

EMC

TEST REPORT

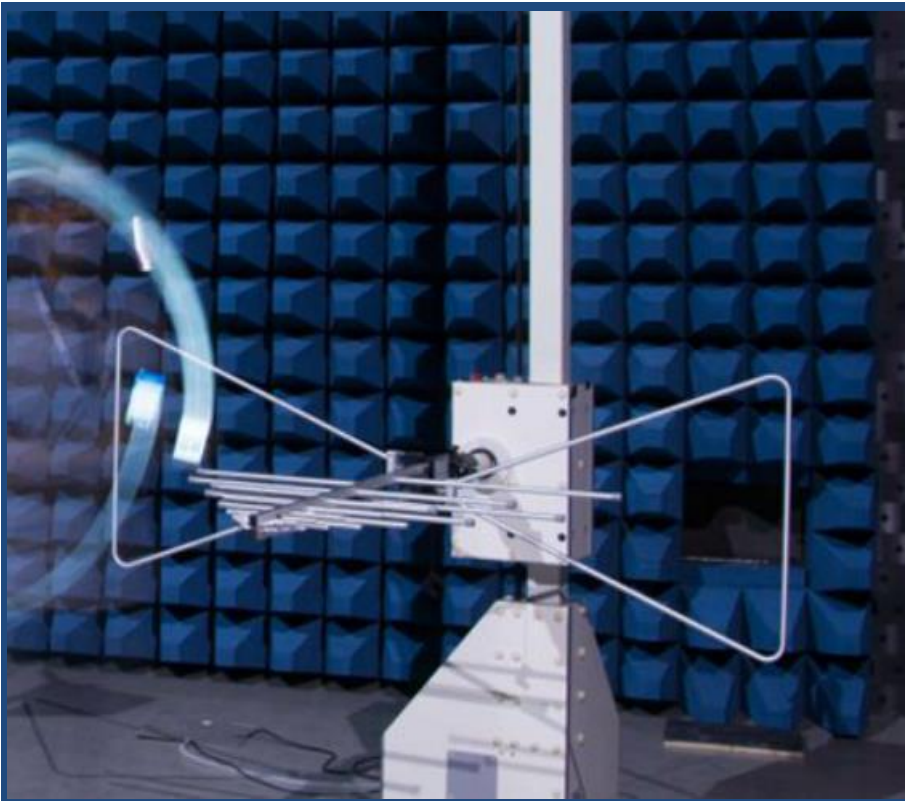
ISSUED BY
Shenzhen BALUN Technology Co., Ltd.



FOR
5G Digital Mobile Phone

ISSUED TO
Blackshark Technologies (Nanchang) Co., Ltd.

Room 815-1, 8th floor, Block A, Huajiang Building, No.1 Tsinghua
Science Park, Nanchang City, China



Tested by:

Date

Feb. 18, 2022

Approved by:

(Technical Director)

Date Feb. 18, 2022

Report No.: BL-EC21C0184-401

EUT Name: 5G Digital Mobile Phone

Model Name: SHARK KSR-H0

Brand Name: BLACK SHARK

Test Standard: 47 CFR Part 15 Subpart B

FCC ID: 2A2ZHKSR-H0

Test Conclusion: Pass

Test Date: Dec. 13, 2021 ~ Dec. 15, 2021

Date of Issue: Feb. 18, 2022

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Revision History

Version	Issue Date	Revisions Content
<u>Rev. 01</u>	<u>Feb. 11, 2022</u>	<u>Initial Issue</u>
<u>Rev. 02</u>	<u>Feb. 18, 2022</u>	<u>Update the technical information in section 2.6 and the addresses of the applicant and manufacturer</u>

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1 GENERAL INFORMATION

1.1 Identification of the Testing Laboratory

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

1.2 Identification of the Responsible Testing Location

Test Location	Shenzhen BALUN Technology Co.,Ltd.
Address	Block B, 1st FL, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Accreditation Certificate	The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196.
Description	All measurement facilities used to collect the measurement data are located at Block B, FL 1, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China 518055

1.3 Laboratory Condition

Ambient Temperature	20°C to 25°C
Ambient Relative Humidity	30% to 60%
Ambient Pressure	100 kPa to 102 kPa

1.4 Announce

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

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	Blackshark Technologies (Nanchang) Co., Ltd.
Address	Room 815-1, 8th floor, Block A, Huajiang Building, No.1 Tsinghua Science Park, Nanchang City, China

2.2 Manufacturer Information

Manufacturer	Blackshark Technologies (Nanchang) Co., Ltd.
Address	Room 815-1, 8th floor, Block A, Huajiang Building, No.1 Tsinghua Science Park, Nanchang City, China

2.3 Factory Information

Factory	N/A
Address	N/A

2.4 General Description for Equipment under Test (EUT)

EUT Name	5G Digital Mobile Phone
Model Name Under Test	SHARK KSR-H0
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	N/A
Software Version	N/A
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.5 Ancillary Equipment

Ancillary Equipment 1	Battery	
	Brand Name	N/A
	Model No.	BS08FA
	Serial No.	N/A
	Capacity	2180 mAh
	Rated Voltage	7.74 V
	Limit Charge Voltage	8.90 V
Ancillary Equipment 2	Adapter	
	Brand Name	N/A
	Model No.	MDY-13-EG-1
	Serial No.	N/A
	Rated Input	N/A
	Rated Output	N/A
Ancillary Equipment 3	USB Cable	
	Model No.	N/A
	Length (Approx.)	0.8 m

2.6 Technical Information

Network and Wireless connectivity	2G Network GSM/GPRS/EDGE 850/1900 MHz 3G Network WCDMA/HSDPA/HSUPA Band 2/4/5 EVDO Rel. 0/Rev. A Band Class 0 4G Network LTE FDD Band 5/7 LTE TDD Band 38/41 LTE CA Uplink (UL): CA_7C 5G Network SA: NR n41/n77/n78 NSA(EN-DC): DC_5A_n78A, DC_7A_n78A, DC_38A_n78A Bluetooth (BR+EDR+BLE) 2.4G WIFI 802.11b, 802.11g, 802.11n(HT20/40), 802.11ax(HE20/40) 5G WIFI 802.11a, 802.11n(HT20/40), 802.11ac(VHT20/40/80/160) and 802.11ax(HE20/40/80/160) U-NII-1/2A/2C/3, GPS, GLONASS, BDS, Galileo, FM Receiver, NFC
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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 from Battery	30% to 60%	100 kPa to 102 kPa

4.2 Test Equipment List

Radiated Emission Test For Frequency Below 1 GHz (10 m)						
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	ROHDE&SCHWARZ	ESRP	101036	2021.10.08	2022.10.09	☐
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	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	MY53220118	2021.09.13	2022.09.12	☒
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 1 GHz-18 GHz						
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	KEYSIGHT	N9038A	MY53220118	2021.09.13	2022.09.12	☒
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

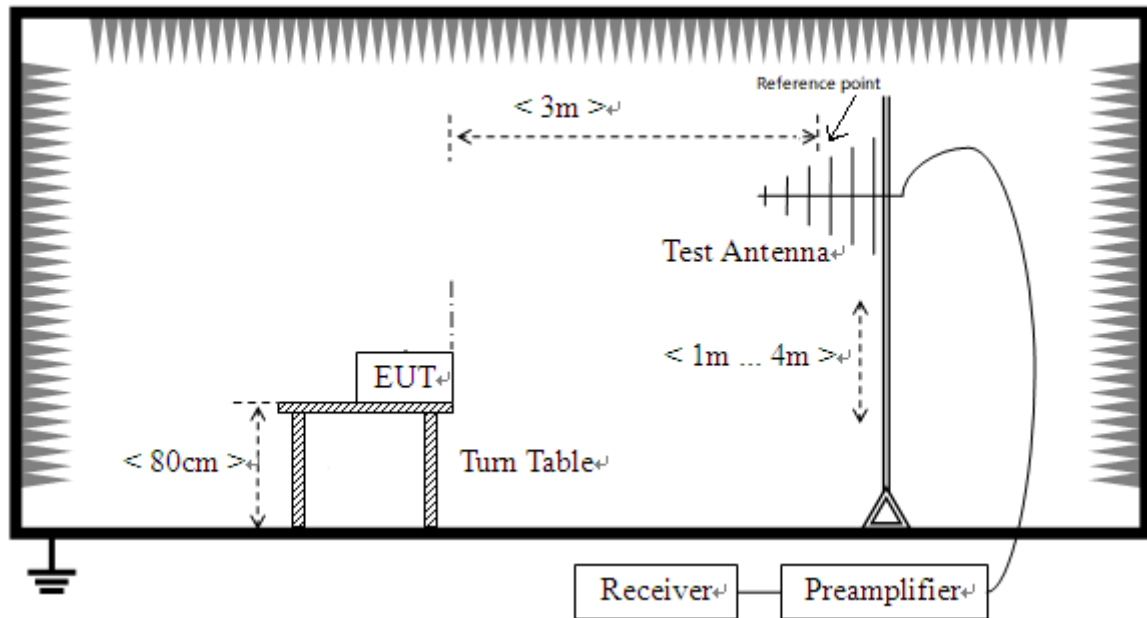
Description	Manufacturer	Model	Serial No.	Length	Description	Use
PC	Dell	015K3N	N/A	N/A	Special Handled	☐
Laptop	Honor	N.A	N/A	N/A	N/A	☒
Laptop	Apple	A1465	N/A	N/A	N/A	☒
Printer	HP	DESKJET 1000	N/A	N/A	N/A	☐
Keyboard	Logitech	Y-BP62a	N/A	N/A	N/A	☐
Mouse	Logitech	M100	N/A	N/A	N/A	☐
USB disk	Kingston	N/A	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 2022.05.31	☒
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
TC02	<u>The EGPRS 850 MHz RX Test Mode</u> EGPRS 850 MHz RX + EUT +Adapter + USB Cable + Battery
TC03	<u>The WCDMA Band 5 RX Test Mode</u> WCDMA Band 5 RX + EUT +Adapter + USB Cable + Battery
TC04	<u>The FDD LTE Band 5 RX Test Mode</u> LTE Band 5 RX + EUT +Adapter + USB Cable + Battery
TC05	<u>The EVDO BC0 RX Test Mode</u> EVDO BC0 RX + EUT +Adapter + USB Cable + Battery
TC06	<u>The Camera Test Mode</u> EUT + Adapter + USB Cable + Battery + Earphone
TC07	<u>The Video Play Test Mode</u> EUT + Adapter + USB Cable + Battery + Earphone
TC08	<u>The USB Test Mode</u> EUT + USB Cable + Battery + Laptop+ Earphone

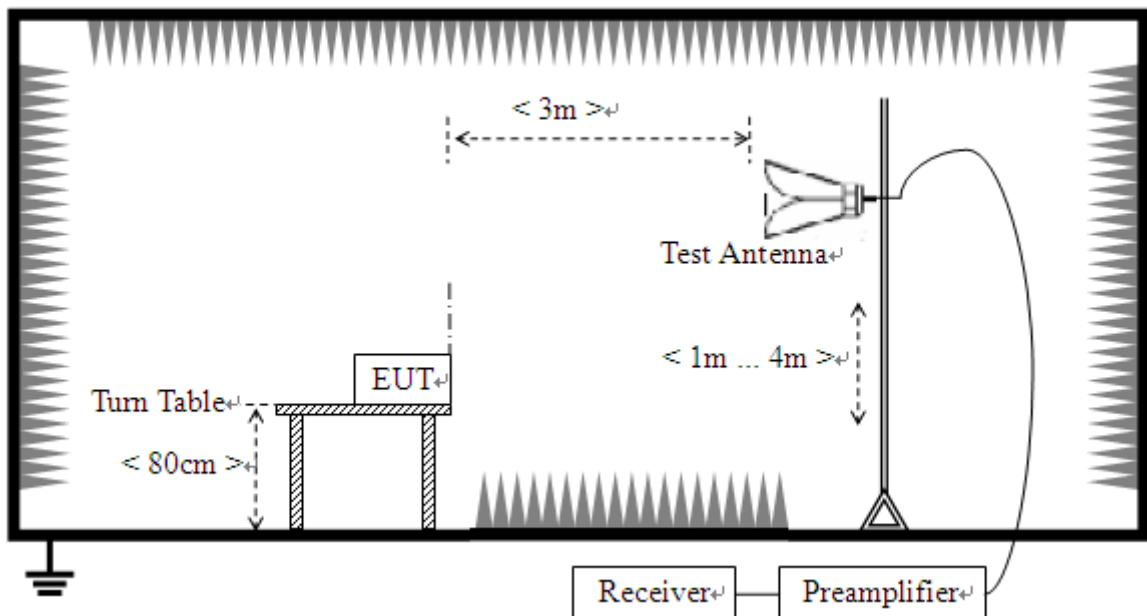
4.5 Test Setups

Test Setup 1



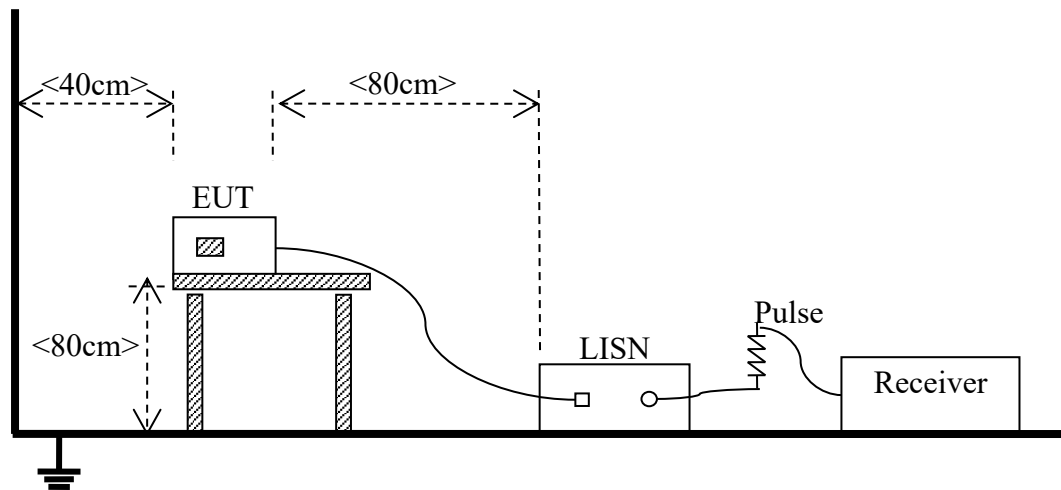
(For Radiated Emission Test (30 MHz-1 GHz))

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 (μV/m)	Field Strength (dBμV/m)	Field Strength (dBμV/m)	Field Strength (μV/m)	Field Strength (dBμV/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 (dBμV/m) = 20*log [Field Strength (μV/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 (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 (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. Results (dBuV) = Reading (dBuV) + Factor (dB)

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

2. Factor = Insertion loss + Cable loss

3. Over limit = Results – Limit.

ANNEX A TEST RESULTS

A.1 Radiated Emission

Note 1: The symbol of "--" in the table which means not application.

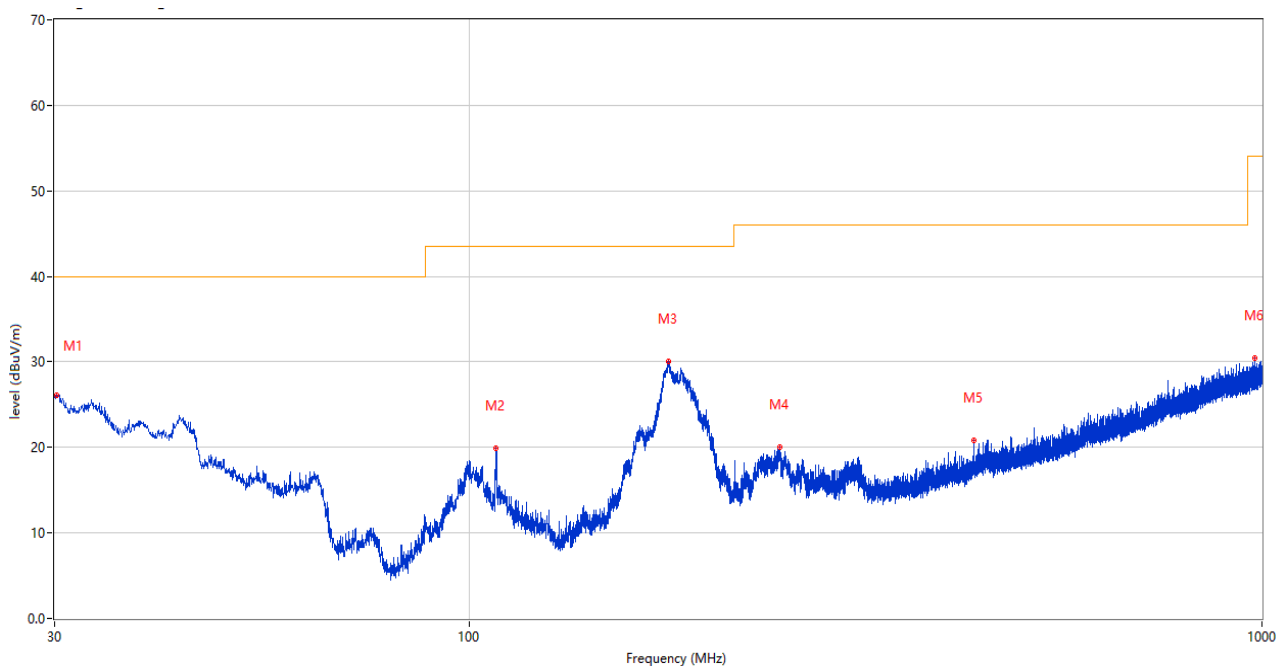
Note 2: For the test data above 1 GHz, according the ANSI C63.4-2014, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

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

Test Data and Plots

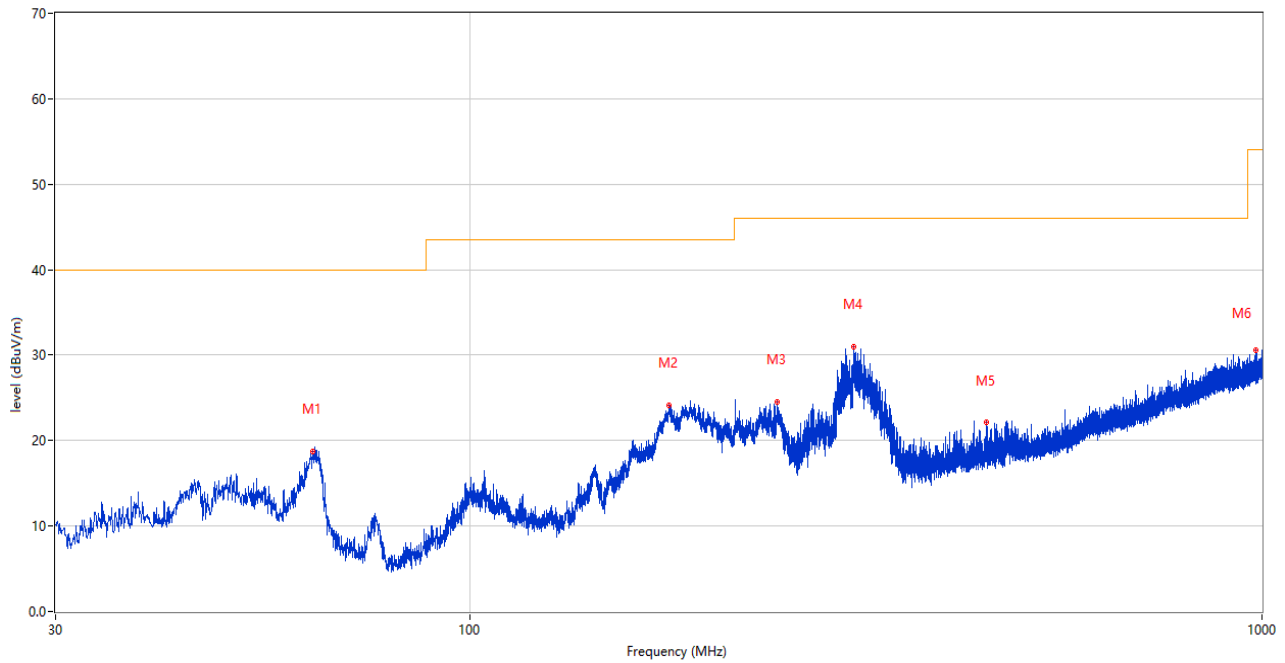
The Camera Test Mode

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



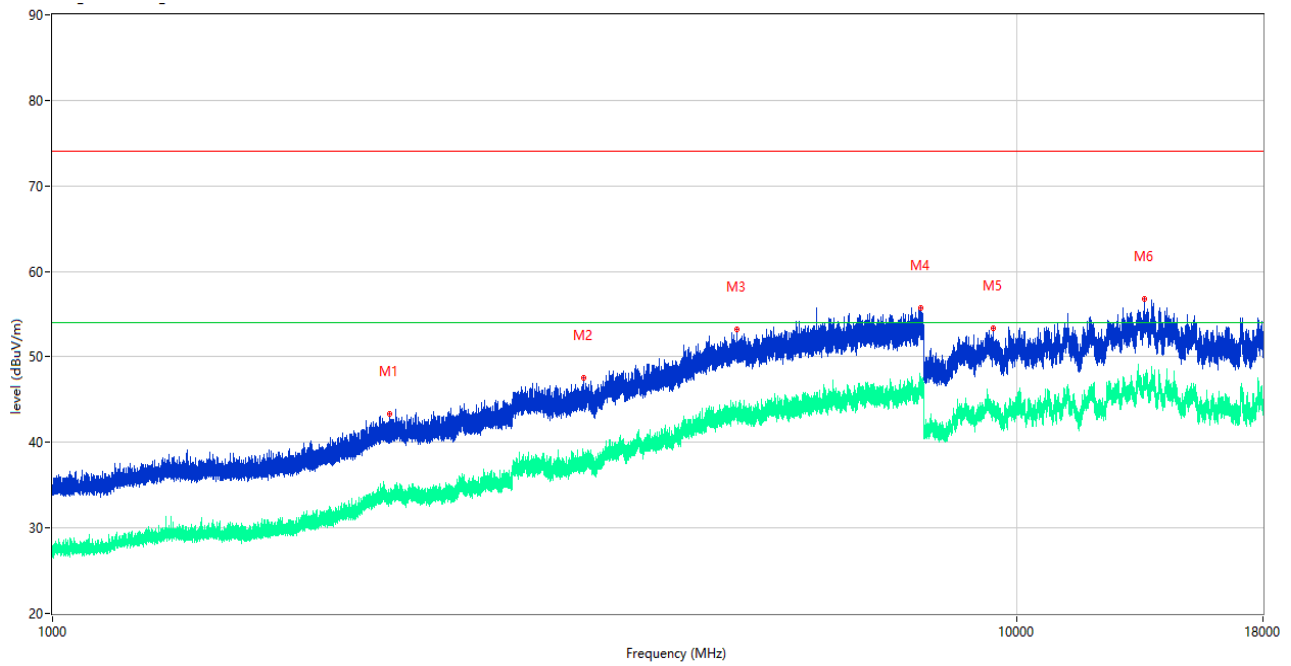
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	30.145	26.15	-28.89	40.0	-13.85	Peak	360.00	200	Vertical	Pass
2	108.133	19.93	-26.59	43.5	-23.57	Peak	203.00	100	Vertical	Pass
3	178.264	30.11	-28.62	43.5	-13.39	Peak	76.00	100	Vertical	Pass
4	246.844	20.03	-24.96	46.0	-25.97	Peak	76.00	100	Vertical	Pass
5	432.695	20.80	-20.17	46.0	-25.20	Peak	360.00	200	Vertical	Pass
6	979.630	30.50	-8.63	54.0	-23.50	Peak	111.00	200	Vertical	Pass

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



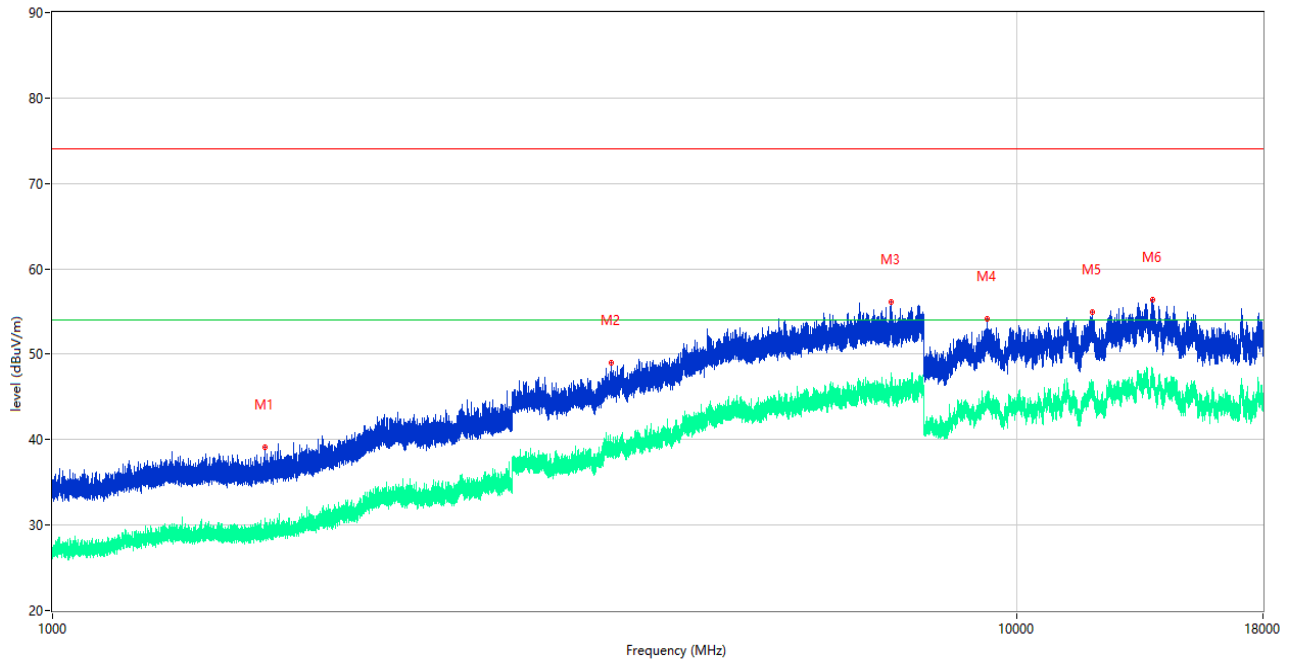
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	63.368	18.69	-27.21	40.0	-21.31	Peak	27.00	100	Horizontal	Pass
2	178.313	24.07	-28.61	43.5	-19.43	Peak	77.00	200	Horizontal	Pass
3	244.322	24.51	-25.09	46.0	-21.49	Peak	66.00	100	Horizontal	Pass
4	305.674	31.03	-23.62	46.0	-14.97	Peak	40.00	100	Horizontal	Pass
5	449.040	22.16	-19.93	46.0	-23.84	Peak	40.00	100	Horizontal	Pass
6	983.122	30.52	-8.62	54.0	-23.48	Peak	298.00	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	2238.600	43.36	-12.19	74.0	-30.64	Peak	360.00	100	Vertical	Pass
1**	2238.600	33.76	-12.19	54.0	-20.24	AV	360.00	100	Vertical	Pass
2	3552.250	47.55	-4.95	74.0	-26.45	Peak	316.00	100	Vertical	Pass
2**	3552.250	37.47	-4.95	54.0	-16.53	AV	316.00	100	Vertical	Pass
3	5121.250	53.17	0.26	74.0	-20.83	Peak	186.00	100	Vertical	Pass
3**	5121.250	43.80	0.26	54.0	-10.20	AV	186.00	100	Vertical	Pass
4	7951.750	55.76	2.96	74.0	-18.24	Peak	163.00	100	Vertical	Pass
4**	7951.750	46.52	2.96	54.0	-7.48	AV	163.00	100	Vertical	Pass
5	9460.000	53.31	1.62	74.0	-20.69	Peak	83.00	100	Vertical	Pass
5**	9460.000	44.52	1.62	54.0	-9.48	AV	83.00	100	Vertical	Pass
6	13569.000	56.73	4.73	74.0	-17.27	Peak	83.00	100	Vertical	Pass
6**	13569.000	47.06	4.73	54.0	-6.94	AV	83.00	100	Vertical	Pass

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

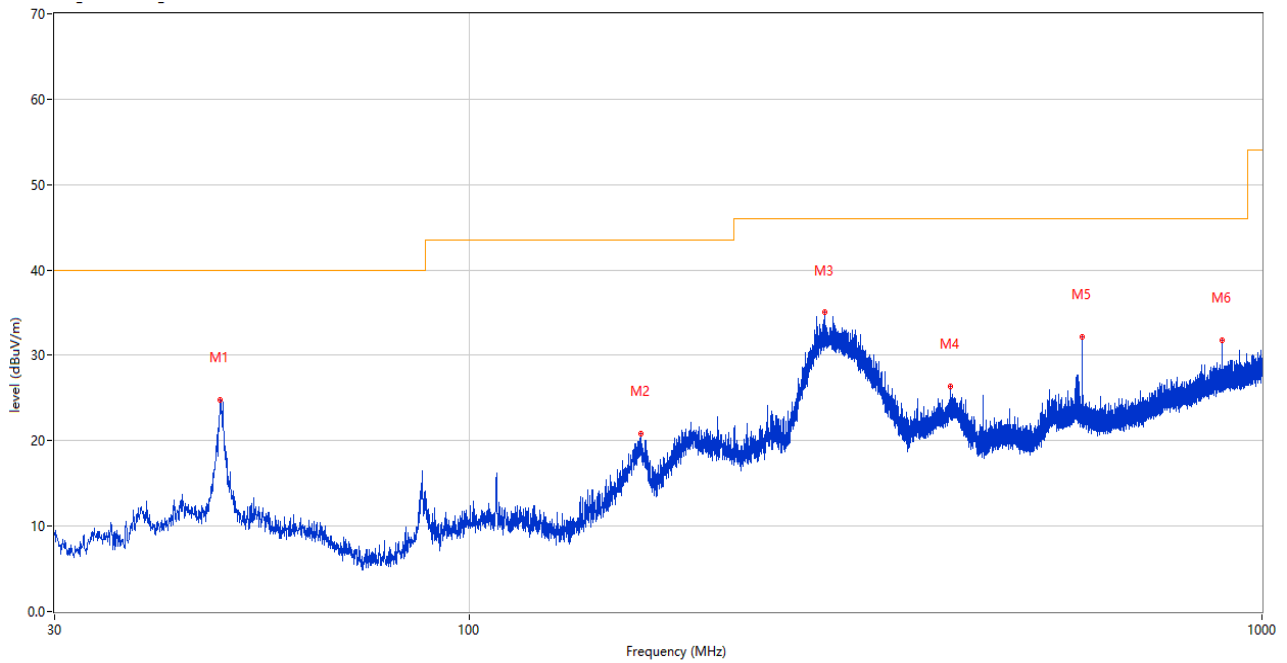


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1662.000	39.08	-16.34	74.0	-34.92	Peak	239.00	100	Horizontal	Pass
1**	1662.000	29.15	-16.34	54.0	-24.85	AV	239.00	100	Horizontal	Pass
2	3797.000	48.95	-3.21	74.0	-25.05	Peak	129.00	100	Horizontal	Pass
2**	3797.000	38.94	-3.21	54.0	-15.06	AV	129.00	100	Horizontal	Pass
3	7402.250	56.07	2.53	74.0	-17.93	Peak	105.00	100	Horizontal	Pass
3**	7402.250	46.08	2.53	54.0	-7.92	AV	105.00	100	Horizontal	Pass
4	9310.500	54.20	2.19	74.0	-19.80	Peak	187.00	100	Horizontal	Pass
4**	9310.500	44.34	2.19	54.0	-9.66	AV	187.00	100	Horizontal	Pass
5	11989.500	54.88	2.63	74.0	-19.12	Peak	343.00	100	Horizontal	Pass
5**	11989.500	46.23	2.63	54.0	-7.77	AV	343.00	100	Horizontal	Pass
6	13822.000	56.43	5.53	74.0	-17.57	Peak	48.00	100	Horizontal	Pass
6**	13822.000	46.64	5.53	54.0	-7.36	AV	48.00	100	Horizontal	Pass

Test Data and Plots

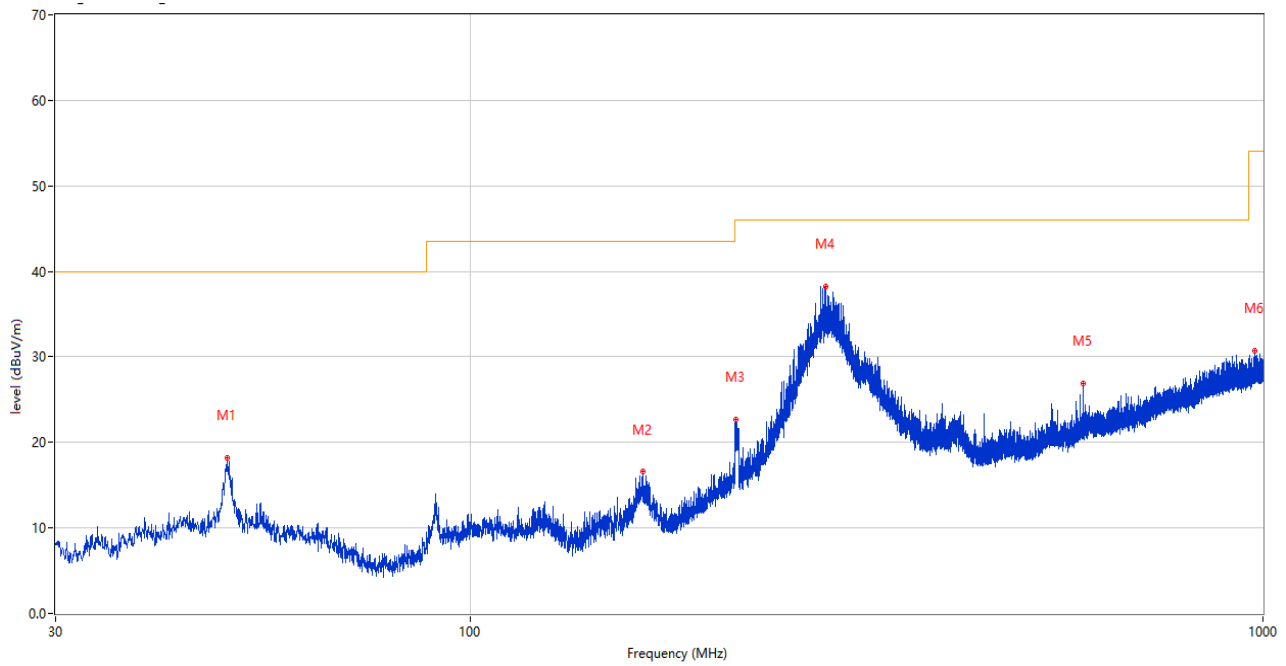
The USB Test Mode

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



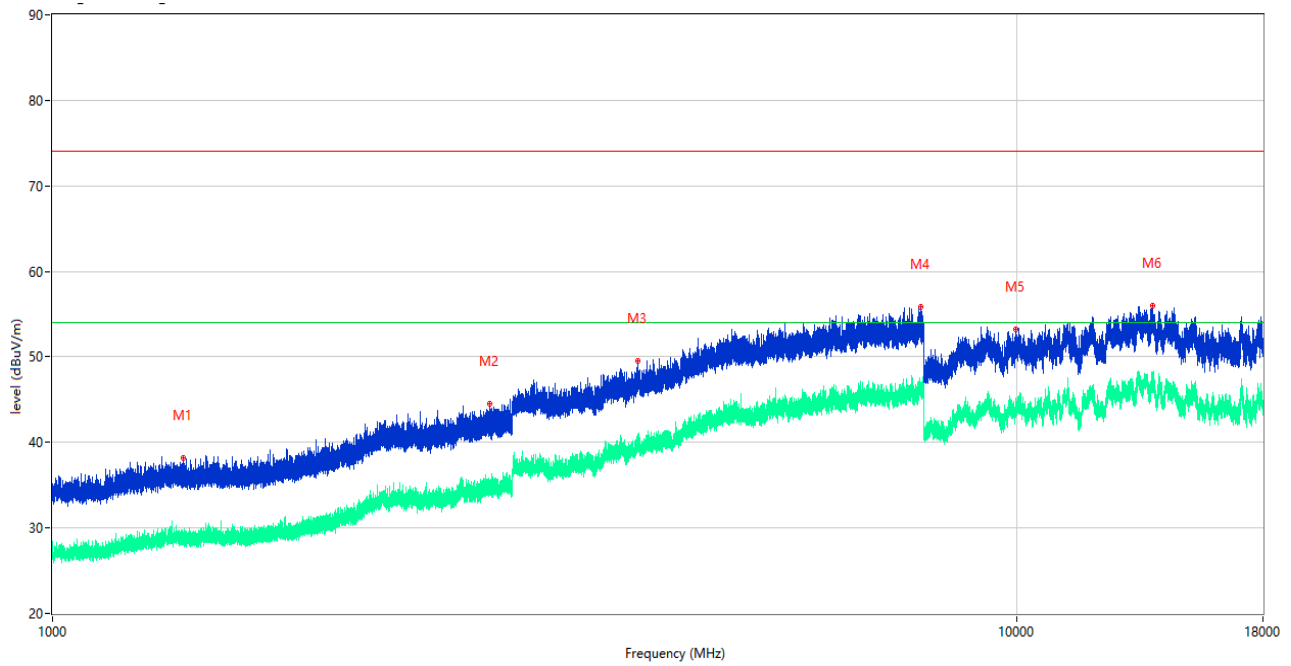
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	48.478	24.80	-25.35	40.0	-15.20	Peak	76.00	100	Vertical	Pass
2	164.636	20.79	-29.33	43.5	-22.71	Peak	174.00	100	Vertical	Pass
3	280.502	35.01	-24.10	46.0	-10.99	Peak	360.00	200	Vertical	Pass
4	404.566	26.35	-20.72	46.0	-19.65	Peak	151.00	100	Vertical	Pass
5	594.006	32.21	-16.07	46.0	-13.79	Peak	312.00	100	Vertical	Pass
6	891.020	31.82	-10.11	46.0	-14.18	Peak	128.00	100	Vertical	Pass

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



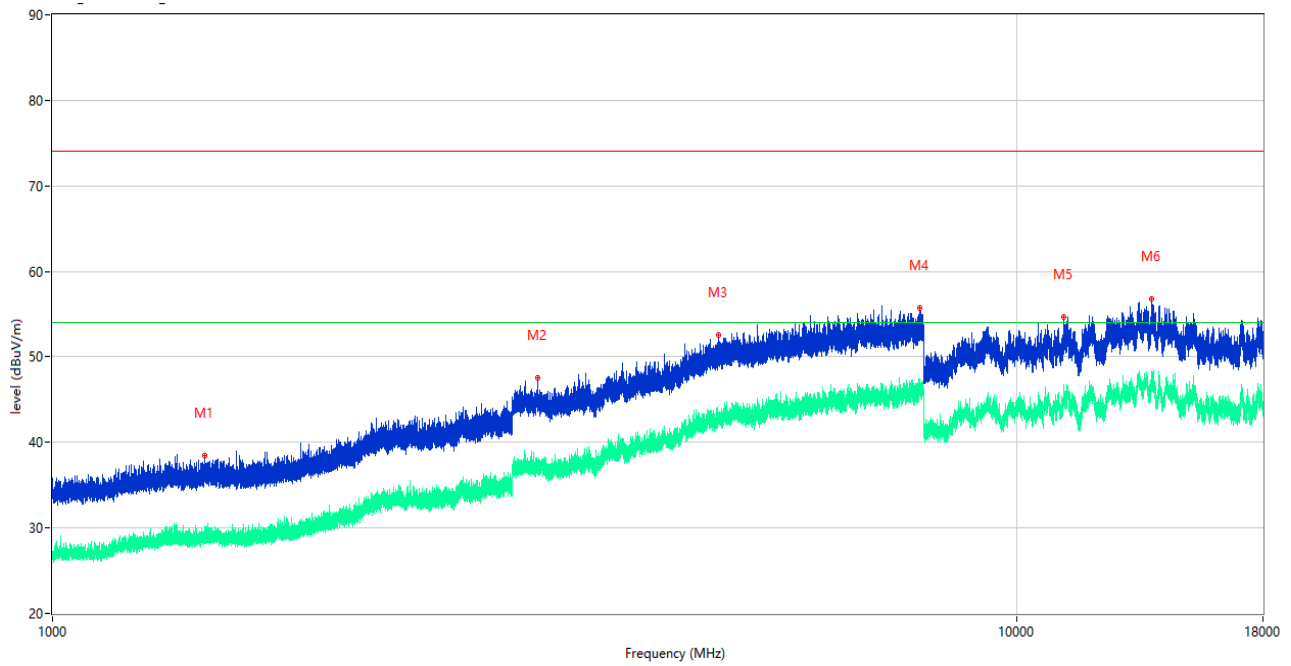
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	49.400	18.20	-25.51	40.0	-21.80	Peak	361.00	200	Horizontal	Pass
2	165.315	16.58	-29.32	43.5	-26.92	Peak	125.00	200	Horizontal	Pass
3	216.580	22.64	-26.34	46.0	-23.36	Peak	240.00	100	Horizontal	Pass
4	280.987	38.19	-24.12	46.0	-7.81	Peak	89.00	100	Horizontal	Pass
5	593.958	26.86	-16.07	46.0	-19.14	Peak	132.00	200	Horizontal	Pass
6	975.119	30.74	-8.69	54.0	-23.26	Peak	115.00	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	1367.800	38.19	-16.82	74.0	-35.81	Peak	139.00	100	Vertical	Pass
1**	1367.800	28.49	-16.82	54.0	-25.51	AV	139.00	100	Vertical	Pass
2	2840.800	44.47	-9.42	74.0	-29.53	Peak	323.00	100	Vertical	Pass
2**	2840.800	35.20	-9.42	54.0	-18.80	AV	323.00	100	Vertical	Pass
3	4050.500	49.48	-1.89	74.0	-24.52	Peak	251.00	100	Vertical	Pass
3**	4050.500	39.61	-1.89	54.0	-14.39	AV	251.00	100	Vertical	Pass
4	7948.000	55.92	3.16	74.0	-18.08	Peak	45.00	100	Vertical	Pass
4**	7948.000	46.55	3.16	54.0	-7.45	AV	45.00	100	Vertical	Pass
5	9971.500	53.28	1.03	74.0	-20.72	Peak	294.00	100	Vertical	Pass
5**	9971.500	44.18	1.03	54.0	-9.82	AV	294.00	100	Vertical	Pass
6	13827.000	55.98	5.47	74.0	-18.02	Peak	294.00	100	Vertical	Pass
6**	13827.000	46.78	5.47	54.0	-7.22	AV	294.00	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	1439.900	38.45	-16.65	74.0	-35.55	Peak	186.00	100	Horizontal	Pass
1**	1439.900	28.94	-16.65	54.0	-25.06	AV	186.00	100	Horizontal	Pass
2	3188.500	47.55	-5.30	74.0	-26.45	Peak	126.00	100	Horizontal	Pass
2**	3188.500	37.23	-5.30	54.0	-16.77	AV	126.00	100	Horizontal	Pass
3	4899.750	52.52	0.25	74.0	-21.48	Peak	340.00	100	Horizontal	Pass
3**	4899.750	43.47	0.25	54.0	-10.53	AV	340.00	100	Horizontal	Pass
4	7932.500	55.73	3.18	74.0	-18.27	Peak	209.00	100	Horizontal	Pass
4**	7932.500	46.33	3.18	54.0	-7.67	AV	209.00	100	Horizontal	Pass
5	11178.000	54.68	1.60	74.0	-19.32	Peak	297.00	100	Horizontal	Pass
5**	11178.000	44.75	1.60	54.0	-9.25	AV	297.00	100	Horizontal	Pass
6	13807.500	56.78	5.72	74.0	-17.22	Peak	315.00	100	Horizontal	Pass
6**	13807.500	47.15	5.72	54.0	-6.85	AV	315.00	100	Horizontal	Pass

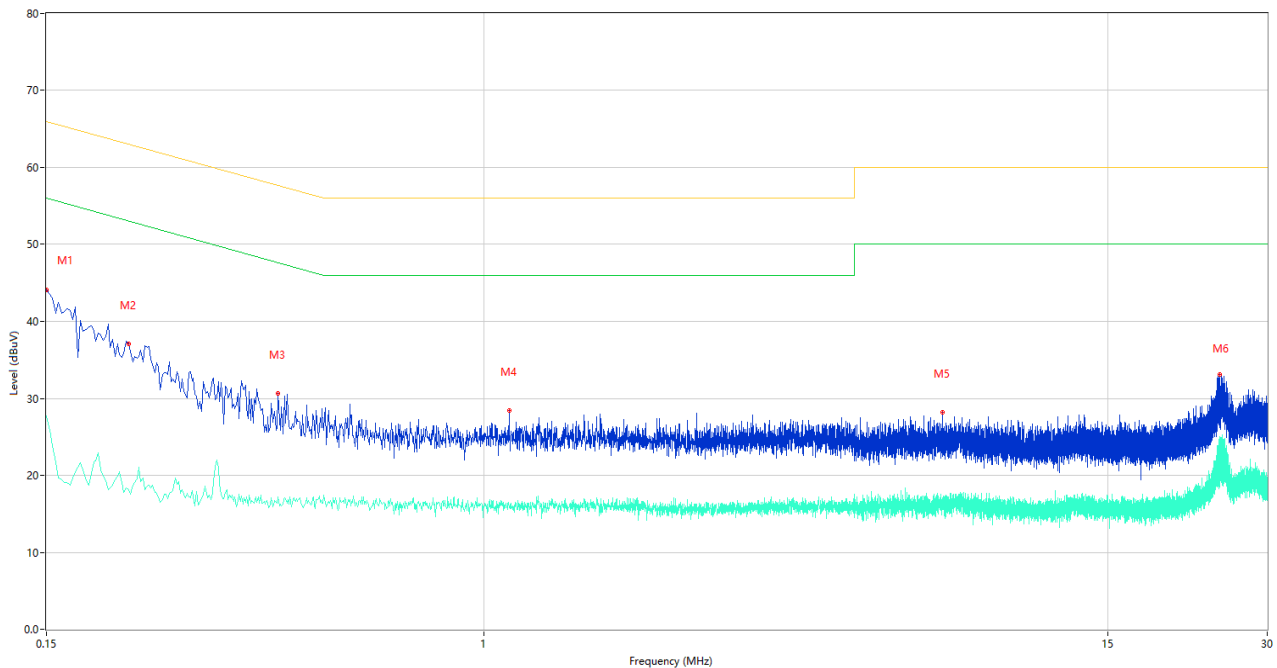
A.2 Conducted Emission

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

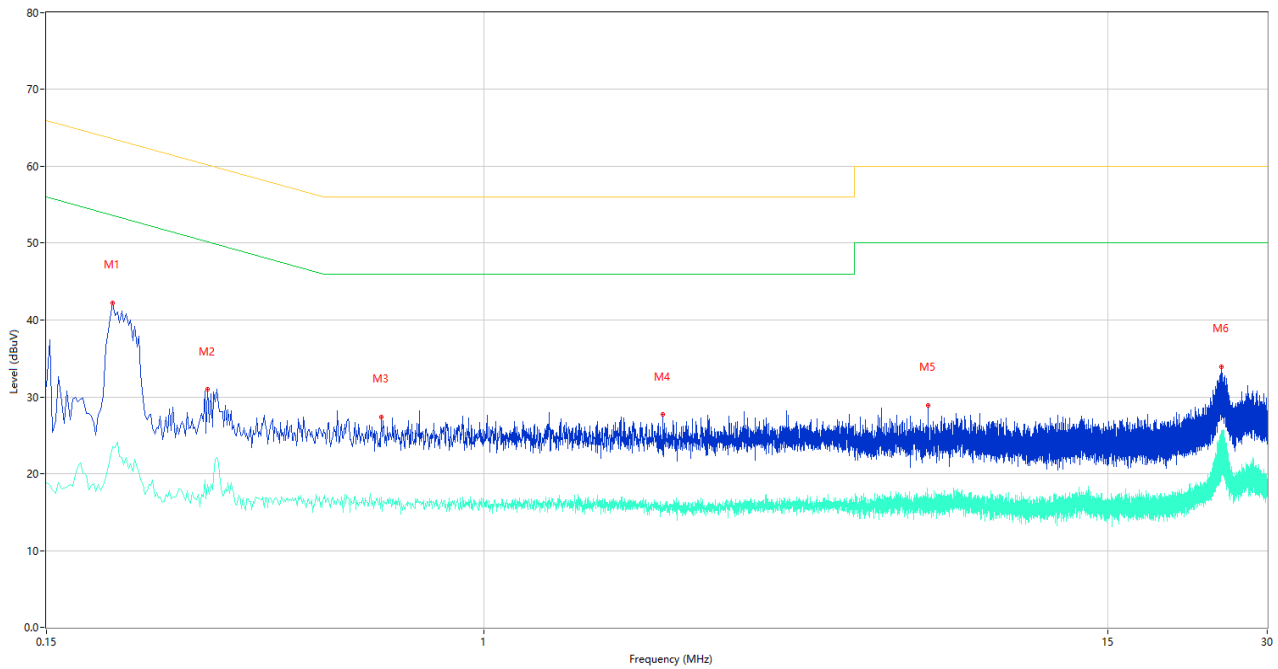
The Camera Test Mode

A.2.1 L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.150	44.11	10.19	66.00	-21.89	Peak	L	Pass
1**	0.150	27.78	10.19	56.00	-28.22	AV	L	Pass
2	0.214	37.05	10.09	63.05	-26.00	Peak	L	Pass
2**	0.214	18.16	10.09	53.05	-34.89	AV	L	Pass
3	0.410	30.66	10.09	57.65	-26.99	Peak	L	Pass
3**	0.410	17.18	10.09	47.65	-30.47	AV	L	Pass
4	1.118	28.40	10.01	56.00	-27.60	Peak	L	Pass
4**	1.118	15.76	10.01	46.00	-30.24	AV	L	Pass
5	7.340	28.17	9.92	60.00	-31.83	Peak	L	Pass
5**	7.340	15.95	9.92	50.00	-34.05	AV	L	Pass
6	24.436	33.09	10.16	60.00	-26.91	Peak	L	Pass
6**	24.436	24.95	10.16	50.00	-25.05	AV	L	Pass

A.2.2 N Phase

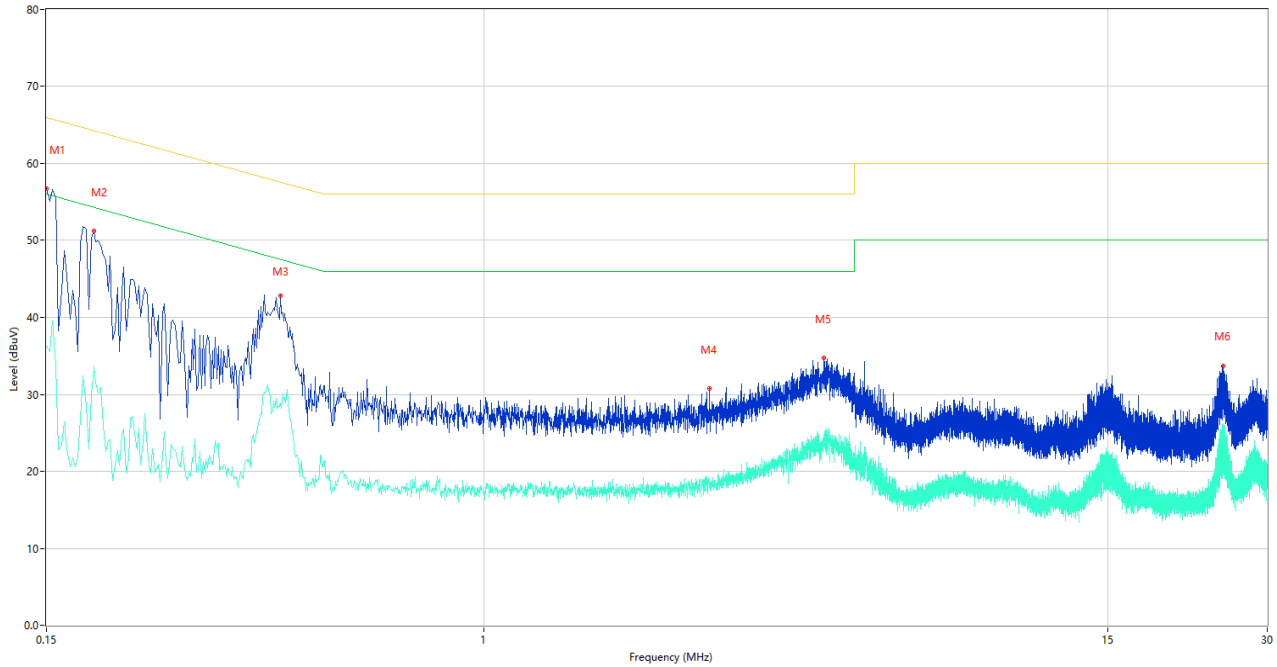


No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.200	42.20	10.10	63.61	-21.41	Peak	N	Pass
1**	0.200	23.50	10.10	53.61	-30.11	AV	N	Pass
2	0.302	30.96	10.07	60.19	-29.23	Peak	N	Pass
2**	0.302	18.63	10.07	50.19	-31.56	AV	N	Pass
3	0.642	27.41	10.09	56.00	-28.59	Peak	N	Pass
3**	0.642	16.93	10.09	46.00	-29.07	AV	N	Pass
4	2.178	27.70	9.90	56.00	-28.30	Peak	N	Pass
4**	2.178	16.00	9.90	46.00	-30.00	AV	N	Pass
5	6.886	28.93	9.86	60.00	-31.07	Peak	N	Pass
5**	6.886	17.32	9.86	50.00	-32.68	AV	N	Pass
6	24.602	33.95	10.16	60.00	-26.05	Peak	N	Pass
6**	24.602	25.64	10.16	50.00	-24.36	AV	N	Pass

Test Data and Plots

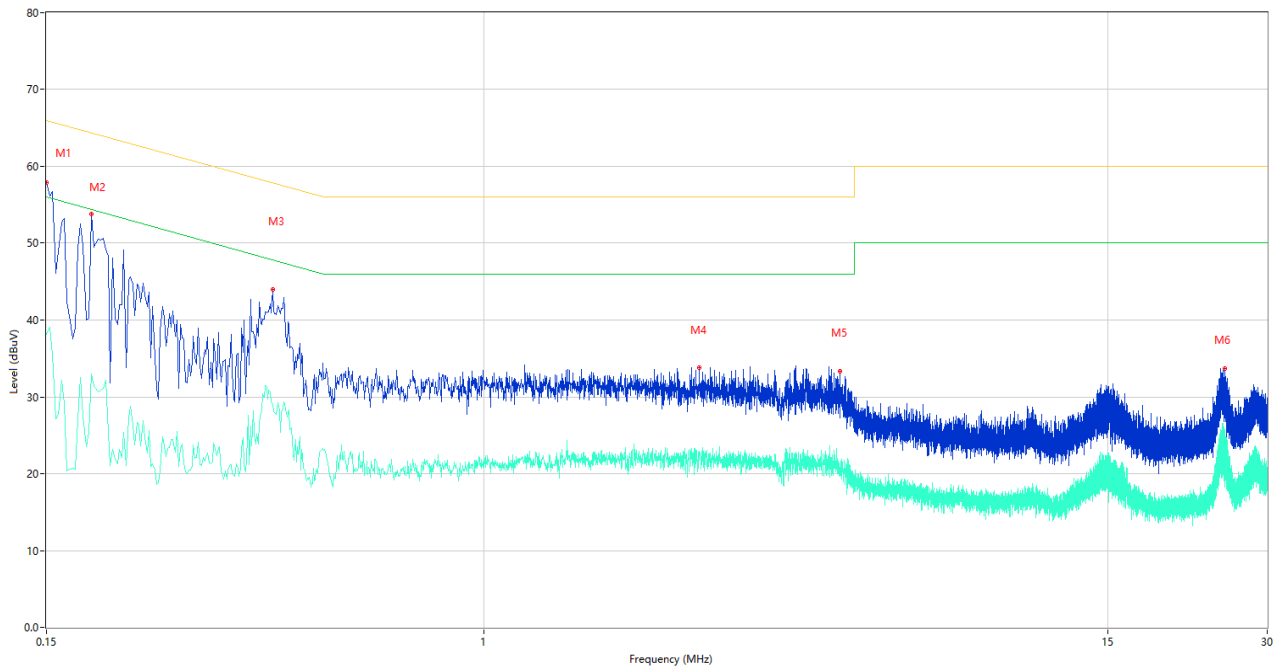
The USB Test Mode

A.2.3 L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.150	56.74	10.19	66.00	-9.26	Peak	L	Pass
1**	0.150	36.28	10.19	56.00	-19.72	AV	L	Pass
2	0.184	51.18	10.13	64.30	-13.12	Peak	L	Pass
2**	0.184	33.61	10.13	54.30	-20.69	AV	L	Pass
3	0.414	42.79	10.09	57.57	-14.78	Peak	L	Pass
3**	0.414	28.86	10.09	47.57	-18.71	AV	L	Pass
4	2.666	30.79	10.00	56.00	-25.21	Peak	L	Pass
4**	2.666	18.40	10.00	46.00	-27.60	AV	L	Pass
5	4.382	34.78	10.03	56.00	-21.22	Peak	L	Pass
5**	4.382	24.45	10.03	46.00	-21.55	AV	L	Pass
6	24.734	33.71	10.16	60.00	-26.29	Peak	L	Pass
6**	24.734	26.23	10.16	50.00	-23.77	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	57.87	10.19	66.00	-8.13	Peak	N	Pass
1**	0.150	38.12	10.19	56.00	-17.88	AV	N	Pass
2	0.182	53.85	10.13	64.39	-10.54	Peak	N	Pass
2**	0.182	32.94	10.13	54.39	-21.45	AV	N	Pass
3	0.400	44.03	10.09	57.85	-13.82	Peak	N	Pass
3**	0.400	29.02	10.09	47.85	-18.83	AV	N	Pass
4	2.550	33.78	9.98	56.00	-22.22	Peak	N	Pass
4**	2.550	22.06	9.98	46.00	-23.94	AV	N	Pass
5	4.688	33.36	9.98	56.00	-22.64	Peak	N	Pass
5**	4.688	19.69	9.98	46.00	-26.31	AV	N	Pass
6	24.938	33.71	10.16	60.00	-26.29	Peak	N	Pass
6**	24.938	24.95	10.16	50.00	-25.05	AV	N	Pass

ANNEX B TEST SETUP PHOTOS

Please refer the document “BL-EC21C0184-AE-1.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-EC21C0184-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-EC21C0184-AI.PDF”.

--END OF REPORT--