

FCC

EMC

TEST REPORT

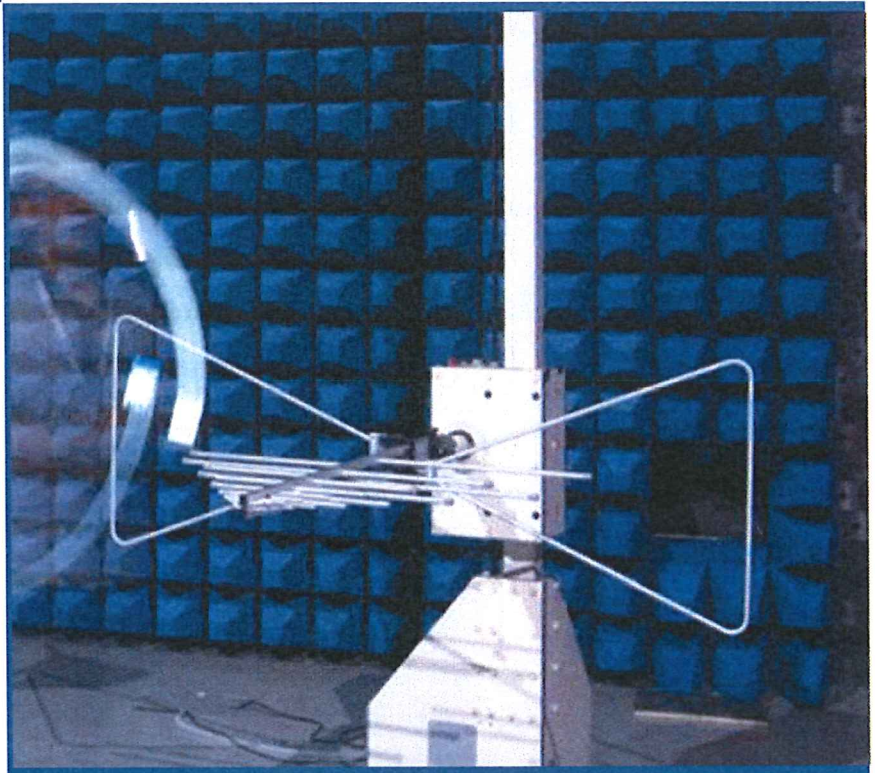
ISSUED BY  
Shenzhen BALUN Technology Co., Ltd.



FOR  
**Mobile Phone**

ISSUED TO  
vivo Mobile Communication Co., Ltd.

#283, BBK Road, Wusha, Chang'An, DongGuan City, China



Tested by: Liu Zhenxiang

Liu Zhenxiang

Date: DEC. 25, 2020



Approved by: Wei Yanquan

Wei Yanquan  
(Chief Engineer)

Date: Dec. 25, 2020

Report No.: BL-SZ20B0750-401

EUT Name: Mobile Phone

Model Name: V2035

Brand Name: vivo

Test Standard: 47 CFR Part 15 Subpart B

FCC ID: 2AUCY-V2035

Test Conclusion: Pass

Test Date: Dec. 01, 2020 ~ Dec. 07, 2020

Date of Issue: Dec. 25, 2020

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**Revision History**

<u>Version</u>	<u>Issue Date</u>	<u>Revisions Content</u>
<u>Rev. 01</u>	<u>Dec. 25, 2020</u>	<u>Initial Issue</u>

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# 1 GENERAL INFORMATION

## 1.1 Identification of the Testing Laboratory

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

## 1.2 Identification of the Responsible Testing Location

Test Location	Shenzhen BALUN Technology Co.,Ltd.
Address	Block B, 1st FL, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
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.
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 v6.9.
- (2) The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.
- (3) The test report is invalid if there is any evidence and/or falsification.
- (4) The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein.
- (5) This document may not be altered or revised in any way unless done so by BALUN and all revisions are duly noted in the revisions section.
- (6) Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.
- (7) The laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant.

## 2 PRODUCT INFORMATION

### 2.1 Applicant Information

Applicant	vivo Mobile Communication Co., Ltd.
Address	#283, BBK Road, Wusha, Chang'An, DongGuan City, China

### 2.2 Manufacturer Information

Manufacturer	vivo Mobile Communication Co., Ltd.
Address	#283, BBK Road, Wusha, Chang'An, DongGuan City, China

### 2.3 Factory Information

Factory	vivo Mobile Communication Co., Ltd.
Address	#283, BBK Road, Wusha, Chang'An, DongGuan City, China

### 2.4 General Description for Equipment under Test (EUT)

EUT Name	Mobile Phone
Model Name Under Test	V2035
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	MP_0.1
Software Version	N/A
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

## 2.5 Ancillary Equipment

Ancillary Equipment 1	Battery	
	Brand Name	vivo
	Model No.	B-O8
	Serial No.	N/A
	Capacity	Rated Capacity: 4910mAh/19.00Wh Typical Capacity: 5000mAh/19.35Wh
	Rated Voltage	3.87 V
	Limit Charge Voltage	4.45 V
Ancillary Equipment 2	Adapter 1	
	Brand Name	vivo
	Model No.	V1820B-US
	Serial No.	N/A
	Rated Input	100-240 V~, 0.5 A, 50/60 Hz
	Rated Output	5 V $\overline{=}$ 2 A or 9 V $\overline{=}$ 2 A
Ancillary Equipment 3	Adapter 2	
	Brand Name	vivo
	Model No.	V1820C-EU
	Serial No.	N/A
	Rated Input	100-240 V~, 0.5 A, 50/60 Hz
	Rated Output	5 V $\overline{=}$ 2 A or 9 V $\overline{=}$ 2 A
Ancillary Equipment 4	USB Cable	
	Model No.	N/A
	Length (Approx.)	1.0 m
Ancillary Equipment 5	Headset	
	Model No.	N/A
	Length (Approx.)	1.2 m
Note 1: Letter in ( ) means plug type.		
Note 2: All adapters are tested, only the worst data of V1820B-US(Aohai) shown in this report.		



## 2.6 Technical Information

Network and Wireless connectivity	2G Network GSM 850/1900 MHz 3G Network CDMA 1x Band Class 0 EVDO Rel. 0/Rev. A Band Class 0 WCDMA/HSDPA/HSUPA Band 2/4/5 4G Network FDD LTE Band 2/4/5/7 TDD LTE Band 38/41 Bluetooth (BR+EDR+BLE) 2.4G WIFI 802.11b, 802.11g, 802.11n(HT20) 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, FM Receiver
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The requirement for the following technical information of the EUT was tested in this report:

The Highest Speed of Processor	2.0 GHz
About the Product	The equipment is smart phone, intended for used with information technology equipment.

### 3 SUMMARY OF TEST RESULTS

#### 3.1 Test Standards

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

#### 3.2 Verdict

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

#### 3.3 Test Uncertainty

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Measurement	Value
Conducted emissions (9 kHz-30 MHz)	2.96 dB
Radiated emissions (30 MHz-1 GHz)	3.67 dB
Radiated emissions (1 GHz-18 GHz)	3.57 dB
Radiated emissions (18 GHz-40 GHz)	5.16 dB



## 4 GENERAL TEST CONFIGURATIONS

### 4.1 Test Environments

Environment Parameter	Selected Values During Tests			
	Temperature	Voltage	Relative Humidity	Ambient Pressure
Normal Temperature, Normal Voltage (NTNV)	23°C to 25°C	AC 120 V/60 Hz or DC 3.87 V from Battery	50% to 55%	100 kPa to 102 kPa

### 4.2 Test Equipment List

Radiated Emission Test For Frequency Below 1 GHz (10 m)						
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	ROHDE&SCHWARZ	ESRP	101036	2020.06.09	2021.06.08	<input type="checkbox"/>
Test Antenna-Bi-Log	SCHWARZBECK	VULB 9168	9168-0883	2020.05.11	2022.05.10	<input type="checkbox"/>
Anechoic Chamber	EMC Electronic Co., Ltd	20.10*11.60*7.35m	N/A	2018.08.08	2021.08.07	<input type="checkbox"/>
Test Software	BALUN	BL410_E	V19.918	--	--	<input type="checkbox"/>

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

Radiated Emission Test For Frequency Above 1 GHz						
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	KEYSIGHT	N9038A	MY53220118	2020.09.18	2021.09.17	<input checked="" type="checkbox"/>
Test Antenna-Horn	SCHWARZBECK	BBHA 9120D	9120D-1917	2019.07.02	2021.07.01	<input checked="" type="checkbox"/>
Anechoic Chamber	YIHENG	9m*6m*6m	N/A	2018.07.18	2021.07.17	<input checked="" type="checkbox"/>
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	MY5711030 9	2020.06.08	2021.06.07	<input checked="" type="checkbox"/>
LISN	SCHWARZBECK	NSLK 8127	8127-687	2020.06.09	2021.06.08	<input checked="" type="checkbox"/>
Shielded Enclosure	YiHeng Electronic Co., Ltd	3.4m*3.1m*2 .8m	N/A	2018.08.16	2021.08.15	<input checked="" type="checkbox"/>
Test Software	BALUN	BL410_E	V19.918	--	--	<input checked="" type="checkbox"/>

### 4.3 Test Enclosure list

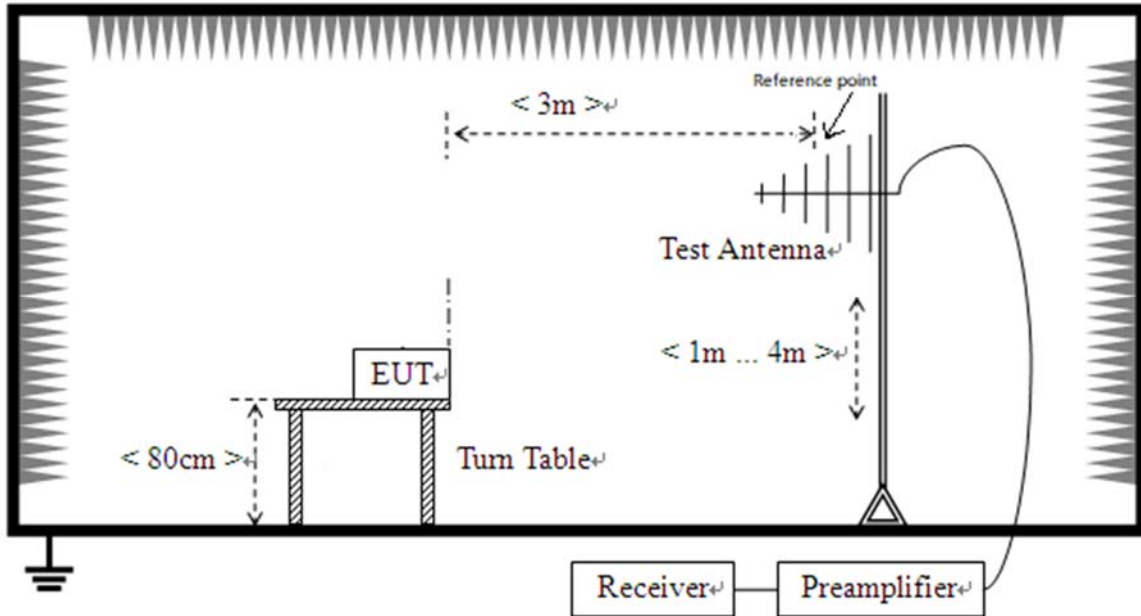
Description	Manufacturer	Model	Serial No.	Length	Description	Use
PC	Dell	015K3N	N/A	N/A	Special Handled	<input type="checkbox"/>
Laptop	Apple	A1465	N/A	N/A	N/A	<input checked="" type="checkbox"/>
Printer	HP	DESKJET 1000	N/A	N/A	N/A	<input type="checkbox"/>
Keyboard	Logitech	Y-BP62a	N/A	N/A	N/A	<input type="checkbox"/>
Mouse	Logitech	M100	N/A	N/A	N/A	<input type="checkbox"/>
USB disk	Kingston	N/A	N/A	N/A	N/A	<input type="checkbox"/>
TF Card	Kingston	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>
VGA Cable	N/A	N/A	N/A	1.5 m	Shielded with core	<input type="checkbox"/>
HDMI Cable	N/A	N/A	N/A	1.5 m	Shielded with core	<input type="checkbox"/>
DVI Cable	N/A	N/A	N/A	1.5 m	Shielded with core	<input type="checkbox"/>
Coaxial video cable	N/A	N/A	N/A	2.0 m	Shielded with core	<input type="checkbox"/>
iPhone	Apple	A1586	N/A	N/A	N/A	<input type="checkbox"/>
Phone	MI	M4	N/A	N/A	N/A	<input type="checkbox"/>
Bluetooth Earphone	SAMSUNG	Gear Circle	N/A	N/A	N/A	<input type="checkbox"/>
Wireless Communications Test Set	R&S	CMW500	142028	N/A	Cal. Due 2019.06.14	<input type="checkbox"/>
WIFI Router	TP-LINK	TL-WDR7500	N/A	N/A	N/A	<input type="checkbox"/>
Earphone	N/A	OPPO	N/A	1.1 m	N/A	<input type="checkbox"/>
Car Battery	Camel	55530	N/A	N/A	12 V/55 Ah	<input type="checkbox"/>
Artificial load	N/A	N/A	N/A	N/A	2.5 Ω/100 W	<input type="checkbox"/>
Artificial load	N/A	N/A	N/A	N/A	5 Ω/100 W	<input type="checkbox"/>
Electronic Load	ITECH	IT8511	N/A	N/A	N/A	<input type="checkbox"/>
USB Cable	N/A	N/A	N/A	1.5 m	Shielded with core	<input type="checkbox"/>
DC Power Supply	ITECH	IT6863A	60001401068 7210006	N/A	N/A	<input type="checkbox"/>
LCD Monitor	SAMSUNG	UA32C4000P	N/A	N/A	N/A	<input type="checkbox"/>
LCD Monitor	Dell	U241HB	N/A	N/A	N/A	<input type="checkbox"/>
RJ45 Cable	N/A	N/A	N/A	1.5 m	Shielded with core	<input type="checkbox"/>

## 4.4 Test Configurations

Test Configurations (TC) No.	Description
TC01	<u>The Camera Test Mode</u> EUT + Adapter + USB Cable + Battery + Earphone + TF Card
TC02	<u>The Video Play Test Mode</u> EUT + Adapter + USB Cable + Battery + Earphone + TF Card
TC03	<u>The USB Test Mode</u> EUT + USB Cable + Battery + Earphone + Laptop+ TF Card

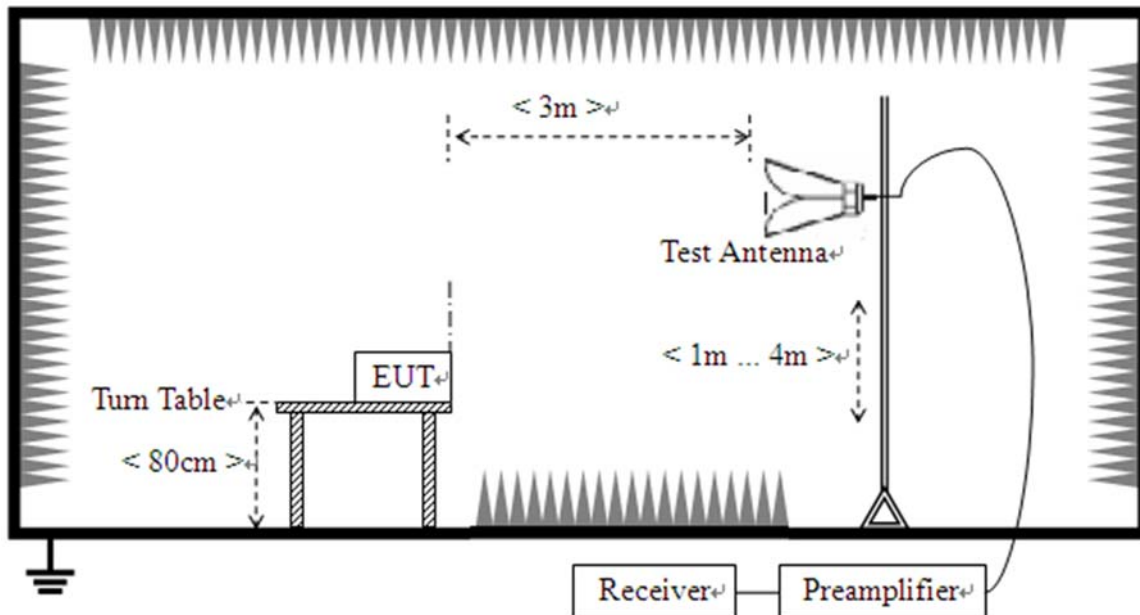
## 4.5 Test Setups

### Test Setup 1



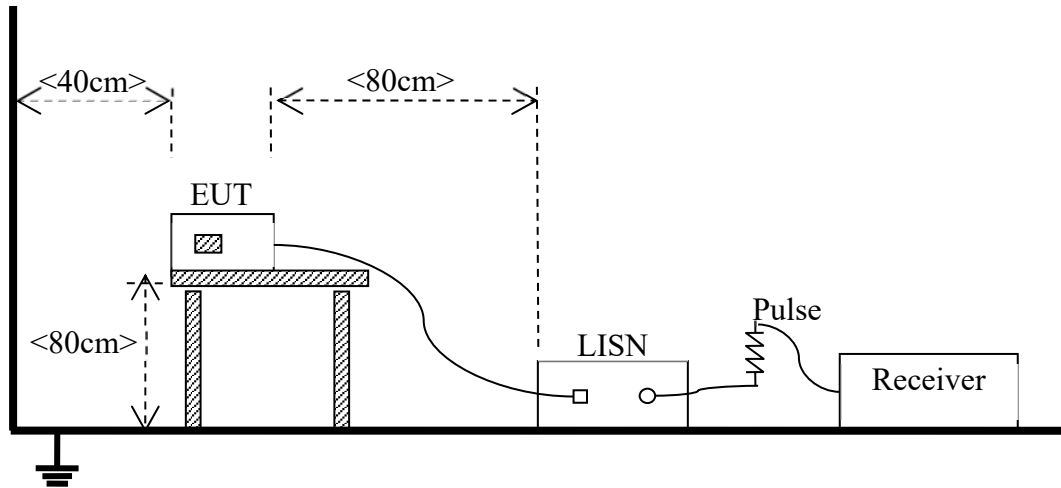
(For Radiated Emission Test (30 MHz-1 GHz))

### 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~TC03 <sup>Note</sup>
Conducted Emission, AC Ports	Test Env.	NTNV
	Test Setup	Test Setup 3
	Test Configuration	TC01~TC03 <sup>Note</sup>

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.

##### 5.1.1.4 Test Result

Please refer to ANNEX A.1.

NOTE:

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

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

2. Factor ( $\text{dB/m}$ ) = Antenna Factor ( $\text{dB/m}$ ) + Cable Factor ( $\text{dB}$ ) – Amplifier Gain ( $\text{dB}$ )

3. Over limit = Results – Limit.

## 5.1.2 Conducted Emission

### 5.1.2.1 Test Limit

Frequency range (MHz)	Class A	
	Quasi-peak (dB $\mu$ V)	Average (dB $\mu$ V)
0.15 - 0.50	79	66
0.50 - 30	73	60

Frequency range (MHz)	Class B	
	Quasi-peak (dB $\mu$ V)	Average (dB $\mu$ 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  $\Omega$ /50  $\mu$ 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.

### 5.1.2.4 Test Result

Please refer to ANNEX A.2.

**NOTE:**

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

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

$$2. \text{ Factor} = \text{Insertion loss} + \text{Cable loss}$$

$$3. \text{ Over limit} = \text{Results} - \text{Limit.}$$

## ANNEX A TEST RESULTS

### A.1 Radiated Emission

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

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

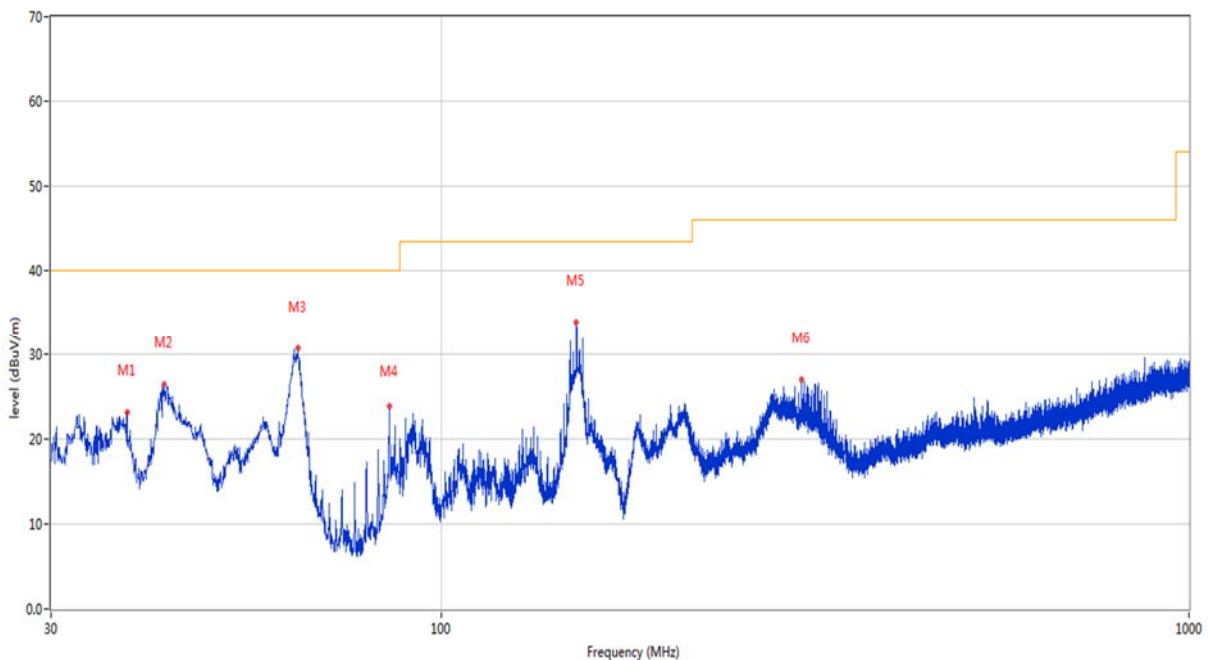
Note 3: The Radiated Emission from 18G-40G is noise only, do not show on the report.

Note 4: 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

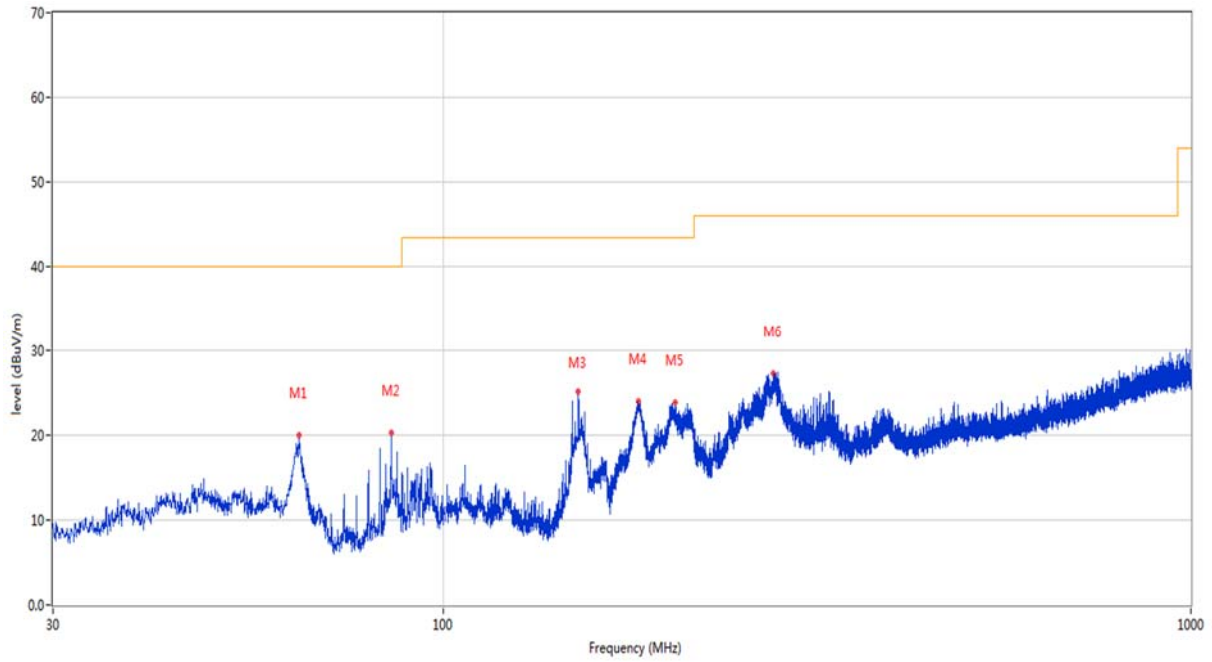
#### The Camera Test Mode

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



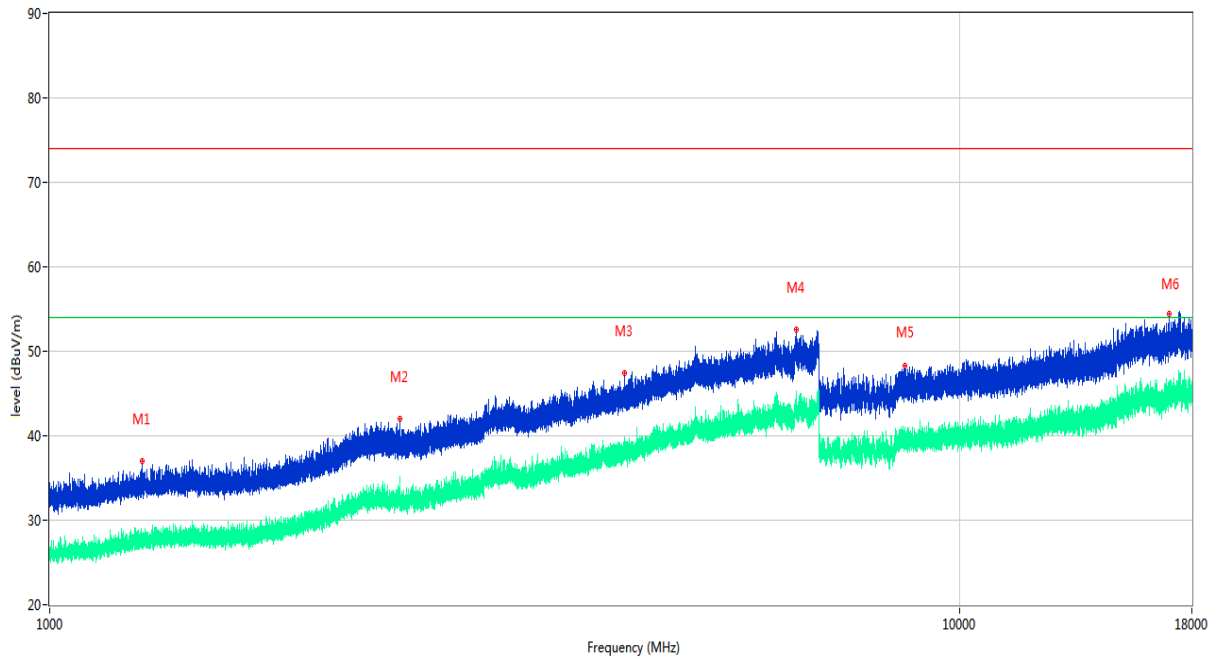
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	37.906	23.10	-24.50	40.0	-16.90	Peak	360.00	200	Vertical	Pass
2	42.513	26.38	-23.42	40.0	-13.62	Peak	345.60	100	Vertical	Pass
3	64.192	30.77	-24.96	40.0	-9.23	Peak	103.80	100	Vertical	Pass
4	85.145	23.89	-27.48	40.0	-16.11	Peak	277.40	100	Vertical	Pass
5	151.492	33.84	-28.06	43.5	-9.66	Peak	285.50	100	Vertical	Pass
6	303.006	27.05	-21.23	46.0	-18.95	Peak	359.80	100	Vertical	Pass

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



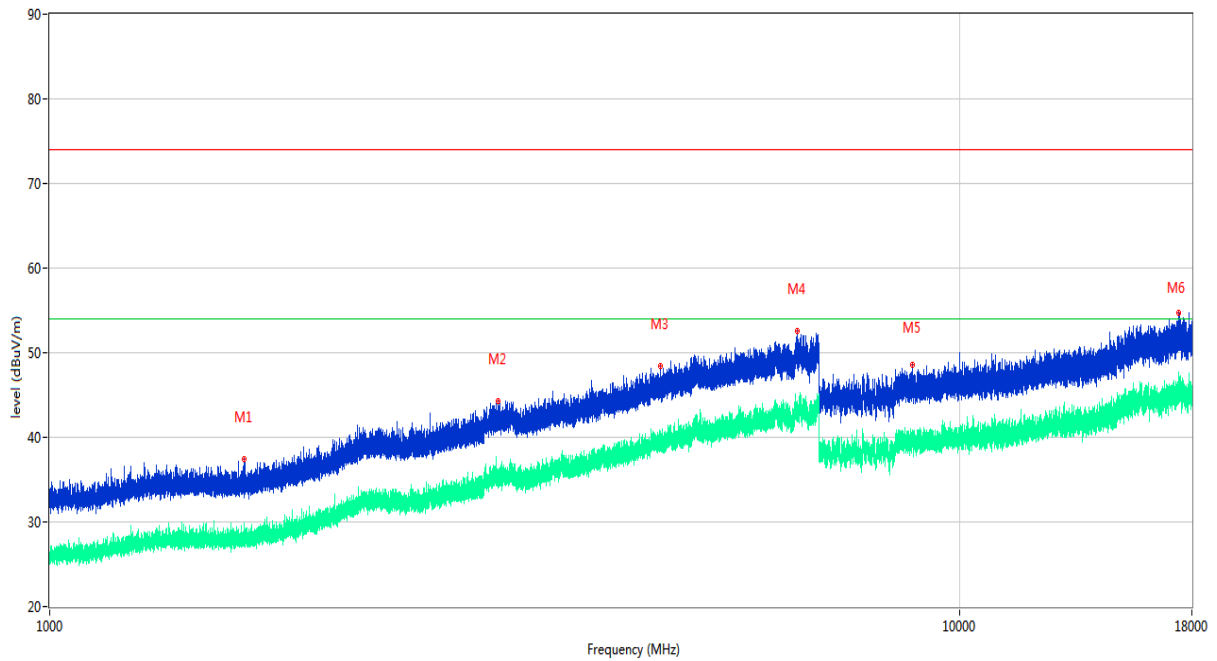
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	63.950	19.99	-24.92	40.0	-20.01	Peak	0.50	200	Horizontal	Pass
2	85.096	20.30	-27.49	40.0	-19.70	Peak	309.60	200	Horizontal	Pass
3	151.444	25.13	-28.08	43.5	-18.37	Peak	266.50	200	Horizontal	Pass
4	181.999	23.93	-25.60	43.5	-19.57	Peak	90.40	200	Horizontal	Pass
5	203.970	23.82	-23.74	43.5	-19.68	Peak	96.60	100	Horizontal	Pass
6	276.429	27.22	-21.99	46.0	-18.78	Peak	258.20	100	Horizontal	Pass

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



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1263.000	37.07	-17.56	74.0	-36.93	Peak	197.00	150	Vertical	Pass
1**	1263.000	27.74	-17.56	54.0	-26.26	AV	197.00	150	Vertical	Pass
2	2426.600	41.96	-12.82	74.0	-32.04	Peak	316.00	150	Vertical	Pass
2**	2426.600	31.24	-12.82	54.0	-22.76	AV	316.00	150	Vertical	Pass
3	4278.400	47.39	-4.54	74.0	-26.61	Peak	81.00	150	Vertical	Pass
3**	4278.400	37.59	-4.54	54.0	-16.41	AV	81.00	150	Vertical	Pass
4	6612.600	52.62	0.19	74.0	-21.38	Peak	191.00	150	Vertical	Pass
4**	6612.600	43.59	0.19	54.0	-10.41	AV	191.00	150	Vertical	Pass
5	8713.787	48.24	-1.85	74.0	-25.76	Peak	84.00	150	Vertical	Pass
5**	8713.787	39.73	-1.85	54.0	-14.27	AV	84.00	150	Vertical	Pass
6	17004.338	54.50	1.75	74.0	-19.50	Peak	196.00	150	Vertical	Pass
6**	17004.338	44.97	1.75	54.0	-9.03	AV	196.00	150	Vertical	Pass

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

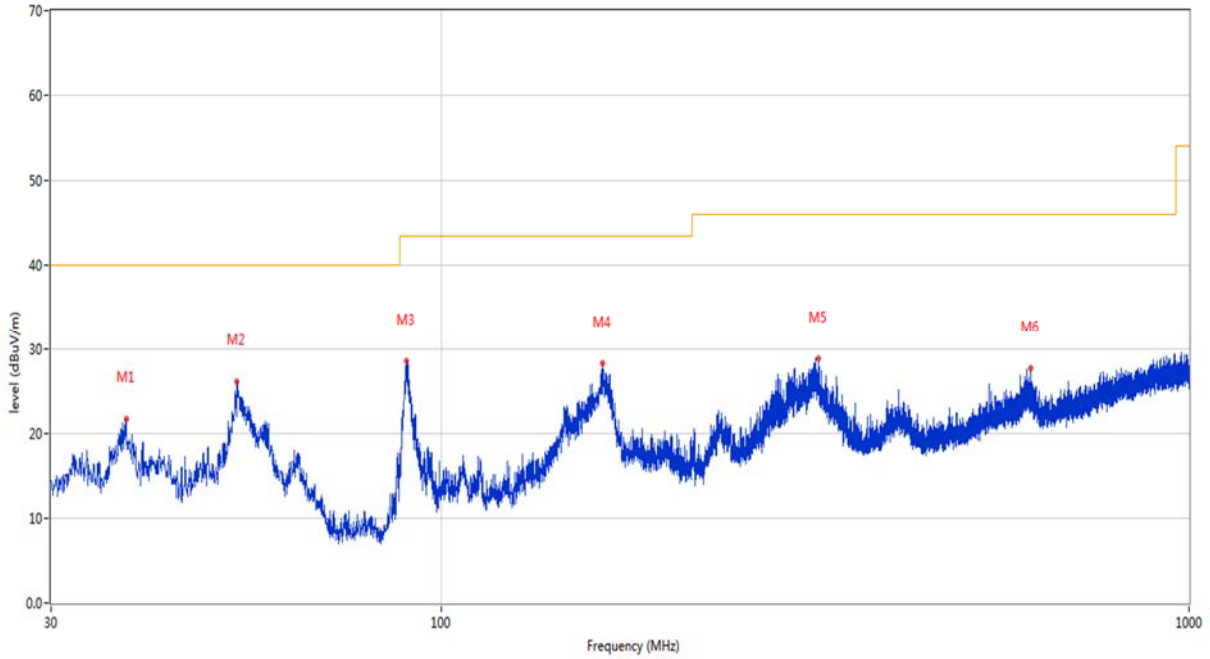


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1636.500	37.36	-17.60	74.0	-36.64	Peak	348.00	150	Horizontal	Pass
1**	1636.500	27.97	-17.60	54.0	-26.03	AV	348.00	150	Horizontal	Pass
2	3109.000	44.34	-8.22	74.0	-29.66	Peak	205.00	150	Horizontal	Pass
2**	3109.000	34.66	-8.22	54.0	-19.34	AV	205.00	150	Horizontal	Pass
3	4689.400	48.40	-3.66	74.0	-25.60	Peak	132.00	150	Horizontal	Pass
3**	4689.400	39.05	-3.66	54.0	-14.95	AV	132.00	150	Horizontal	Pass
4	6629.600	52.54	-0.29	74.0	-21.46	Peak	58.00	150	Horizontal	Pass
4**	6629.600	43.06	-0.29	54.0	-10.94	AV	58.00	150	Horizontal	Pass
5	8868.463	48.63	-0.81	74.0	-25.37	Peak	310.00	150	Horizontal	Pass
5**	8868.463	40.06	-0.81	54.0	-13.94	AV	310.00	150	Horizontal	Pass
6	17417.251	54.69	3.69	74.0	-19.31	Peak	177.00	150	Horizontal	Pass
6**	17417.251	45.63	3.69	54.0	-8.37	AV	177.00	150	Horizontal	Pass

Test Data and Plots

The USB Test Mode

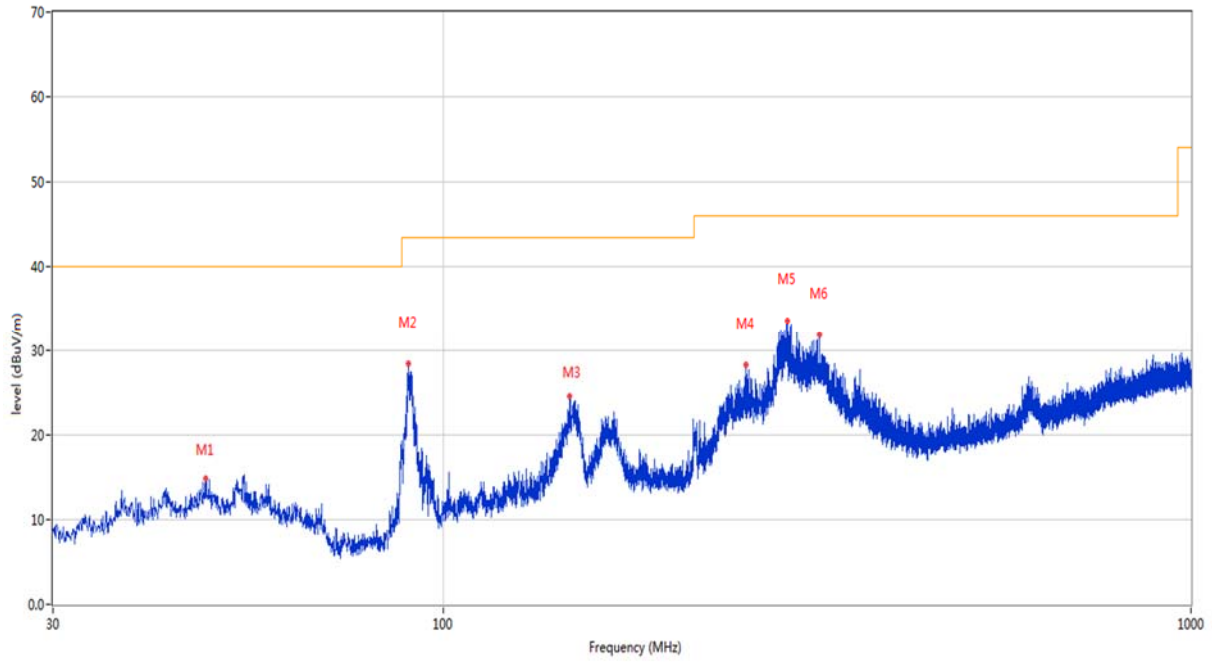
A.1.5 Test Antenna Vertical, 30 MHz – 1 GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	37.809	21.67	-24.52	40.0	-18.33	Peak	211.30	100	Vertical	Pass
2	53.183	26.21	-22.97	40.0	-13.79	Peak	40.40	100	Vertical	Pass
3	89.800	28.56	-26.19	43.5	-14.94	Peak	274.10	200	Vertical	Pass
4	164.345	28.22	-26.81	43.5	-15.28	Peak	339.10	100	Vertical	Pass
5	319.400	28.81	-21.23	46.0	-17.19	Peak	360.00	200	Vertical	Pass
6	613.261	27.77	-14.39	46.0	-18.23	Peak	279.80	100	Vertical	Pass



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



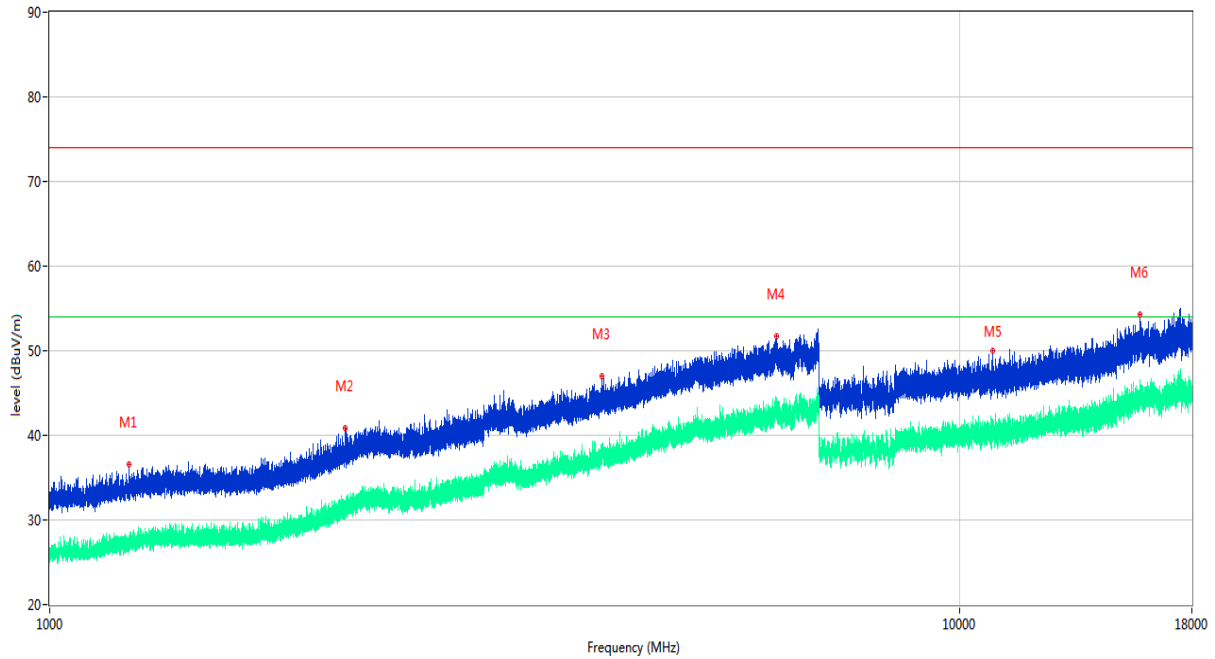
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	48.090	14.79	-22.62	40.0	-25.21	Peak	359.00	100	Horizontal	Pass
2	89.655	28.39	-26.23	43.5	-15.11	Peak	22.90	200	Horizontal	Pass
3	147.612	24.58	-27.81	43.5	-18.92	Peak	359.50	200	Horizontal	Pass
4	253.440	28.28	-22.71	46.0	-17.72	Peak	134.30	100	Horizontal	Pass
5	288.263	33.52	-21.97	46.0	-12.48	Peak	134.30	100	Horizontal	Pass
6	317.944	31.84	-21.08	46.0	-14.16	Peak	101.30	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	1421.500	36.39	-17.40	74.0	-37.61	Peak	260.00	150	Vertical	Pass
1**	1421.500	28.32	-17.40	54.0	-25.68	AV	260.00	150	Vertical	Pass
2	2276.600	41.45	-12.96	74.0	-32.55	Peak	27.00	150	Vertical	Pass
2**	2276.600	32.21	-12.96	54.0	-21.79	AV	27.00	150	Vertical	Pass
3	3958.200	46.84	-4.63	74.0	-27.16	Peak	316.00	150	Vertical	Pass
3**	3958.200	37.09	-4.63	54.0	-16.91	AV	316.00	150	Vertical	Pass
4	6615.400	52.02	0.15	74.0	-21.98	Peak	119.00	150	Vertical	Pass
4**	6615.400	43.00	0.15	54.0	-11.00	AV	119.00	150	Vertical	Pass
5	8587.863	48.42	-2.10	74.0	-25.58	Peak	133.00	150	Vertical	Pass
5**	8587.863	40.39	-2.10	54.0	-13.61	AV	133.00	150	Vertical	Pass
6	17473.950	54.93	2.84	74.0	-19.07	Peak	222.00	150	Vertical	Pass
6**	17473.950	45.56	2.84	54.0	-8.44	AV	222.00	150	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	1222.400	36.60	-17.81	74.0	-37.40	Peak	34.00	150	Horizontal	Pass
1**	1222.400	28.20	-17.81	54.0	-25.80	AV	34.00	150	Horizontal	Pass
2	2111.800	40.87	-14.25	74.0	-33.13	Peak	129.00	150	Horizontal	Pass
2**	2111.800	31.30	-14.25	54.0	-22.70	AV	129.00	150	Horizontal	Pass
3	4041.400	46.93	-4.84	74.0	-27.07	Peak	82.00	150	Horizontal	Pass
3**	4041.400	37.91	-4.84	54.0	-16.09	AV	82.00	150	Horizontal	Pass
4	6296.400	51.75	-0.55	74.0	-22.25	Peak	107.00	150	Horizontal	Pass
4**	6296.400	42.01	-0.55	54.0	-11.99	AV	107.00	150	Horizontal	Pass
5	10862.276	49.94	-0.09	74.0	-24.06	Peak	151.00	150	Horizontal	Pass
5**	10862.276	40.43	-0.09	54.0	-13.57	AV	151.00	150	Horizontal	Pass
6	15793.162	54.31	2.11	74.0	-19.69	Peak	16.00	150	Horizontal	Pass
6**	15793.162	45.49	2.11	54.0	-8.51	AV	16.00	150	Horizontal	Pass

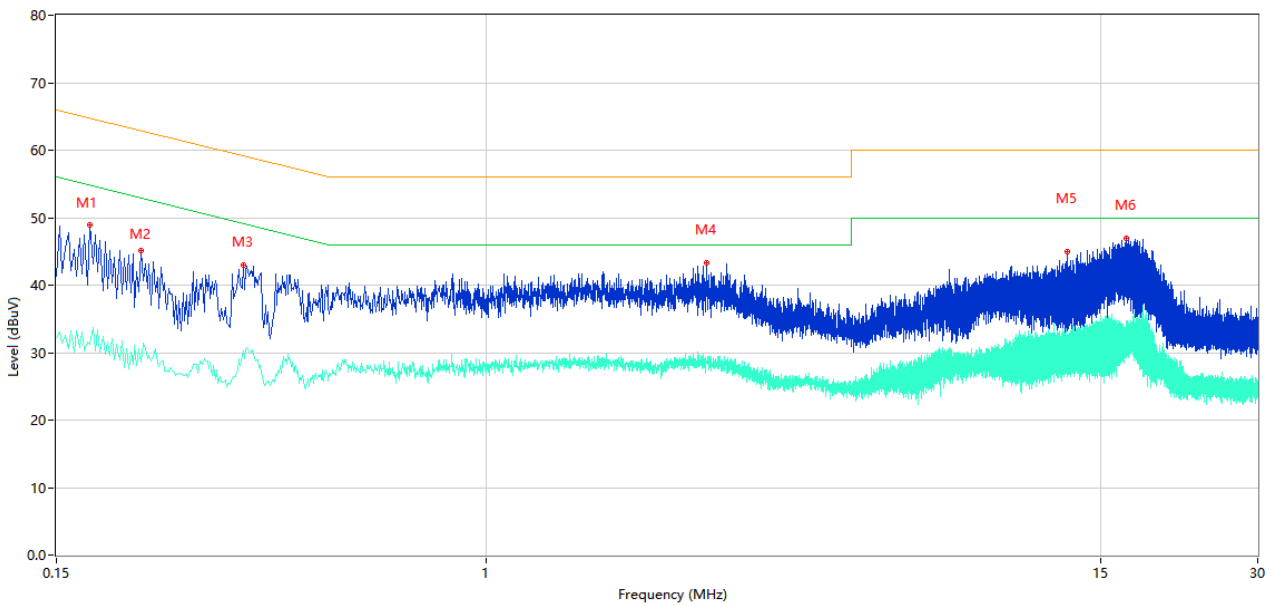
## A.2 Conducted Emission

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 (230 VAC, 50 Hz ) shown here.

### Test Data and Plots

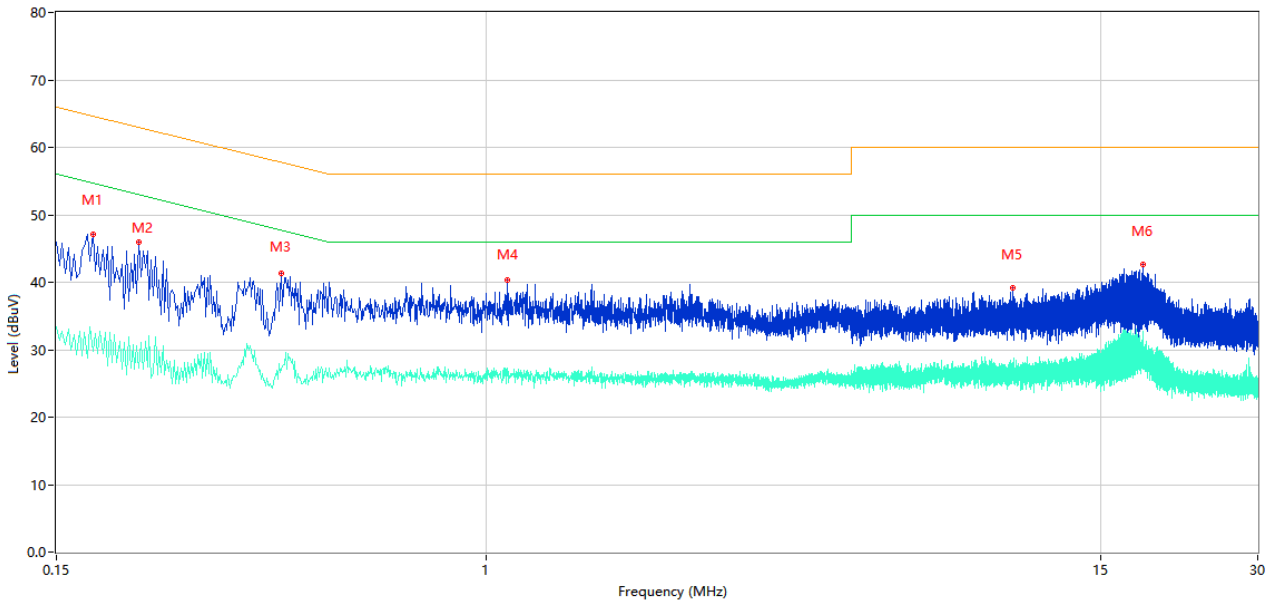
#### The Camera Test Mode

##### A.2.1 L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.174	48.89	10.39	64.77	-15.88	Peak	L	Pass
1**	0.174	31.30	10.39	54.77	-23.47	AV	L	Pass
2	0.218	45.19	10.37	62.89	-17.70	Peak	L	Pass
2**	0.218	28.68	10.37	52.89	-24.21	AV	L	Pass
3	0.342	43.00	10.32	59.15	-16.15	Peak	L	Pass
3**	0.342	30.19	10.32	49.15	-18.96	AV	L	Pass
4	2.640	43.23	10.28	56.00	-12.77	Peak	L	Pass
4**	2.640	28.62	10.28	46.00	-17.38	AV	L	Pass
5	12.970	44.94	10.39	60.00	-15.06	Peak	L	Pass
5**	12.970	28.92	10.39	50.00	-21.08	AV	L	Pass
6	16.794	46.87	10.46	60.00	-13.13	Peak	L	Pass
6**	16.794	34.73	10.46	50.00	-15.27	AV	L	Pass

## A.2.2 N Phase

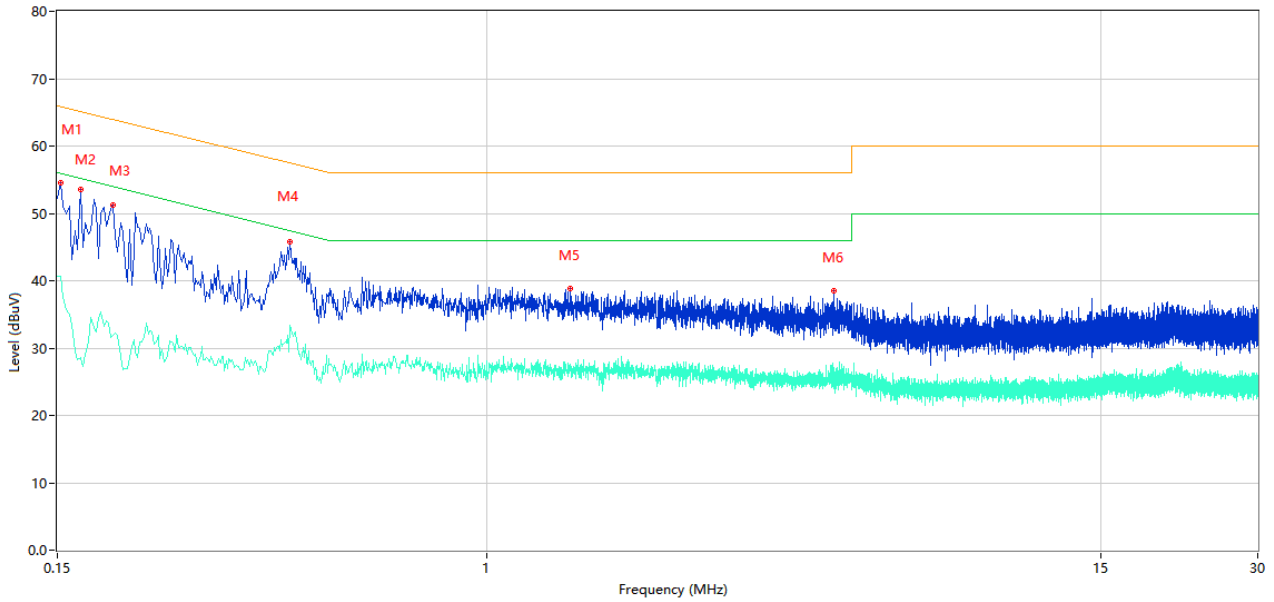


No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.176	47.11	10.39	64.67	-17.56	Peak	N	Pass
1**	0.176	29.82	10.39	54.67	-24.85	AV	N	Pass
2	0.216	46.01	10.37	62.97	-16.96	Peak	N	Pass
2**	0.216	27.23	10.37	52.97	-25.74	AV	N	Pass
3	0.404	41.38	10.31	57.77	-16.39	Peak	N	Pass
3**	0.404	27.11	10.31	47.77	-20.66	AV	N	Pass
4	1.098	40.34	10.23	56.00	-15.66	Peak	N	Pass
4**	1.098	27.34	10.23	46.00	-18.66	AV	N	Pass
5	10.196	39.15	10.37	60.00	-20.85	Peak	N	Pass
5**	10.196	28.17	10.37	50.00	-21.83	AV	N	Pass
6	18.082	42.58	10.49	60.00	-17.42	Peak	N	Pass
6**	18.082	31.63	10.49	50.00	-18.37	AV	N	Pass

Test Data and Plots

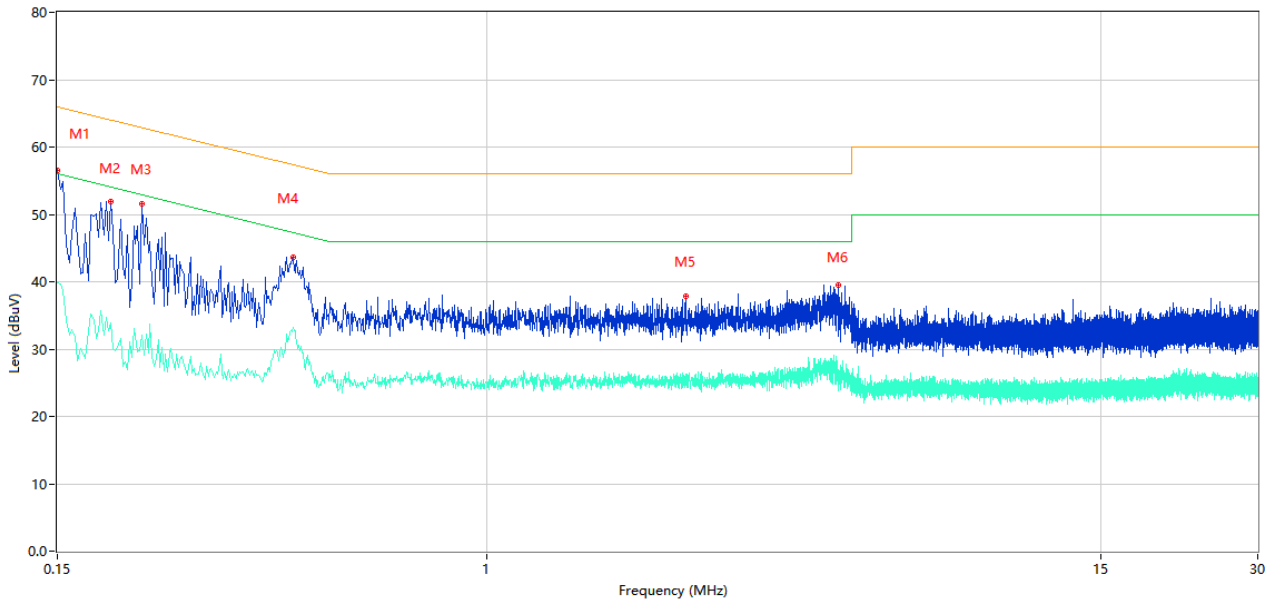
The USB Test Mode

A.2.3 L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.152	54.57	10.41	65.89	-11.32	Peak	L	Pass
1**	0.152	40.58	10.41	55.89	-15.31	AV	L	Pass
2	0.166	53.51	10.40	65.16	-11.65	Peak	L	Pass
2**	0.166	28.68	10.40	55.16	-26.48	AV	L	Pass
3	0.192	51.16	10.38	63.95	-12.79	Peak	L	Pass
3**	0.192	31.87	10.38	53.95	-22.08	AV	L	Pass
4	0.418	45.73	10.31	57.49	-11.76	Peak	L	Pass
4**	0.418	33.43	10.31	47.49	-14.06	AV	L	Pass
5	1.446	38.83	10.25	56.00	-17.17	Peak	L	Pass
5**	1.446	27.57	10.25	46.00	-18.43	AV	L	Pass
6	4.612	38.45	10.30	56.00	-17.55	Peak	L	Pass
6**	4.612	26.55	10.30	46.00	-19.45	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	56.52	10.41	66.00	-9.48	Peak	N	Pass
1**	0.150	39.79	10.41	56.00	-16.21	AV	N	Pass
2	0.190	51.84	10.38	64.04	-12.20	Peak	N	Pass
2**	0.190	33.91	10.38	54.04	-20.13	AV	N	Pass
3	0.218	51.62	10.37	62.89	-11.27	Peak	N	Pass
3**	0.218	32.09	10.37	52.89	-20.80	AV	N	Pass
4	0.424	43.61	10.31	57.37	-13.76	Peak	N	Pass
4**	0.424	33.23	10.31	47.37	-14.14	AV	N	Pass
5	2.402	37.79	10.27	56.00	-18.21	Peak	N	Pass
5**	2.402	25.92	10.27	46.00	-20.08	AV	N	Pass
6	4.718	39.52	10.29	56.00	-16.48	Peak	N	Pass
6**	4.718	25.37	10.29	46.00	-20.63	AV	N	Pass



## **ANNEX B TEST SETUP PHOTOS**

Please refer the document "BL-SZ20B0750-AE.PDF".

## **ANNEX C EUT EXTERNAL PHOTOS**

Please refer the document "BL-SZ20B0750-AW.PDF".

## **ANNEX D EUT INTERNAL PHOTOS**

Please refer the document "BL-SZ20B0750-AI.PDF".

--END OF REPORT--