

FCC

EMC

TEST REPORT

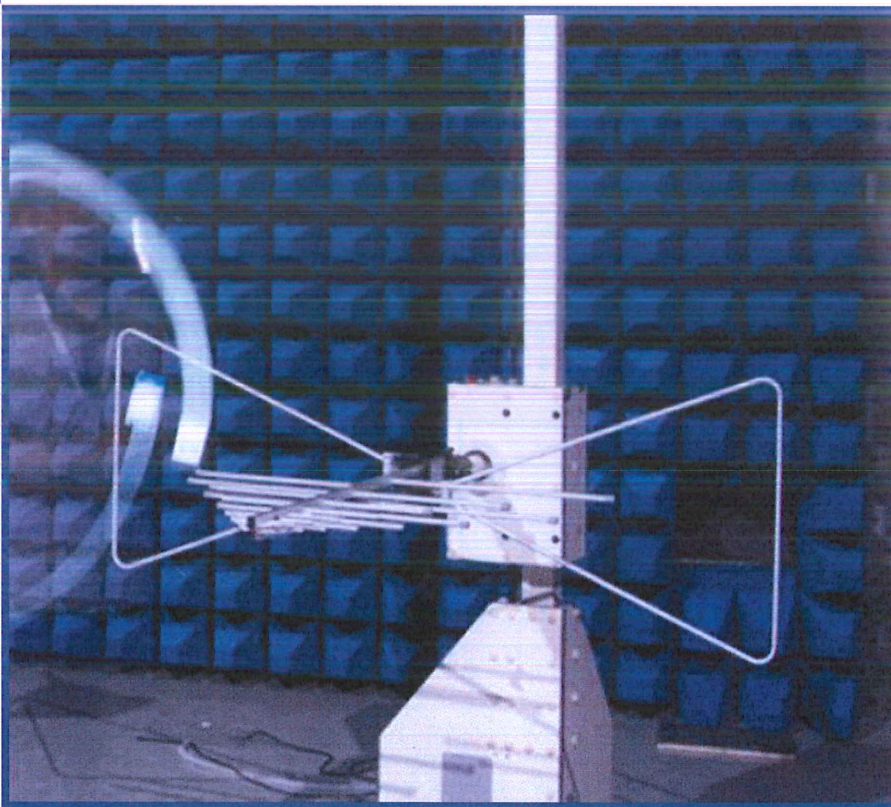
ISSUED BY
Shenzhen BALUN Technology Co., Ltd.



FOR
Mobile Phone

ISSUED TO
vivo Mobile Communication Co., Ltd.

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



Tested by: Liu Zhen Xiang

Liu Zhenxiang

Date Oct. 09, 2020

Approved by: Wei Yanquan

Wei Yanquan
(Chief Engineer)

Date Oct. 09, 2020

Report No.: BL-SZ2090180-401

EUT Name: Mobile Phone

Model Name: V2025

Brand Name: vivo

Test Standard: 47 CFR Part 15 Subpart B

FCC ID: 2AUCY-V2025

Test Conclusion: Pass

Test Date: Sep. 15, 2020 ~ Sep. 17, 2020

Date of Issue: Oct. 09, 2020

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Revision History

Version	Issue Date	Revisions Content
<u>Rev. 01</u>	<u>Oct. 09, 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. 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 v6.8.
- (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	V2025
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-N8
	Serial No.	N/A
	Capacity	Rated Capacity: 3920mAh/15.17Wh Typical Capacity: 4000mAh/15.48Wh
	Rated Voltage	3.87 V
	Limited Voltage	4.45 V
Ancillary Equipment 2	Adapter 1	
	Brand Name	vivo
	Model No.	V3330L0A0-US(US Plug) ^{Note}
	Serial No.	N/A
	Rated Input	100-240 V~, 50 / 60 Hz, 0.85 A
	Rated Output	5 V= 2 A or 9 V= 2 A or 11 V= 3 A
	Manufacturer	Aohai
Ancillary Equipment 3	Adapter 2	
	Brand Name	vivo
	Model No.	V3330L0A0-EU(EU Plug) ^{Note}
	Serial No.	N/A
	Rated Input	100-240 V~, 50 / 60 Hz, 0.85 A
	Rated Output	5 V= 2 A or 9 V= 2 A or 11 V= 3 A
	Manufacturer	Aohai
Ancillary Equipment 4	USB Cable	
	Model No.	BK-C-33
	Length (Approx.)	N/A
Ancillary Equipment 5	Earphone	
	Model No.	XE160
	Length (Approx.)	1.2 m
Note 1: Letter in () means plug type.		
Note 2: All adapters are tested, only the worst data of V330L0A0-US(US Plug) shown in this report.		

2.6 Technical Information

Network and Wireless connectivity	2G Network GSM/GPRS/EDGE 850/1900 MHz 3G Network WCDMA/HSDPA/HSUPA/DC-HSDPA/HSPA+ Band 2/4/5 4G Network FDD LTE Band 2/4/5/7 TDD LTE Band 38 Bluetooth 5.1 (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) Band 1/2A/2C/3, GPS, GLONASS, BDS, Galileo, 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	2.3 GHz
About the Product	The equipment is Mobile 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)	3.66 dB
Radiated emissions (1 GHz-18 GHz)	5.57 dB
Radiated emissions (18 GHz-40 GHz)	6.12 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	☐
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	2018.08.08	2021.08.07	☐
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	2019.10.29	2020.10.28	☒
Test Antenna-Bi-Log	SCHWARZBECK	VULB 9163	9163-624	2019.07.02	2021.07.01	☒
Anechoic Chamber	YIHENG	9m*6m*6m	N/A	2018.07.18	2021.07.27	☒
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	2019.10.29	2020.10.28	☒
Test Antenna-Horn	SCHWARZBECK	BBHA 9120D	9120D-1148	2019.07.02	2021.07.01	☒
Anechoic Chamber	YIHENG	9m*6m*6m	N/A	2018.07.18	2021.07.17	☒
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	2020.02.19	2021.02.18	☒
Test Antenna-Horn	A-INFOMW	LB-180400KF	J211060273	2019.01.05	2021.01.04	☒
Anechoic Chamber	YIHENG	9m*6m*6m	N/A	2018.07.18	2021.07.17	☒
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	2020.06.09	2021.06.08	☒
LISN	SCHWARZBECK	NSLK 8127	8127-687	2020.06.09	2021.06.08	☒
Shielded Enclosure	YiHeng Electronic Co., Ltd	3.4m*3.1m*2.8m	N/A	2018.08.16	2021.08.15	☒
Test Software	BALUN	BL410_E	V19.918	--	--	☒

4.3 Test Enclosure list

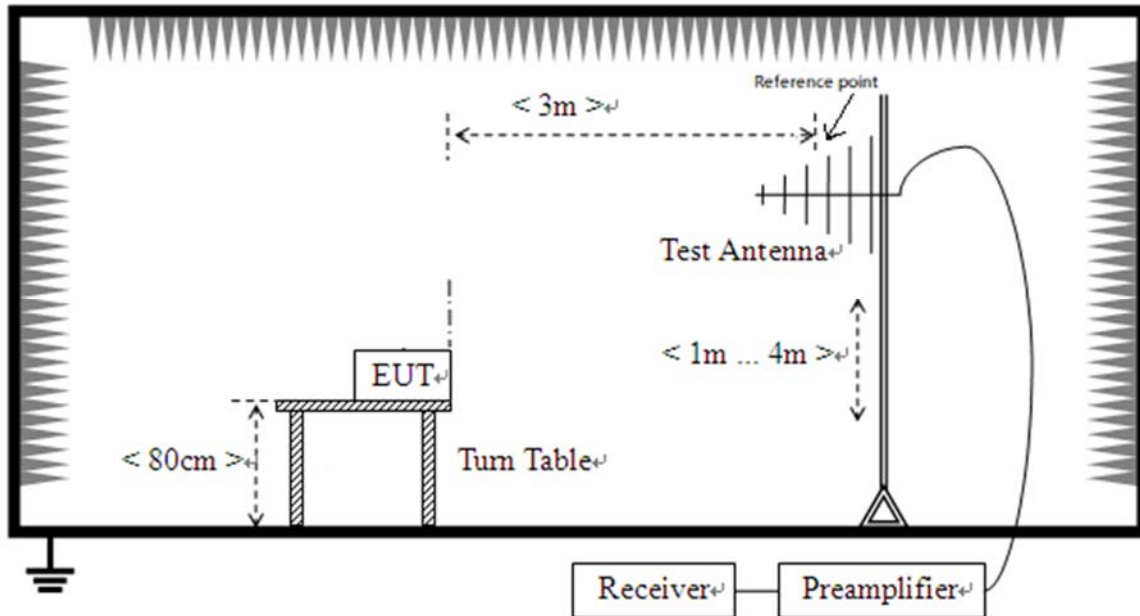
Description	Manufacturer	Model	Serial No.	Length	Description	Use
PC	Dell	015K3N	N/A	N/A	Special Handled	☐
Laptop	Apple	A1465	N/A	N/A	N/A	☒
Printer	HP	DESKJET 1000	N/A	N/A	N/A	☐
Keyboard	Logitech	Y-BP62a	N/A	N/A	N/A	☐
Mouse	Logitech	M100	N/A	N/A	N/A	☐
USB disk	Kingston	N/A	N/A	N/A	N/A	☐
TF Card	Kingston	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	☐
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 + 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

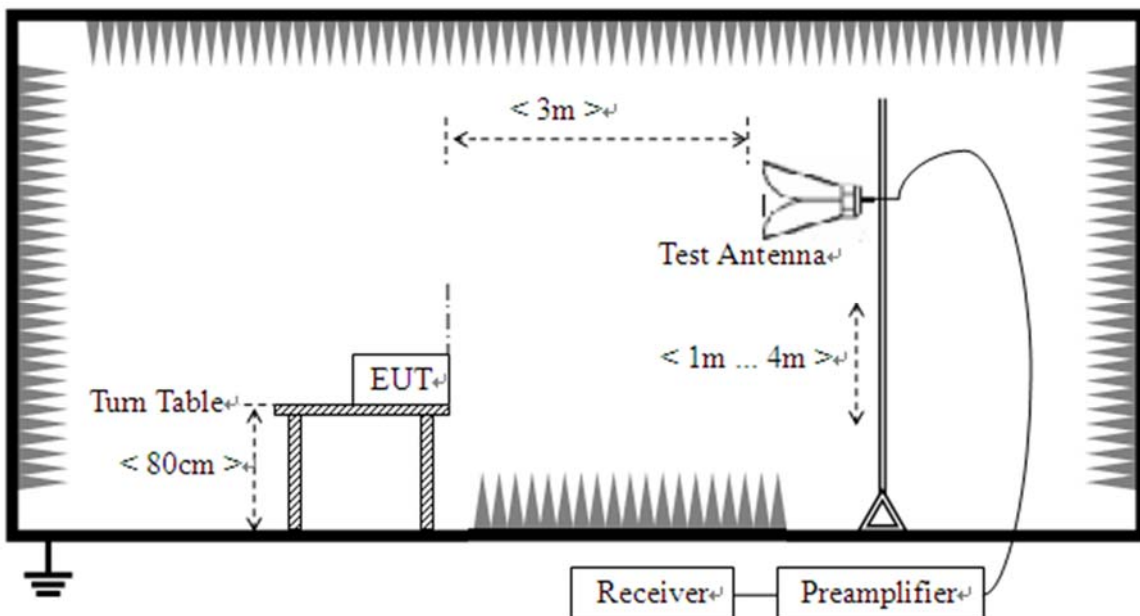
4.5 Test Setups

Test Setup 1



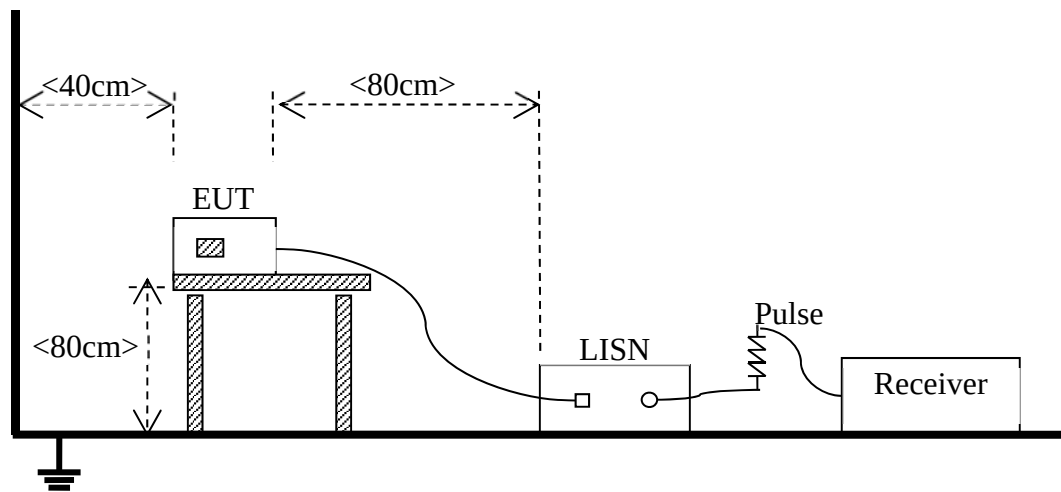
(For Radiated Emission Test (30 MHz-1 GHz))

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 ^{Note}
Conducted Emission, AC Ports	Test Env.	NTNV
	Test Setup	Test Setup 3
	Test Configuration	TC01~TC03 ^{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)

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/m) = Reading (dBuV) + Factor (dB/m)

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.

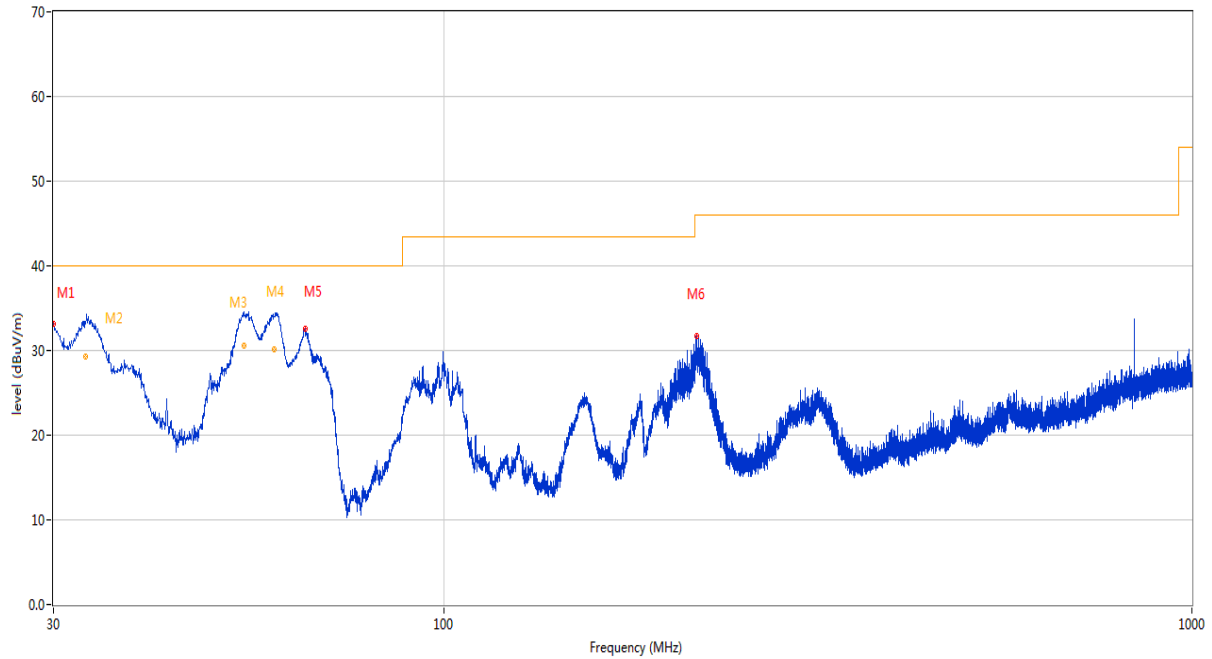
Note 3: The Radiated Emission from 18G-40G is noise only, do not show on the report.

Note 4: 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

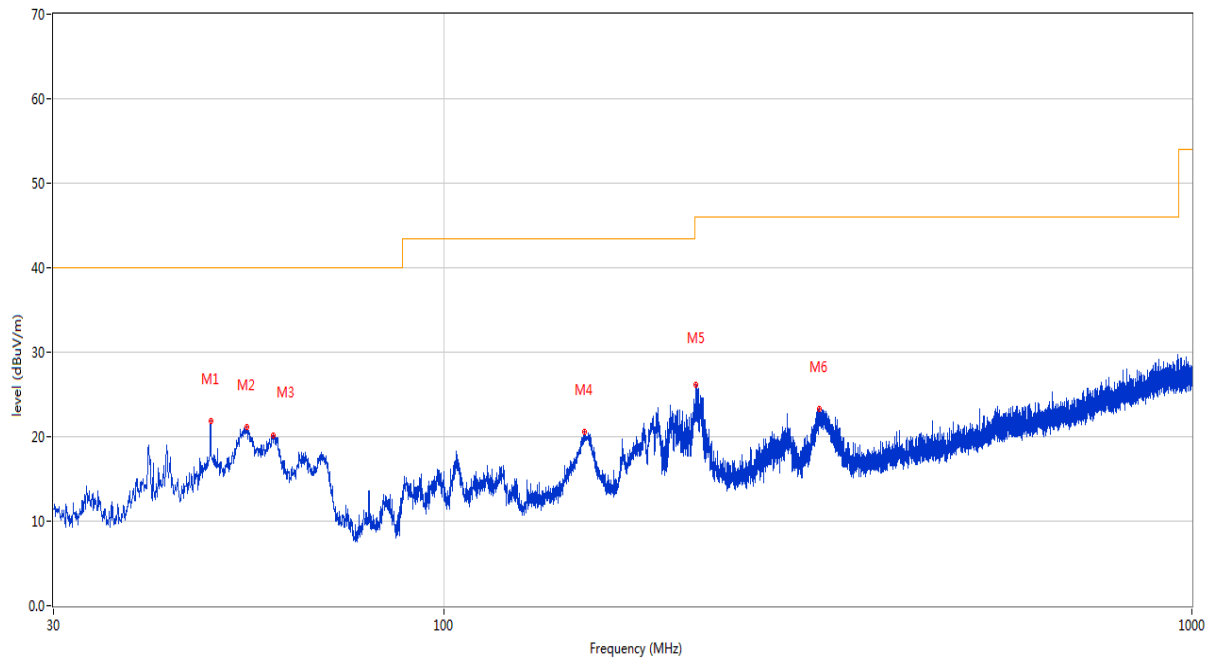
The Camera Test Mode

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



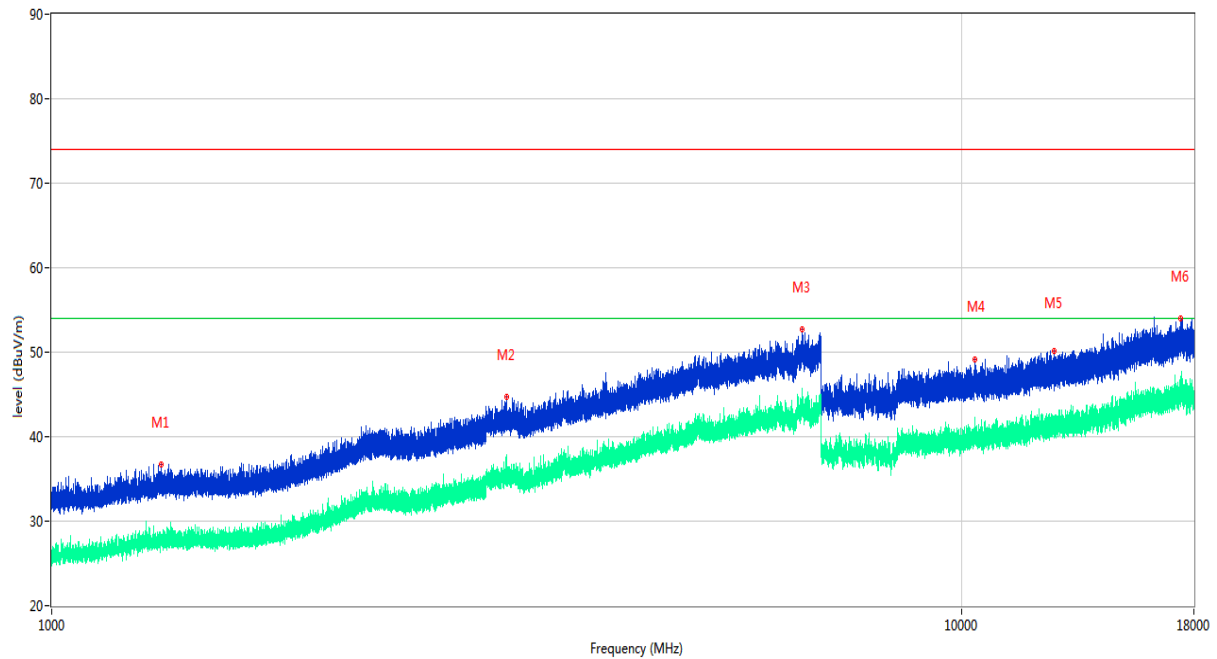
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	30.000	33.07	-25.94	40.0	-6.93	Peak	19.40	100	Vertical	Pass
2	33.150	31.59	-26.29	40.0	-8.41	Peak	0.50	100	Vertical	N/A
2*	33.150	29.24	-26.29	40.0	-10.76	QP	0.50	100	Vertical	Pass
3	53.994	32.54	-22.97	40.0	-7.46	Peak	1.00	101	Vertical	N/A
3*	53.994	30.63	-22.97	40.0	-9.37	QP	1.00	101	Vertical	Pass
4	59.170	32.00	-23.96	40.0	-8.00	Peak	0.50	100	Vertical	N/A
4*	59.170	30.18	-23.96	40.0	-9.82	QP	0.50	100	Vertical	Pass
5	65.114	32.51	-25.05	40.0	-7.49	Peak	32.40	100	Vertical	Pass
6	217.258	31.68	-24.09	46.0	-14.32	Peak	360.00	200	Vertical	Pass

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



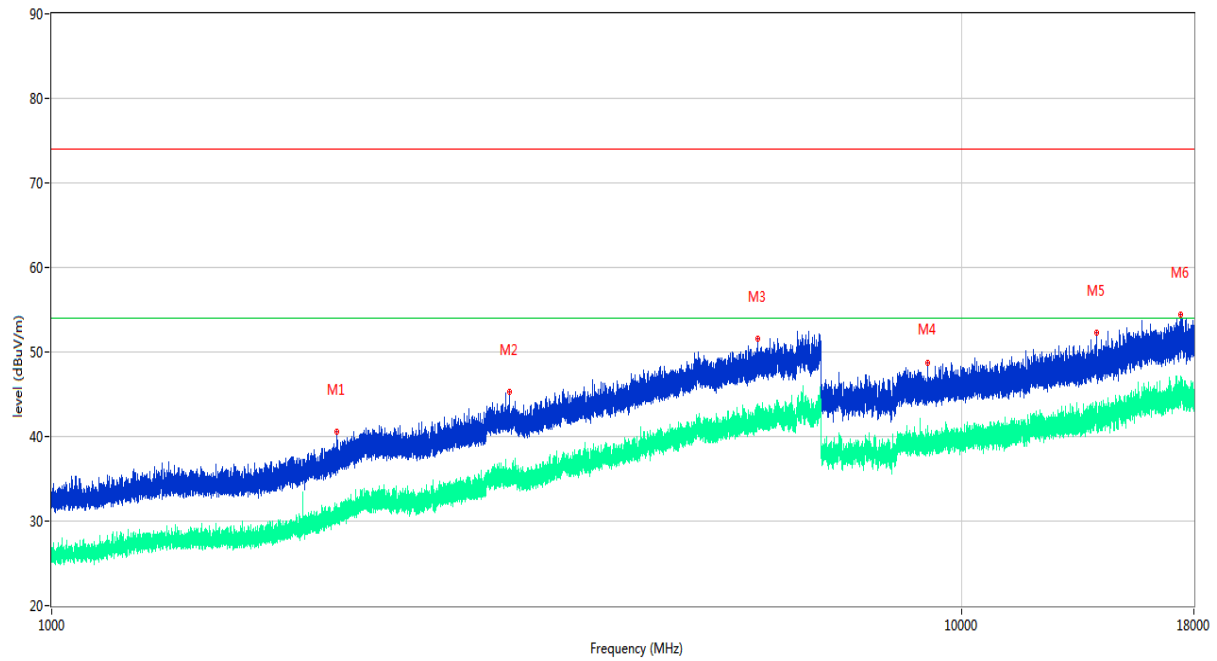
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	48.672	21.82	-22.50	40.0	-18.18	Peak	176.30	200	Horizontal	Pass
2	54.444	21.10	-23.08	40.0	-18.90	Peak	360.00	200	Horizontal	Pass
3	59.100	20.16	-24.01	40.0	-19.84	Peak	313.90	100	Horizontal	Pass
4	153.869	20.57	-27.46	43.5	-22.93	Peak	331.20	200	Horizontal	Pass
5	217.113	26.17	-24.09	46.0	-19.83	Peak	98.30	100	Horizontal	Pass
6	317.266	23.23	-20.98	46.0	-22.77	Peak	296.80	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	1320.400	36.76	-17.52	74.0	-37.24	Peak	278.00	100	Vertical	Pass
1**	1320.400	27.07	-17.52	54.0	-26.93	AV	278.00	100	Vertical	Pass
2	3165.600	44.69	-7.86	74.0	-29.31	Peak	9.00	100	Vertical	Pass
2**	3165.600	34.74	-7.86	54.0	-19.26	AV	9.00	100	Vertical	Pass
3	6672.600	52.65	-0.81	74.0	-21.35	Peak	70.00	100	Vertical	Pass
3**	6672.600	43.21	-0.81	54.0	-10.79	AV	70.00	100	Vertical	Pass
4	10348.800	49.07	0.03	74.0	-24.93	Peak	69.00	100	Vertical	Pass
4**	10348.800	41.39	0.03	54.0	-12.61	AV	69.00	100	Vertical	Pass
5	12637.587	50.07	1.19	74.0	-23.93	Peak	69.00	100	Vertical	Pass
5**	12637.587	40.63	1.19	54.0	-13.37	AV	69.00	100	Vertical	Pass
6	17419.350	53.98	3.74	74.0	-20.02	Peak	221.00	100	Vertical	Pass
6**	17419.350	46.20	3.74	54.0	-7.80	AV	221.00	100	Vertical	Pass

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

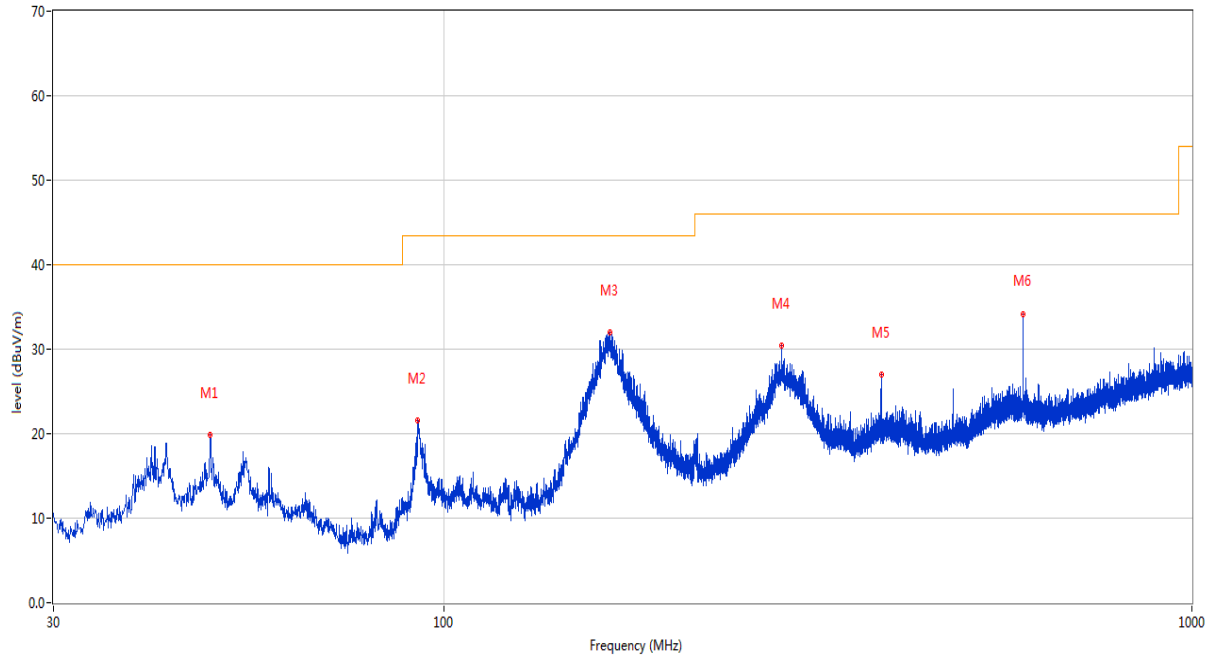


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	2055.700	40.50	-14.83	74.0	-33.50	Peak	266.00	100	Horizontal	Pass
1**	2055.700	30.68	-14.83	54.0	-23.32	AV	266.00	100	Horizontal	Pass
2	3188.800	45.23	-8.49	74.0	-28.77	Peak	360.00	100	Horizontal	Pass
2**	3188.800	36.16	-8.49	54.0	-17.84	AV	360.00	100	Horizontal	Pass
3	5965.600	51.61	-1.15	74.0	-22.39	Peak	0.00	100	Horizontal	Pass
3**	5965.600	42.38	-1.15	54.0	-11.62	AV	0.00	100	Horizontal	Pass
4	9172.924	48.69	-1.51	74.0	-25.31	Peak	286.00	100	Horizontal	Pass
4**	9172.924	38.63	-1.51	54.0	-15.37	AV	286.00	100	Horizontal	Pass
5	14061.450	52.22	0.70	74.0	-21.78	Peak	213.00	100	Horizontal	Pass
5**	14061.450	41.73	0.70	54.0	-12.27	AV	213.00	100	Horizontal	Pass
6	17424.337	54.39	3.64	74.0	-19.61	Peak	363.00	100	Horizontal	Pass
6**	17424.337	46.35	3.64	54.0	-7.65	AV	363.00	100	Horizontal	Pass

Test Data and Plots

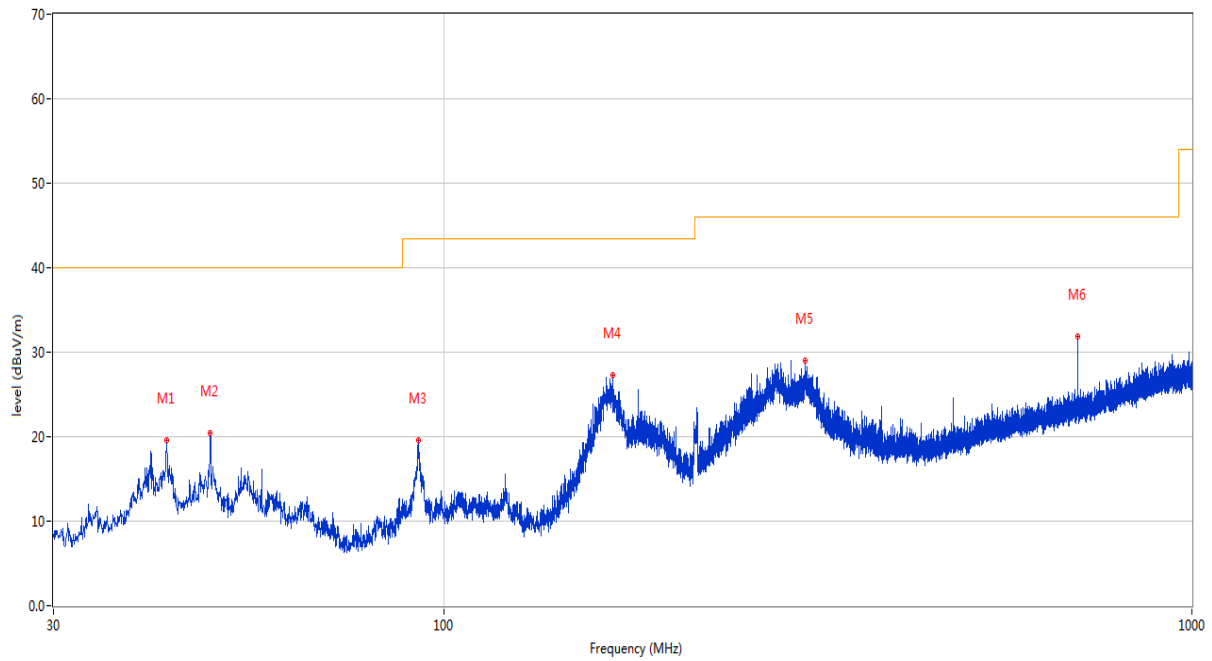
The USB Test Mode

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



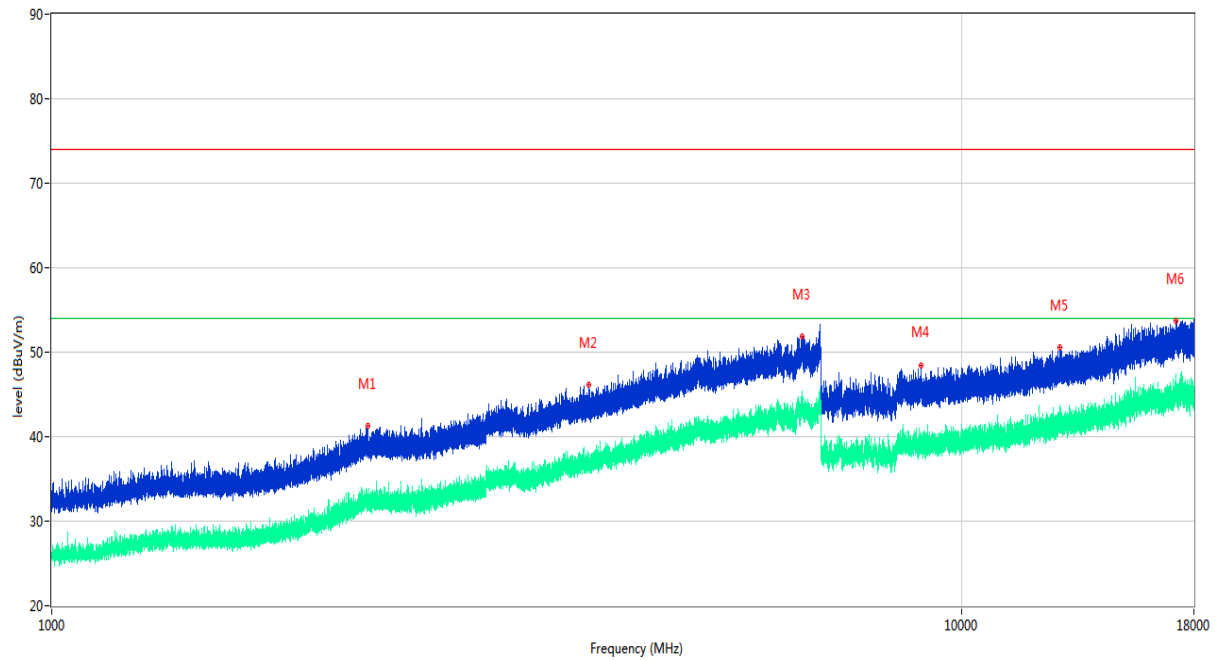
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	48.624	19.84	-22.51	40.0	-20.16	Peak	305.90	200	Vertical	Pass
2	92.177	21.64	-25.61	43.5	-21.86	Peak	133.10	100	Vertical	Pass
3	166.334	32.07	-26.78	43.5	-11.43	Peak	314.50	100	Vertical	Pass
4	282.442	30.46	-21.80	46.0	-15.54	Peak	17.10	200	Vertical	Pass
5	384.002	27.06	-19.30	46.0	-18.94	Peak	360.00	200	Vertical	Pass
6	594.006	34.16	-14.68	46.0	-11.84	Peak	209.00	100	Vertical	Pass

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



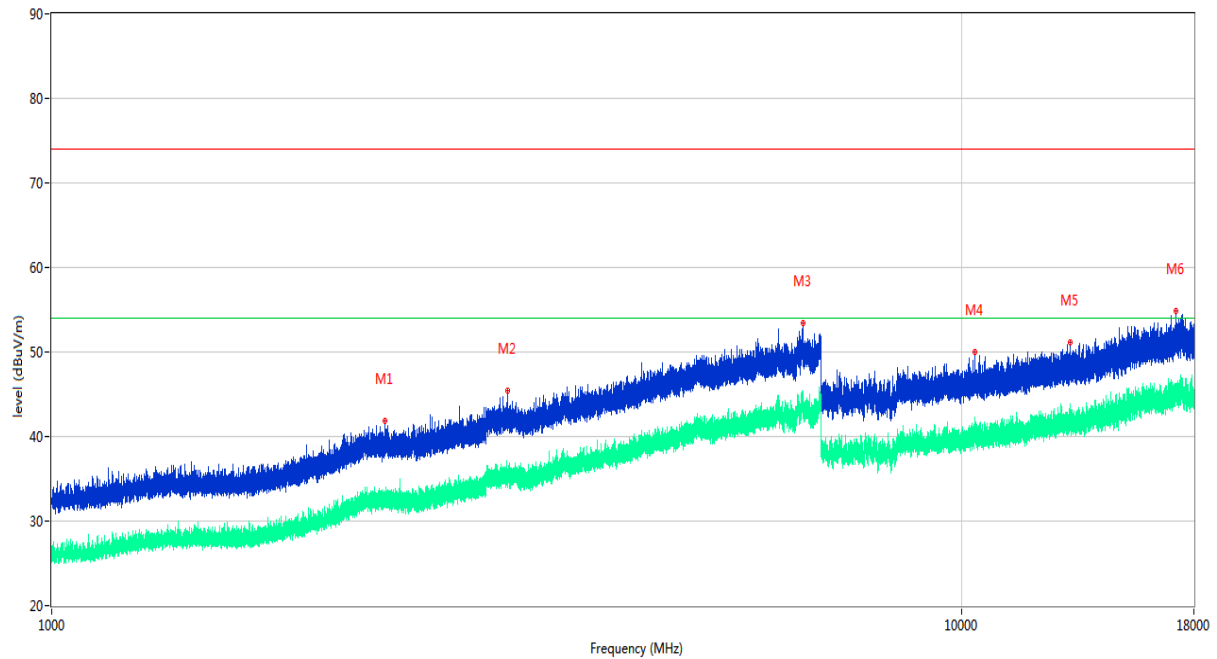
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	42.513	19.56	-23.42	40.0	-20.44	Peak	70.90	100	Horizontal	Pass
2	48.624	20.45	-22.51	40.0	-19.55	Peak	345.80	200	Horizontal	Pass
3	92.226	19.56	-25.60	43.5	-23.94	Peak	278.30	200	Horizontal	Pass
4	167.886	27.27	-27.15	43.5	-16.23	Peak	237.10	100	Horizontal	Pass
5	304.073	28.95	-21.07	46.0	-17.05	Peak	122.60	100	Horizontal	Pass
6	704.102	31.82	-13.10	46.0	-14.18	Peak	360.00	200	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	2223.400	41.29	-12.84	74.0	-32.71	Peak	108.00	100	Vertical	Pass
1**	2223.400	31.78	-12.84	54.0	-22.22	AV	108.00	100	Vertical	Pass
2	3895.600	46.12	-5.88	74.0	-27.88	Peak	200.00	100	Vertical	Pass
2**	3895.600	36.11	-5.88	54.0	-17.89	AV	200.00	100	Vertical	Pass
3	6686.000	51.82	-0.20	74.0	-22.18	Peak	342.00	100	Vertical	Pass
3**	6686.000	43.88	-0.20	54.0	-10.12	AV	342.00	100	Vertical	Pass
4	9016.237	48.49	-0.49	74.0	-25.51	Peak	284.00	100	Vertical	Pass
4**	9016.237	39.29	-0.49	54.0	-14.71	AV	284.00	100	Vertical	Pass
5	12831.638	50.58	1.17	74.0	-23.42	Peak	24.00	100	Vertical	Pass
5**	12831.638	41.68	1.17	54.0	-12.32	AV	24.00	100	Vertical	Pass
6	17207.775	53.73	1.56	74.0	-20.27	Peak	213.00	100	Vertical	Pass
6**	17207.775	45.08	1.56	54.0	-8.92	AV	213.00	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	2321.800	41.79	-12.71	74.0	-32.21	Peak	286.00	100	Horizontal	Pass
1**	2321.800	33.06	-12.71	54.0	-20.94	AV	286.00	100	Horizontal	Pass
2	3170.600	45.36	-7.94	74.0	-28.64	Peak	287.00	100	Horizontal	Pass
2**	3170.600	35.31	-7.94	54.0	-18.69	AV	287.00	100	Horizontal	Pass
3	6689.400	53.45	-0.26	74.0	-20.55	Peak	198.00	100	Horizontal	Pass
3**	6689.400	43.91	-0.26	54.0	-10.09	AV	198.00	100	Horizontal	Pass
4	10343.912	49.99	0.05	74.0	-24.01	Peak	150.00	100	Horizontal	Pass
4**	10343.912	40.28	0.05	54.0	-13.72	AV	150.00	100	Horizontal	Pass
5	13168.950	51.13	1.75	74.0	-22.87	Peak	338.00	100	Horizontal	Pass
5**	13168.950	41.39	1.75	54.0	-12.61	AV	338.00	100	Horizontal	Pass
6	17186.775	54.83	2.46	74.0	-19.17	Peak	85.00	100	Horizontal	Pass
6**	17186.775	44.83	2.46	54.0	-9.17	AV	85.00	100	Horizontal	Pass

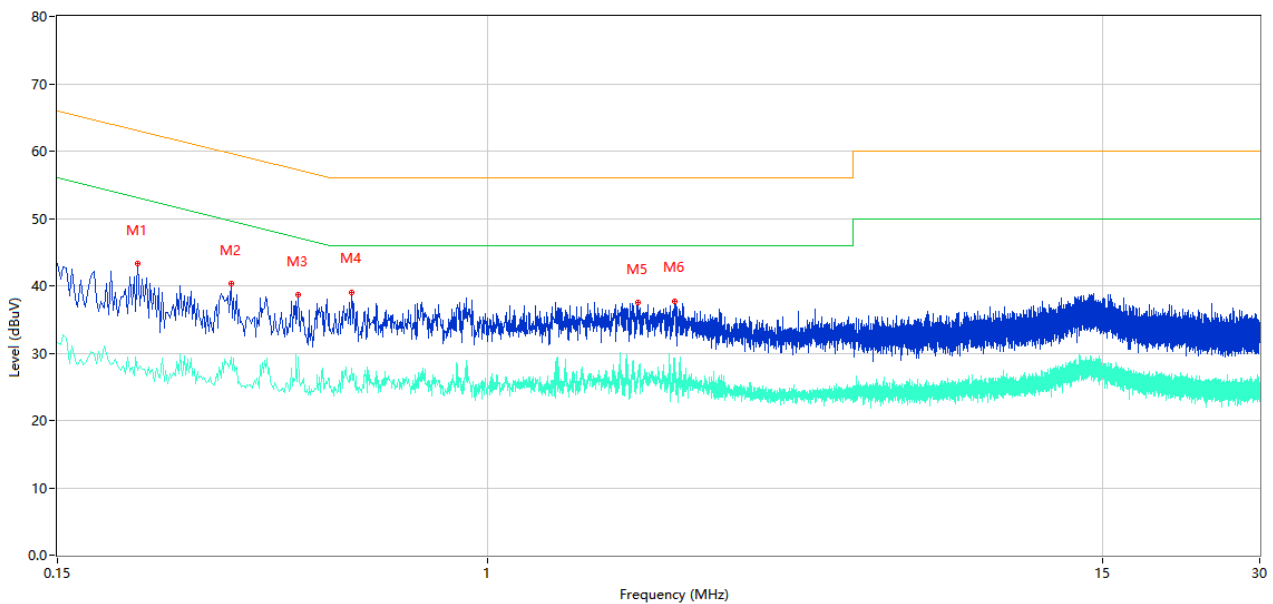
A.2 Conducted Emission

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

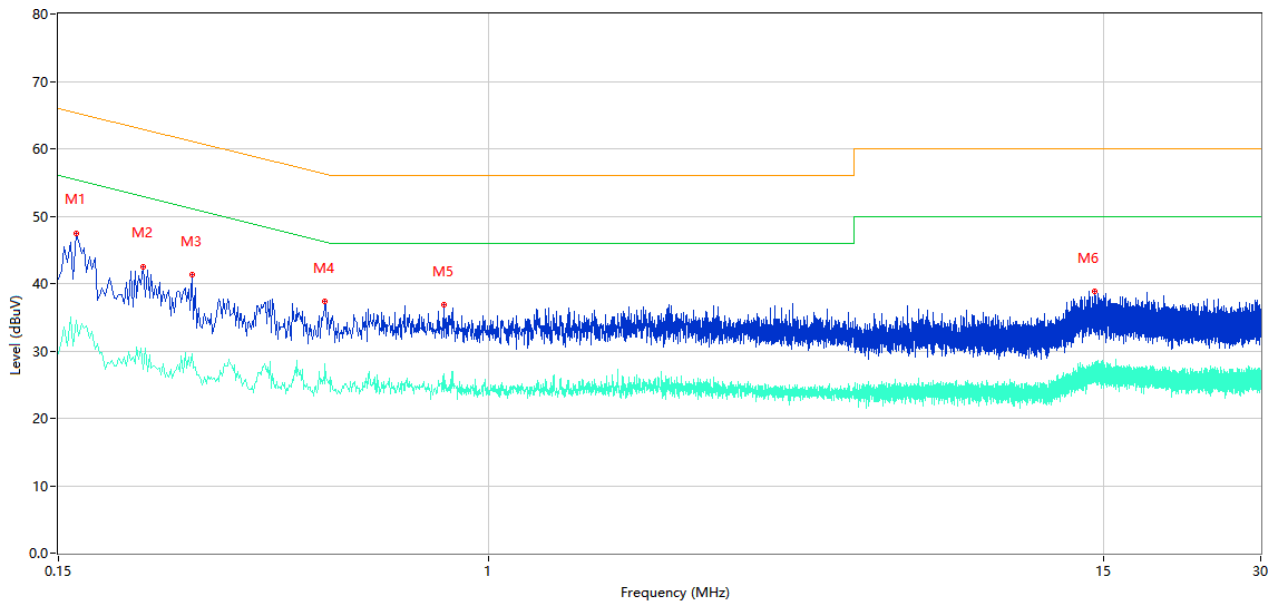
The Camera Test Mode

A.2.1 L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.214	43.23	10.38	63.05	-19.82	Peak	L	Pass
1**	0.214	27.46	10.38	53.05	-25.59	AV	L	Pass
2	0.322	40.27	10.33	59.66	-19.39	Peak	L	Pass
2**	0.322	29.45	10.33	49.66	-20.21	AV	L	Pass
3	0.434	38.70	10.31	57.18	-18.48	Peak	L	Pass
3**	0.434	29.39	10.31	47.18	-17.79	AV	L	Pass
4	0.548	39.07	10.28	56.00	-16.93	Peak	L	Pass
4**	0.548	27.70	10.28	46.00	-18.30	AV	L	Pass
5	1.936	37.44	10.25	56.00	-18.56	Peak	L	Pass
5**	1.936	25.63	10.25	46.00	-20.37	AV	L	Pass
6	2.282	37.75	10.28	56.00	-18.25	Peak	L	Pass
6**	2.282	29.33	10.28	46.00	-16.67	AV	L	Pass

A.2.2 N Phase

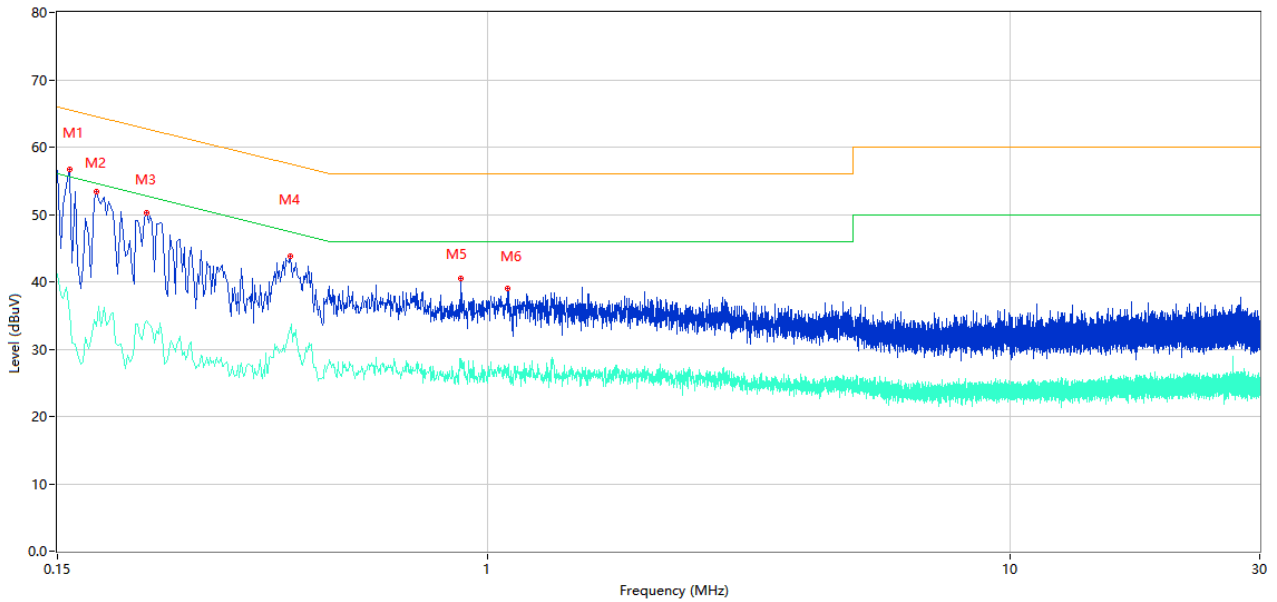


No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.162	47.42	10.40	65.36	-17.94	Peak	N	Pass
1**	0.162	34.55	10.40	55.36	-20.81	AV	N	Pass
2	0.218	42.53	10.37	62.89	-20.36	Peak	N	Pass
2**	0.218	27.32	10.37	52.89	-25.57	AV	N	Pass
3	0.270	41.25	10.34	61.12	-19.87	Peak	N	Pass
3**	0.270	29.64	10.34	51.12	-21.48	AV	N	Pass
4	0.486	37.35	10.29	56.24	-18.89	Peak	N	Pass
4**	0.486	28.17	10.29	46.24	-18.07	AV	N	Pass
5	0.820	36.92	10.27	56.00	-19.08	Peak	N	Pass
5**	0.820	26.69	10.27	46.00	-19.31	AV	N	Pass
6	14.418	38.87	10.40	60.00	-21.13	Peak	N	Pass
6**	14.418	28.21	10.40	50.00	-21.79	AV	N	Pass

Test Data and Plots

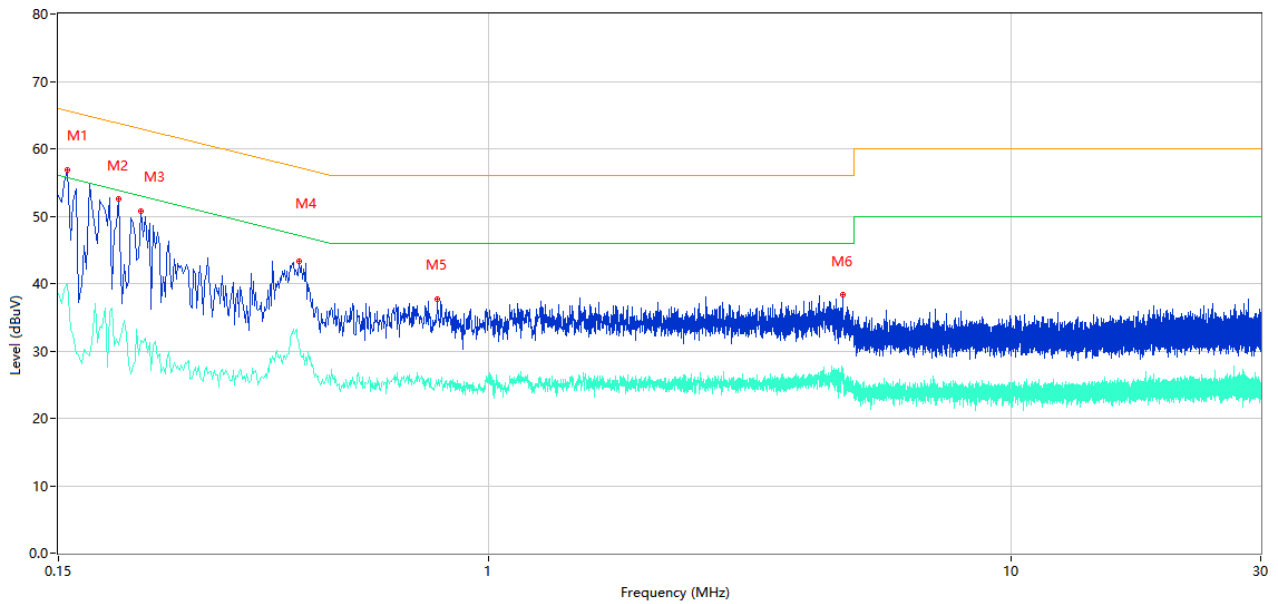
The USB Test Mode

A.2.3 L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.158	56.63	10.40	65.57	-8.94	Peak	L	Pass
1**	0.158	35.37	10.40	55.57	-20.20	AV	L	Pass
2	0.178	53.45	10.39	64.58	-11.13	Peak	L	Pass
2**	0.178	33.42	10.39	54.58	-21.16	AV	L	Pass
3	0.222	50.24	10.37	62.74	-12.50	Peak	L	Pass
3**	0.222	34.14	10.37	52.74	-18.60	AV	L	Pass
4	0.418	43.80	10.31	57.49	-13.69	Peak	L	Pass
4**	0.418	32.93	10.31	47.49	-14.56	AV	L	Pass
5	0.888	40.51	10.25	56.00	-15.49	Peak	L	Pass
5**	0.888	28.66	10.25	46.00	-17.34	AV	L	Pass
6	1.092	39.08	10.23	56.00	-16.92	Peak	L	Pass
6**	1.092	26.93	10.23	46.00	-19.07	AV	L	Pass

A.2.4 N Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.156	56.87	10.41	65.67	-8.80	Peak	N	Pass
1**	0.156	40.01	10.41	55.67	-15.66	AV	N	Pass
2	0.196	52.51	10.38	63.78	-11.27	Peak	N	Pass
2**	0.196	30.92	10.38	53.78	-22.86	AV	N	Pass
3	0.216	50.79	10.37	62.97	-12.18	Peak	N	Pass
3**	0.216	31.58	10.37	52.97	-21.39	AV	N	Pass
4	0.434	43.27	10.31	57.18	-13.91	Peak	N	Pass
4**	0.434	31.13	10.31	47.18	-16.05	AV	N	Pass
5	0.798	37.64	10.27	56.00	-18.36	Peak	N	Pass
5**	0.798	24.80	10.27	46.00	-21.20	AV	N	Pass
6	4.750	38.33	10.30	56.00	-17.67	Peak	N	Pass
6**	4.750	27.34	10.30	46.00	-18.66	AV	N	Pass

ANNEX B TEST SETUP PHOTOS

Please refer to the document “BL-SZ2090180-AE.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer to the document “BL-SZ2090180-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer to the document “BL-SZ2090180-AI.PDF”.

--END OF REPORT--