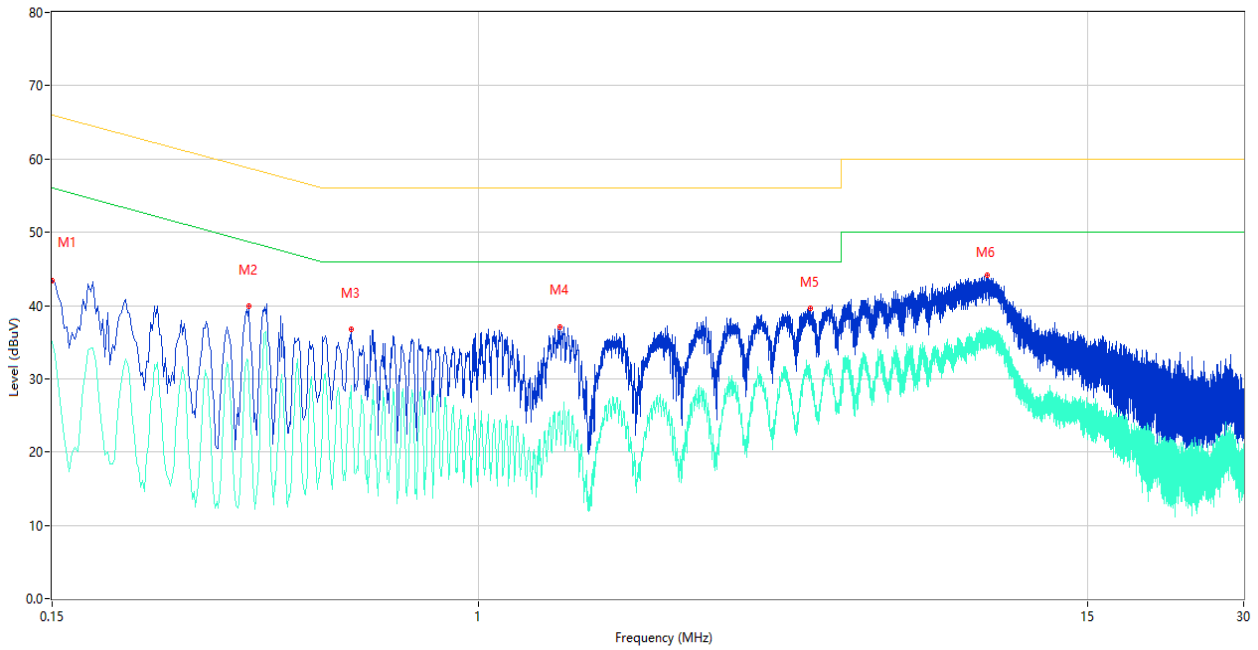
The Camera Test Mode

A.2.1 L Phase



No.	Frequency (MHz)	Results (dBUV)	Factor (dB)	Limit (dBUV)	Over Limit (dB)	Detector	Line	Verdict
1	0.178	47.00	10.14	64.58	-17.58	Peak	L	Pass
1**	0.178	38.77	10.14	54.58	-15.81	AV	L	Pass
2	0.296	42.30	10.07	60.35	-18.05	Peak	L	Pass
2**	0.296	34.62	10.07	50.35	-15.73	AV	L	Pass
3	0.414	44.49	10.09	57.57	-13.08	Peak	L	Pass
3**	0.414	36.98	10.09	47.57	-10.59	AV	L	Pass
4	0.626	43.33	10.09	56.00	-12.67	Peak	L	Pass
4**	0.626	34.96	10.09	46.00	-11.04	AV	L	Pass
5	3.912	40.97	10.09	56.00	-15.03	Peak	L	Pass
5**	3.912	30.49	10.09	46.00	-15.51	AV	L	Pass
6	9.748	43.21	10.09	60.00	-16.79	Peak	L	Pass
6**	9.748	34.74	10.09	50.00	-15.26	AV	L	Pass

A.2.2 N Phase

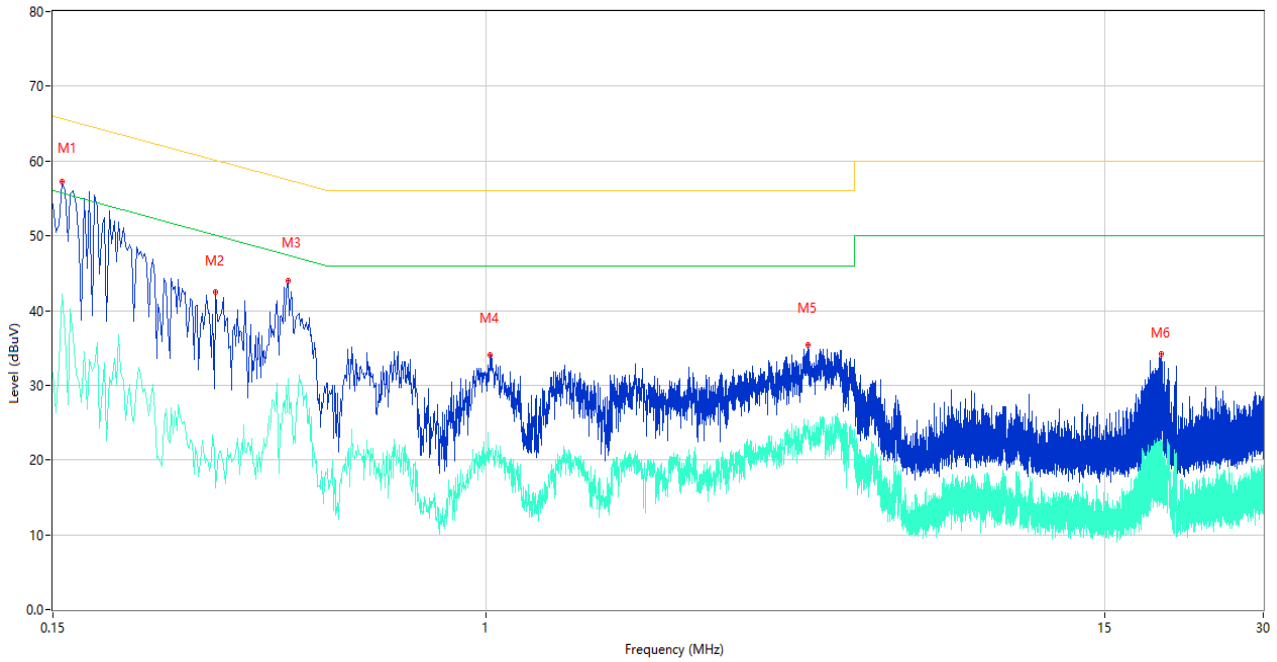


No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.150	43.37	10.19	66.00	-22.63	Peak	N	Pass
1**	0.150	35.15	10.19	56.00	-20.85	AV	N	Pass
2	0.360	39.90	10.08	58.73	-18.83	Peak	N	Pass
2**	0.360	29.84	10.08	48.73	-18.89	AV	N	Pass
3	0.566	36.75	10.10	56.00	-19.25	Peak	N	Pass
3**	0.566	29.10	10.10	46.00	-16.90	AV	N	Pass
4	1.432	37.06	9.96	56.00	-18.94	Peak	N	Pass
4**	1.432	25.64	9.96	46.00	-20.36	AV	N	Pass
5	4.370	39.61	10.03	56.00	-16.39	Peak	N	Pass
5**	4.370	31.28	10.03	46.00	-14.72	AV	N	Pass
6	9.574	44.17	10.09	60.00	-15.83	Peak	N	Pass
6**	9.574	36.84	10.09	50.00	-13.16	AV	N	Passf

Test Data and Plots

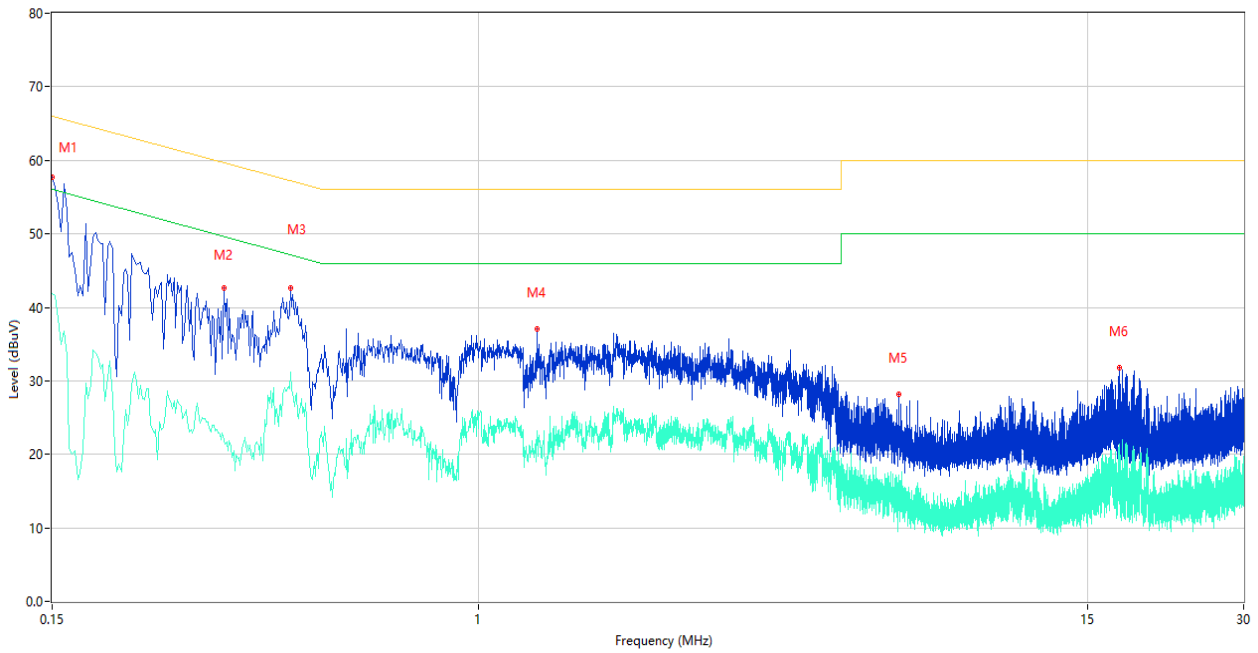
The USB Test Mode

A.2.3 L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.156	57.23	10.18	65.67	-8.44	Peak	L	Pass
1**	0.156	42.20	10.18	55.67	-13.47	AV	L	Pass
2	0.306	42.51	10.07	60.08	-17.57	Peak	L	Pass
2**	0.306	16.22	10.07	50.08	-33.86	AV	L	Pass
3	0.420	43.97	10.09	57.45	-13.48	Peak	L	Pass
3**	0.420	30.94	10.09	47.45	-16.51	AV	L	Pass
4	1.016	34.02	10.03	56.00	-21.98	Peak	L	Pass
4**	1.016	20.81	10.03	46.00	-25.19	AV	L	Pass
5	4.082	35.45	10.08	56.00	-20.55	Peak	L	Pass
5**	4.082	25.10	10.08	46.00	-20.90	AV	L	Pass
6	19.158	34.27	10.23	60.00	-25.73	Peak	L	Pass
6**	19.158	22.30	10.23	50.00	-27.70	AV	L	Pass

A.2.4 N Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.150	57.74	10.19	66.00	-8.26	Peak	N	Pass
1**	0.150	41.84	10.19	56.00	-14.16	AV	N	Pass
2	0.322	42.59	10.07	59.66	-17.07	Peak	N	Pass
2**	0.322	22.06	10.07	49.66	-27.60	AV	N	Pass
3	0.434	42.64	10.10	57.18	-14.54	Peak	N	Pass
3**	0.434	31.21	10.10	47.18	-15.97	AV	N	Pass
4	1.298	37.10	9.98	56.00	-18.90	Peak	N	Pass
4**	1.298	23.20	9.98	46.00	-22.80	AV	N	Pass
5	6.478	28.14	9.96	60.00	-31.86	Peak	N	Pass
5**	6.478	15.74	9.96	50.00	-34.26	AV	N	Pass
6	17.300	31.72	10.18	60.00	-28.28	Peak	N	Pass
6**	17.300	20.86	10.18	50.00	-29.14	AV	N	Pass

ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-SZ2241045-AE-1.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-SZ2241045-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SZ2241045-AI.PDF”.

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--END OF REPORT--