

FCC

EMC

TEST REPORT

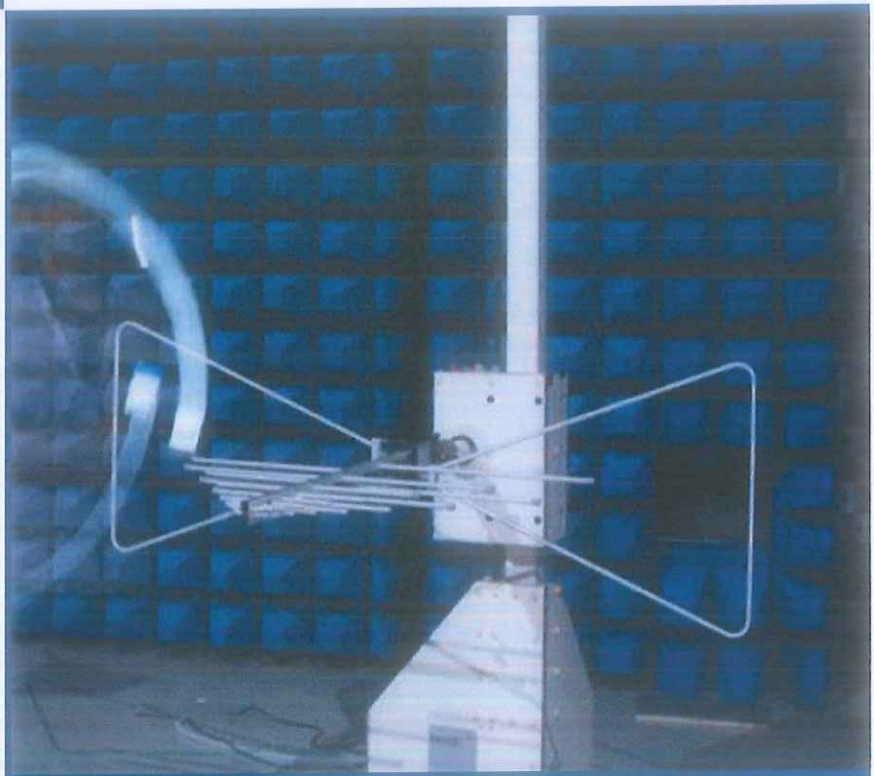
ISSUED BY  
Shenzhen BALUN Technology Co., Ltd.



FOR  
**Mobile Phone**

ISSUED TO  
vivo Mobile Communication Co., Ltd.

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



Tested by:

*Xia Long*  
Xia Long  
(Engineer)

Date

*Aug 28 2019*

Approved by:

*Wei Yangyan*  
Wei Yangyan  
(Chief Engineer)

Date

*Aug. 28. 2019*



Report No.: BL-SZ1980332-401

EUT Name: Mobile Phone

Model Name: vivo 1908

Brand Name: vivo

Test Standard: 47 CFR Part 15 Subpart B

FCC ID: 2AUCY-Y90

Test Conclusion: Pass

Test Date: Aug. 20, 2019 ~ Aug. 23, 2019

Date of Issue: Aug. 28, 2019

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**Revision History**

<u>Version</u>	<u>Issue Date</u>	<u>Revisions Content</u>
<u>Rev. 01</u>	<u>Aug. 28, 2019</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	<p>The laboratory has been listed by Industry Canada to perform electromagnetic emission measurements. The recognition numbers of test site are 11524A-1.</p> <p>The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196.</p> <p>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.</p> <p>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.</p>
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	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	N/A
Address	N/A

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

EUT Name	Mobile Phone
Model Name Under Test	vivo 1908
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	PD1917FEXM
Software Version	PD1917F_EX_A_1.0.0
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

## 2.5 Ancillary Equipment

Ancillary Equipment 1	Battery	
	Brand Name	vivo
	Model No.	B-F3
	Serial No.	N/A
	Capacity	3935 mAh
	Rated Voltage	3.85 V
	Limit Charge Voltage	4.4 V
Ancillary Equipment 2	Adapter	
	Brand Name	vivo
	Model No.	V0510A-US
	Serial No.	N/A
	Rated Input	100-240 V~, 0.15 A, 50/60 Hz
	Rated Output	5 V= 1 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 5 4G Network FDD LTE Band 5 TDD LTE Band 41 Bluetooth 5.0 (BR+EDR+BLE) WIFI 802.11b, 802.11g, 802.11n(HT20/40) FM, GPS, GLONASS, BDS, SBAS
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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 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 (10-1-17 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

#### 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 3.85V 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	2019.07.04	2020.07.03	<input checked="" type="checkbox"/>
Test Antenna-Bi-Log	SCHWARZBECK	VULB 9163	9163-624	2018.08.22	2020.08.21	<input checked="" type="checkbox"/>
Test Antenna-Horn	SCHWARZBECK	BBHA 9120D	9120D-1600	2018.07.11	2020.07.10	<input type="checkbox"/>
Anechoic Chamber	RAINFORD	9m*6m*6m	N/A	2017.02.21	2020.02.20	<input checked="" type="checkbox"/>
Test Software	BALUN	BL410_E	V19.419	--	--	<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	2018.11.07	2019.11.06	<input checked="" type="checkbox"/>
Test Antenna-Bi-Log	SCHWARZBECK	VULB 9163	9163-624	2018.08.22	2020.08.21	<input type="checkbox"/>
Test Antenna-Horn	SCHWARZBECK	BBHA 9120D	9120D-1148	2018.07.11	2020.07.10	<input checked="" type="checkbox"/>
Anechoic Chamber	RAINFORD	9m*6m*6m	N/A	2017.02.21	2020.02.20	<input checked="" type="checkbox"/>
Test Software	BALUN	BL410_E	V19.419	--	--	<input checked="" type="checkbox"/>

Conducted Emission Test						
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due	Use
EMI Receiver	KEYSIGHT	N9010B	MY57110309	2019.06.13	2020.06.12	<input checked="" type="checkbox"/>
LISN	SCHWARZBECK	NSLK 8127	8127-687	2019.07.04	2020.07.03	<input checked="" type="checkbox"/>
ISN	TESEQ	ISN T800	34449	2018.11.16	2019.11.15	<input type="checkbox"/>
Shielded Enclosure	ChangNing	CN-130701	130703	N/A	N/A	<input checked="" type="checkbox"/>
Test Software	BALUN	BL410_E	V19.419	--	--	<input checked="" type="checkbox"/>



### 4.3 Test Enclosure list

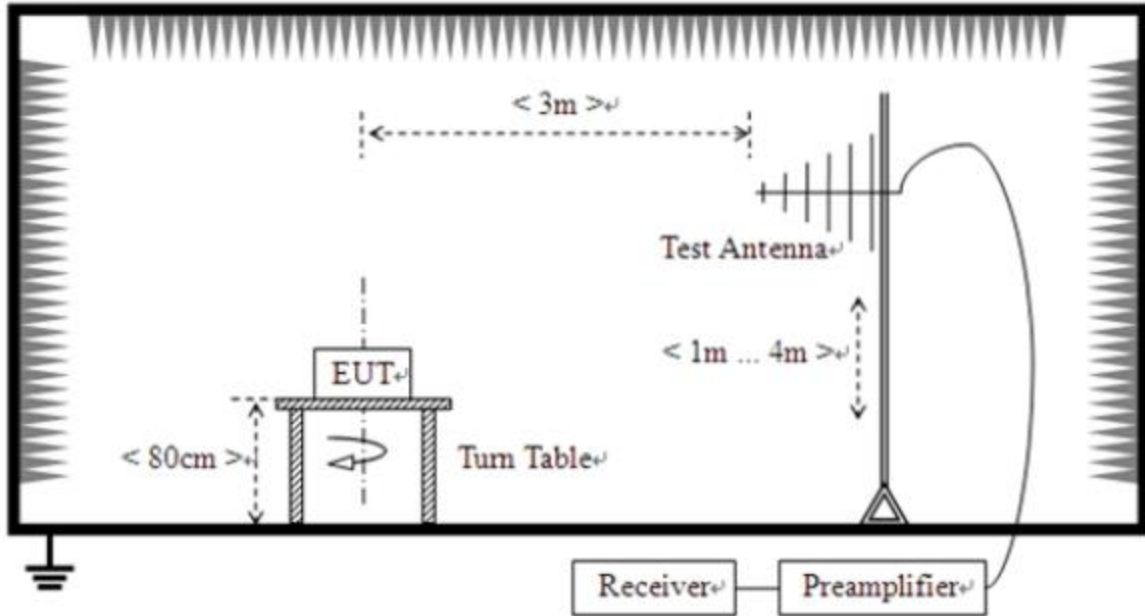
Description	Manufacturer	Model	Serial No.	Length	Description	Use
PC	Dell	015K3N	N/A	N/A	Special Handled	<input type="checkbox"/>
Laptop	Apple	A1465	N/A	N/A	N/A	<input checked="" type="checkbox"/>
Printer	HP	DESKJET 1000	N/A	N/A	N/A	<input type="checkbox"/>
Keyboard	Logitech	Y-BP62a	N/A	N/A	N/A	<input 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 checked="" type="checkbox"/>
Wireless Communications Test Set	R&S	CMW500	142028	N/A	Cal. Due 2020.06.13	<input checked="" type="checkbox"/>
WIFI Router	TP-LINK	TL-WDR7500	N/A	N/A	N/A	<input checked="" 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"/>
Earphone	N/A	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>

## 4.4 Test Configurations

Test Configurations (TC) No.	Description
Traffic Test Mode	
TC01	<u>The GSM 850 MHz Test Mode</u> GSM 850 Link + Adapter + USB Cable + Battery + Earphone + BT Link + WIFI Link + GPS RX
TC02	<u>The EDGE 850 MHz Test Mode</u> EDGE 850 Link + Adapter + USB Cable + Battery + Earphone + BT Link + WIFI Link + GLONASS RX
TC03	<u>The GSM 1900 Test Mode</u> GSM 1900 Link + Adapter + USB Cable + Battery + Earphone + BT Link + WIFI Link + BDS RX
TC04	<u>The EDGE 1900 MHz Test Mode</u> EDGE 1900 Link + Adapter + USB Cable + Battery + Earphone + BT Link + WIFI Link + SBAS RX
TC05	<u>The WCDMA 850 MHz Test Mode</u> WCDMA 850 Link + Adapter + USB Cable + Battery + Earphone + BT Link + WIFI Link + GPS RX
TC06	<u>The FDD LTE Band 5 Test Mode</u> LTE Band 5 Link + Adapter + USB Cable + Battery + Earphone + BT Link + WIFI Link + GLONASS RX
TC07	<u>The FDD LTE Band 41 Test Mode</u> LTE Band 41 Link + Adapter + USB Cable + Battery + Earphone + BT Link + WIFI Link + BDS RX
TC08	<u>The Idle Test Mode</u> GSM 850(Idle) + Battery + Earphone
Amusement Test Mode	
TC09	<u>The Camera Test Mode</u> EUT + Battery + Adapter + Earphone + TF Card
TC10	<u>The Video Play Test Mode</u> EUT + Battery + Adapter + Earphone + TF Card
TC11	<u>The FM Test Mode</u> EUT + Adapter + USB Cable + Battery + Earphone + FM RX
TC12	<u>The USB Test Mode</u> EUT + USB Cable + Battery + Earphone + TF Card + Laptop

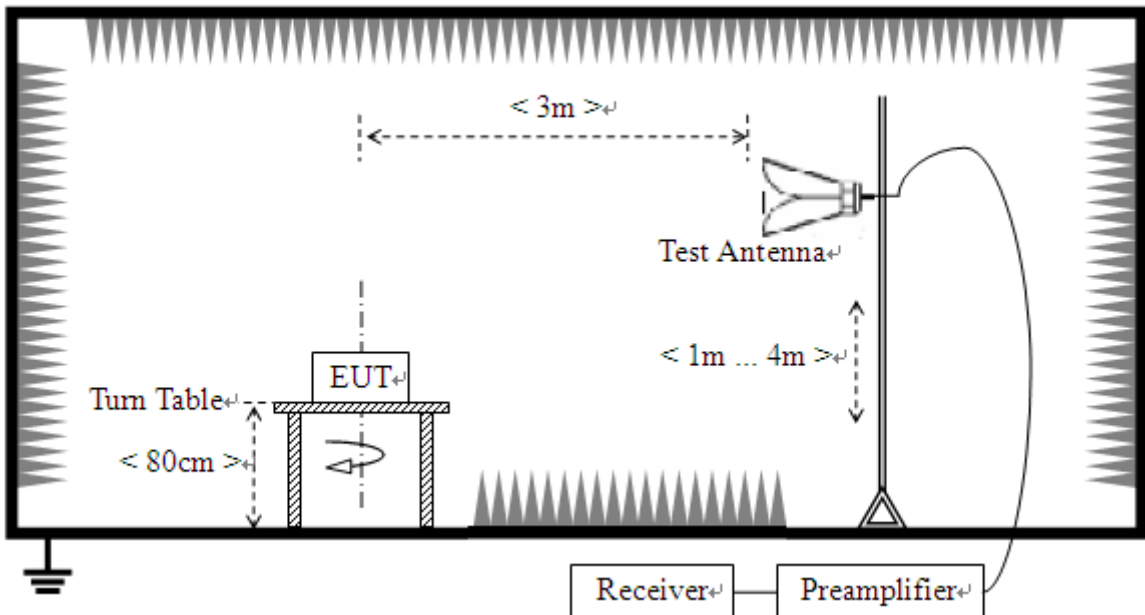
## 4.5 Test Setups

### Test Setup 1



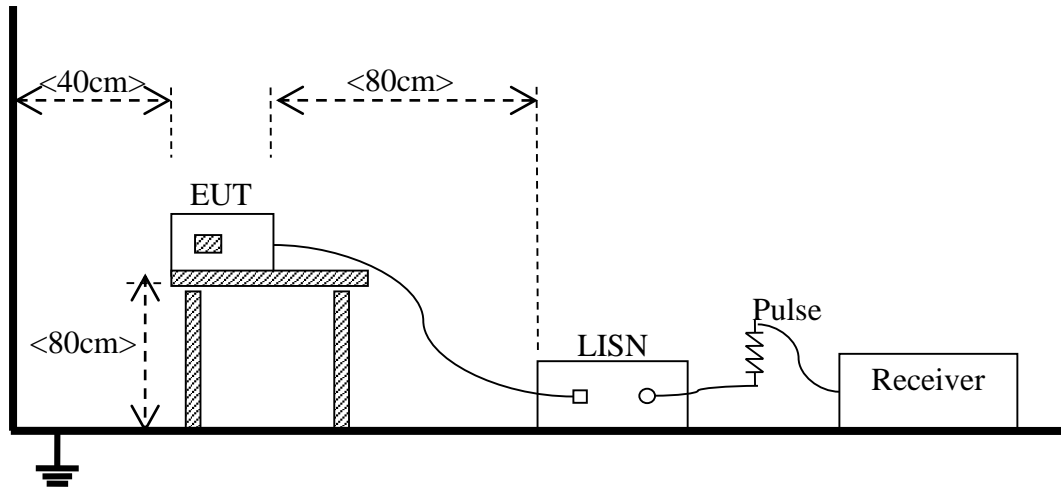
(For Radiated Emission Test (30 MHz-1 GHz))

### 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~TC12 <sup>Note</sup>
Conducted Emission, AC Ports	Test Env.	NTNV
	Test Setup	Test Setup 3
	Test Configuration	TC01~TC12 <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.

Worst Case:

1) Radiated Emission

The GSM1900 Test Mode (TC03) is the worst case.

2) Conducted Emission

The WCDMA Band 5 Test Mode (TC05) is the worst case.

## 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:**

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

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.

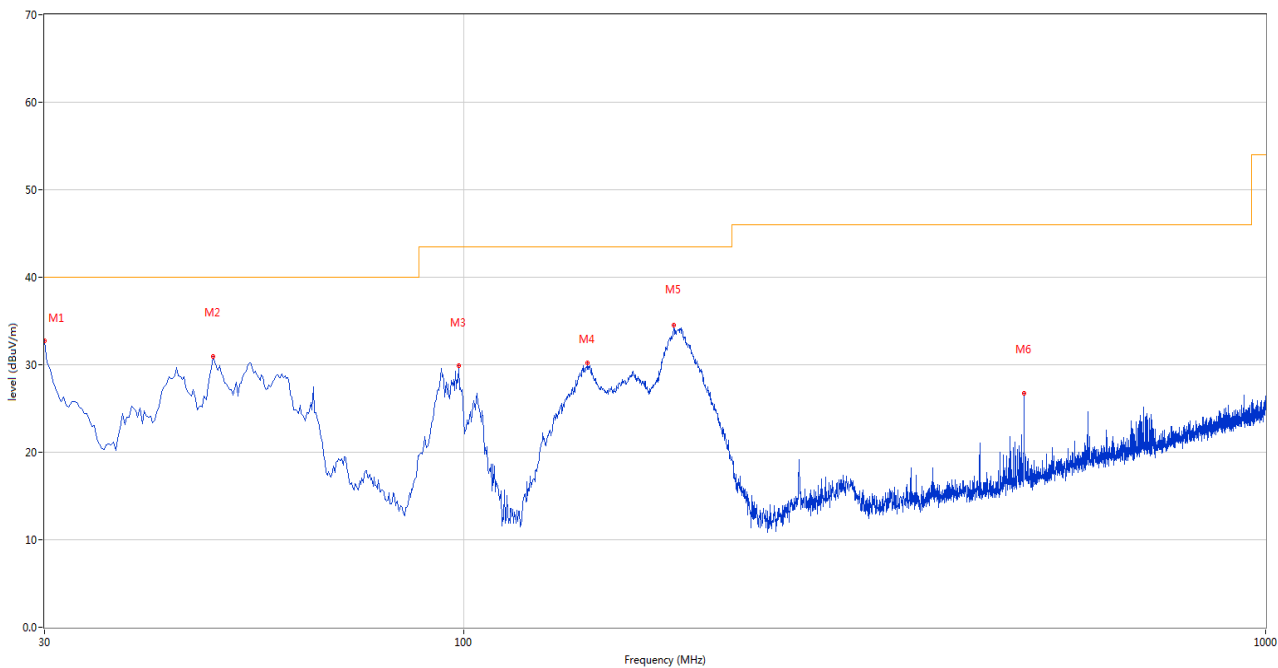
Note 2: For the test data above 1 GHz, according the ANSI C63.4-2014, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

Note 3: This frequency which near 1880 MHz and 1960 MHz with circle should be ignored because they are GSM1900 carrier frequency, the marked spikes near 2400 MHz with circle should be ignored because they are Bluetooth or WIFI carrier frequency.

### Test Data and Plots

#### The GSM1900 Test Mode (TC03)

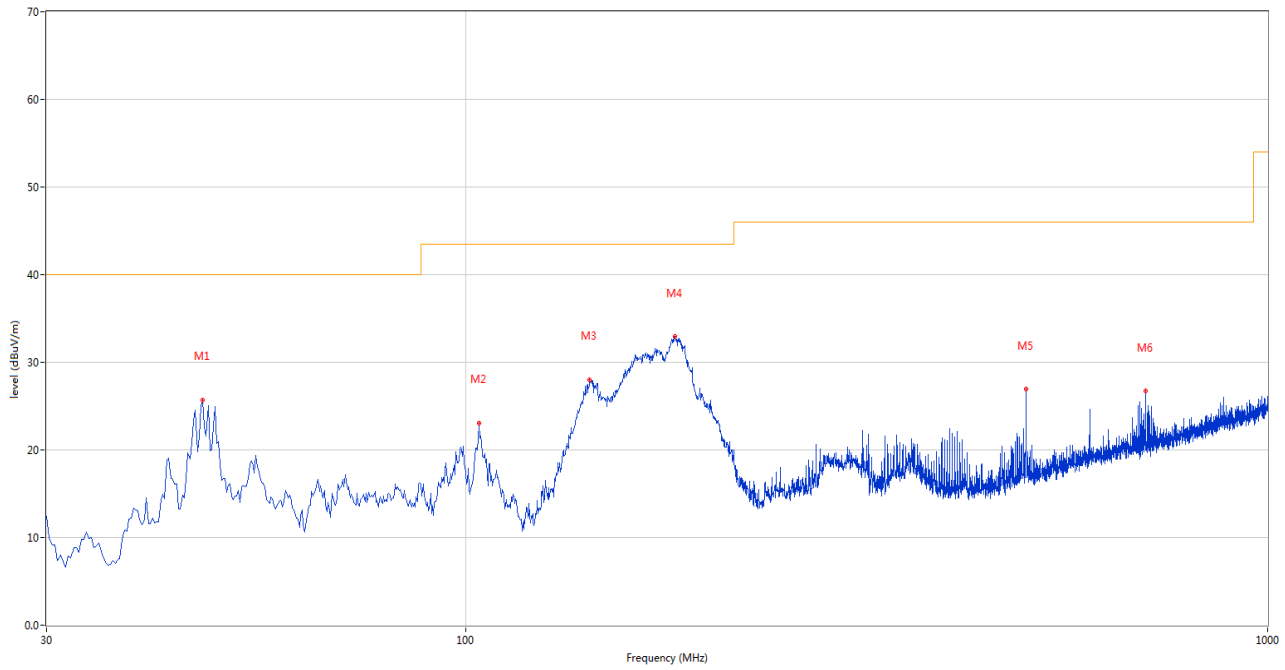
##### A.1.1 Test Antenna Vertical, 30 MHz – 1 GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	30.000	32.79	-26.52	40.0	-7.21	Peak	213.00	100	Vertical	Pass
2	48.672	30.95	-23.35	40.0	-9.05	Peak	359.40	200	Vertical	Pass
3	98.628	29.85	-24.84	43.5	-13.65	Peak	343.50	100	Vertical	Pass
4	142.762	30.18	-27.85	43.5	-13.32	Peak	333.40	100	Vertical	Pass
5	182.775	34.48	-25.98	43.5	-9.02	Peak	356.00	100	Vertical	Pass
6	499.965	26.77	-16.81	46.0	-19.23	Peak	160.10	100	Vertical	Pass

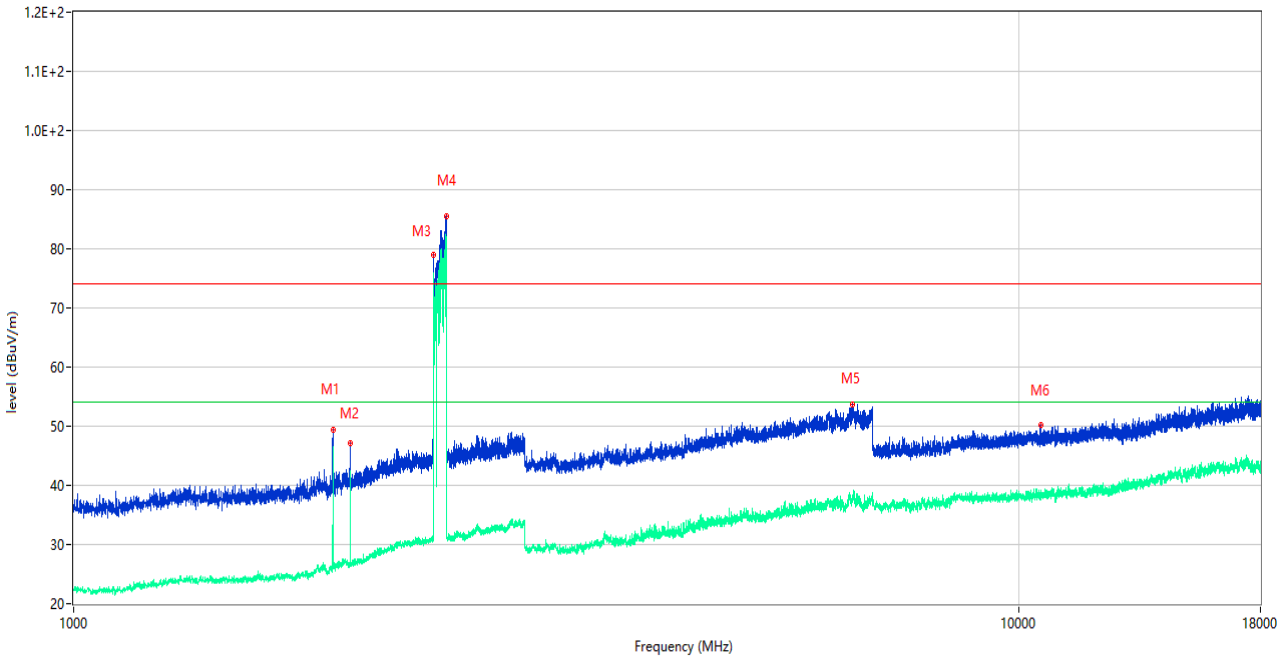


## A.1.2 Test Antenna Horizontal, 30 MHz – 1 GHz



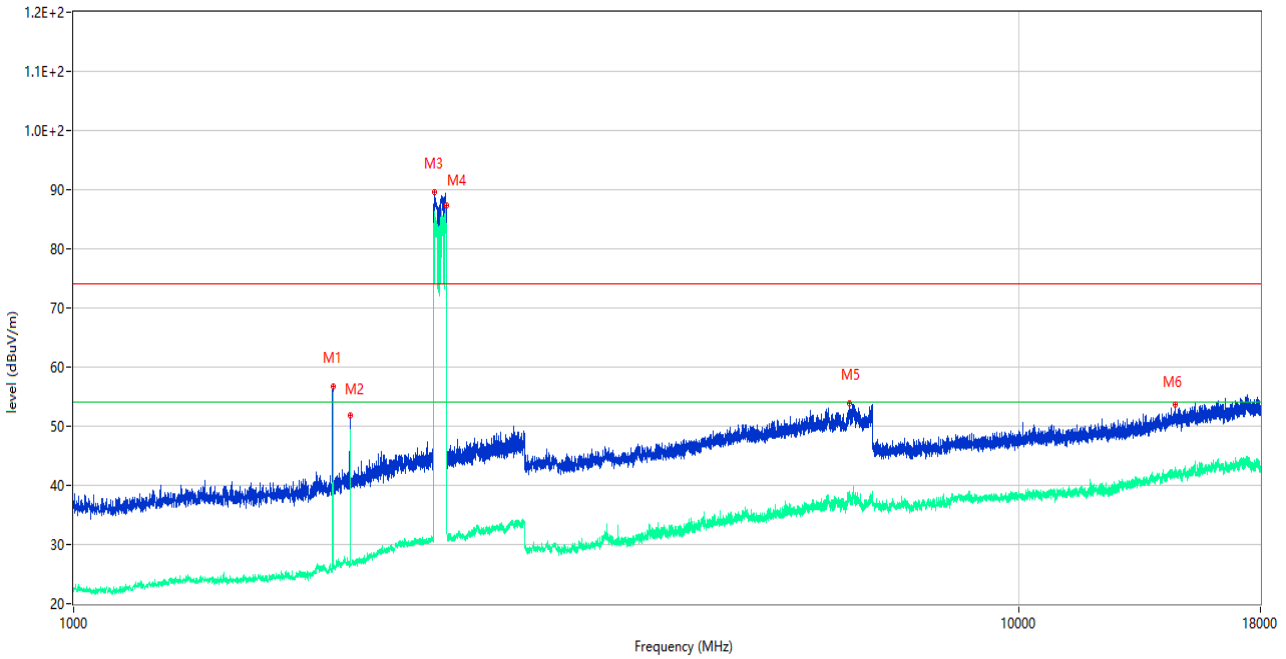
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	46.975	25.73	-23.65	40.0	-14.27	Peak	76.60	100	Horizontal	Pass
2	103.963	23.07	-24.78	43.5	-20.43	Peak	78.50	200	Horizontal	Pass
3	142.762	28.00	-27.85	43.5	-15.50	Peak	285.20	200	Horizontal	Pass
4	182.290	32.93	-26.11	43.5	-10.57	Peak	295.20	200	Horizontal	Pass
5	499.965	26.91	-16.81	46.0	-19.09	Peak	166.40	100	Horizontal	Pass
6	704.393	26.74	-13.44	46.0	-19.26	Peak	297.30	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**	1880.000	40.54	-15.14	54.0	-13.46	AV	3.00	100	Vertical	N/A
1	1880.000	49.44	-15.14	74.0	-24.56	Peak	3.00	100	Vertical	N/A
2**	1960.000	36.04	-15.40	54.0	-17.96	AV	176.00	100	Vertical	N/A
2	1960.000	47.16	-15.40	74.0	-26.84	Peak	176.00	100	Vertical	N/A
3**	2402.000	73.46	-11.94	54.0	19.46	AV	287.00	100	Vertical	N/A
3	2402.000	78.90	-11.94	74.0	4.90	Peak	287.00	100	Vertical	N/A
4**	2477.000	80.34	-11.54	54.0	26.34	AV	72.00	100	Vertical	N/A
4	2477.000	85.45	-11.54	74.0	11.45	Peak	72.00	100	Vertical	N/A
5**	6670.000	37.93	0.04	54.0	-16.07	AV	205.00	100	Vertical	Pass
5	6670.000	53.73	0.04	74.0	-20.27	Peak	205.00	100	Vertical	Pass
6**	10542.000	37.82	-0.19	54.0	-16.18	AV	208.00	100	Vertical	Pass
6	10542.000	50.29	-0.19	74.0	-23.71	Peak	208.00	100	Vertical	Pass

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

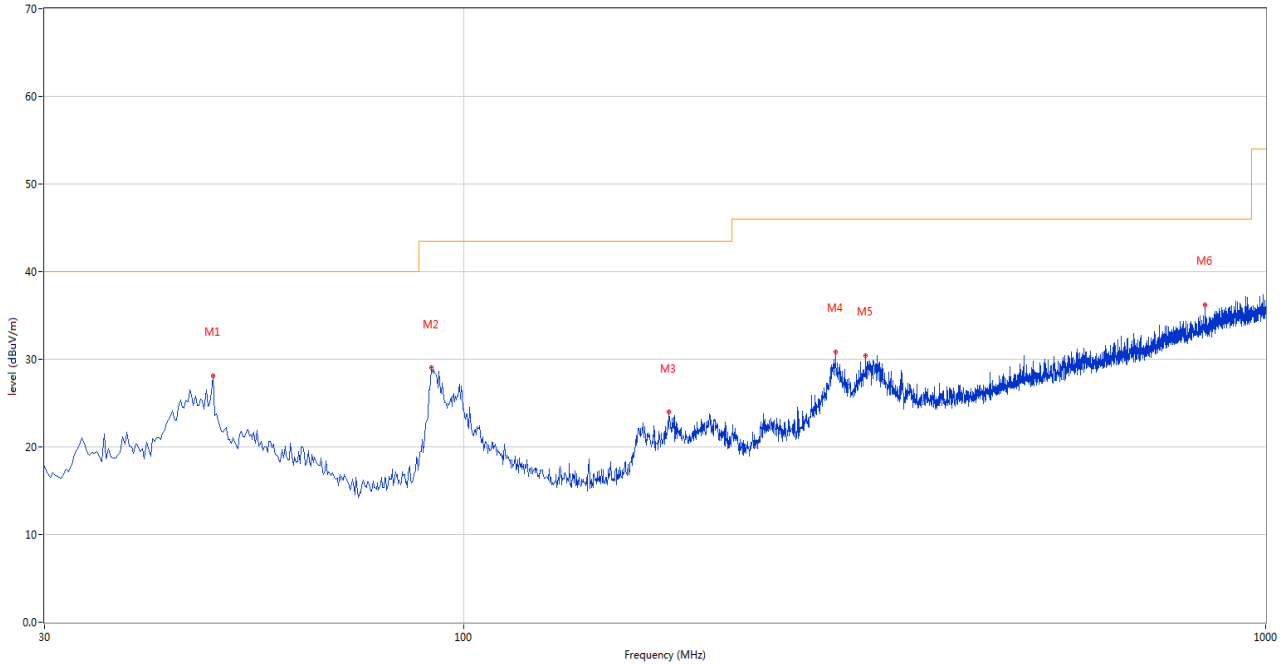


No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1**	1880.000	51.04	-15.14	54.0	-2.96	AV	323.00	100	Horizontal	N/A
1	1880.000	56.66	-15.14	74.0	-17.34	Peak	323.00	100	Horizontal	N/A
2**	1960.000	43.86	-15.40	54.0	-10.14	AV	227.00	100	Horizontal	N/A
2	1960.000	51.91	-15.40	74.0	-22.09	Peak	227.00	100	Horizontal	N/A
3**	2409.000	83.81	-12.01	54.0	29.81	AV	211.00	100	Horizontal	N/A
3	2409.000	89.54	-12.01	74.0	15.54	Peak	211.00	100	Horizontal	N/A
4**	2477.000	82.89	-11.54	54.0	28.89	AV	263.00	100	Horizontal	N/A
4	2477.000	87.41	-11.54	74.0	13.41	Peak	263.00	100	Horizontal	N/A
5**	6611.000	38.27	0.44	54.0	-15.73	AV	176.00	100	Horizontal	Pass
5	6611.000	53.81	0.44	74.0	-20.19	Peak	176.00	100	Horizontal	Pass
6**	14621.625	42.40	1.44	54.0	-11.60	AV	105.00	100	Horizontal	Pass
6	14621.625	53.68	1.44	74.0	-20.32	Peak	105.00	100	Horizontal	Pass

Test Data and Plots

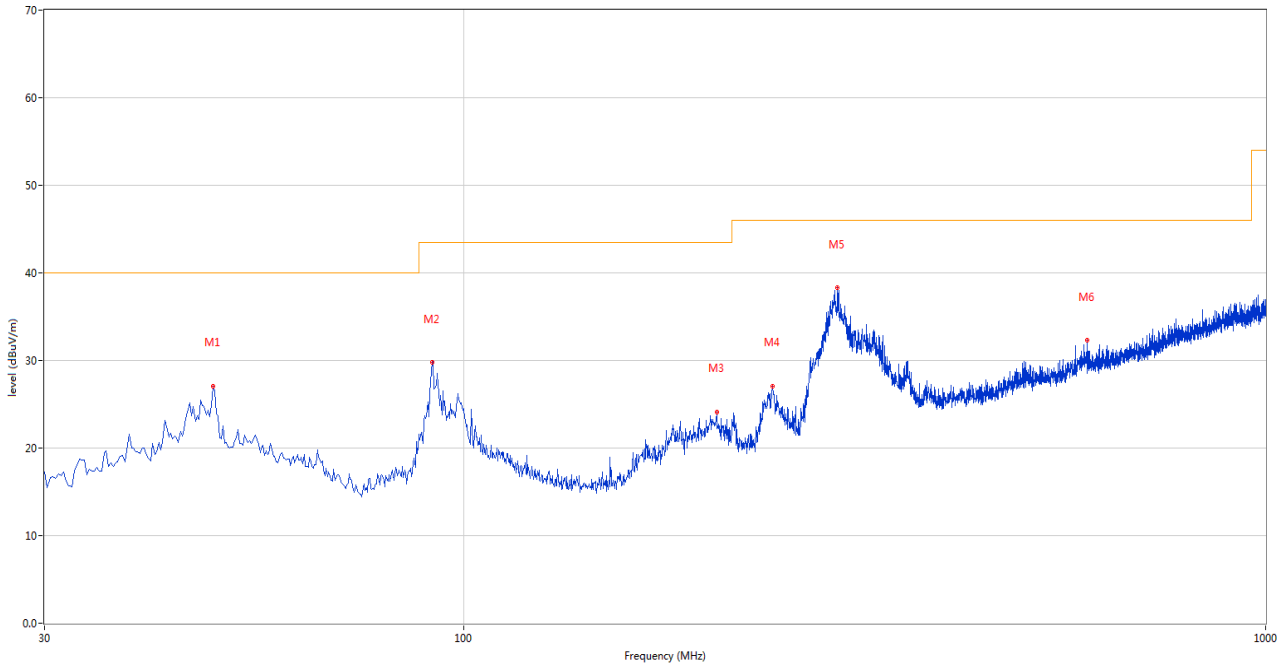
The USB Test Mode (TC12)

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



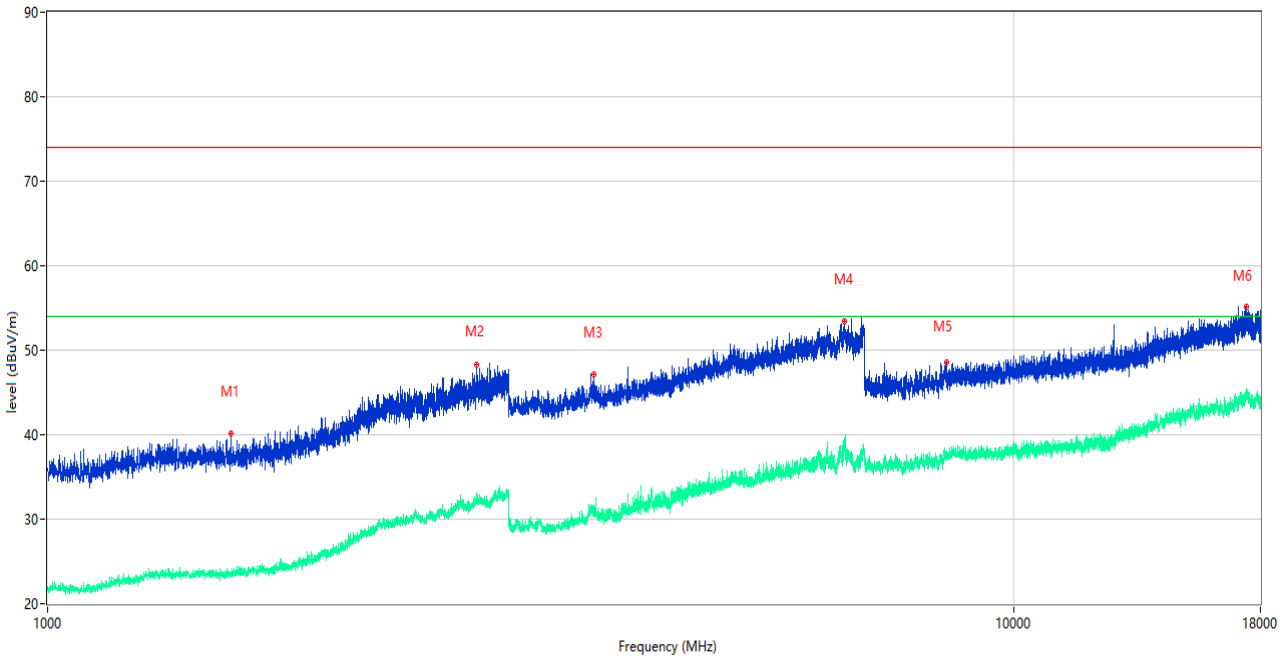
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	48.672	28.12	-23.30	40.0	-11.88	Peak	323.80	200	Vertical	Pass
2	91.110	29.05	-26.36	43.5	-14.45	Peak	360.00	200	Vertical	Pass
3	180.350	23.96	-26.47	43.5	-19.54	Peak	235.20	100	Vertical	Pass
4	290.687	30.86	-22.16	46.0	-15.14	Peak	235.20	100	Vertical	Pass
5	316.878	30.44	-21.70	46.0	-15.56	Peak	360.00	200	Vertical	Pass
6	840.193	36.23	-11.19	46.0	-9.77	Peak	337.40	200	Vertical	Pass

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



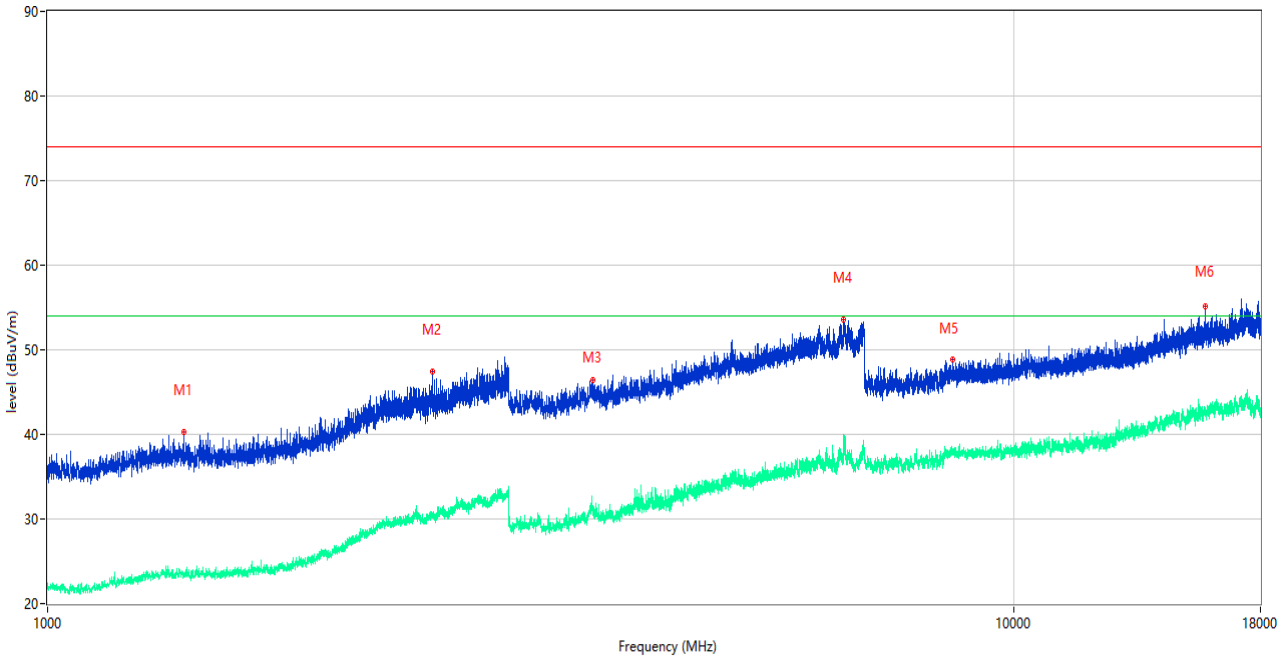
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	48.672	27.07	-23.30	40.0	-12.93	Peak	132.20	200	Horizontal	Pass
2	91.353	29.78	-26.31	43.5	-13.72	Peak	62.10	200	Horizontal	Pass
3	206.782	24.16	-24.29	43.5	-19.34	Peak	84.90	100	Horizontal	Pass
4	242.430	27.07	-23.29	46.0	-18.93	Peak	253.20	100	Horizontal	Pass
5	292.627	38.33	-22.27	46.0	-7.67	Peak	249.50	100	Horizontal	Pass
6	598.420	32.29	-14.88	46.0	-13.71	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 (o)	Height (cm)	ANT	Verdict
1**	1548.000	23.61	-17.32	54.0	-30.39	AV	102.00	100	Vertical	Pass
1	1548.000	40.20	-17.32	74.0	-33.80	Peak	102.00	100	Vertical	Pass
2**	2778.500	32.12	-10.10	54.0	-21.88	AV	92.00	100	Vertical	Pass
2	2778.500	48.23	-10.10	74.0	-25.77	Peak	92.00	100	Vertical	Pass
3**	3677.000	31.11	-6.64	54.0	-22.89	AV	269.00	100	Vertical	Pass
3	3677.000	47.17	-6.64	74.0	-26.83	Peak	269.00	100	Vertical	Pass
4**	6682.000	38.32	0.18	54.0	-15.68	AV	359.00	100	Vertical	Pass
4	6682.000	53.41	0.18	74.0	-20.59	Peak	359.00	100	Vertical	Pass
5**	8518.000	37.75	-1.14	54.0	-16.25	AV	237.00	100	Vertical	Pass
5	8518.000	48.55	-1.14	74.0	-25.45	Peak	237.00	100	Vertical	Pass
6**	17426.438	45.14	4.66	54.0	-8.86	AV	170.00	100	Vertical	Pass
6	17426.438	55.12	4.66	74.0	-18.88	Peak	170.00	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 (o)	Height (cm)	ANT	Verdict
1**	1385.000	23.37	-17.15	54.0	-30.63	AV	343.00	100	Horizontal	Pass
1	1385.000	40.27	-17.15	74.0	-33.73	Peak	343.00	100	Horizontal	Pass
2**	2503.500	30.37	-12.02	54.0	-23.63	AV	36.00	100	Horizontal	Pass
2	2503.500	47.39	-12.02	74.0	-26.61	Peak	36.00	100	Horizontal	Pass
3**	3664.000	31.35	-6.91	54.0	-22.65	AV	349.00	100	Horizontal	Pass
3	3664.000	46.44	-6.91	74.0	-27.56	Peak	349.00	100	Horizontal	Pass
4**	6669.000	37.82	0.04	54.0	-16.18	AV	124.00	100	Horizontal	Pass
4	6669.000	53.54	0.04	74.0	-20.46	Peak	124.00	100	Horizontal	Pass
5**	8648.813	37.92	-1.40	54.0	-16.08	AV	2.00	100	Horizontal	Pass
5	8648.813	48.89	-1.40	74.0	-25.11	Peak	2.00	100	Horizontal	Pass
6**	15798.938	42.85	3.06	54.0	-11.15	AV	318.00	100	Horizontal	Pass
6	15798.938	55.12	3.06	74.0	-18.88	Peak	318.00	100	Horizontal	Pass

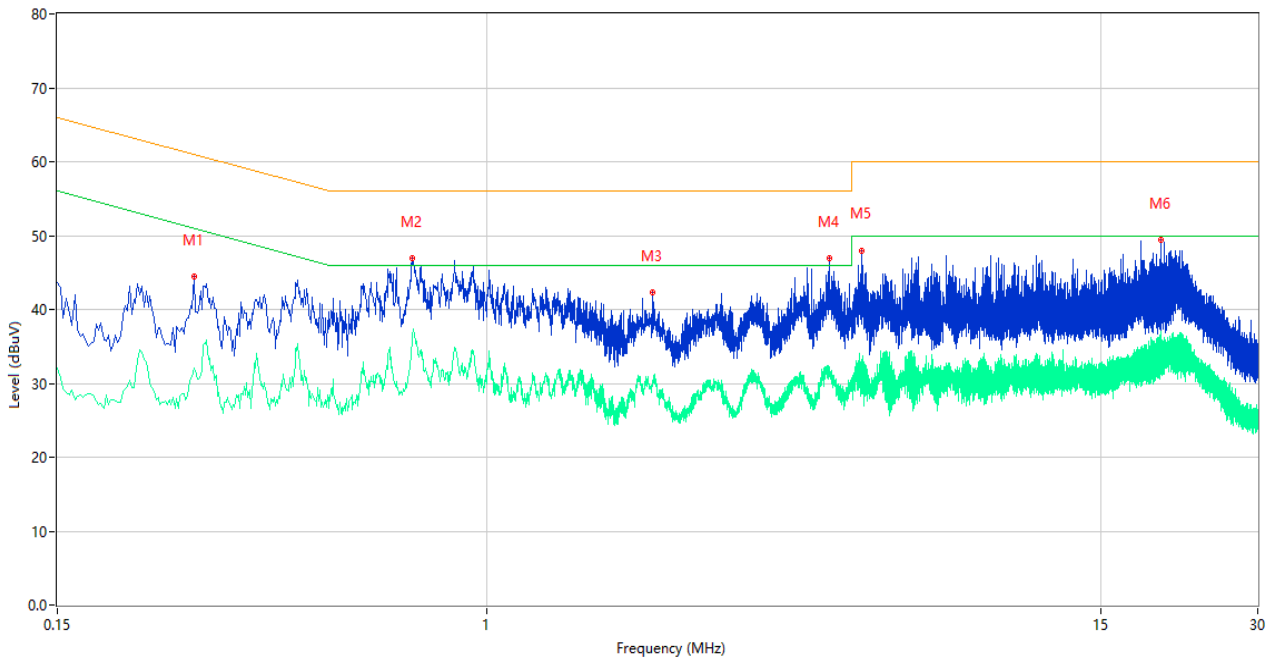
## A.2 Conducted Emission

### Test Data and Plots

#### The WCDMA Band 5 Test Mode (TC05)

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 (240 VAC, 50 Hz ) shown here.

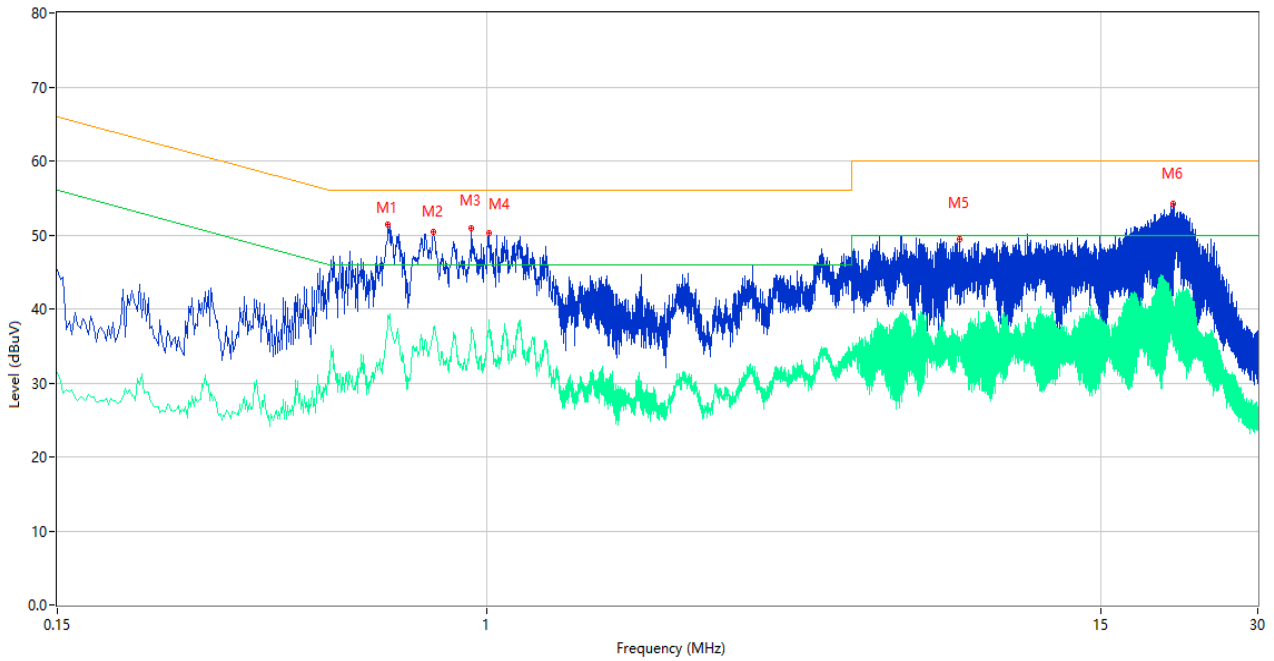
#### A.2.1 L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.274	44.42	10.34	61.00	-16.58	Peak	L	Pass
1**	0.274	32.13	10.34	51.00	-18.87	AV	L	Pass
2	0.718	46.86	10.27	56.00	-9.14	Peak	L	Pass
2**	0.718	35.92	10.27	46.00	-10.08	AV	L	Pass
3	2.076	42.29	10.26	56.00	-13.71	Peak	L	Pass
3**	2.076	30.34	10.26	46.00	-15.66	AV	L	Pass
4	4.524	46.90	10.31	56.00	-9.10	Peak	L	Pass
4**	4.524	31.01	10.31	46.00	-14.99	AV	L	Pass
5	5.218	47.92	10.32	60.00	-12.08	Peak	L	Pass
5**	5.218	30.66	10.32	50.00	-19.34	AV	L	Pass
6	19.544	49.35	10.54	60.00	-10.65	Peak	L	Pass
6**	19.544	32.66	10.54	50.00	-17.34	AV	L	Pass



## A.2.2 N Phase

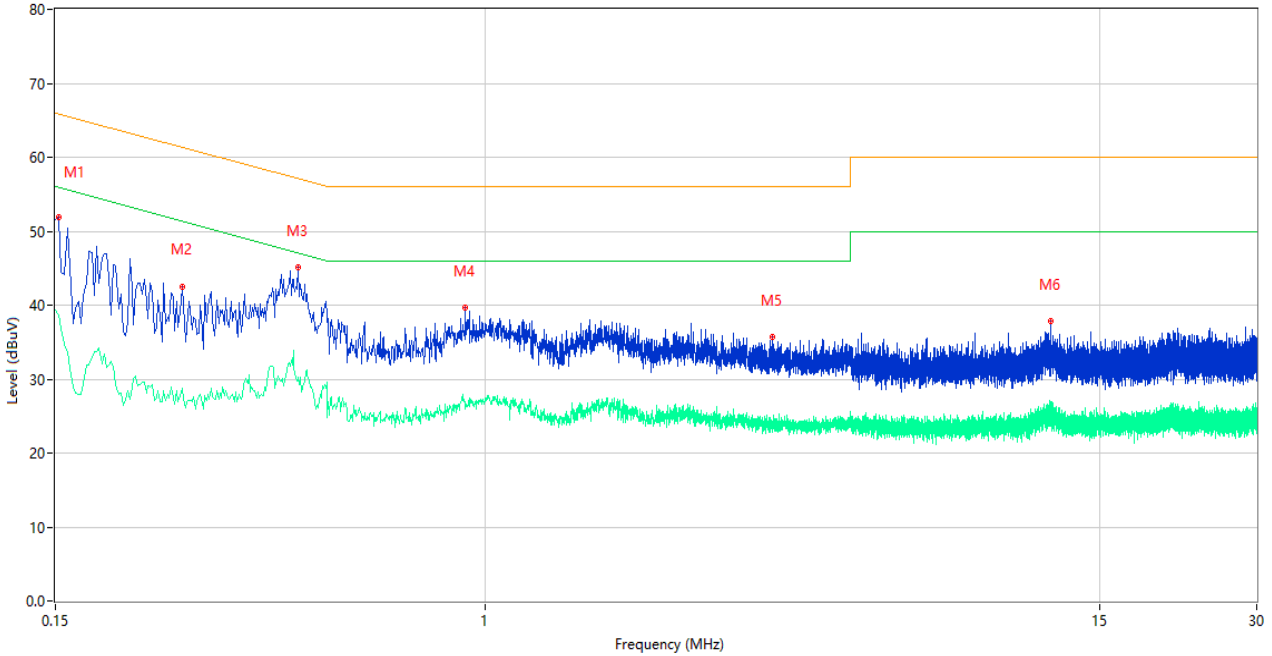


No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.646	53.32	10.27	56.00	-2.68	Peak	N	N/A
1*	0.646	49.98	10.27	56.00	-6.02	QP	N	Pass
1**	0.646	39.12	10.27	46.00	-6.88	AV	N	Pass
2	0.790	52.60	10.27	56.00	-3.40	Peak	N	N/A
2*	0.790	49.14	10.27	56.00	-6.86	QP	N	Pass
2**	0.790	37.58	10.27	46.00	-8.42	AV	N	Pass
3	0.934	51.89	10.24	56.00	-4.11	Peak	N	N/A
3*	0.934	47.98	10.24	56.00	-8.02	QP	N	Pass
3**	0.934	37.50	10.24	46.00	-8.50	AV	N	Pass
4	1.010	50.55	10.23	56.00	-5.45	Peak	N	N/A
4*	1.010	46.33	10.23	56.00	-9.67	QP	N	Pass
4**	1.010	38.51	10.23	46.00	-7.49	AV	N	Pass
5	8.028	49.46	10.35	60.00	-10.54	Peak	N	Pass
5**	8.028	36.15	10.35	50.00	-13.85	AV	N	Pass
6	20.676	54.01	10.57	60.00	-5.99	Peak	N	N/A
6*	20.676	48.94	10.57	60.00	-11.06	QP	N	Pass
6**	20.676	40.30	10.57	50.00	-9.70	AV	N	Pass

Test Data and Plots

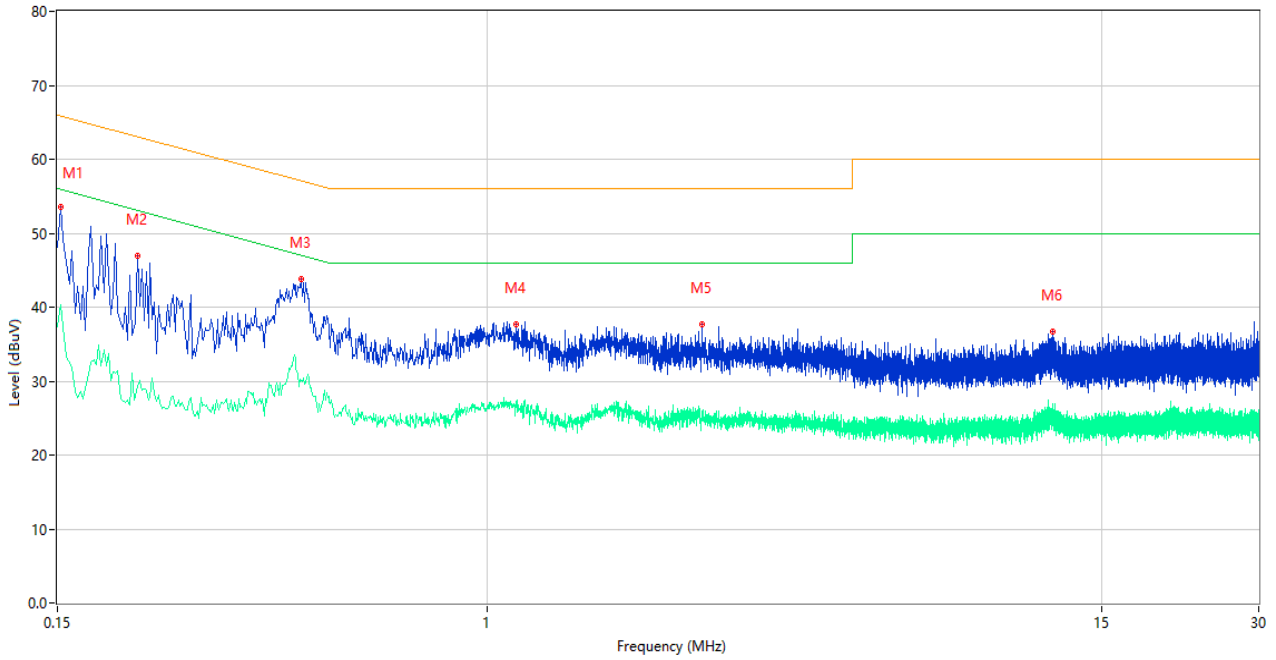
The USB Test Mode (TC12)

A.2.3 L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.152	51.97	10.41	65.89	-13.92	Peak	L	Pass
1**	0.152	38.66	10.41	55.89	-17.23	AV	L	Pass
2	0.262	42.55	10.34	61.37	-18.82	Peak	L	Pass
2**	0.262	28.72	10.34	51.37	-22.65	AV	L	Pass
3	0.438	45.12	10.31	57.10	-11.98	Peak	L	Pass
3**	0.438	30.19	10.31	47.10	-16.91	AV	L	Pass
4	0.916	39.65	10.24	56.00	-16.35	Peak	L	Pass
4**	0.916	25.99	10.24	46.00	-20.01	AV	L	Pass
5	3.552	35.65	10.30	56.00	-20.35	Peak	L	Pass
5**	3.552	23.65	10.30	46.00	-22.35	AV	L	Pass
6	12.088	37.86	10.38	60.00	-22.14	Peak	L	Pass
6**	12.088	25.43	10.38	50.00	-24.57	AV	L	Pass

A.2.4 N Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Over Limit (dB)	Detector	Line	Verdict
1	0.152	53.61	10.41	65.89	-12.28	Peak	N	Pass
1**	0.152	40.30	10.41	55.89	-15.59	AV	N	Pass
2	0.214	46.94	10.38	63.05	-16.11	Peak	N	Pass
2**	0.214	29.30	10.38	53.05	-23.75	AV	N	Pass
3	0.440	43.84	10.31	57.06	-13.22	Peak	N	Pass
3**	0.440	30.08	10.31	47.06	-16.98	AV	N	Pass
4	1.136	37.68	10.24	56.00	-18.32	Peak	N	Pass
4**	1.136	27.04	10.24	46.00	-18.96	AV	N	Pass
5	2.576	37.65	10.28	56.00	-18.35	Peak	N	Pass
5**	2.576	25.89	10.28	46.00	-20.11	AV	N	Pass
6	12.078	36.74	10.38	60.00	-23.26	Peak	N	Pass
6**	12.078	24.99	10.38	50.00	-25.01	AV	N	Pass

## **ANNEX B TEST SETUP PHOTOS**

Please refer the document "BL-SZ1980332-AE.PDF".

## **ANNEX C EUT EXTERNAL PHOTOS**

Please refer the document "BL-SZ1980332-AW.PDF".

## **ANNEX D EUT INTERNAL PHOTOS**

Please refer the document "BL-SZ1980332-AI.PDF".

--END OF REPORT--