

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: CPH2523
Brand Name: OPPO
FCC ID: R9C-CPH2523
Test Standard: 47 CFR Part 15 Subpart B
Sample Arrival Date: Nov. 21, 2022
Test Date: Nov. 24, 2022
Date of Issue: Dec. 19, 2022

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Zhang Guoxi

Checked by: Xia Long

Approved by: Liao Jianming
(Technical Director)

Zhang Guoxi

Xia Long

Liao Jianming

Revision History		
Version	Issue Date	Revisions
<u>Rev. 01</u>	<u>Dec. 19, 2022</u>	<u>Initial Issue</u>

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1 GENERAL INFORMATION

1.1 Test Laboratory

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

1.2 Test Location

Name	Shenzhen BALUN Technology Co., Ltd.
Location	<input checked="" type="checkbox"/> Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
	<input type="checkbox"/> 1/F, Building B, Ganghongji High-tech Intelligent Industrial Park, No. 1008, Songbai Road, Yangguang Community, Xili Sub-district, 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.

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	CPH2523
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	11
Software Version	ColorOS V13.1.0
Dimensions (Approx.)	N/A
Weight (Approx.)	183g
EUT ID	S01, S02
IMEI Number	S01: IMEI1: 861067060023253, IMEI2: 861067060023246
	S02: IMEI1: 861067060022032, IMEI2: 861067060022024

2.5 Ancillary Equipment

Ancillary Equipment 1	Battery	
	Brand Name	OPPO
	Model No.	BLP917
	Serial No.	N/A
	Capacity	Rated: 4400mAh/17.02Wh Typical: 4500mAh/17.41Wh
	Rated Voltage	3.87 V
	Limit Charge Voltage	4.45 V

2.6 Technical Information

Network and Wireless connectivity	2G Network GSM/GPRS/EDGE 850/1900 MHz 3G Network WCDMA/HSDPA/HSUPA Band 4/5 4G Network LTE FDD Band 4/5/12/17/26 LTE TDD Band 38/41 LTE CA Uplink (UL): CA_41C Bluetooth (BR+EDR+BLE) 2.4G WIFI 802.11b, 802.11g, 802.11n(HT20/40) 5G WIFI 802.11a, 802.11n(HT20/40) and 802.11ac(VHT20/40/80) U-NII-1/2A/2C, GPS, GLONASS, BDS, Galileo, FM receiver, NFC
Note: The EUT is a mobile phone, supporting dual SIM card slots and ESIM card slot under the same transceiver.	

The requirement for the following technical information of the EUT was tested in this report:

The Highest Speed of Processor	2.2 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-SZ2210473-401, the EUT of this report replace the:

1. Different Model Name.
2. The material of battery cover has been changed from plastic to glass.
3. Color os changed from 12.0 to 13.1, Android version changed from Android R to Android T.
4. Hardware: The PCB remains unchanged, storage upgraded from 6G+128G to 8G+128G, and the audio IC is changed from WCD-9370-0-WLPSP55-SR-00-1 to WLPSPWCD-9370-0-WLPSP55-TR-01-4 WLPSP.
5. The power supply of image changes from FAN53870 to VWL2868C.

Therefore, only the 1 test items, which include Radiated Emission were tested in this report, others test data please refer to report BL-SZ2210473-401, which was issued by Shenzhen BALUN Technology Co., Ltd. on Mar. 07, 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℃	50%	101kPa	Nov. 24, 2022	Gu Shuaizhen
Conducted Emission	AC 230V/50Hz AC 120V/60Hz DC 3.87V(battery)	25℃	55%	101kPa	Jan. 27, 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	MY53220118	2022.09.08	2023.09.07	<input checked="" type="checkbox"/>
Amplifier (30-1GHz)	COM-MV	ZT30-1000M	B2017119082	2022.09.08	2023.09.07	<input checked="" type="checkbox"/>
Test Antenna- Bi-Log	SCHWARZBECK	VULB 9163	9163-624	2021.08.20	2024.08.19	<input checked="" type="checkbox"/>
Anechoic Chamber	ChangNing	9m*6m*6m	101	2022.03.16	2023.03.15	<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	KEYSIGHT	N9038A	MY53220118	2022.09.08	2023.09.07	<input checked="" type="checkbox"/>
Spectrum Analyzer	ROHDE & SCHWARZ	FSV40	101544	2022.01.04	2023.01.03	<input checked="" type="checkbox"/>
Amplifier (1-12GHz)	COM-MV	DLNAB- 1000-12000- 002	18080279	2022.09.08	2023.09.07	<input checked="" type="checkbox"/>
Amplifier (0.8-21GHz)	Mini-Circuits	ZVA-213-S+	619201336	2022.09.08	2023.09.07	<input checked="" type="checkbox"/>
Amplifier (18-40GHz)	COM-MV	KA_LNA18- 40G-01	18050001	2022.09.08	2023.09.07	<input checked="" type="checkbox"/>
Test Antenna- Horn	SCHWARZBECK	BBHA 9120D	1148	2022.04.12	2025.04.11	<input checked="" type="checkbox"/>
Test Antenna- Horn	A-INFOMW	LB- 180400KF	J211060273	2021.07.02	2024.07.01	<input checked="" type="checkbox"/>
Anechoic Chamber	ChangNing	9m*6m*6m	101	2022.03.16	2023.03.15	<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	2022.09.09	2023.09.08	<input checked="" type="checkbox"/>
LISN	SCHWARZBECK	NSLK 8127	8127-687	2022.06.01	2023.05.31	<input checked="" type="checkbox"/>
Shielded Room	YiHeng Electronic Co., Ltd	3.5m*3.1m*2. 8m	112	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

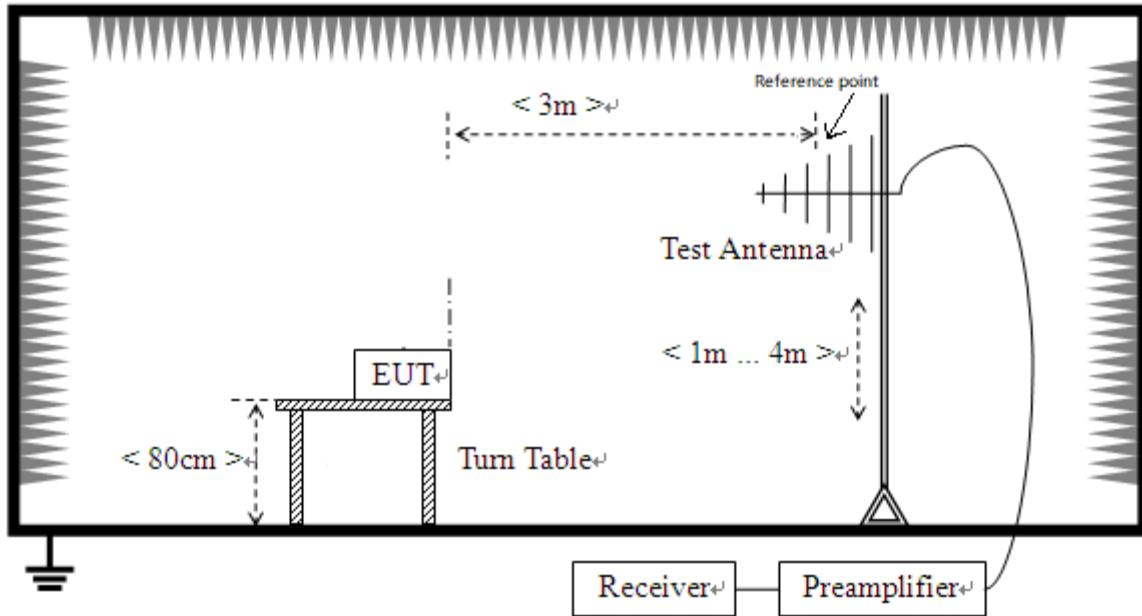
Description	Manufacturer	Model	Serial No.	Length	Description	Use
Wireless Communications Test Set	R&S	CMW500	127801	N/A	Cal. Due 2023.01.03	<input checked="" type="checkbox"/>
Laptop	Apple	A1465	N/A	N/A	N/A	<input checked="" type="checkbox"/>
Laptop	HONOR	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>
TF Card	Kingston	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>
Headset	OPPO	N/A	N/A	1.2 m	N/A	<input checked="" type="checkbox"/>
Type-C Cable	OPPO	N/A	N/A	1.0 m	Shielded with core	<input checked="" type="checkbox"/>
Adapter	OPPO	OP92KAJH	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 + Type-C Cable + Battery + Headset
TC02	<u>The EGPRS 850 MHz RX Test Mode</u> EGPRS 850 MHz RX + EUT + Adapter + Type-C Cable + Battery + Headset
TC03	<u>The WCDMA Band 5 RX Test Mode</u> WCDMA Band 5 RX + EUT + Adapter + Type-C Cable + Battery + Headset
TC04	<u>The FDD LTE Band 5 RX Test Mode</u> LTE Band 5 RX + EUT + Adapter + Type-C Cable + Battery + Headset
TC05	<u>The FDD LTE Band 12 RX Test Mode</u> LTE Band 12 RX + EUT + Adapter + Type-C Cable + Battery + Headset
TC06	<u>The FDD LTE Band 17 RX Test Mode</u> LTE Band 17 RX + EUT + Adapter + Type-C Cable + Battery + Headset
TC07	<u>The FDD LTE Band 26 RX Test Mode</u> LTE Band 26 RX + EUT + Adapter + Type-C Cable + Battery + Headset
TC08	<u>The Camera Test Mode</u> EUT + Adapter + Type-C Cable + Battery + Headset + TF Card
TC09	<u>The Video Play Test Mode</u> EUT + Adapter + Type-C Cable + Battery + Headset + TF Card
TC10	<u>The USB Test Mode</u> EUT + Type-C Cable + Battery + Laptop+ Headset + TF Card

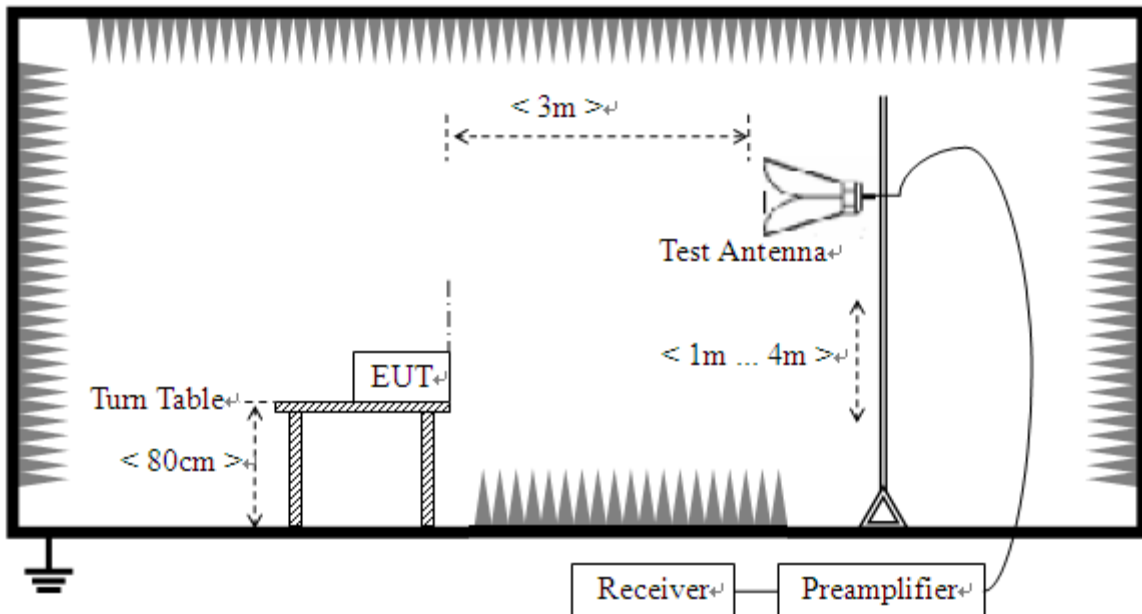
4.5 Test Setups

Test Setup 1



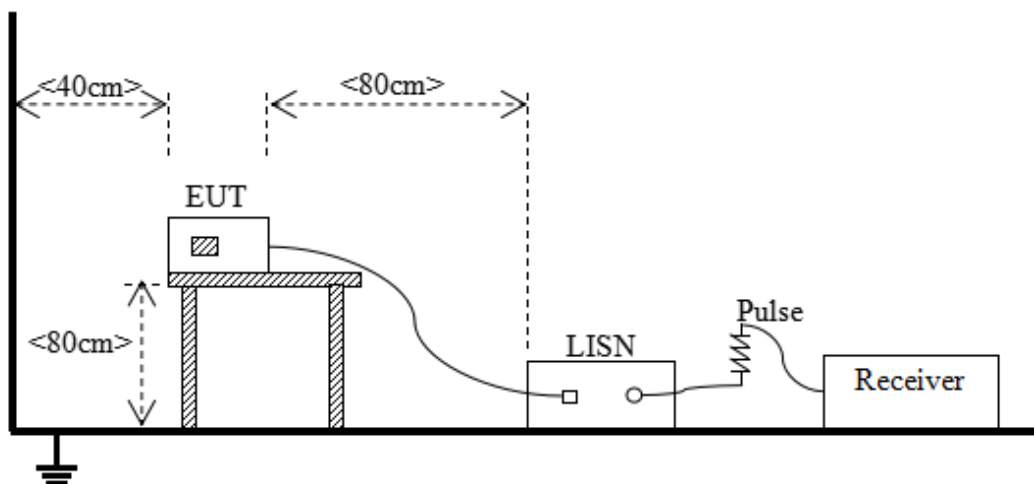
(For Radiated Emission Test (30 MHz-1 GHz))

Test Setup 2



(For Radiated Emission Test (above 1 GHz))

Test Setup 3



(For Conducted Emission, AC Ports Test)

4.6 Test Conditions

Test Case	Test Conditions	
Radiated Emission	Test Setup	Test Setup 1&2
	Test Configuration	TC01~TC10 ^{Note}
Conducted Emission, AC Ports	Test Setup	Test Setup 3
	Test Configuration	TC01~TC10 ^{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 (dB μ V/m) = Reading (dB μ V/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 (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.

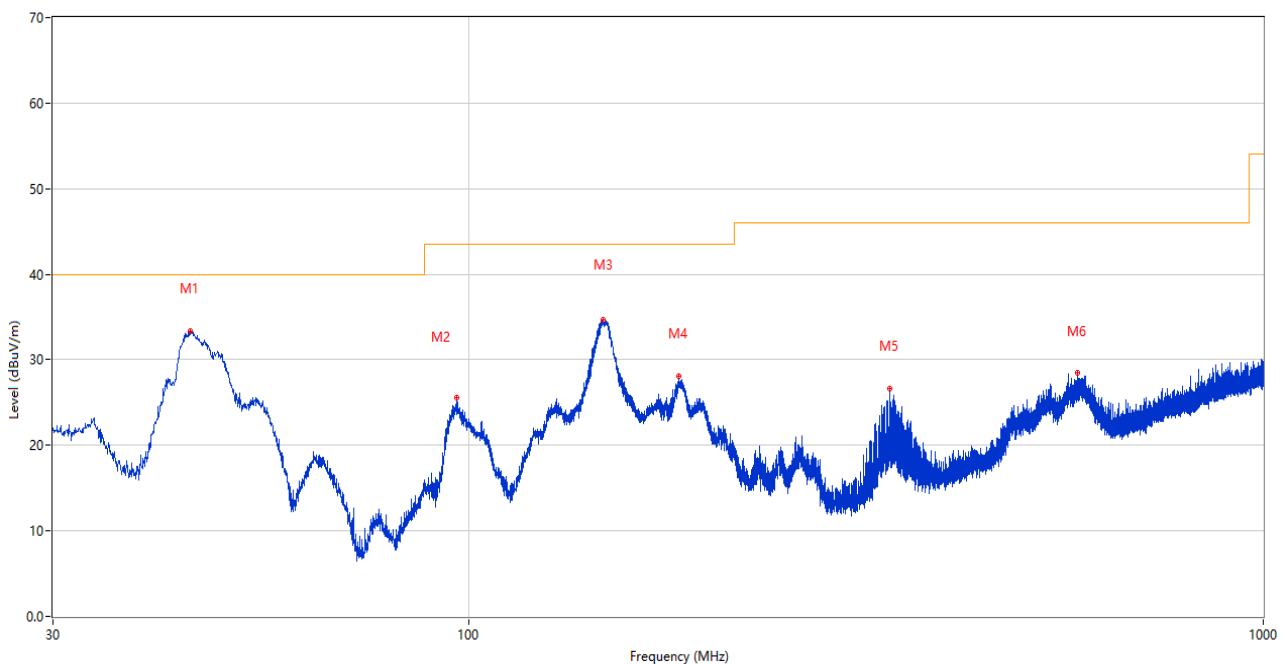
Note 3: The Radiated Emission from 18G-40G is noise only, do not show on the report.

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

Test Data and Plots

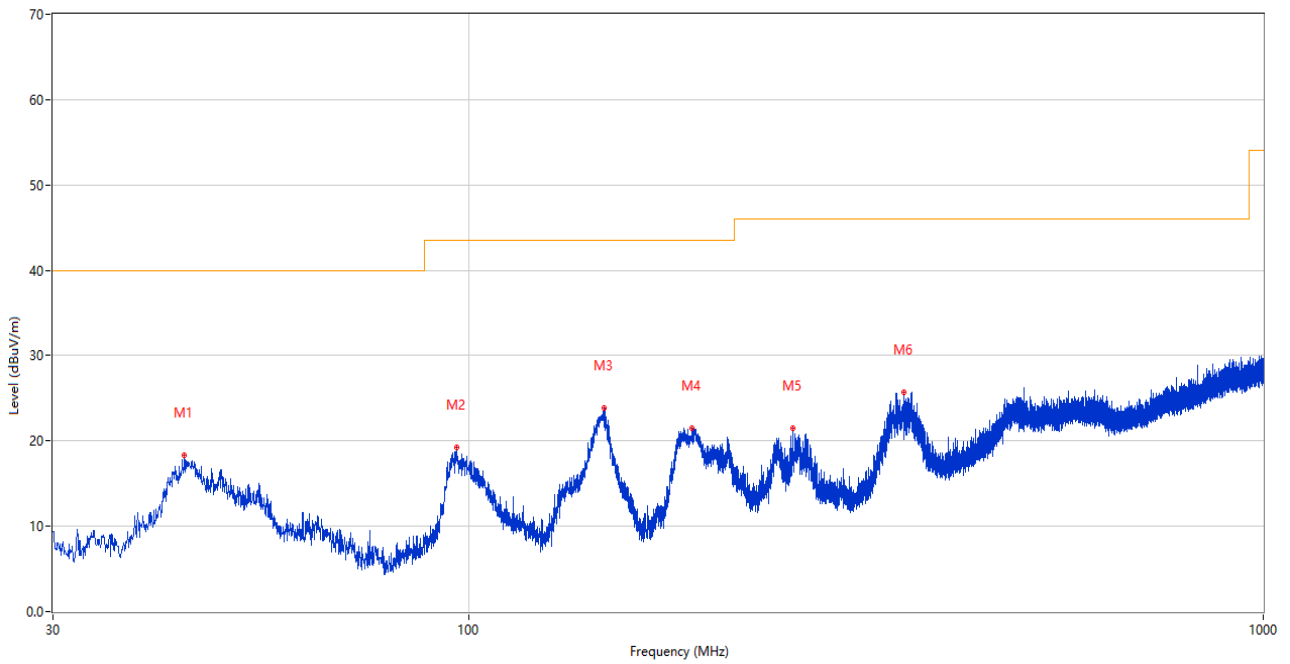
The Camera Test Mode

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



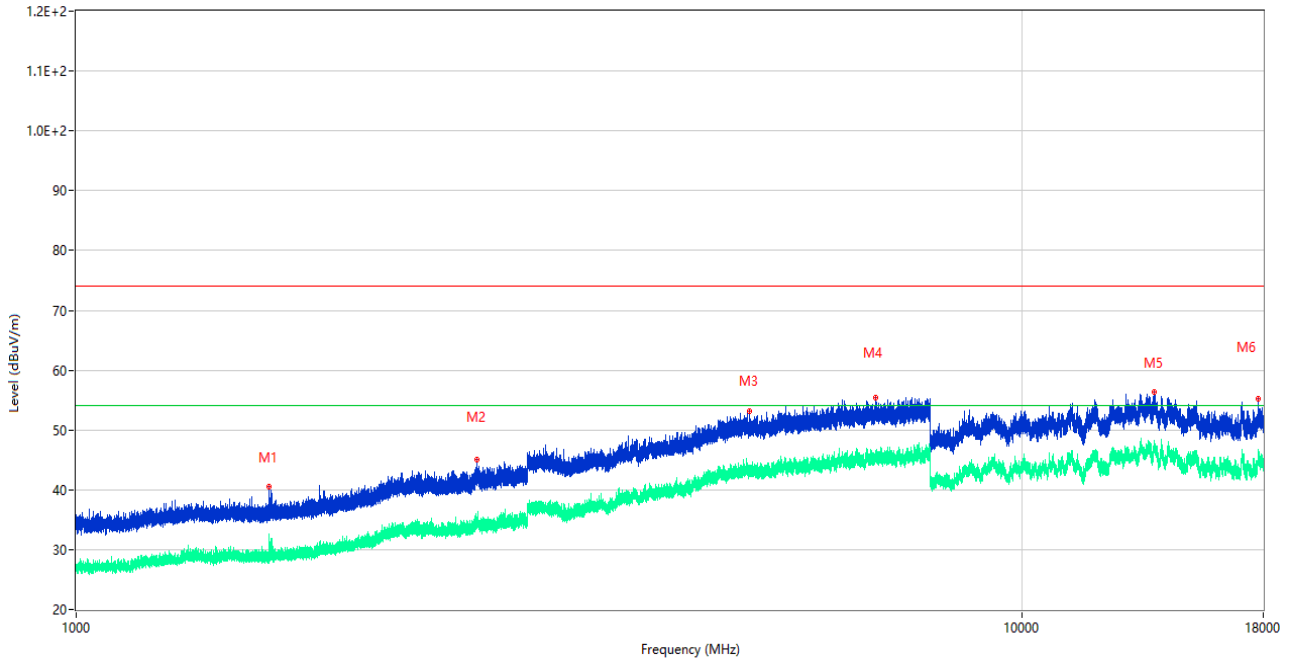
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	44.696	33.40	-25.63	40.0	6.60	Peak	231.00	100	Vertical	Pass
2	96.785	25.52	-27.24	43.5	17.98	Peak	296.00	100	Vertical	Pass
3	147.710	34.62	-30.20	43.5	8.88	Peak	311.00	100	Vertical	Pass
4	184.084	28.04	-28.15	43.5	15.46	Peak	122.00	100	Vertical	Pass
5	338.654	26.57	-22.37	46.0	19.43	Peak	104.00	100	Vertical	Pass
6	584.598	28.41	-16.51	46.0	17.59	Peak	0.00	100	Vertical	Pass

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



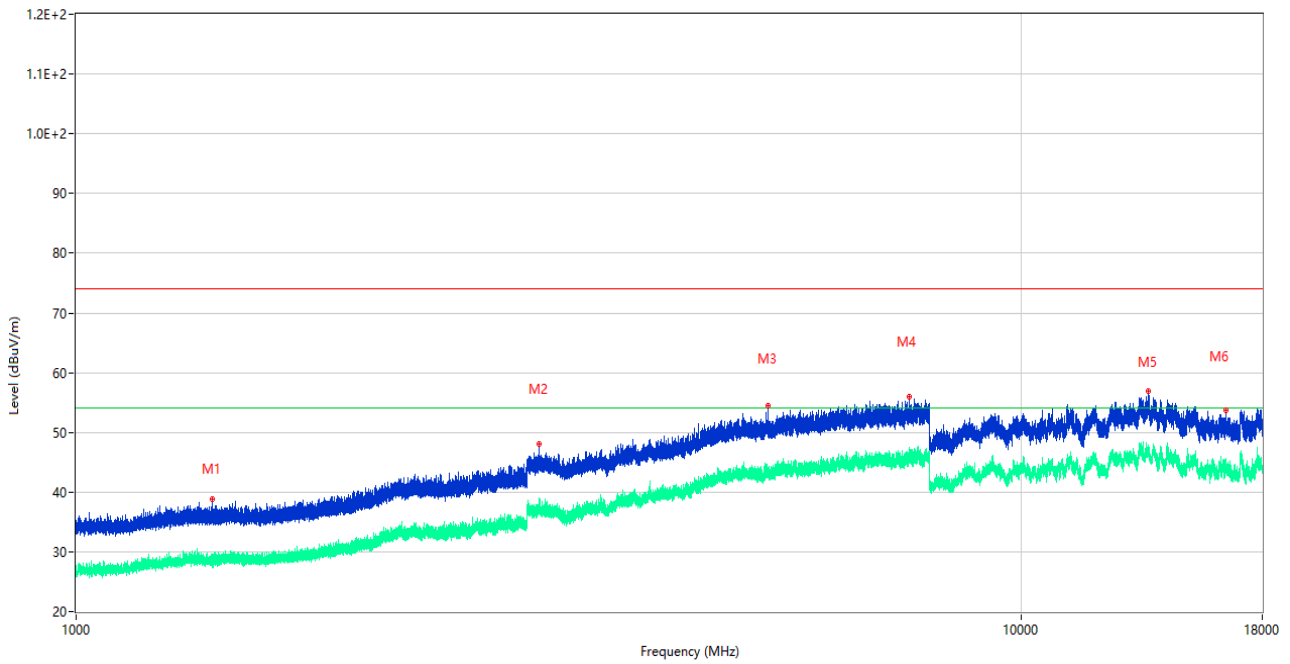
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	43.919	18.34	-25.74	40.0	21.66	Peak	67.00	100	Horizontal	Pass
2	96.590	19.21	-27.27	43.5	24.29	Peak	247.00	200	Horizontal	Pass
3	148.098	23.92	-30.16	43.5	19.58	Peak	37.00	200	Horizontal	Pass
4	191.214	21.47	-27.30	43.5	22.03	Peak	55.00	200	Horizontal	Pass
5	256.058	21.45	-24.62	46.0	24.55	Peak	79.00	100	Horizontal	Pass
6	352.865	25.76	-21.84	46.0	20.24	Peak	67.00	100	Horizontal	Pass

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



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1599.500	40.47	-16.89	74.0	33.53	Peak	2.00	100	Vertical	Pass
1**	1599.500	29.22	-16.89	54.0	24.78	AV	2.00	100	Vertical	Pass
2	2655.100	45.00	-9.48	74.0	29.00	Peak	179.00	100	Vertical	Pass
2**	2655.100	34.66	-9.48	54.0	19.34	AV	179.00	100	Vertical	Pass
3	5148.000	53.23	-0.08	74.0	20.77	Peak	236.00	100	Vertical	Pass
3**	5148.000	43.48	-0.08	54.0	10.52	AV	236.00	100	Vertical	Pass
4	7002.750	55.38	1.96	74.0	18.62	Peak	148.00	100	Vertical	Pass
4**	7002.750	45.83	1.96	54.0	8.17	AV	148.00	100	Vertical	Pass
5	13802.000	56.32	5.79	74.0	17.68	Peak	70.00	100	Vertical	Pass
5**	13802.000	47.79	5.79	54.0	6.21	AV	70.00	100	Vertical	Pass
6	17800.499	55.27	2.89	74.0	18.73	Peak	126.00	100	Vertical	Pass
6**	17800.499	46.30	2.89	54.0	7.70	AV	126.00	100	Vertical	Pass

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

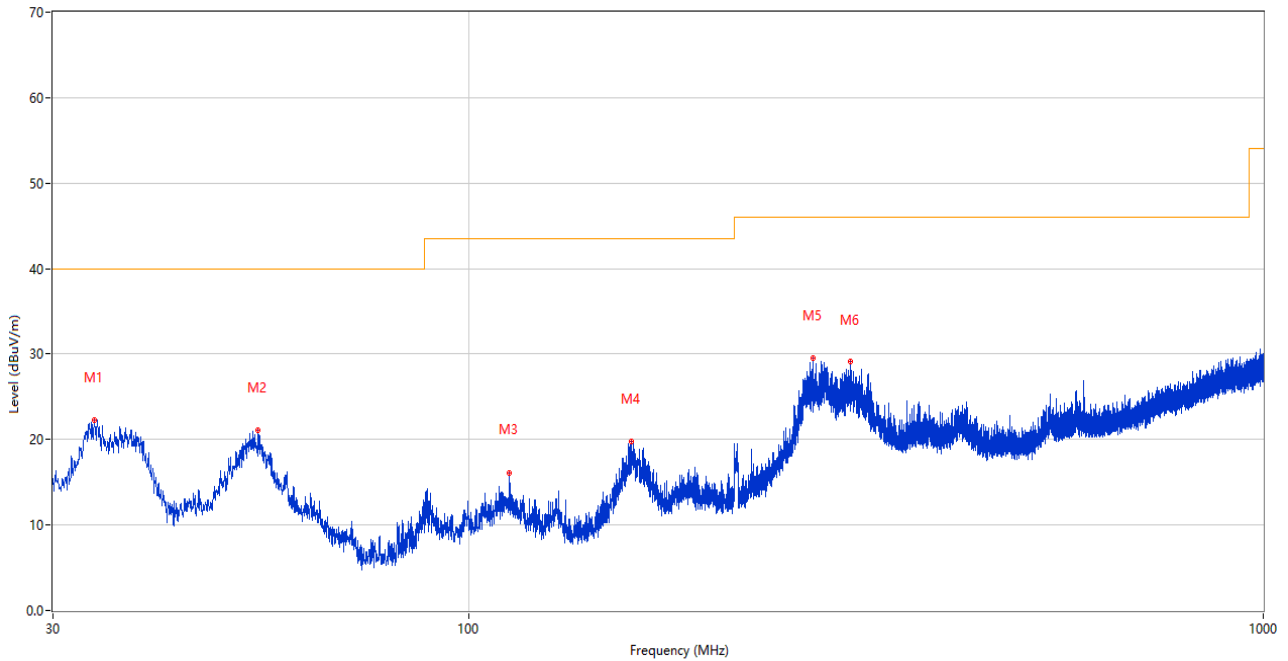


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1394.500	38.91	-16.61	74.0	35.09	Peak	138.00	100	Horizontal	Pass
1**	1394.500	28.11	-16.61	54.0	25.89	AV	138.00	100	Horizontal	Pass
2	3089.250	47.97	-5.67	74.0	26.03	Peak	150.00	100	Horizontal	Pass
2**	3089.250	36.69	-5.67	54.0	17.31	AV	150.00	100	Horizontal	Pass
3	5394.250	54.38	0.68	74.0	19.62	Peak	22.00	100	Horizontal	Pass
3**	5394.250	43.07	0.68	54.0	10.93	AV	22.00	100	Horizontal	Pass
4	7618.000	56.02	2.18	74.0	17.98	Peak	10.00	100	Horizontal	Pass
4**	7618.000	46.54	2.18	54.0	7.46	AV	10.00	100	Horizontal	Pass
5	13642.000	56.84	5.06	74.0	17.16	Peak	89.00	100	Horizontal	Pass
5**	13642.000	47.72	5.06	54.0	6.28	AV	89.00	100	Horizontal	Pass
6	16461.000	53.75	2.01	74.0	20.25	Peak	107.00	100	Horizontal	Pass
6**	16461.000	44.12	2.01	54.0	9.88	AV	107.00	100	Horizontal	Pass

Test Data and Plots

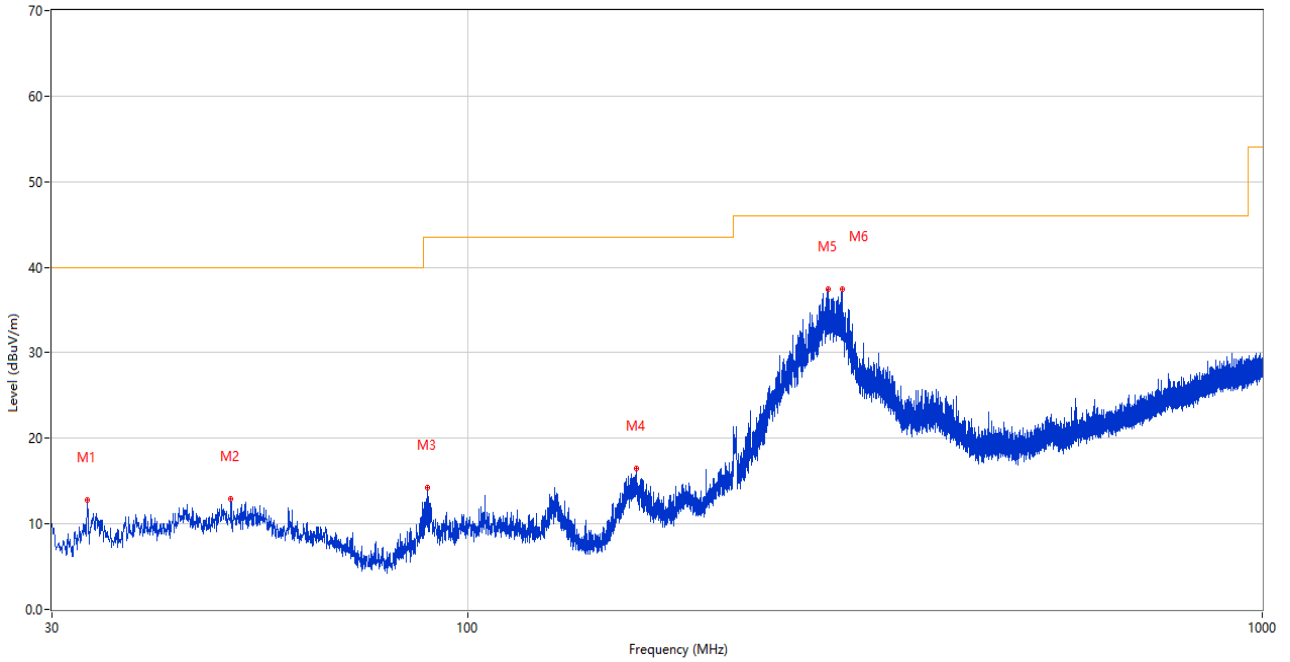
The USB Test Mode

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



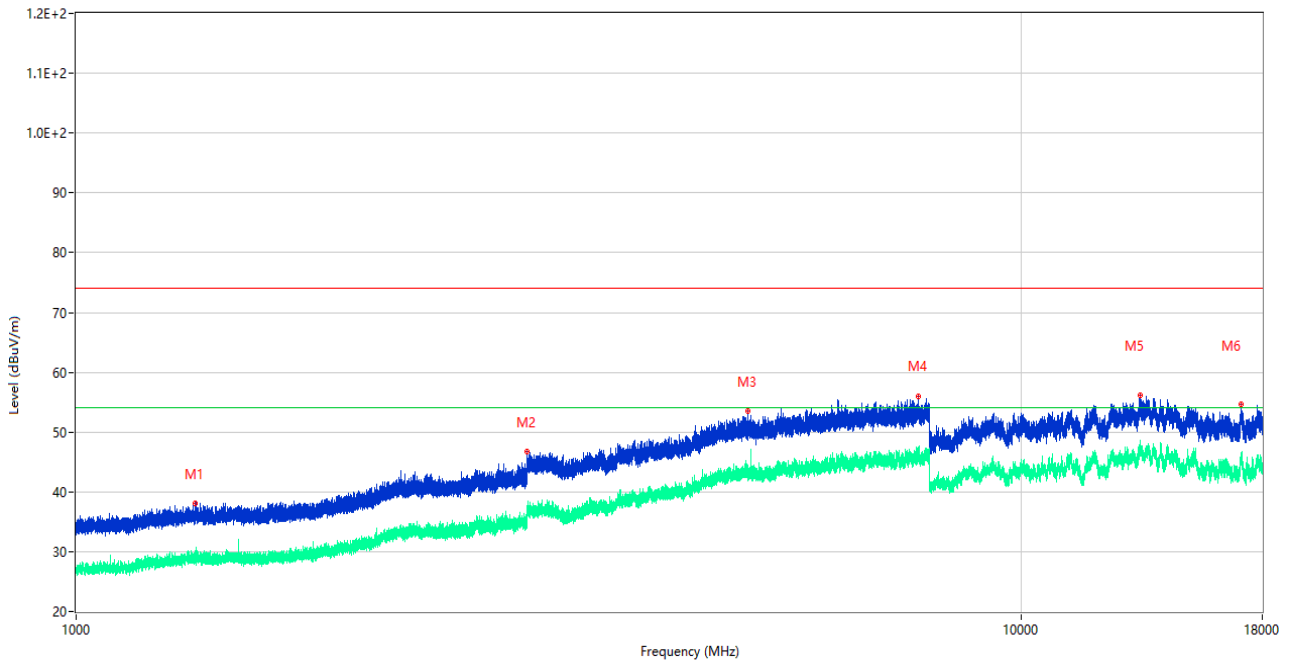
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	33.831	22.30	-28.81	40.0	17.70	Peak	58.00	100	Vertical	Pass
2	54.347	21.15	-25.58	40.0	18.85	Peak	95.00	100	Vertical	Pass
3	112.644	16.02	-27.15	43.5	27.48	Peak	280.00	100	Vertical	Pass
4	160.126	19.72	-29.57	43.5	23.78	Peak	172.00	100	Vertical	Pass
5	270.996	29.48	-24.40	46.0	16.52	Peak	177.00	100	Vertical	Pass
6	301.988	29.07	-23.73	46.0	16.93	Peak	360.00	200	Vertical	Pass

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



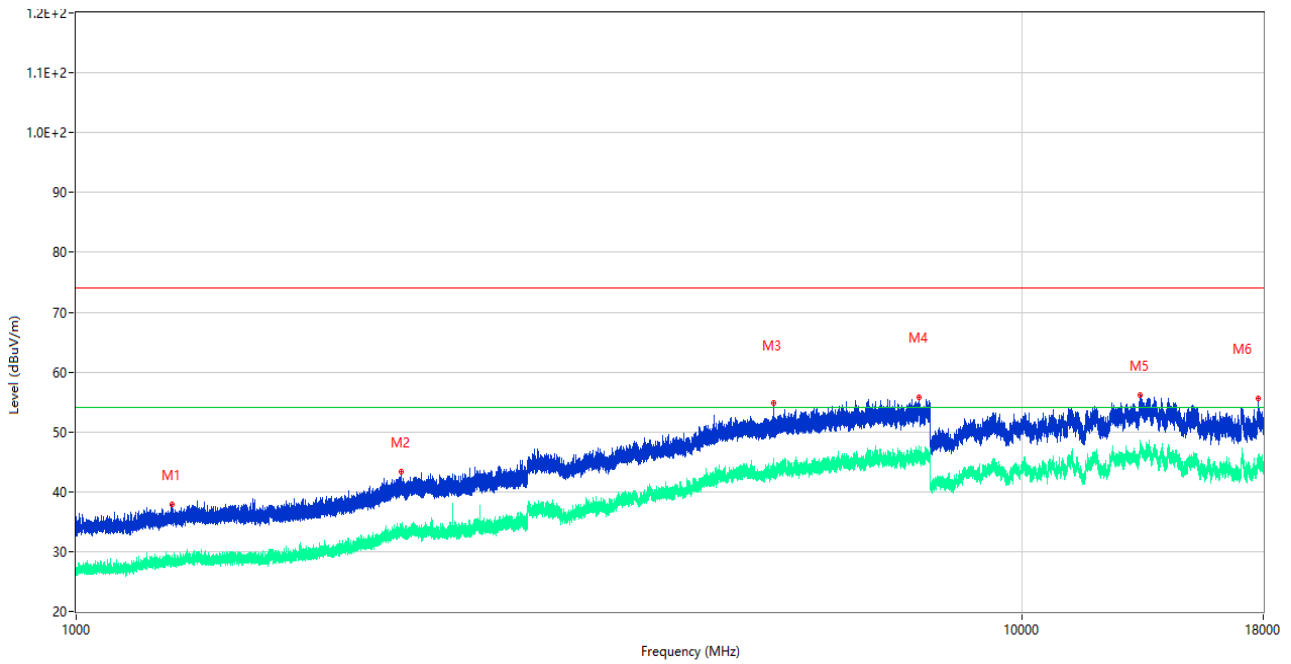
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	33.201	12.74	-28.92	40.0	27.26	Peak	117.00	200	Horizontal	Pass
2	50.370	12.89	-25.57	40.0	27.11	Peak	6.00	100	Horizontal	Pass
3	89.170	14.27	-28.79	43.5	29.23	Peak	38.00	200	Horizontal	Pass
4	162.939	16.46	-29.48	43.5	27.04	Peak	182.00	200	Horizontal	Pass
5	283.946	37.49	-24.10	46.0	8.51	Peak	242.00	100	Horizontal	Pass
6	296.604	37.41	-23.85	46.0	8.59	Peak	83.00	100	Horizontal	Pass

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



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1336.200	38.04	-16.71	74.0	35.96	Peak	360.00	100	Vertical	Pass
1**	1336.200	28.56	-16.71	54.0	25.44	AV	360.00	100	Vertical	Pass
2	3000.250	46.70	-6.67	74.0	27.30	Peak	197.00	100	Vertical	Pass
2**	3000.250	37.53	-6.67	54.0	16.47	AV	197.00	100	Vertical	Pass
3	5135.500	53.47	0.07	74.0	20.53	Peak	46.00	100	Vertical	Pass
3**	5135.500	42.87	0.07	54.0	11.13	AV	46.00	100	Vertical	Pass
4	7789.250	56.05	3.13	74.0	17.95	Peak	360.00	100	Vertical	Pass
4**	7789.250	46.41	3.13	54.0	7.59	AV	360.00	100	Vertical	Pass
5	13376.000	56.15	5.06	74.0	17.85	Peak	327.00	100	Vertical	Pass
5**	13376.000	47.14	5.06	54.0	6.86	AV	327.00	100	Vertical	Pass
6	17094.500	54.57	3.54	74.0	19.43	Peak	71.00	100	Vertical	Pass
6**	17094.500	45.41	3.54	54.0	8.59	AV	71.00	100	Vertical	Pass

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



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1263.300	37.83	-16.98	74.0	36.17	Peak	29.00	100	Horizontal	Pass
1**	1263.300	28.47	-16.98	54.0	25.53	AV	29.00	100	Horizontal	Pass
2	2206.100	43.28	-12.11	74.0	30.72	Peak	22.00	100	Horizontal	Pass
2**	2206.100	33.31	-12.11	54.0	20.69	AV	22.00	100	Horizontal	Pass
3	5462.500	54.84	0.53	74.0	19.16	Peak	301.00	100	Horizontal	Pass
3**	5462.500	43.13	0.53	54.0	10.87	AV	301.00	100	Horizontal	Pass
4	7786.000	55.70	3.09	74.0	18.30	Peak	114.00	100	Horizontal	Pass
4**	7786.000	45.90	3.09	54.0	8.10	AV	114.00	100	Horizontal	Pass
5	13351.000	56.10	5.23	74.0	17.90	Peak	360.00	100	Horizontal	Pass
5**	13351.000	46.72	5.23	54.0	7.28	AV	360.00	100	Horizontal	Pass
6	17799.000	55.66	2.87	74.0	18.34	Peak	70.00	100	Horizontal	Pass
6**	17799.000	45.90	2.87	54.0	8.10	AV	70.00	100	Horizontal	Pass

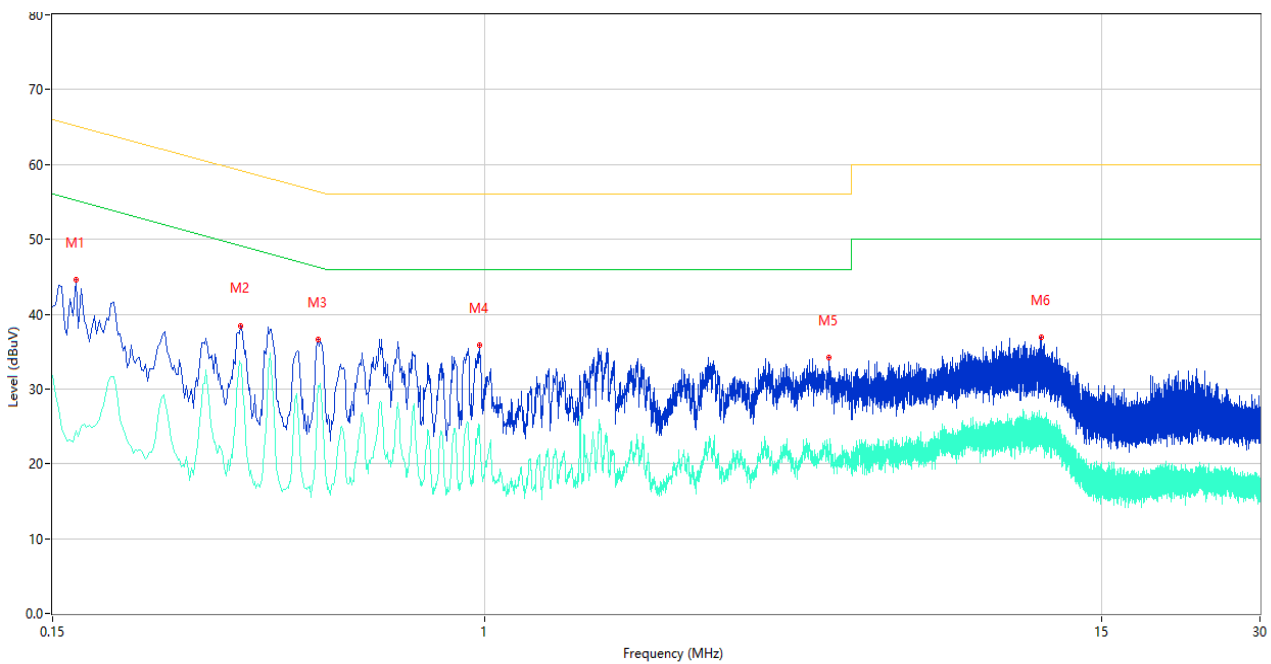
A.2 Conducted Emission

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

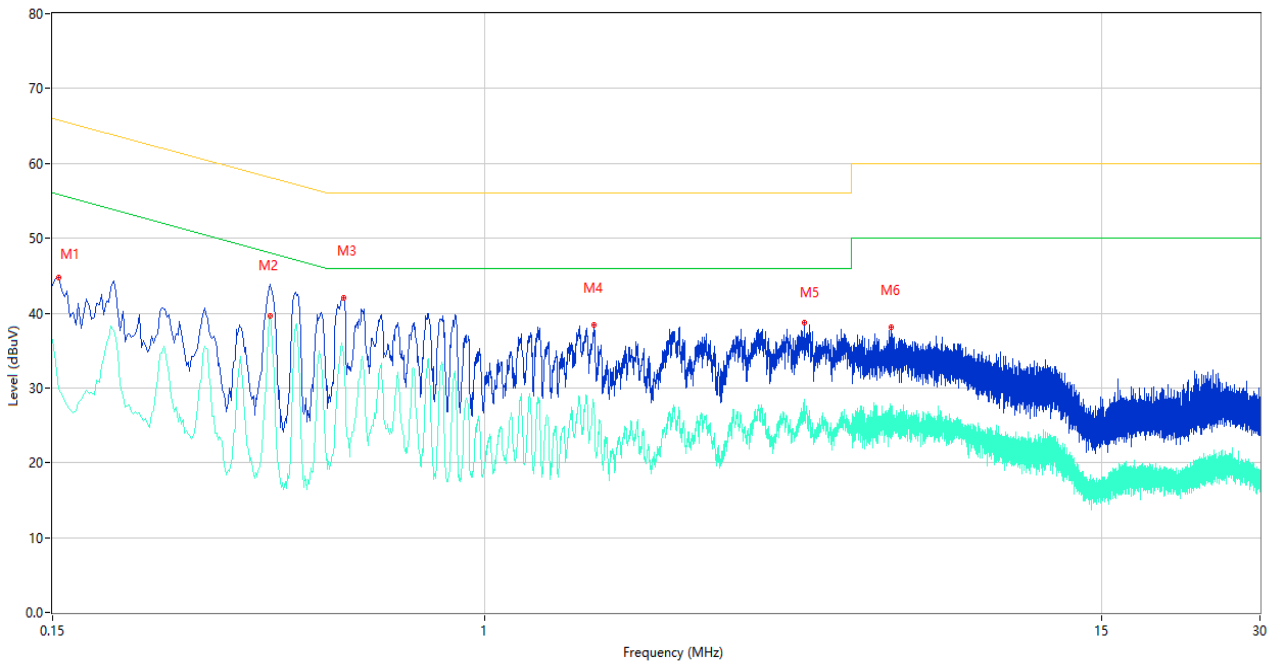
The Camera Test Mode

A.2.1 L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.166	44.62	10.16	65.16	-20.54	Peak	L	Pass
1**	0.166	24.36	10.16	55.16	-30.80	AV	L	Pass
2	0.342	38.49	10.08	59.15	-20.66	Peak	L	Pass
2**	0.342	33.51	10.08	49.15	-15.64	AV	L	Pass
3	0.482	36.55	10.11	56.30	-19.75	Peak	L	Pass
3**	0.482	30.46	10.11	46.30	-15.84	AV	L	Pass
4	0.976	35.79	10.03	56.00	-20.21	Peak	L	Pass
4**	0.976	25.12	10.03	46.00	-20.88	AV	L	Pass
5	4.534	34.15	10.00	56.00	-21.85	Peak	L	Pass
5**	4.534	21.28	10.00	46.00	-24.72	AV	L	Pass
6	11.490	36.86	10.09	60.00	-23.14	Peak	L	Pass
6**	11.490	24.51	10.09	50.00	-25.49	AV	L	Pass

A.2.2 N Phase

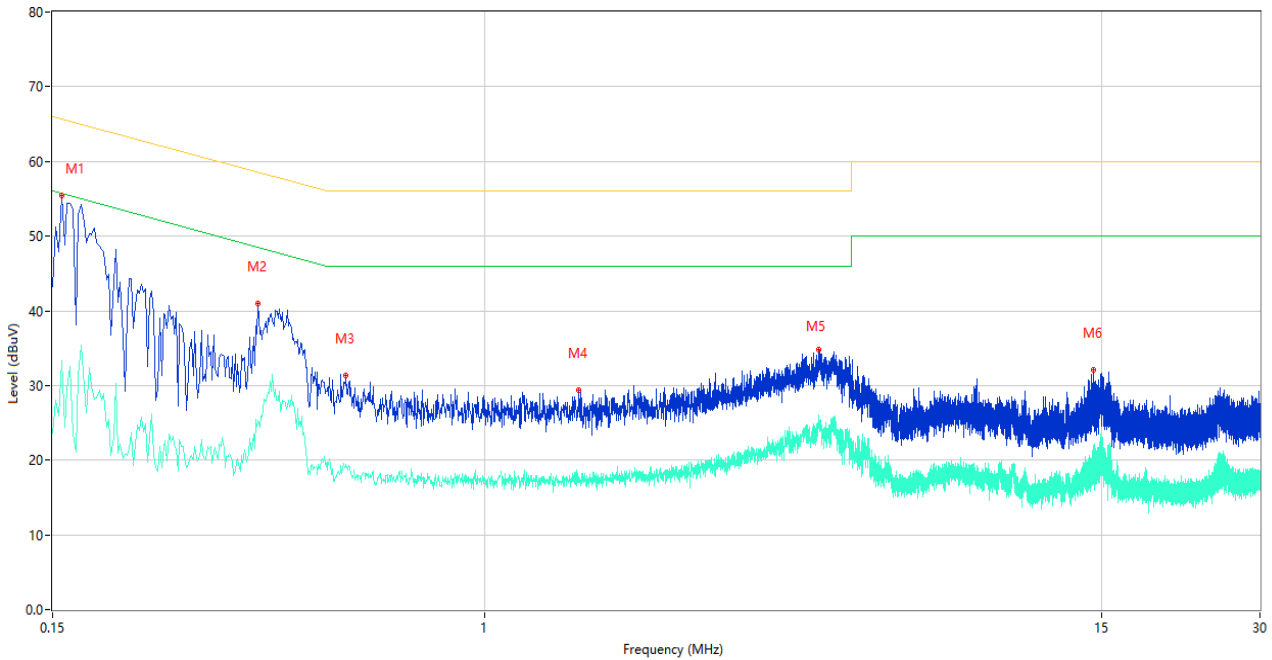


No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.154	44.80	10.18	65.78	-20.98	Peak	N	Pass
1**	0.154	29.77	10.18	55.78	-26.01	AV	N	Pass
2	0.390	43.88	10.09	58.06	-14.18	Peak	N	Pass
2**	0.390	39.67	10.09	48.06	-8.39	AV	N	Pass
3	0.538	42.11	10.11	56.00	-13.89	Peak	N	Pass
3**	0.538	34.48	10.11	46.00	-11.52	AV	N	Pass
4	1.616	38.40	9.93	56.00	-17.60	Peak	N	Pass
4**	1.616	27.06	9.93	46.00	-18.94	AV	N	Pass
5	4.060	38.73	10.08	56.00	-17.27	Peak	N	Pass
5**	4.060	27.66	10.08	46.00	-18.34	AV	N	Pass
6	5.952	38.16	10.07	60.00	-21.84	Peak	N	Pass
6**	5.952	27.02	10.07	50.00	-22.98	AV	N	Pass

Test Data and Plots

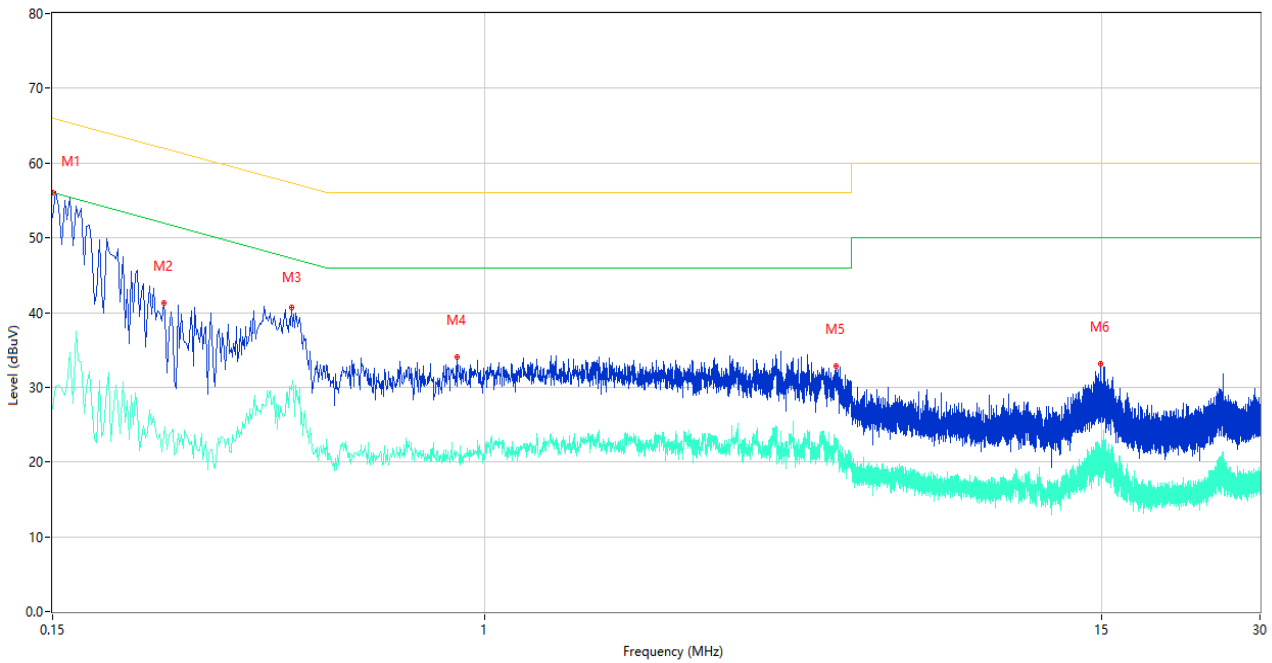
The USB Test Mode

A.2.3 L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.156	55.40	10.18	65.67	-10.27	Peak	L	Pass
1**	0.156	33.35	10.18	55.67	-22.32	AV	L	Pass
2	0.370	40.95	10.08	58.50	-17.55	Peak	L	Pass
2**	0.370	25.35	10.08	48.50	-23.15	AV	L	Pass
3	0.544	31.30	10.10	56.00	-24.70	Peak	L	Pass
3**	0.544	19.41	10.10	46.00	-26.59	AV	L	Pass
4	1.512	29.31	9.94	56.00	-26.69	Peak	L	Pass
4**	1.512	17.75	9.94	46.00	-28.25	AV	L	Pass
5	4.330	34.87	10.04	56.00	-21.13	Peak	L	Pass
5**	4.330	26.01	10.04	46.00	-19.99	AV	L	Pass
6	14.454	32.15	10.13	60.00	-27.85	Peak	L	Pass
6**	14.454	20.78	10.13	50.00	-29.22	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	52.80	10.19	66.00	-13.20	Peak	N	Pass
1**	0.150	27.14	10.19	56.00	-28.86	AV	N	Pass
2	0.244	41.30	10.08	61.96	-20.66	Peak	N	Pass
2**	0.244	23.68	10.08	51.96	-28.28	AV	N	Pass
3	0.428	40.70	10.10	57.29	-16.59	Peak	N	Pass
3**	0.428	29.69	10.10	47.29	-17.60	AV	N	Pass
4	0.886	34.03	10.05	56.00	-21.97	Peak	N	Pass
4**	0.886	21.44	10.05	46.00	-24.56	AV	N	Pass
5	4.672	32.87	9.98	56.00	-23.13	Peak	N	Pass
5**	4.672	23.26	9.98	46.00	-22.74	AV	N	Pass
6	14.904	33.17	10.14	60.00	-26.83	Peak	N	Pass
6**	14.904	20.60	10.14	50.00	-29.40	AV	N	Pass

ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-SZ22B0814-AE-1.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-SZ22B0814-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SZ22B0814-AI.PDF”.

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--END OF REPORT--