

FCC

EMC

TEST REPORT

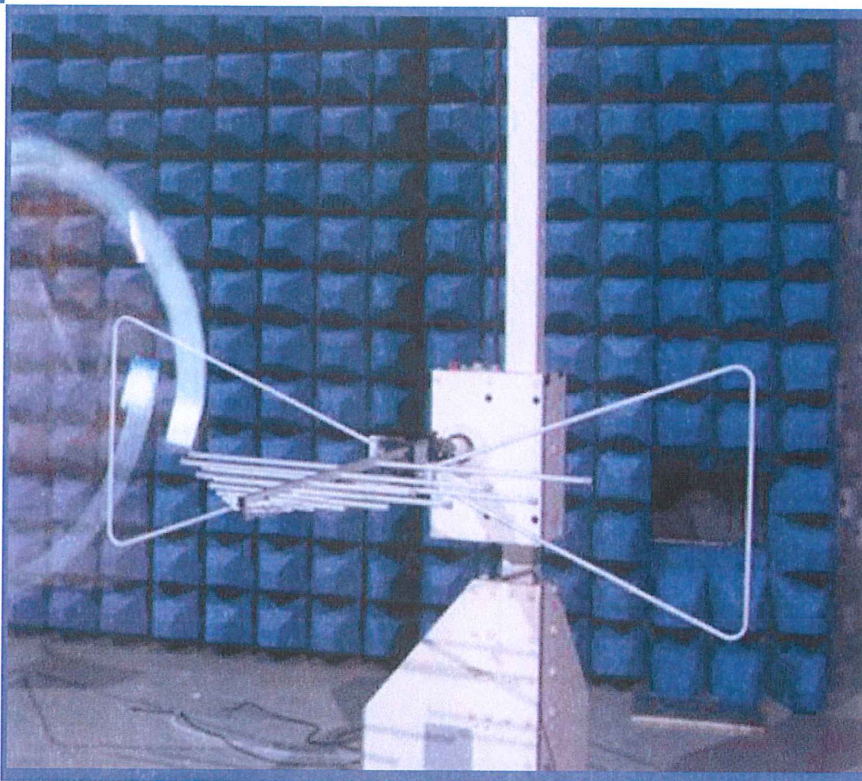
ISSUED BY
Shenzhen BALUN Technology Co., Ltd.



FOR
Tablet PC

ISSUED TO
Shenzhen Jingwah Information Technology Co., Ltd.

4F, Bldg 4, Jinghua Square, No.1 Huafa North Road, Shenzhen, China



Tested by:

Xia Long
Xia Long

(Engineer)

Date

Oct. 29, 2018

Approved by:

Tu Lang
Tu Lang

(Laboratory Manager)

Date

Oct. 29, 2018

Report No.: BL-SZ1870290-401

EUT Name: Tablet PC

Model Name: BNTV450, BNTV460

Brand Name: NOOK

Test Standard: 47 CFR Part 15 Subpart B

Test Conclusion: Pass

Test Date: Sep. 04, 2018 ~ Oct. 29, 2018

Date of Issue: Oct. 29, 2018

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Revision History

Version	Issue Date	Revisions Content
<u>Rev. 01</u>	<u>Sep. 25, 2018</u>	<u>Initial Issue</u>
<u>Rev. 02</u>	<u>Oct. 29, 2018</u>	<u>Retested Radiated Emission above 1GHz in page 19-34; Increased Test Equipment List of Radiated Emission Test for frequency above 18 GHz in page 8; Updated test setup photo of Radiated Emission Test for frequency above 1 GHz in ANNEX A.</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 has been listed by Industry Canada to perform electromagnetic emission measurements. The recognition numbers of test site are 11524A-1. The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196. The laboratory is a testing organization accredited by American Association for Laboratory Accreditation(A2LA) according to ISO/IEC 17025.The accreditation certificate is 4344.01. The laboratory is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L6791.
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 v6.7.
- (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.

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	Shenzhen Jingwah Information Technology Co., Ltd.
Address	4F, Bldg 4, Jinghua Square, No.1 Huafa North Road, Shenzhen, China

2.2 Manufacturer Information

Manufacturer	Shenzhen Jingwah Information Technology Co., Ltd.
Address	4F, Bldg 4, Jinghua Square, No.1 Huafa North Road, Shenzhen, China

2.3 Factory Information

Factory	Shenzhen Jingwah Information Technology Co., Ltd.
Address	4F, Bldg 4, Jinghua Square, No.1 Huafa North Road, Shenzhen, China

2.4 General Description for Equipment under Test (EUT)

EUT Name	Tablet PC		
Model Name Under Test	BNTV450, BNTV460		
Series Model Name	BNTV450, BNTV460		
Description of Model name differentiation	All models are same with electrical parameters and internal circuit structure, but only different on model name, display screen and Flash and brand of DDR.		
Hardware Version	T8370-V6.3 L7		
Software Version	BNTV460		
Dimensions (Approx.)	N/A		
Weight (Approx.)	N/A		
EUT	Hardware	Model	Manufacturer
Configuration A	LCD display	20810700240441	xingyuan
Configuration B	LCD display	M070WSB150	xianchuang
Configuration C	LCD display	M070WSB150	xianchuang
Configuration D	LCD display	2089070BWS024001	xingyuan
Note: Configuration A is xingyuan display and Configuration B is xianchuang display, the internal structure and circuit electrical parameters are the same; but the LCD display is different. Configuration B and Configuration C only difference on flash, brand of DDR, model name, Difference Hardware Version and Software Version; Configuration C is xianchuang display and Configuration D is xingyuan display, the internal structure and circuit electrical parameters are the same.			

2.5 Ancillary Equipment

Ancillary Equipment 1	Battery	
	Brand Name	N/A
	Model No.	PL3370100P
	Serial No.	N/A
	Capacitance	3000 mAh
	Rated Voltage	3.7 V
	Extreme Voltage	4.2 V
Ancillary Equipment 2	Adapter 1	
	Brand Name	N/A
	Model No.	TPA – 95A050100UU
	Rated Input	100-240 V~, 50/60 Hz, 0.15 A
	Rated Output	5V=, 1 A
Ancillary Equipment 3	Adapter 2	
	Brand Name	N/A
	Model No.	JHD-AP006U-050100BB-2
	Rated Input	100-240 V~, 50/60 Hz, 0.2 A
	Rated Output	5V=, 1 A
Ancillary Equipment 4	USB Cable	
	Length	1.0 m

2.6 Technical Information

Network and Wireless connectivity	Bluetooth, WIFI
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3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	FCC 47 CFR Part 15 Subpart B (10-1-17 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 test sample in report BL-SZ1730089-401, which was issued by Shenzhen BALUN Technology Co., Ltd. on Oct. 17, 2016, is product information. Just changed the information as below:

1. Difference flash and brand of DDR;
2. Difference model name;
3. Difference display screen;
4. Difference Hardware Version and Software Version;

And others hardware circuit and software were all the same. So just Radiated Emission was retested in this report, Other test items please refer to the BL-SZ1730089-401, which was issued by Shenzhen BALUN Technology Co., Ltd. on Oct. 17, 2016.

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)	3.23 dB
Radiated emissions (30 MHz-1 GHz)	4.30 dB
Radiated emissions (1 GHz-18 GHz)	4.81 dB
Radiated emissions (18 GHz-40 GHz)	5.71 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 or DC 3.7 V from Battery	50% to 55%	100 kPa to 102 kPa

4.2 Test Equipment List

Radiated Emission Test For Frequency Below 1 GHz						
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	ROHDE&SCHWARZ	ESRP	101036	2018.06.13	2019.06.12	☒
Test Antenna-Bi-Log	SCHWARZBECK	VULB 9163	9163-977	2017.07.22	2019.07.21	☒
Test Antenna-Horn	SCHWARZBECK	BBHA 9120D	9120D-1600	2018.07.11	2020.07.10	☐
Anechoic Chamber	RAINFORD	9m*6m*6m	N/A	2017.02.21	2019.02.20	☒
Test Software	BALUN	BL410_E	V18.626	--	--	☒

Radiated Emission Test For Frequency 1 GHz-18 GHz						
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	KEYSIGHT	N9038A	MY53220118	2017.11.08	2018.11.07	☒
Test Antenna-Bi-Log	SCHWARZBECK	VULB 9163	9163-624	2017.07.22	2019.07.21	☐
Test Antenna-Horn	SCHWARZBECK	BBHA 9120D	9120D-1148	2018.07.11	2020.07.10	☒
Anechoic Chamber	RAINFORD	9m*6m*6m	N/A	2017.02.21	2019.02.20	☒
Test Software	BALUN	BL410_E	V18.626	--	--	☒

Radiated Emission Test For Frequency Above 18 GHz						
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	ROHDE & SCHWARZ	FSV40	101544	2018.2.16	2019.2.15	☒
Test Antenna-Horn	A-INFOMW	LB-180400KF	J211060273	2017.01.06	2019.01.05	☒
Anechoic Chamber	RAINFORD	9m*6m*6m	N/A	2017.02.21	2019.02.20	☒
Test Software	BALUN	BL410_E	V18.626	--	--	☒

Conducted Emission Test						
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	ROHDE&SCHWARZ	ESRP	101036	2018.06.13	2019.06.12	☐
LISN	SCHWARZBECK	NSLK 8127	8127-687	2018.06.13	2019.06.12	☐
LISN	SCHWARZBECK	NNLK 8129	8129-462	2017.11.08	2018.11.07	☐
ISN	TESEQ	ISN T800	34449	2017.12.05	2018.12.04	☐
Shielded Enclosure	ChangNing	CN-130701	130703	N/A	N/A	☐
Test Software	BALUN	BL410_E	V18.626	--	--	☐

4.3 Test Enclosure list

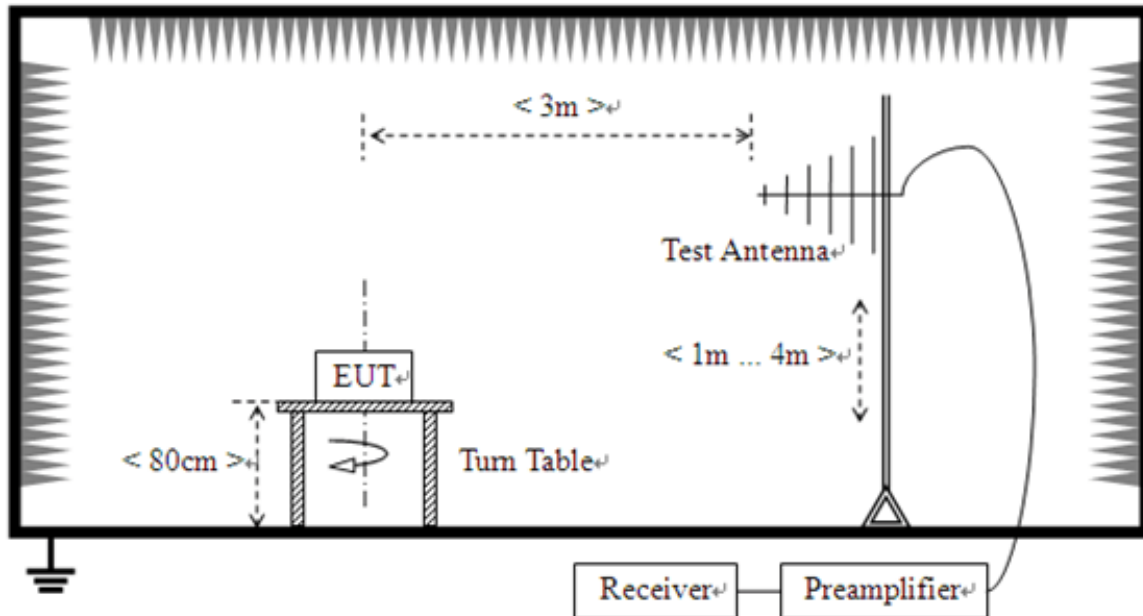
Description	Manufacturer	Model	Serial No.	Length	Description	Use
PC	Dell	015K3N	N/A	N/A	Special Handled	☐
Laptop	Apple	A1465	N/A	N/A	N/A	☒
Printer	HP	DESKJET 1000	N/A	N/A	N/A	☐
Keyboard	Logitech	Y-BP62a	N/A	N/A	N/A	☐
Mouse	Logitech	M100	N/A	N/A	N/A	☐
USB disk	Kingston	N/A	N/A	N/A	N/A	☐
TF Card	Kingston	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 2018.06.11	☐
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 Camera Test Mode</u> EUT + Adapter + USB Cable + Battery + Earphone + BT Link + WIFI Link
TC02	<u>The Video Play Test Mode</u> EUT + Adapter + USB Cable + Battery + Earphone + BT Link + WIFI Link
TC03	<u>The USB Test Mode</u> EUT + USB Cable + Battery + Earphone + Laptop
TC04	<u>The USB Test Mode (with TF Card)</u> EUT + USB Cable + Battery + Earphone + Laptop + TF Card

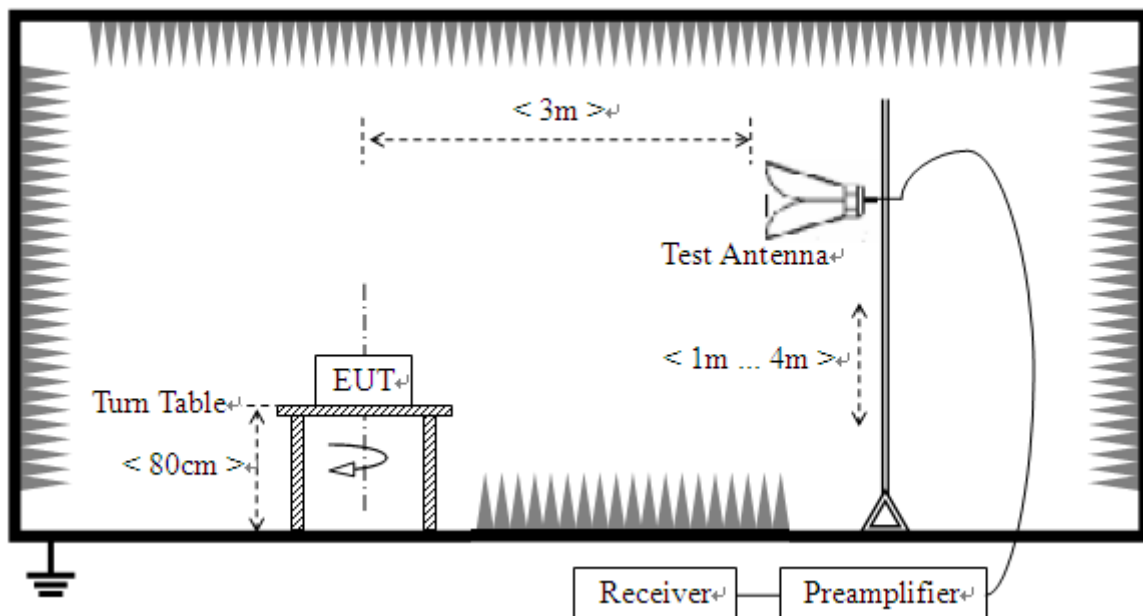
4.5 Test Setups

Test Setup 1



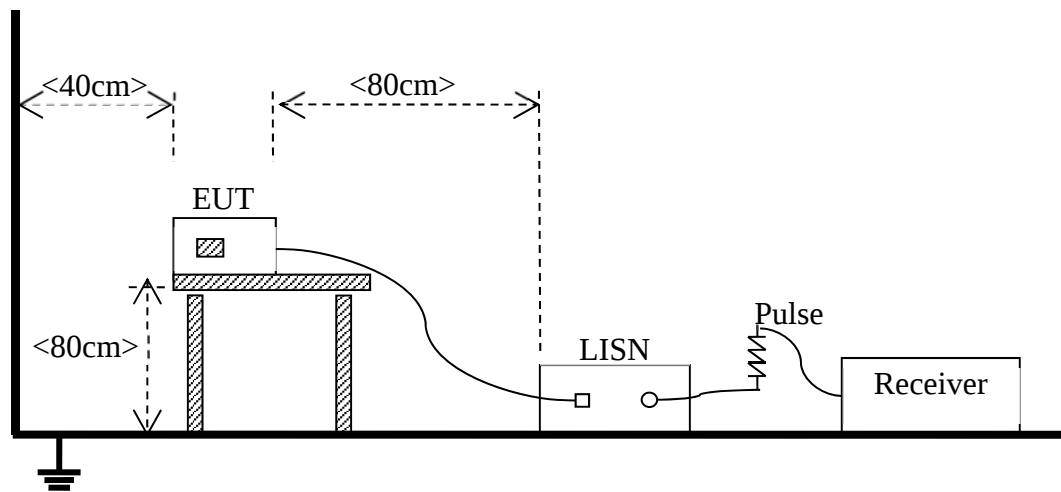
(For Radiated Emission Test (30 MHz-1 GHz))

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 Env.	NTNV
	Test Setup	Test Setup 1&2
	Test Configuration	TC01~TC04 ^{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)
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/m) = Reading (dBuV) + Factor (dB/m)
2. Factor = Insertion loss + Cable loss
3. Over limit = Results – Limit.

ANNEX A TEST RESULTS

A.1 Radiated Emission

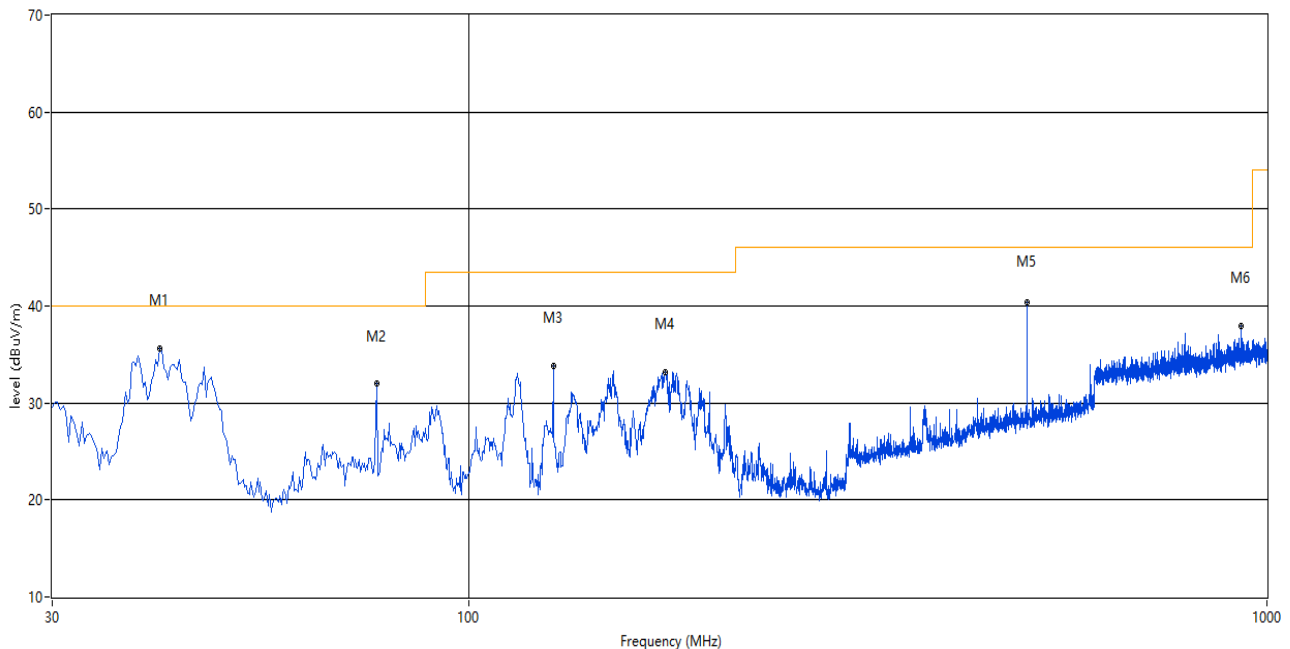
Note 1: The symbol of "--" in the table which means not application.

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.

Test Data and Plots

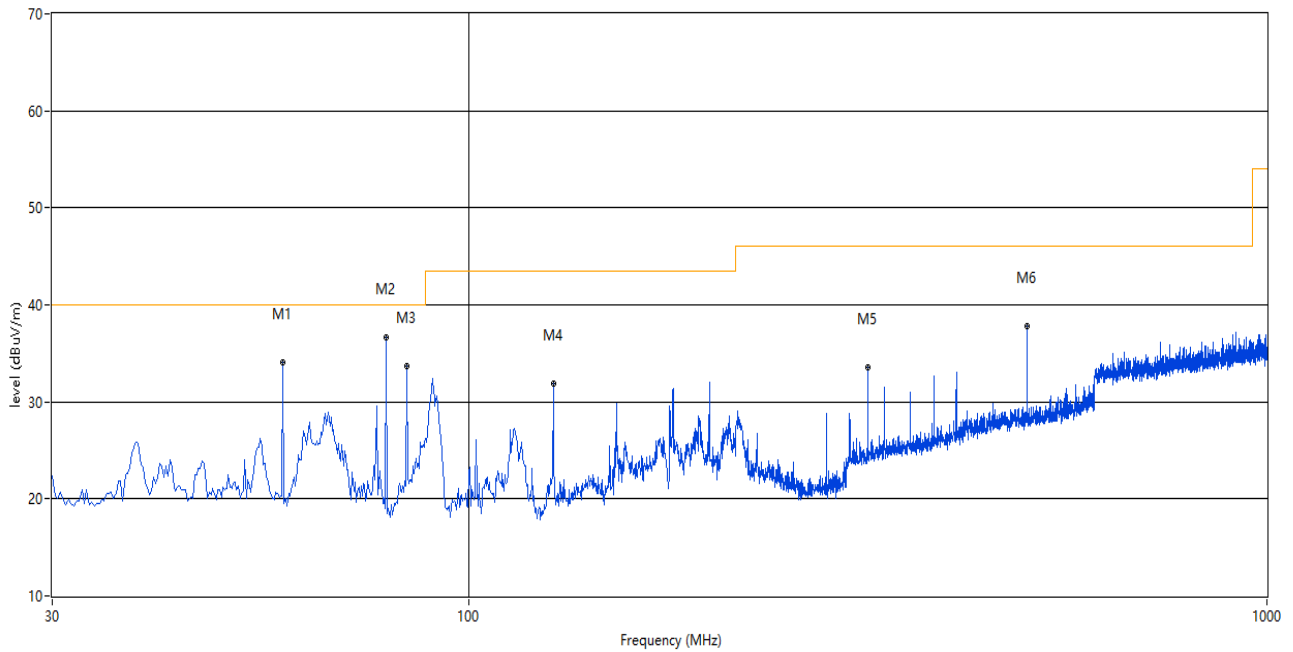
The Camera Test Mode (Configuration C)

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



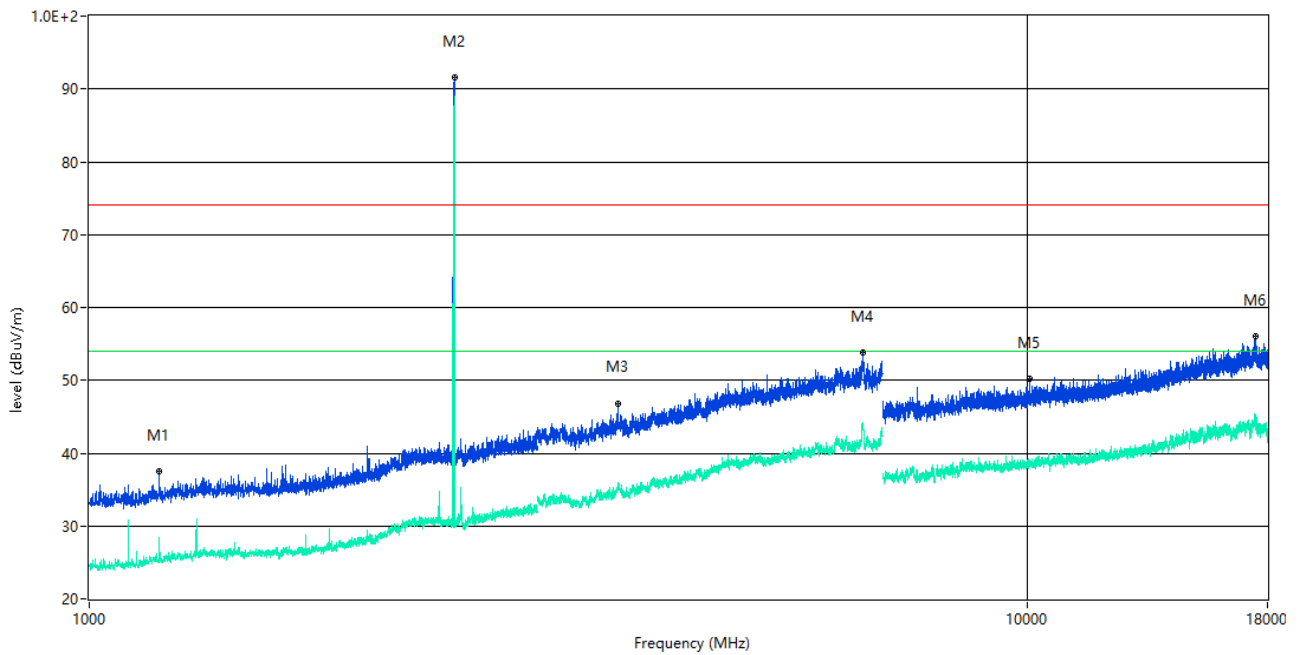
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	40.913	35.68	15.05	40.0	-4.32	Peak	360.00	200	Vertical	Pass
2	76.560	31.97	11.24	40.0	-8.03	Peak	61.00	100	Vertical	Pass
3	127.485	33.81	14.53	43.5	-9.69	Peak	360.00	200	Vertical	Pass
4	176.227	33.13	14.47	43.5	-10.37	Peak	360.00	200	Vertical	Pass
5	499.965	40.43	20.42	46.0	-5.57	Peak	36.00	100	Vertical	Pass
6	928.705	37.96	27.56	46.0	-8.04	Peak	154.00	200	Vertical	Pass

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



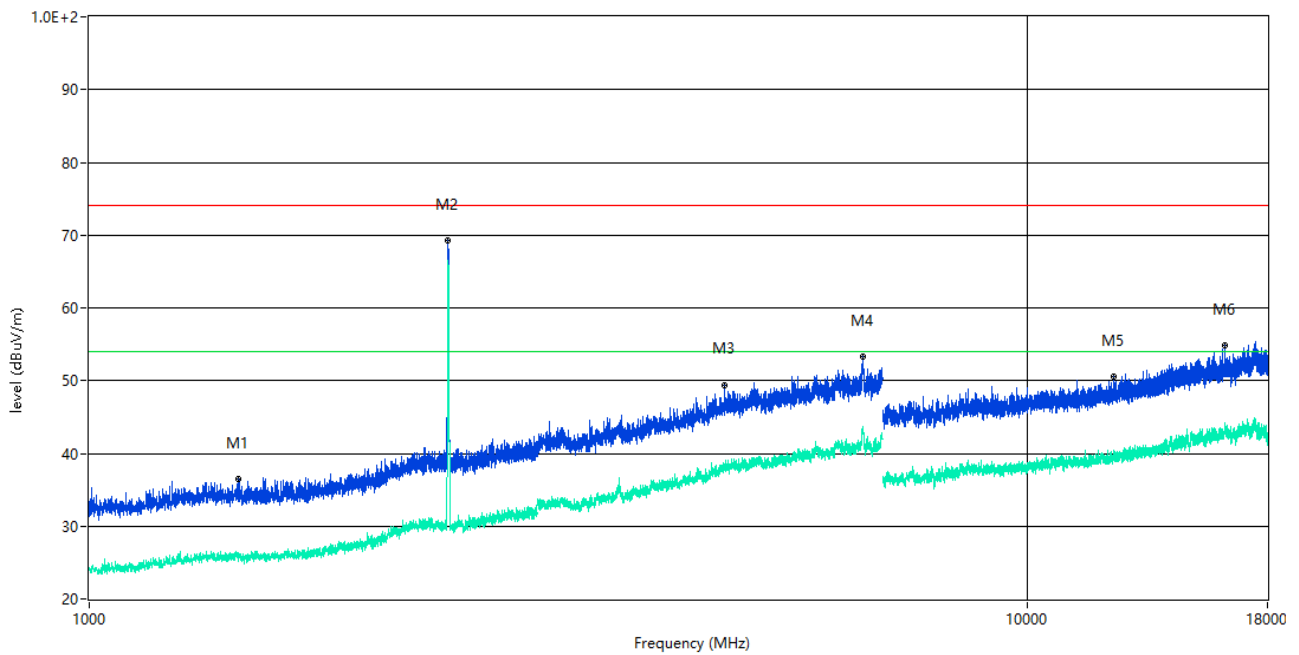
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	58.373	34.05	14.12	40.0	-5.95	Peak	153.00	100	Horizontal	Pass
2	78.743	36.69	10.94	40.0	-3.31	Peak	77.00	300	Horizontal	Pass
3	83.592	33.75	10.86	40.0	-6.25	Peak	135.00	100	Horizontal	Pass
4	127.485	31.85	14.53	43.5	-11.65	Peak	360.00	200	Horizontal	Pass
5	315.907	33.55	16.24	46.0	-12.45	Peak	77.00	100	Horizontal	Pass
6	499.965	37.87	20.42	46.0	-8.13	Peak	150.00	100	Horizontal	Pass

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



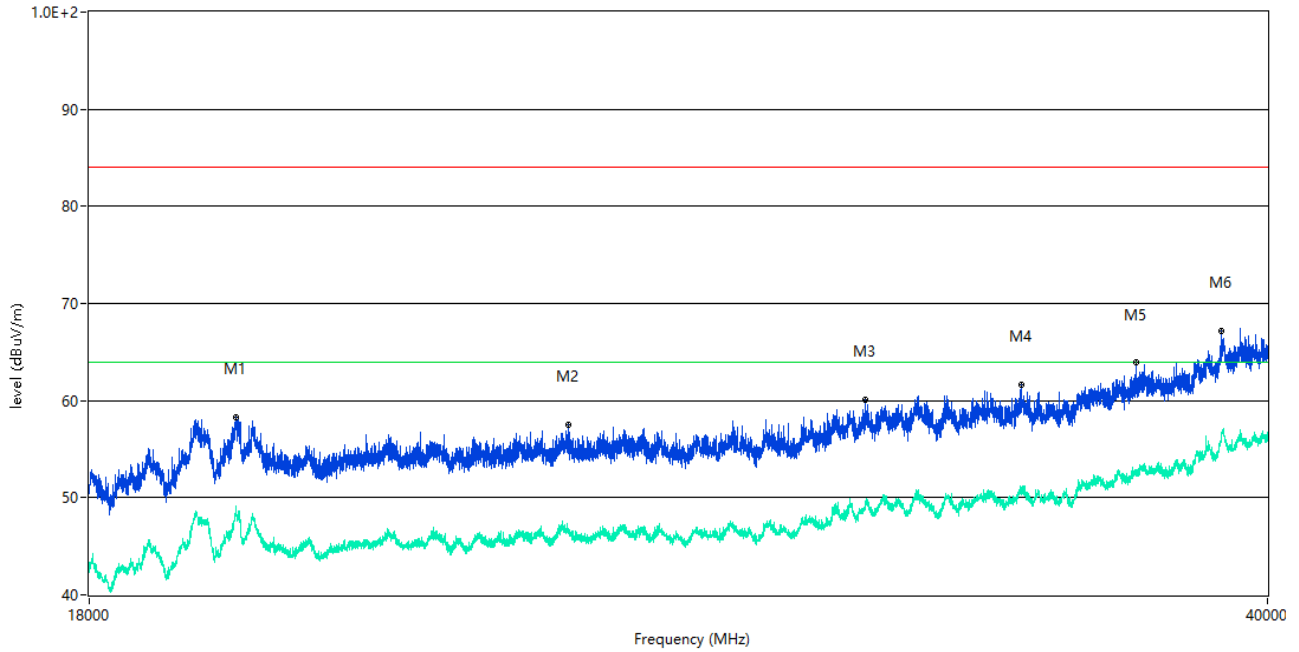
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1**	1187.000	25.81	-17.74	54.0	-28.19	AV	20.00	100	V	Pass
1	1187.000	37.49	-17.74	74.0	-36.51	Peak	20.00	100	V	Pass
2**	2449.000	89.05	-12.70	54.0	35.05	AV	304.00	100	V	N/A
2	2449.000	91.53	-12.70	74.0	17.53	Peak	304.00	100	V	N/A
3**	3656.000	35.22	-6.36	54.0	-18.78	AV	238.00	100	V	Pass
3	3656.000	46.85	-6.36	74.0	-27.15	Peak	238.00	100	V	Pass
4**	6669.000	43.72	1.98	54.0	-10.28	AV	70.00	100	V	Pass
4	6669.000	53.83	1.98	74.0	-20.17	Peak	70.00	100	V	Pass
5**	10040.313	39.12	-0.24	54.0	-14.88	AV	0.00	100	V	Pass
5	10040.313	50.18	-0.24	74.0	-23.82	Peak	0.00	100	V	Pass
6**	17471.062	44.33	3.74	54.0	-9.67	AV	341.00	100	V	Pass
6	17471.062	56.10	3.74	74.0	-17.90	Peak	341.00	100	V	Pass

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

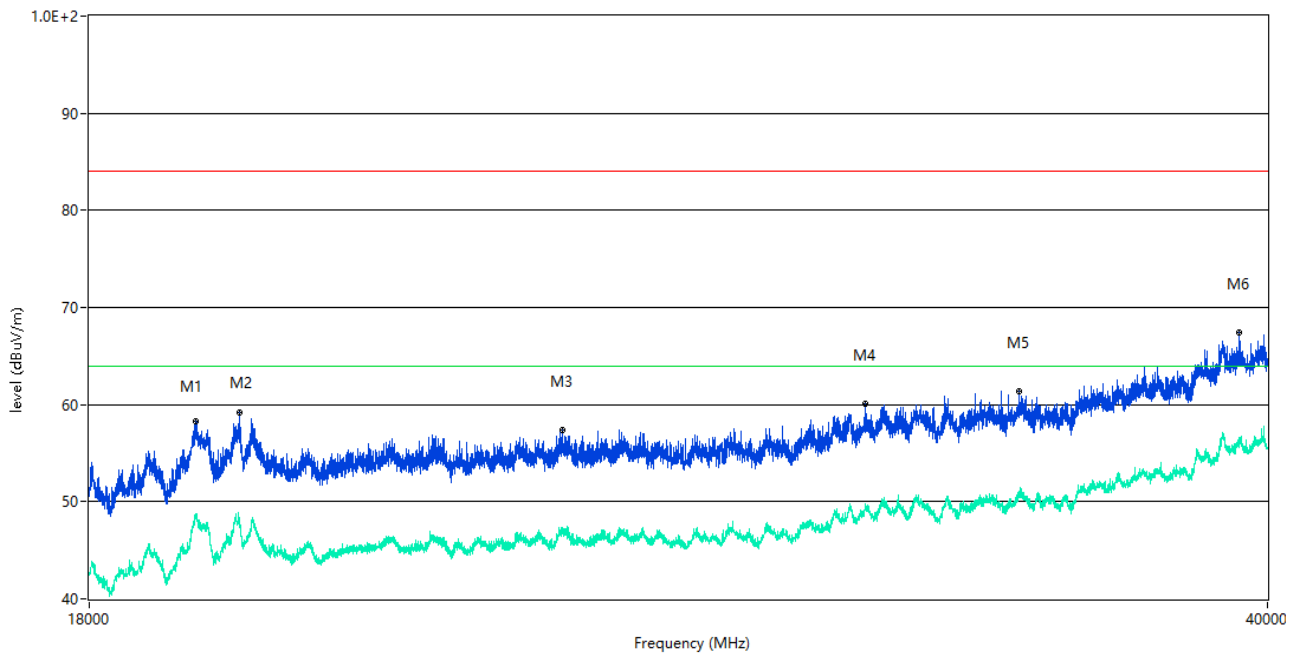


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1**	1439.500	26.04	-17.25	54.0	-27.96	AV	111.00	100	H	Pass
1	1439.500	36.49	-17.25	74.0	-37.51	Peak	111.00	100	H	Pass
2**	2411.000	66.48	-12.27	54.0	12.48	AV	48.00	100	H	N/A
2	2411.000	69.24	-12.27	74.0	-4.76	Peak	48.00	100	H	N/A
3**	4747.000	38.13	-2.93	54.0	-15.87	AV	39.00	100	H	Pass
3	4747.000	49.43	-2.93	74.0	-24.57	Peak	39.00	100	H	Pass
4**	6671.000	43.11	2.08	54.0	-10.89	AV	182.00	100	H	Pass
4	6671.000	53.27	2.08	74.0	-20.73	Peak	182.00	100	H	Pass
5**	12360.438	39.58	1.60	54.0	-14.42	AV	154.00	100	H	Pass
5	12360.438	50.48	1.60	74.0	-23.52	Peak	154.00	100	H	Pass
6**	16233.375	42.81	2.25	54.0	-11.19	AV	213.00	100	H	Pass
6	16233.375	54.91	2.25	74.0	-19.09	Peak	213.00	100	H	Pass

A.1.5 Test Antenna Vertical, 18 GHz – 40 GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1**	19882.279	48.69	22.12	64.0	-15.31	AV	22.00	100	V	Pass
1	19882.279	58.29	22.12	84.0	-25.71	Peak	22.00	100	V	Pass
2**	24902.399	46.83	20.95	64.0	-17.17	AV	131.00	100	V	Pass
2	24902.399	57.51	20.95	84.0	-26.49	Peak	131.00	100	V	Pass
3**	30457.886	49.19	22.35	64.0	-14.81	AV	56.00	100	V	Pass
3	30457.886	60.06	22.35	84.0	-23.94	Peak	56.00	100	V	Pass
4**	33848.913	50.77	23.32	64.0	-13.23	AV	183.00	100	V	Pass
4	33848.913	61.69	23.32	84.0	-22.31	Peak	183.00	100	V	Pass
5**	36605.599	52.92	23.75	64.0	-11.08	AV	133.00	100	V	Pass
5	36605.599	63.89	23.75	84.0	-20.11	Peak	133.00	100	V	Pass
6**	38765.059	56.38	24.38	64.0	-7.62	AV	15.00	100	V	Pass
6	38765.059	67.16	24.38	84.0	-16.84	Peak	15.00	100	V	Pass

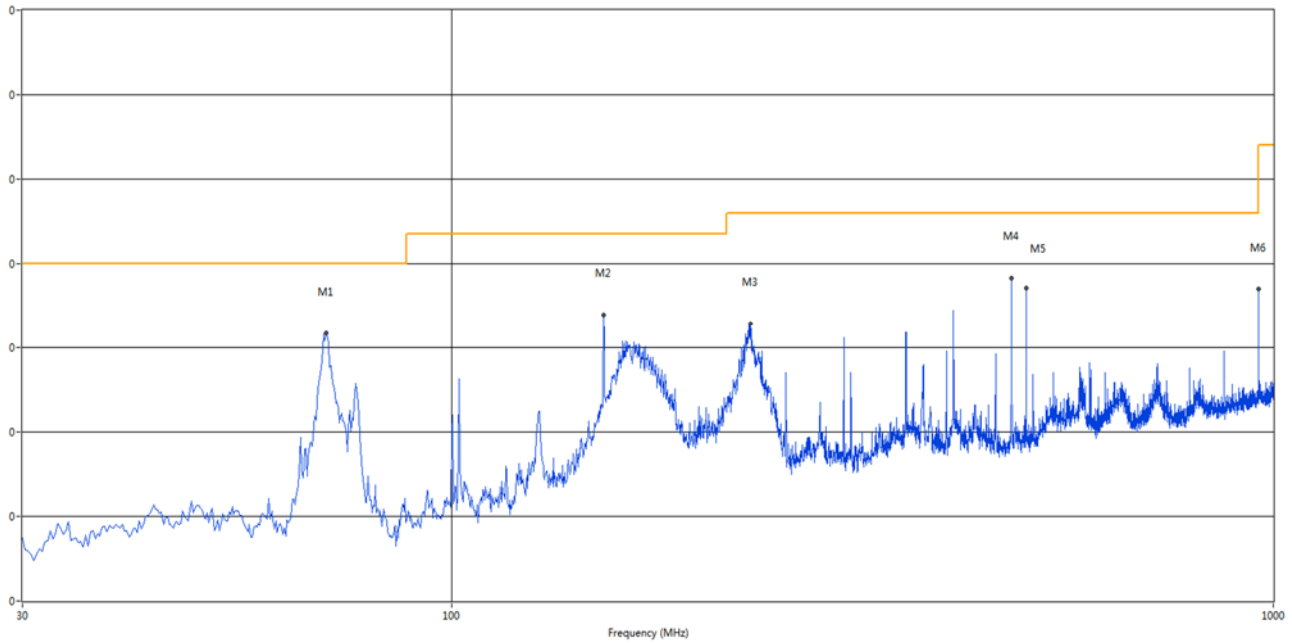


No.	Frequency (MHz)	Results (dBuH/m)	Factor (dB)	Limit (dBuH/m)	Other Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Herdict
1**	19340.540	48.44	22.27	64.0	-15.56	AV	16.00	100	H	Pass
1	19340.540	58.27	22.27	84.0	-25.73	Peak	16.00	100	H	Pass
2**	19931.142	47.75	22.32	64.0	-16.25	AV	80.00	100	H	Pass
2	19931.142	59.13	22.32	84.0	-24.87	Peak	80.00	100	H	Pass
3**	24811.047	47.28	20.94	64.0	-16.72	AV	110.00	100	H	Pass
3	24811.047	57.42	20.94	84.0	-26.58	Peak	110.00	100	H	Pass
4**	30468.008	49.37	22.36	64.0	-14.63	AV	109.00	100	H	Pass
4	30468.008	60.11	22.36	84.0	-23.89	Peak	109.00	100	H	Pass
5**	33808.423	50.90	23.34	64.0	-13.10	AV	90.00	100	H	Pass
5	33808.423	61.43	23.34	84.0	-22.57	Peak	90.00	100	H	Pass
6**	39230.692	56.38	24.28	64.0	-7.62	AV	105.00	100	H	Pass
6	39230.692	67.39	24.28	84.0	-16.61	Peak	105.00	100	H	Pass

Test Data and Plots

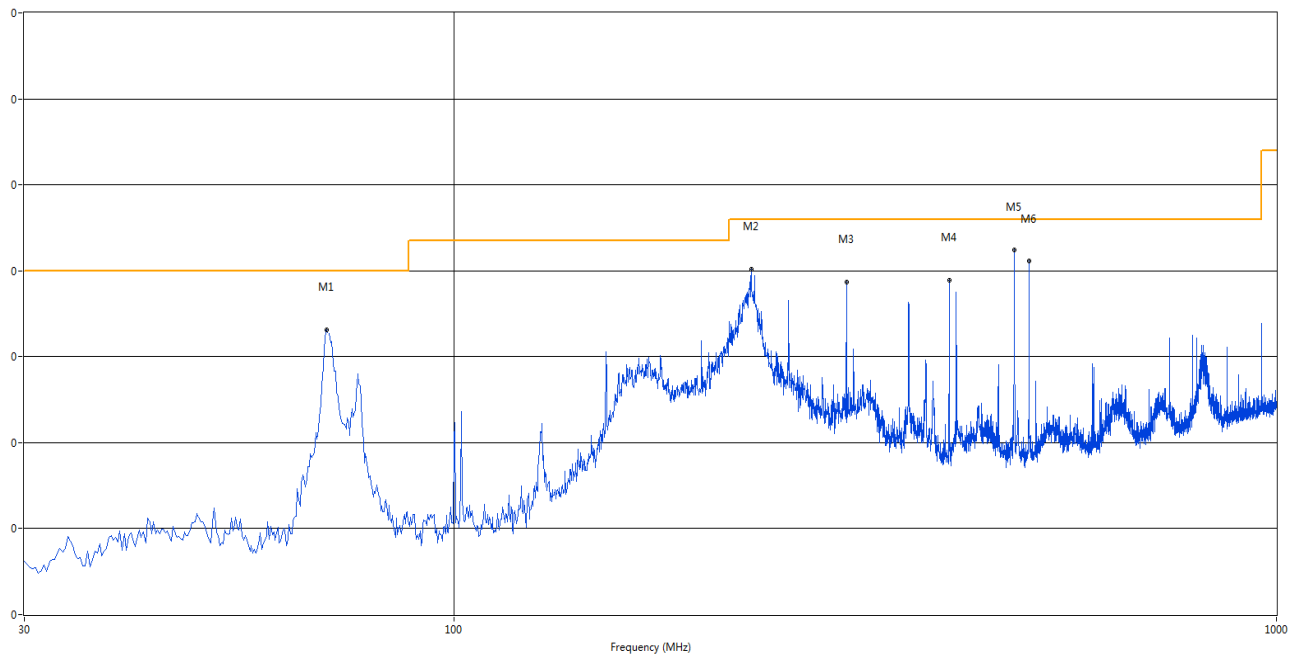
The USB Test Mode (Configuration C)

A.1.7 Test Antenna Vertical, 30 MHz – 1 GHz



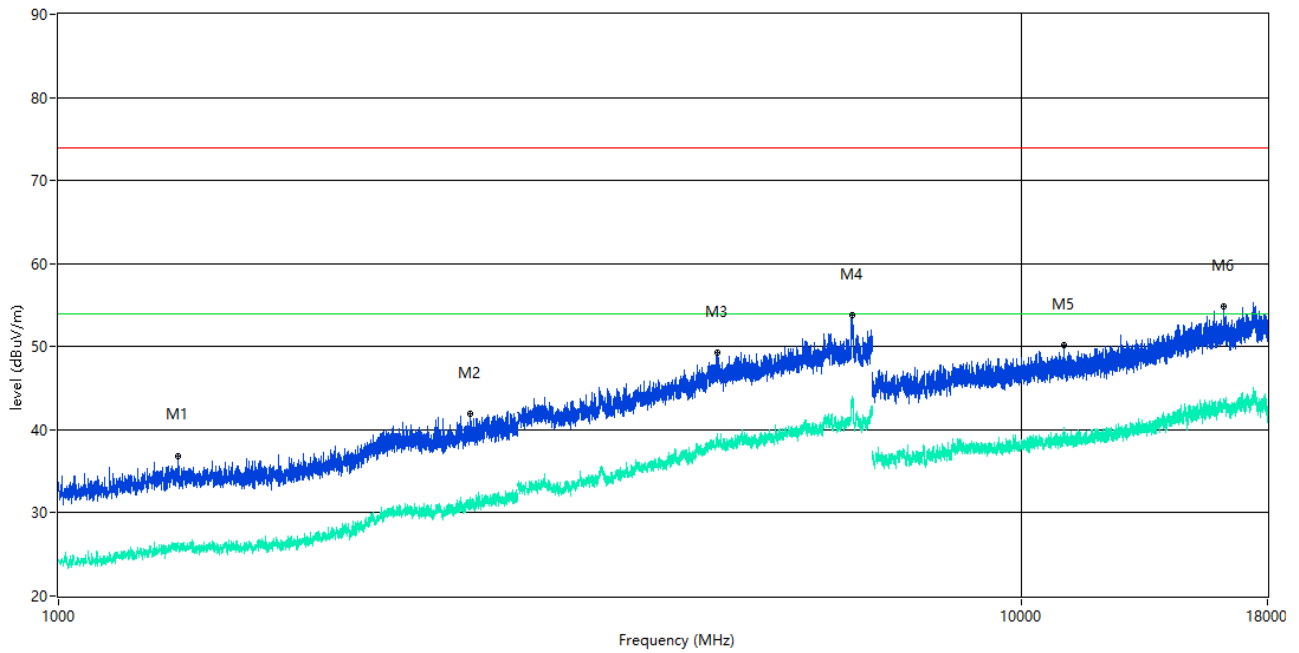
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	70.255	31.73	-27.52	40.0	8.27	Peak	297.50	100	Vertical	Pass
2	152.947	33.91	-27.80	43.5	9.59	Peak	34.20	200	Vertical	Pass
3	230.790	32.91	-24.01	46.0	13.09	Peak	289.70	200	Vertical	Pass
4	480.080	38.34	-17.60	46.0	7.66	Peak	61.30	200	Vertical	Pass
5	499.965	37.12	-16.95	46.0	8.88	Peak	83.40	300	Vertical	Pass
6	959.987	36.98	-9.55	46.0	9.02	Peak	320.00	100	Vertical	Pass

A.1.8 Test Antenna Horizontal, 30 MHz – 1 GHz



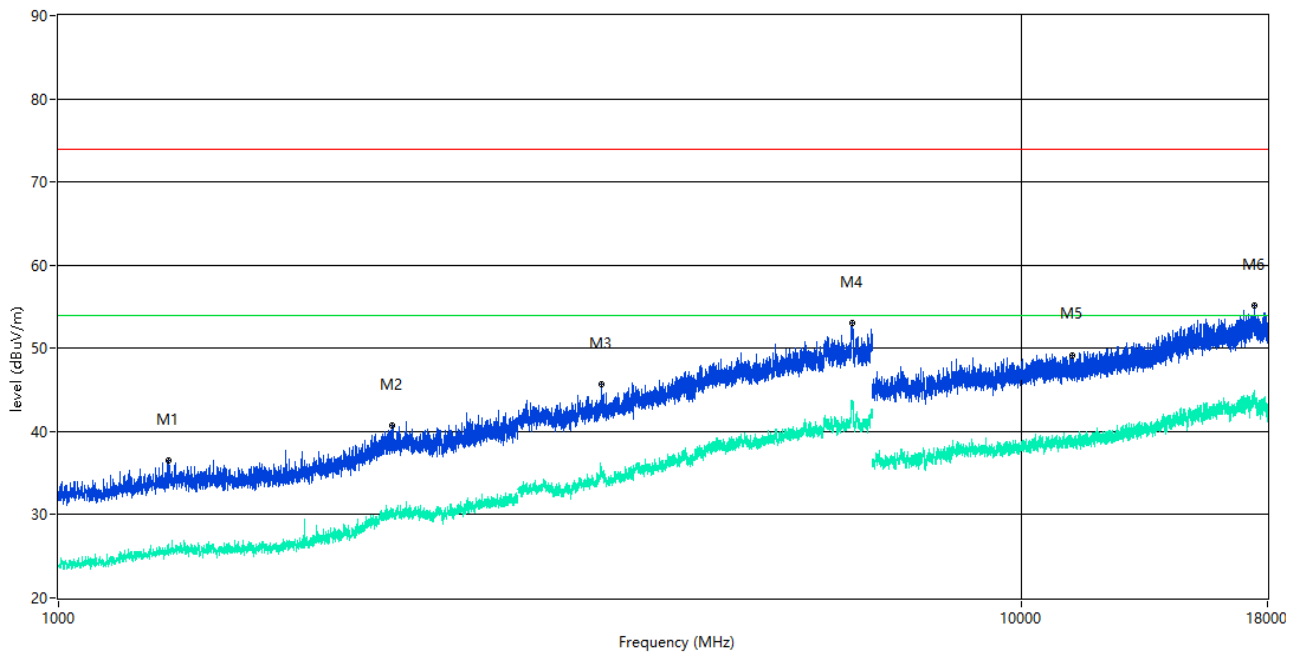
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	70.012	33.19	-27.42	40.0	6.81	Peak	0.00	200	Horizontal	Pass
2	229.820	40.19	-24.09	46.0	5.81	Peak	199.60	100	Horizontal	Pass
3	299.902	38.77	-22.16	46.0	7.23	Peak	218.40	300	Horizontal	Pass
4	400.055	38.92	-19.38	46.0	7.08	Peak	208.80	100	Horizontal	Pass
5	480.080	42.50	-17.60	46.0	3.50	Peak	151.90	200	Horizontal	Pass
6	499.965	41.15	-16.95	46.0	4.85	Peak	231.40	200	Horizontal	Pass

A.1.9 Test Antenna Vertical, 1 GHz – 18 GHz



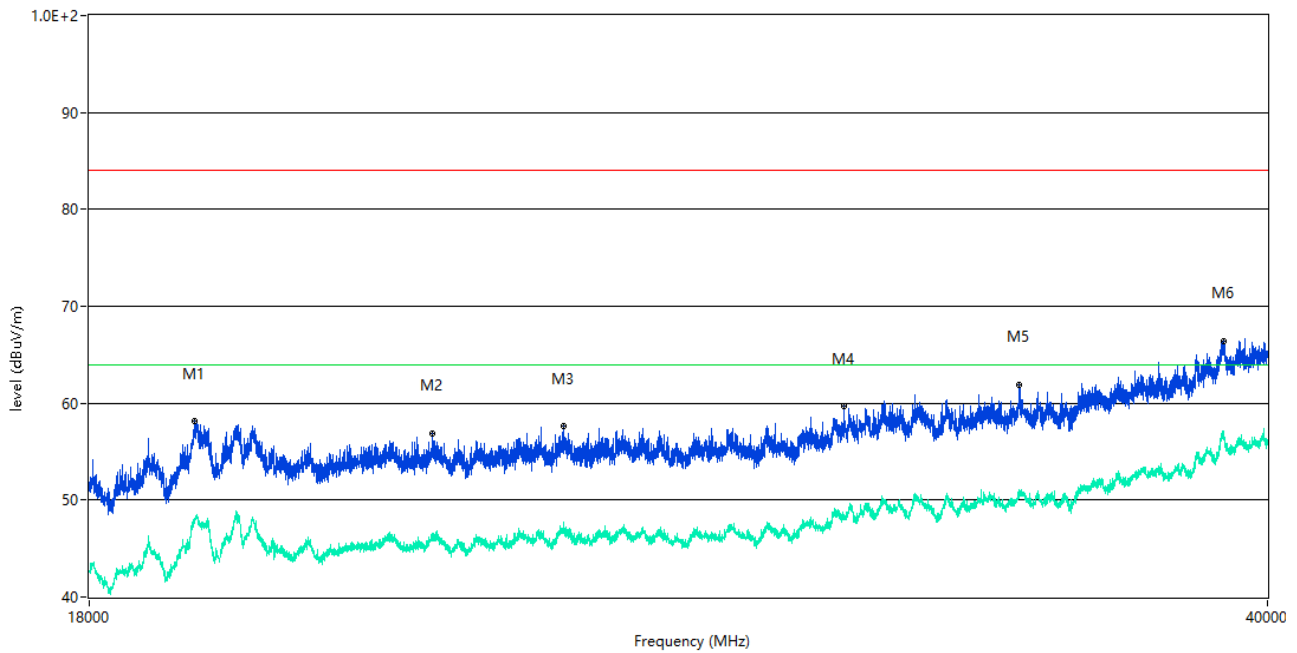
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1**	1329.500	25.81	-17.20	54.0	-28.19	AV	14.00	100	V	Pass
1	1329.500	36.87	-17.20	74.0	-37.13	Peak	14.00	100	V	Pass
2**	2675.500	31.50	-10.67	54.0	-22.50	AV	15.00	100	V	Pass
2	2675.500	41.88	-10.67	74.0	-32.12	Peak	15.00	100	V	Pass
3**	4838.000	38.15	-2.64	54.0	-15.85	AV	7.00	100	V	Pass
3	4838.000	49.28	-2.64	74.0	-24.72	Peak	7.00	100	V	Pass
4**	6671.000	44.02	2.08	54.0	-9.98	AV	3.00	100	V	Pass
4	6671.000	53.78	2.08	74.0	-20.22	Peak	3.00	100	V	Pass
5**	11063.812	39.70	-0.47	54.0	-14.30	AV	4.00	100	V	Pass
5	11063.812	50.14	-0.47	74.0	-23.86	Peak	4.00	100	V	Pass
6**	16190.063	43.23	2.69	54.0	-10.77	AV	5.00	100	V	Pass
6	16190.063	54.82	2.69	74.0	-19.18	Peak	5.00	100	V	Pass

A.1.10 Test Antenna Horizontal, 1 GHz – 18 GHz



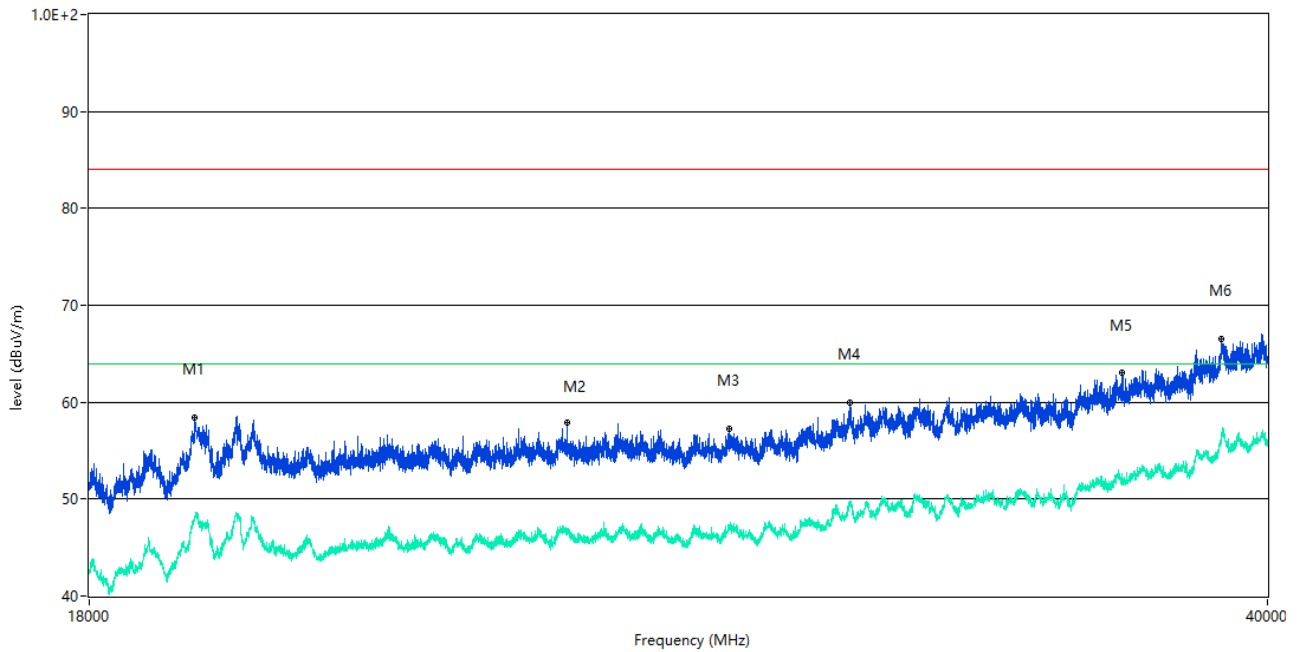
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1**	1302.500	26.00	-17.01	54.0	-28.00	AV	133.00	100	H	Pass
1	1302.500	36.51	-17.01	74.0	-37.49	Peak	133.00	100	H	Pass
2**	2220.000	30.67	-12.80	54.0	-23.33	AV	12.00	100	H	Pass
2	2220.000	40.72	-12.80	74.0	-33.28	Peak	12.00	100	H	Pass
3**	3666.000	34.93	-5.59	54.0	-19.07	AV	40.00	100	H	Pass
3	3666.000	45.72	-5.59	74.0	-28.28	Peak	40.00	100	H	Pass
4**	6679.000	42.94	1.57	54.0	-11.06	AV	181.00	100	H	Pass
4	6679.000	53.07	1.57	74.0	-20.93	Peak	181.00	100	H	Pass
5**	11292.375	38.96	0.61	54.0	-15.04	AV	161.00	100	H	Pass
5	11292.375	49.20	0.61	74.0	-24.80	Peak	161.00	100	H	Pass
6**	17446.126	43.89	3.94	54.0	-10.11	AV	321.00	100	H	Pass
6	17446.126	55.14	3.94	74.0	-18.86	Peak	321.00	100	H	Pass

A.1.11 Test Antenna Vertical, 18 GHz – 40 GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1**	19338.415	47.87	22.30	64.0	-16.13	AV	30.00	100	V	Pass
1	19338.415	58.09	22.30	84.0	-25.91	Peak	30.00	100	V	Pass
2**	22716.321	46.25	21.33	64.0	-17.75	AV	12.00	100	V	Pass
2	22716.321	56.83	21.33	84.0	-27.17	Peak	12.00	100	V	Pass
3**	24821.670	47.74	20.94	64.0	-16.26	AV	190.00	100	V	Pass
3	24821.670	57.58	20.94	84.0	-26.42	Peak	190.00	100	V	Pass
4**	30025.994	47.94	22.21	64.0	-16.06	AV	76.00	100	V	Pass
4	30025.994	59.65	22.21	84.0	-24.35	Peak	76.00	100	V	Pass
5**	33811.797	51.06	23.34	64.0	-12.94	AV	128.00	100	V	Pass
5	33811.797	61.89	23.34	84.0	-22.11	Peak	128.00	100	V	Pass
6**	38835.916	56.43	24.40	64.0	-7.57	AV	139.00	100	V	Pass
6	38835.916	66.39	24.40	84.0	-17.61	Peak	139.00	100	V	Pass

A.1.12 Test Antenna Horizontal, 18 GHz – 40 GHz

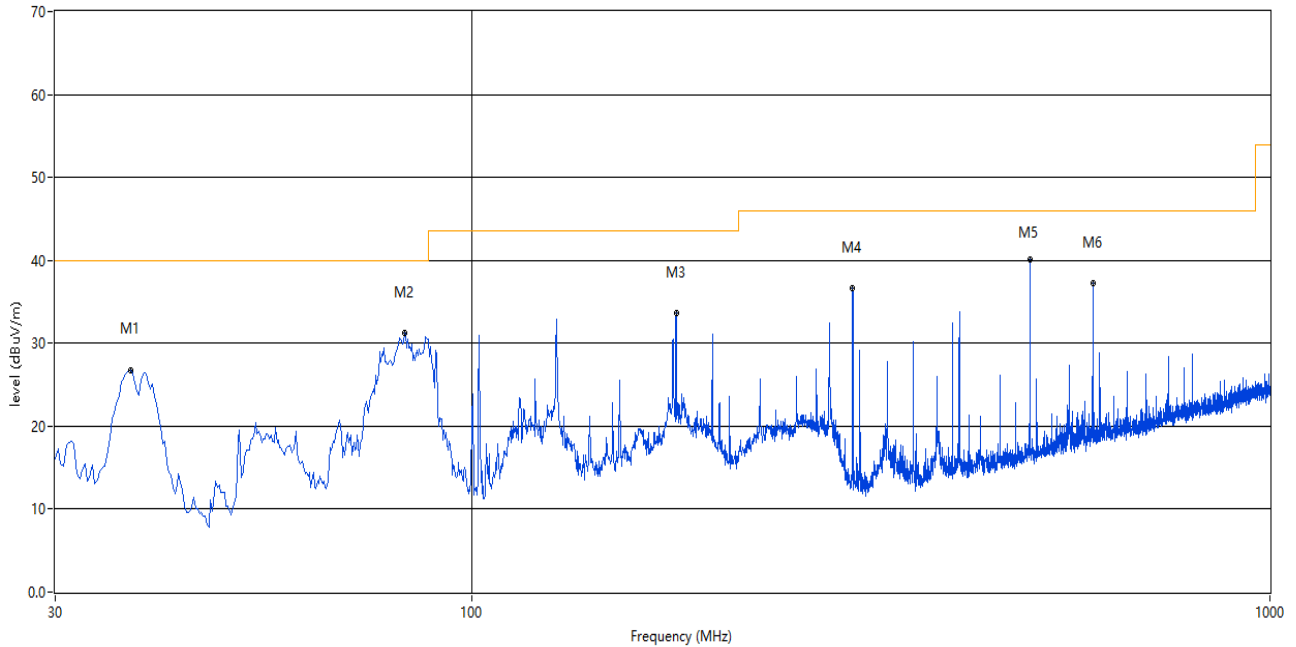


No.	Frequency (MHz)	Results (dBuH/m)	Factor (dB)	Limit (dBuH/m)	OHer Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Herdict
1**	19338.415	48.09	22.30	64.0	-15.91	AV	13.00	100	H	Pass
1	19338.415	58.40	22.30	84.0	-25.60	Peak	13.00	100	H	Pass
2**	24879.030	47.00	20.95	64.0	-17.00	AV	20.00	100	H	Pass
2	24879.030	57.88	20.95	84.0	-26.12	Peak	20.00	100	H	Pass
3**	27765.309	46.80	21.72	64.0	-17.20	AV	100.00	100	H	Pass
3	27765.309	57.21	21.72	84.0	-26.79	Peak	100.00	100	H	Pass
4**	30137.341	49.49	22.25	64.0	-14.51	AV	102.00	100	H	Pass
4	30137.341	59.94	22.25	84.0	-24.06	Peak	102.00	100	H	Pass
5**	36251.312	51.50	23.70	64.0	-12.50	AV	321.00	100	H	Pass
5	36251.312	62.99	23.70	84.0	-21.01	Peak	321.00	100	H	Pass
6**	38771.807	56.65	24.38	64.0	-7.35	AV	105.00	100	H	Pass
6	38771.807	66.53	24.38	84.0	-17.47	Peak	105.00	100	H	Pass

Test Data and Plots

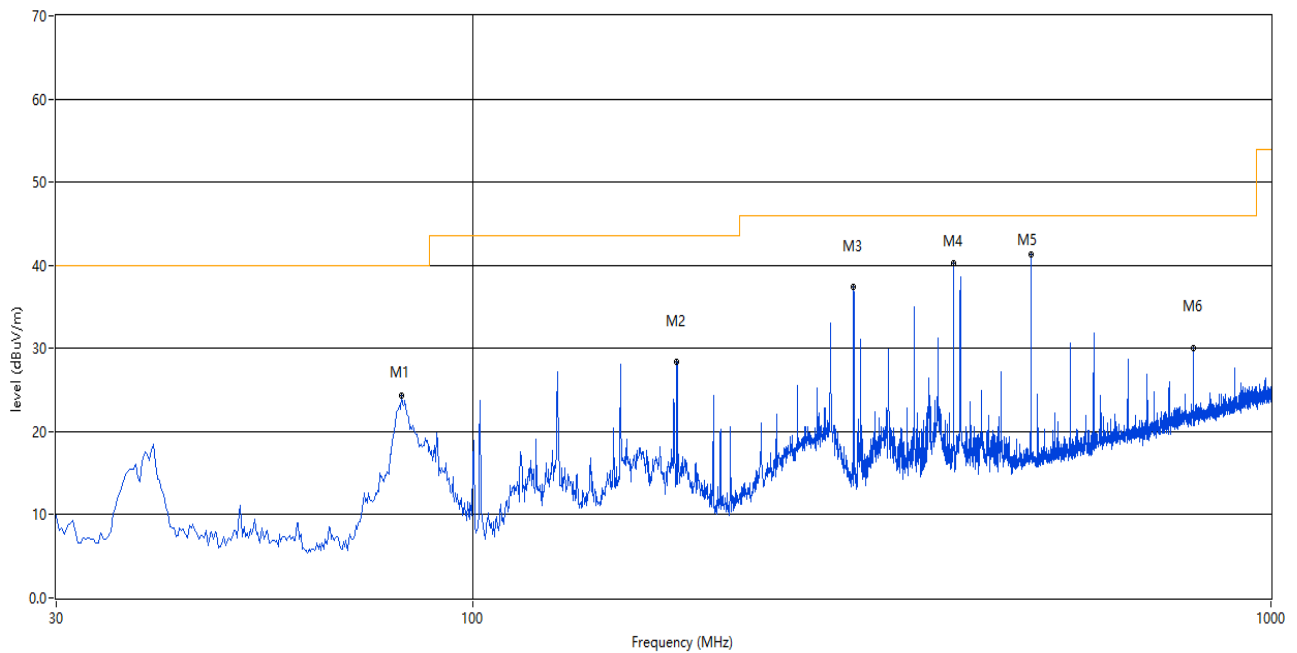
The Camera Test Mode (Configuration D)

A.1.13 Test Antenna Vertical, 30 MHz – 1 GHz



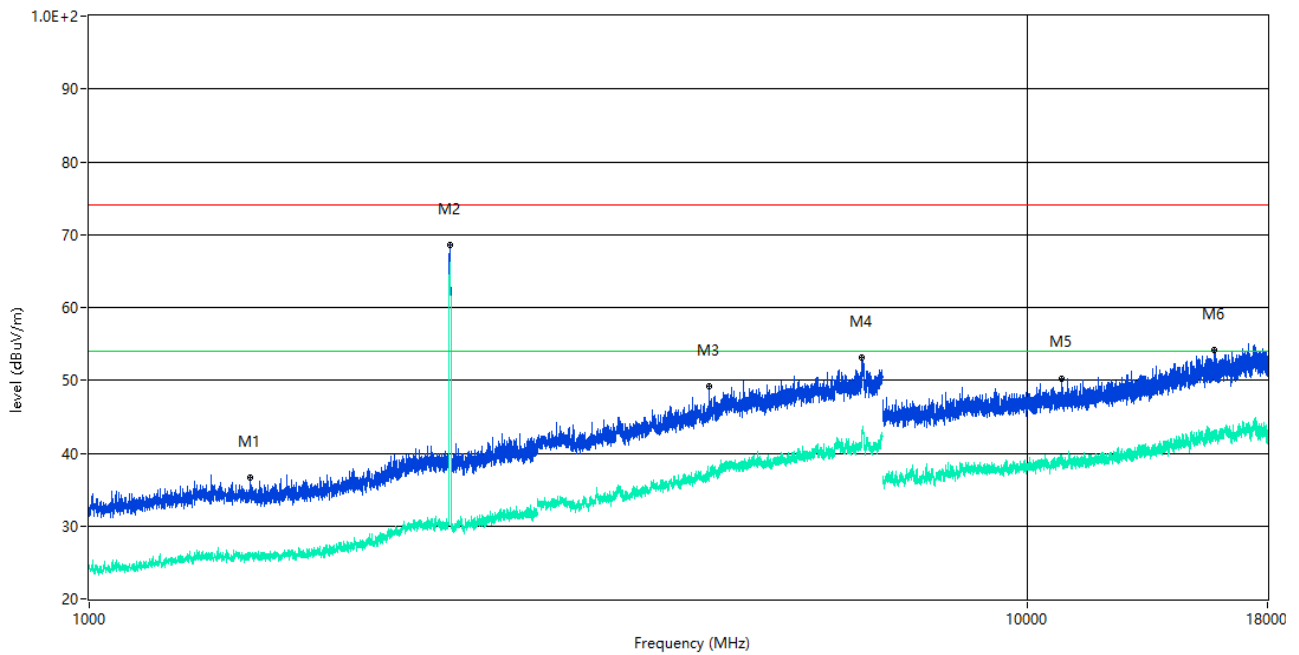
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	37.275	26.81	-26.62	40.0	-13.19	Peak	359.00	100	Vertical	Pass
2	82.380	31.26	-30.29	40.0	-8.74	Peak	254.00	100	Vertical	Pass
3	180.108	33.61	-27.08	43.5	-9.89	Peak	360.00	300	Vertical	Pass
4	299.902	36.61	-24.16	46.0	-9.39	Peak	360.00	200	Vertical	Pass
5	499.965	40.08	-18.74	46.0	-5.92	Peak	129.00	200	Vertical	Pass
6	600.118	37.28	-16.51	46.0	-8.72	Peak	348.00	100	Vertical	Pass

A.1.14 Test Antenna Horizontal, 30 MHz – 1 GHz



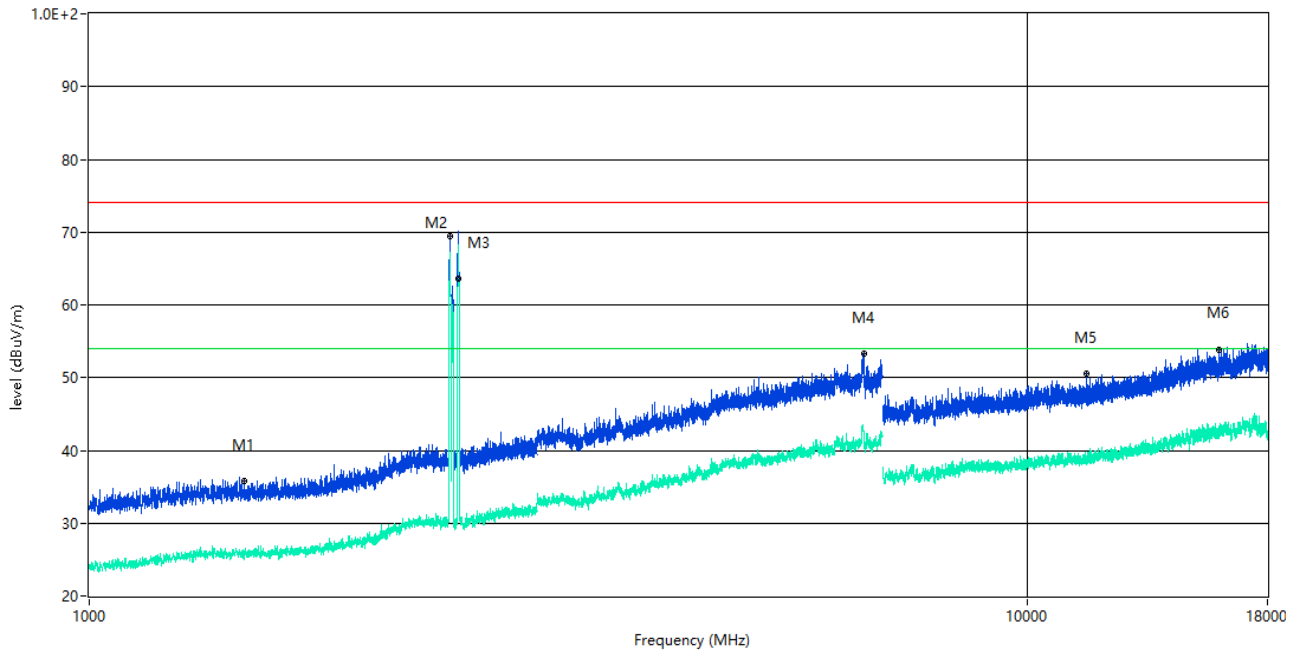
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	81.168	24.30	-30.36	40.0	-15.70	Peak	0.00	200	Horizontal	Pass
2	179.865	28.43	-27.05	43.5	-15.07	Peak	348.00	100	Horizontal	Pass
3	299.902	37.38	-24.16	46.0	-8.62	Peak	302.00	100	Horizontal	Pass
4	400.055	40.19	-21.31	46.0	-5.81	Peak	138.00	100	Horizontal	Pass
5	499.965	41.37	-18.74	46.0	-4.63	Peak	91.00	300	Horizontal	Pass
6	799.937	30.09	-12.99	46.0	-15.91	Peak	82.00	200	Horizontal	Pass

A.1.15 Test Antenna Vertical, 1 GHz – 18 GHz



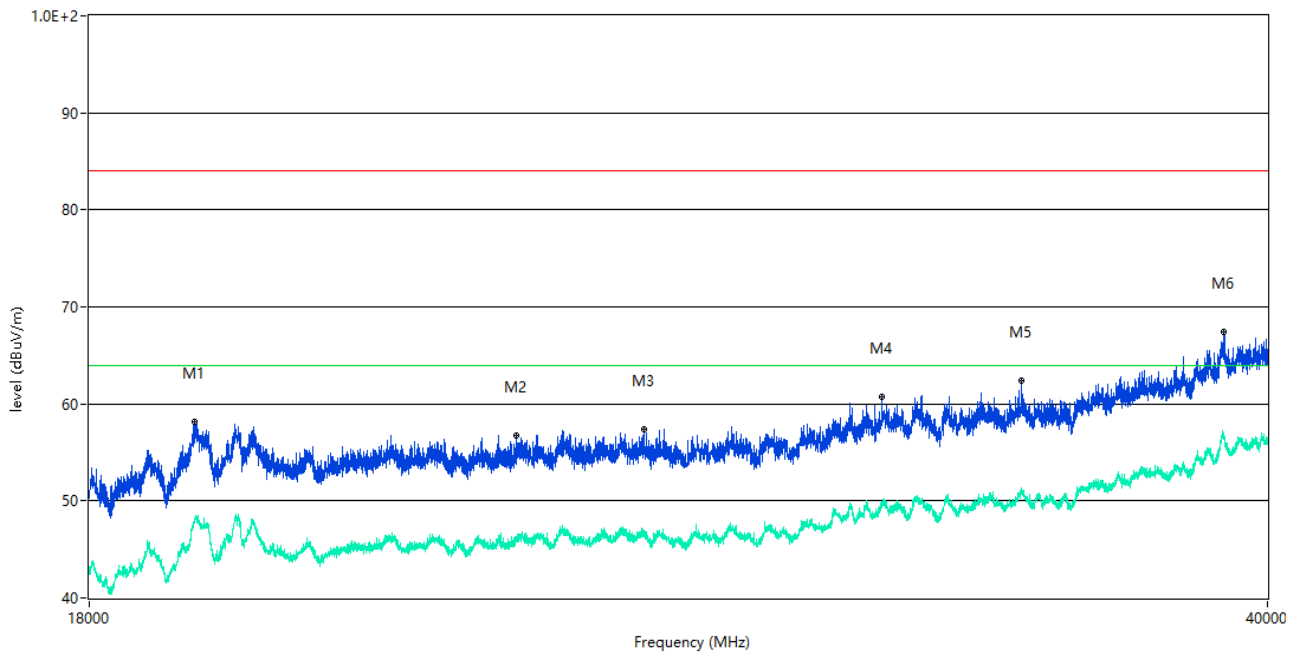
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1**	1484.000	26.17	-17.41	54.0	-27.83	AV	13.00	100	V	Pass
1	1484.000	36.67	-17.41	74.0	-37.33	Peak	13.00	100	V	Pass
2**	2421.000	65.76	-12.68	54.0	11.76	AV	116.00	100	V	N/A
2	2421.000	68.56	-12.68	74.0	-5.44	Peak	116.00	100	V	N/A
3**	4580.000	37.24	-4.48	54.0	-16.76	AV	29.00	100	V	Pass
3	4580.000	49.19	-4.48	74.0	-24.81	Peak	29.00	100	V	Pass
4**	6652.000	42.22	0.65	54.0	-11.78	AV	88.00	100	V	Pass
4	6652.000	53.08	0.65	74.0	-20.92	Peak	88.00	100	V	Pass
5**	10859.688	38.85	0.61	54.0	-15.15	AV	135.00	100	V	Pass
5	10859.688	50.28	0.61	74.0	-23.72	Peak	135.00	100	V	Pass
6**	15804.188	42.71	2.97	54.0	-11.29	AV	120.00	100	V	Pass
6	15804.188	54.12	2.97	74.0	-19.88	Peak	120.00	100	V	Pass

A.1.16 Test Antenna Horizontal, 1 GHz – 18 GHz



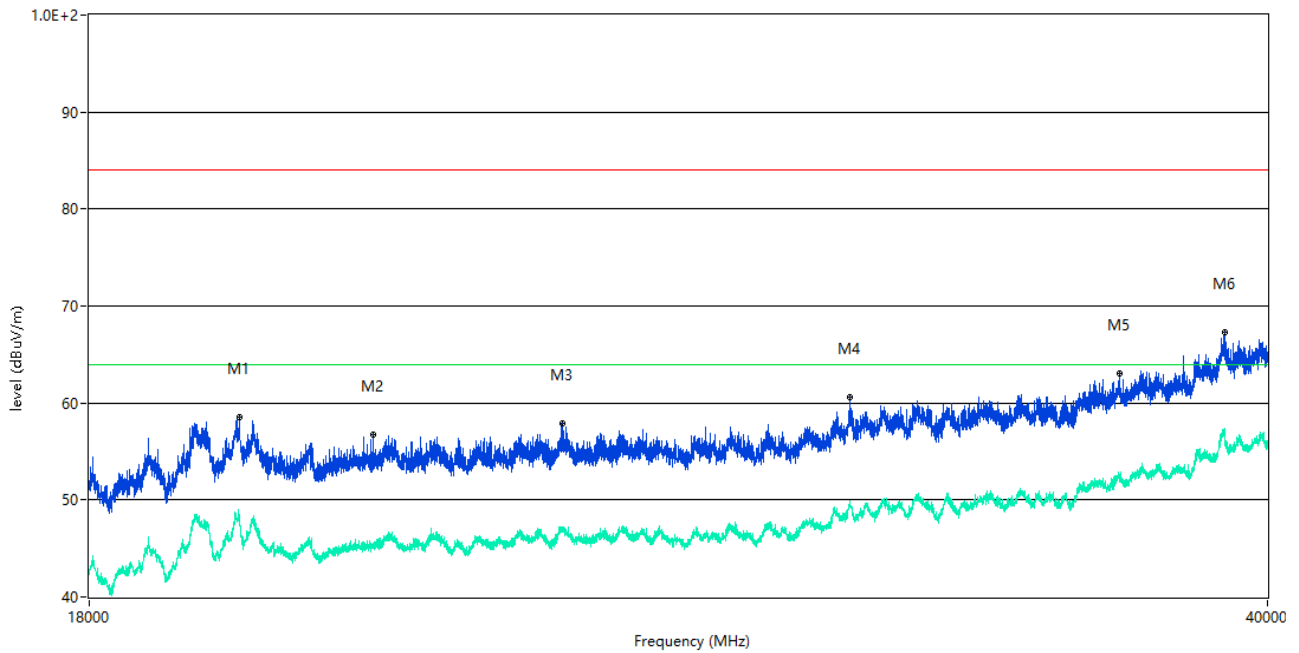
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1**	1464.000	25.93	-17.29	54.0	-28.07	AV	305.00	100	H	Pass
1	1464.000	35.84	-17.29	74.0	-38.16	Peak	305.00	100	H	Pass
2**	2423.000	66.13	-12.94	54.0	12.13	AV	38.00	100	H	N/A
2	2423.000	69.47	-12.94	74.0	-4.53	Peak	38.00	100	H	N/A
3**	2477.000	62.48	-11.83	54.0	8.48	AV	204.00	100	H	N/A
3	2477.000	63.70	-11.83	74.0	-10.30	Peak	204.00	100	H	N/A
4**	6689.000	41.29	-0.42	54.0	-12.71	AV	119.00	100	H	Pass
4	6689.000	53.36	-0.42	74.0	-20.64	Peak	119.00	100	H	Pass
5**	11562.625	38.52	-0.09	54.0	-15.48	AV	36.00	100	H	Pass
5	11562.625	50.48	-0.09	74.0	-23.52	Peak	36.00	100	H	Pass
6**	15986.625	42.96	1.32	54.0	-11.04	AV	131.00	100	H	Pass
6	15986.625	53.87	1.32	74.0	-20.13	Peak	131.00	100	H	Pass

A.1.17 Test Antenna Vertical, 18GHz – 40 GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1**	19329.918	47.68	22.36	64.0	-16.32	AV	191.00	100	V	Pass
1	19329.918	58.13	22.36	84.0	-25.87	Peak	191.00	100	V	Pass
2**	24041.990	46.07	20.84	64.0	-17.93	AV	135.00	100	V	Pass
2	24041.990	56.74	20.84	84.0	-27.26	Peak	153.00	100	V	Pass
3**	26215.321	46.70	21.14	64.0	-17.30	AV	212.00	100	V	Pass
3	26215.321	57.36	21.14	84.0	-26.64	Peak	212.00	100	V	Pass
4**	30798.675	49.53	22.47	64.0	-14.47	AV	353.00	100	V	Pass
4	30798.675	60.72	22.47	84.0	-23.28	Peak	353.00	100	V	Pass
5**	33855.661	51.35	23.31	64.0	-12.65	AV	210.00	100	V	Pass
5	33855.661	62.43	23.31	84.0	-21.57	Peak	210.00	100	V	Pass
6**	38815.671	56.77	24.39	64.0	-7.23	AV	190.00	100	V	Pass
6	38815.671	67.48	24.39	84.0	-16.52	Peak	190.00	100	V	Pass

A.1.18 Test Antenna Horizontal, 18GHz – 40 GHz



No.	Frequency (MHz)	Results (dBuH/m)	Factor (dB)	Limit (dBuH/m)	OHer Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Herdict
1**	19929.018	48.08	22.40	64.0	-15.92	AV	10.00	100	H	Pass
1	19929.018	58.58	22.40	84.0	-25.42	Peak	10.00	100	H	Pass
2**	21821.920	45.12	21.23	64.0	-18.88	AV	40.00	100	H	Pass
2	21821.920	56.75	21.23	84.0	-27.25	Peak	40.00	100	H	Pass
3**	24798.300	46.96	20.94	64.0	-17.04	AV	81.00	100	H	Pass
3	24798.300	57.88	20.94	84.0	-26.12	Peak	81.00	100	H	Pass
4**	30133.967	49.45	22.25	64.0	-14.55	AV	72.00	100	H	Pass
4	30133.967	60.62	22.25	84.0	-23.38	Peak	72.00	100	H	Pass
5**	36173.707	52.63	23.69	64.0	-11.37	AV	114.00	100	H	Pass
5	36173.707	63.10	23.69	84.0	-20.90	Peak	114.00	100	H	Pass
6**	38856.161	56.20	24.41	64.0	-7.80	AV	112.00	100	H	Pass
6	38856.161	67.34	24.41	84.0	-16.66	Peak	112.00	100	H	Pass

A.2 Conducted Emission

Note: Conducted Emission result reference from original test report: BL-SZ1730089-401 (issued by Shenzhen BALUN Technology Co., Ltd. On Oct. 17, 2016) A.2 Conducted Emission.

ANNEX B TEST SETUP PHOTOS

This report only test Radiated Emission, the test setup please refer the document “BL-SZ1870290-AE.PDF”.
Other test setup photos please refer to the report No. is BL-SZ1730089-401, which was issued by Shenzhen BALUN Technology Co., Ltd. on Oct. 17, 2016. ANNEX B TEST SETUP PHOTOS.

ANNEX C EUT EXTERNAL PHOTOS

Please refer the document “BL-SZ1870290-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer the document “BL-SZ1870290-AI.PDF”.

--END OF REPORT--