



# FCC RF Test Report

**APPLICANT** : Fibocom Wireless Inc.  
**EQUIPMENT** : LTE Module  
**BRAND NAME** : Fibocom  
**MODEL NAME** : L860-GL-16  
**FCC ID** : ZMOL860GL16  
**STANDARD** : 47 CFR Part 2, 22(H), 24(E), 27(L), 27(F), 27(H),  
27(M), 90(S), 90(R), 96  
**TEST DATE(S)** : Mar. 15, 2023

We, Sporton International Inc. (ShenZhen), would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26-2015 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (ShenZhen), the test report shall not be reproduced except in full.

Jason Jia



Approved by: Jason Jia

**Sporton International Inc. (ShenZhen)**

**1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055**

**People's Republic of China**



TABLE OF CONTENTS

REVISION HISTORY...3
SUMMARY OF TEST RESULT...4
1 GENERAL DESCRIPTION...5
1.1 Applicant...5
1.2 Manufacturer...5
1.3 Product Feature of Equipment Under Test...5
1.4 Product Specification of Equipment Under Test...6
1.5 Modification of EUT...7
1.6 Testing Location...7
1.7 Test Software...7
1.8 Applicable Standards...8
2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST...9
2.1 Test Mode...9
2.2 Connection Diagram of Test System...10
2.3 Support Unit used in test configuration and system...10
2.4 Frequency List of Low/Middle/High Channels...11
3 RADIATED TEST ITEMS...18
3.1 Measuring Instruments...18
3.2 Test Setup...18
3.3 Test Result of Radiated Test...19
3.4 Radiated Spurious Emission...20
4 LIST OF MEASURING EQUIPMENT...22
5 UNCERTAINTY OF EVALUATION...23
APPENDIX A. TEST RESULTS OF RADIATED TEST
APPENDIX B. TEST SETUP PHOTOGRAPHS





### SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1053 §22.917(a) §24.238(a) §27.53(c)(2) §27.53(f) §27.53(g) §27.53(h) §90.543 (e)(3) §90.543 (f) §90.691	Radiated Spurious Emission (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 17) (Band 25) (Band 26) (Band 66) (Band 14)	$< 43+10\log_{10}(P[\text{Watts}])$	PASS	Under limit 8.12 dB at 14464.000 MHz
	§2.1053 §27.53(m)(4)	Radiated Spurious Emission (Band 7) (Band 38) (Band 41)	$< 55+10\log_{10}(P[\text{Watts}])$		
	§2.1051 §96.41	Radiated Spurious Emission (Band 48)	-40dBm/MHz		

**Note:** This is a variant report for L860-GL-16. The change note could be referred to L860-GL-16\_ Class II Permissive Change letter which is exhibit separately. Based on the similarity between current and previous project, only the related test cases of RSE from original test report (Sporton Report Number FG003022A&FG003022B&FG003022C& FG003022D& FG003022F& FW003022) were verified for the differences.

<b>Declaration of Conformity:</b>
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
<b>Comments and Explanations:</b>
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.



# 1 General Description

## 1.1 Applicant

**Fibocom Wireless Inc.**

1101, Tower A, Building 6, Shenzhen International Innovation Valley, Dashi 1st Rd, Nanshan, Shenzhen, China

## 1.2 Manufacturer

**Fibocom Wireless Inc.**

1101, Tower A, Building 6, Shenzhen International Innovation Valley, Dashi 1st Rd, Nanshan, Shenzhen, China

## 1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	LTE Module
Brand Name	Fibocom
Model Name	L860-GL-16
FCC ID	ZMOL860GL16
IMEI Code	Radiation: 863714050132168
HW Version	V1.3
SW Version	18601.5001.00.01.02.05
EUT Stage	Identical Prototype



### 1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
<b>Tx Frequency</b>	<p><b>WCDMA:</b>            Band V : 824 MHz ~ 849 MHz            Band II : 1850 MHz ~ 1910 MHz            Band IV : 1710 MHz ~ 1755 MHz</p> <p><b>LTE:</b>            LTE Band 2 : 1850 MHz ~ 1910 MHz            LTE Band 4 : 1710 MHz ~ 1755 MHz            LTE Band 5 : 824 MHz ~ 849 MHz            LTE Band 7 : 2500 MHz ~ 2570 MHz            LTE Band 12 : 699 MHz ~ 716 MHz            LTE Band 13 : 777 MHz ~ 787 MHz            LTE Band 14: 788 MHz ~ 798 MHz            LTE Band 17 : 704 MHz ~ 716 MHz            LTE Band 25 : 1850 MHz ~ 1915 MHz            LTE Band 26 : 824 MHz ~ 849 MHz            LTE Band 26 (90S) : 814 MHz ~ 824 MHz            LTE Band 38 : 2570 MHz ~ 2620 MHz            LTE Band 41 : 2496 MHz ~ 2690 MHz            LTE Band 48 : 3550 MHz ~ 3700 MHz            LTE Band 66 : 1710 MHz ~ 1780 MHz</p>
<b>Rx Frequency</b>	<p><b>WCDMA:</b>            Band V : 869 MHz ~ 894 MHz            Band II : 1930 MHz ~ 1990 MHz            Band IV : 2110 MHz ~ 2155 MHz</p> <p><b>LTE:</b>            LTE Band 2 : 1930 MHz ~ 1990 MHz            LTE Band 4 : 2110 MHz ~ 2155 MHz            LTE Band 5 : 869 MHz ~ 894 MHz            LTE Band 7 : 2620 MHz ~ 2690 MHz            LTE Band 12 : 729 MHz ~ 746 MHz            LTE Band 13 : 746 MHz ~ 756 MHz            LTE Band 14: 758 MHz ~ 768 MHz            LTE Band 17 : 734 MHz ~ 746 MHz            LTE Band 25 : 1930 MHz ~ 1995 MHz            LTE Band 26 : 869 MHz ~ 894 MHz            LTE Band 26 (90S) : 859 MHz ~ 869 MHz            LTE Band 38: 2570 MHz ~ 2620 MHz            LTE Band 41 : 2496 MHz ~ 2690 MHz            LTE Band 48 : 3550 MHz ~ 3700 MHz            LTE Band 66 : 2110 MHz~ 2200 MHz</p>
<b>Bandwidth</b>	LTE Band 2 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 4 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 5 : 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 7 : 5MHz/ 10MHz / 15MHz / 20MHz LTE Band 12 : 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 13 : 5MHz / 10MHz LTE Band 14 : 5MHz / 10MHz LTE Band 17 : 5MHz / 10MHz LTE Band 25 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 26 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz LTE Band 38 : 5MHz / 10MHz / 15MHz / 20MHz



	LTE Band 41 : 5MHz / 10MHz / 15MHz / 20MHz LTE Band 48 : 5MHz / 10MHz / 15MHz / 20MHz LTE Band 66 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz
Type of Modulation	WCDMA : BPSK HSPA : QPSK HSPA+ : 16QAM DC-HSDPA : 64QAM QPSK / 16QAM / 64QAM

### 1.5 Modification of EUT

No modifications are made to the EUT during all test items.

### 1.6 Testing Location

Sporton International Inc. (ShenZhen) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Test Firm	Sporton International Inc. (ShenZhen)		
Test Site Location	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City Guangdong Province China 518103 TEL: +86-755-33202398		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	03CH03-SZ	CN1256	421272

### 1.7 Test Software

Item	Site	Manufacture	Name	Version
1.	03CH03-SZ	AUDIX	E3	6.2009-8-24



## 1.8 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ 47 CFR Part 2, 22(H), 24(E), 27(L), 27(F), 27(H), 27(M), 90(S), 90(R), 96
- ♦ ANSI C63.26-2015
- ♦ FCC KDB 971168 D01 Power Meas License Digital Systems v03r01
- ♦ FCC KDB 412172 D01 Determining ERP and EIRP v01r01

**Remark:** All test items were verified and recorded according to the standards and without any deviation during the test.





## 2 Test Configuration of Equipment Under Test

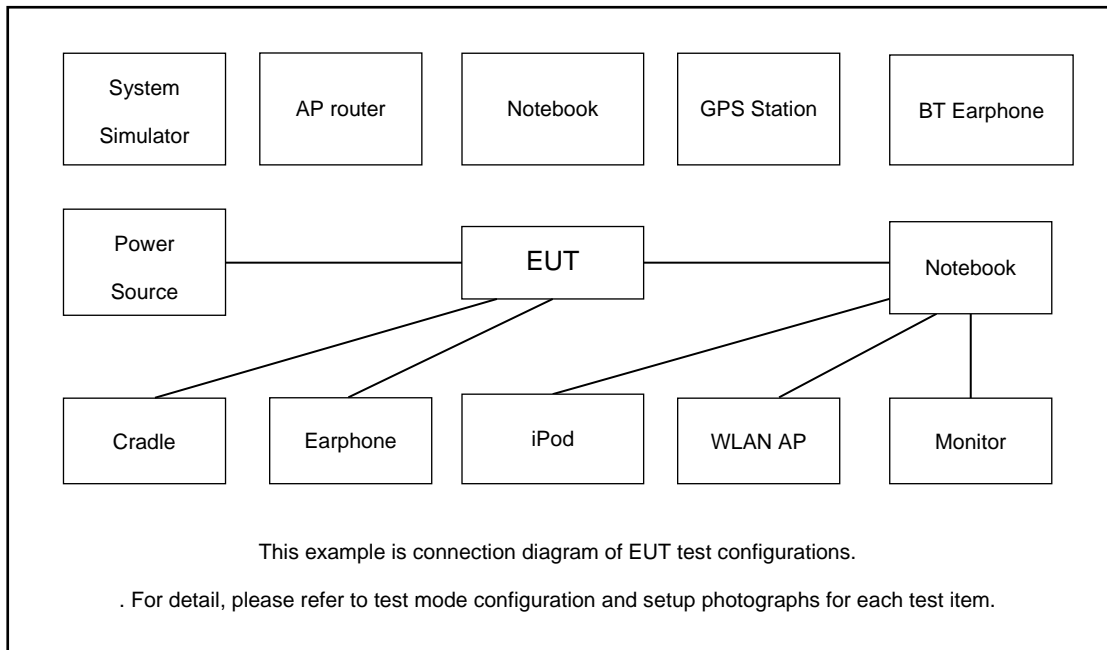
### 2.1 Test Mode

Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas License Digital Systems v03r01 with maximum output power.

Radiated measurements are performed by rotating the EUT in three different orthogonal test planes to find the maximum emission.

Test Items	Band	Bandwidth (MHz)						Modulation			RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Radiated Spurious Emission	7	Worst Case											v			
	12	Worst Case												v		
	13	Worst Case													v	
	14	Worst Case												v		
	25	Worst Case													v	
	26 (Part 22H)	Worst Case												v		
	26 (Part 90s)	Worst Case													v	
	41	Worst Case												v		
	48	Worst Case												v		
	66	Worst Case													v	
Note	<ol style="list-style-type: none"> <li>The mark "v" means that this configuration is chosen for testing</li> <li>The mark "-" means that this bandwidth is not supported.</li> <li>The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.</li> <li>LTE Band 26 overlaps the entire frequency range of LTE Band 5. Therefore, the test results provided in this report covers Band 5 and the portion of Band 26 subject to Part 22.</li> <li>LTE Band 66 overlaps the entire frequency range of LTE Band 4. Therefore, the test results provided in this report covers Band 66 as well as Band 4.</li> <li>LTE Band 25 overlaps the entire frequency range of LTE Band 2. Therefore, the test results provided in this report covers Band 25 as well as Band 2.</li> <li>LTE Band 12 overlaps the entire frequency range of LTE Band 17. Therefore, the test results provided in this report covers Band 12 as well as Band 17.</li> <li>LTE Band 41 overlaps the entire frequency range of LTE Band 38. Therefore, the test results provided in this report covers Band 41 as well as Band 38.</li> </ol>															

## 2.2 Connection Diagram of Test System



## 2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	Power Supply	GWINSTEK	PSS-2002	N/A	N/A	Unshielded, 1.8 m
2.	LTE Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m



### 2.4 Frequency List of Low/Middle/High Channels

Frequency List				
Band	Channel/Frequency(MHz)	Lowest	Middle	Highest
WCDMA Band V	Channel	4132	4182	4233
	Frequency	826.4	836.4	846.6
WCDMA Band II	Channel	9262	9400	9538
	Frequency	1852.4	1880.0	1907.6
WCDMA Band IV	Channel	1312	1413	1513
	Frequency	1712.4	1732.6	1752.6

LTE Band 2 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	18700	18900	19100
	Frequency	1860	1880	1900
15	Channel	18675	18900	19125
	Frequency	1857.5	1880	1902.5
10	Channel	18650	18900	19150
	Frequency	1855	1880	1905
5	Channel	18625	18900	19175
	Frequency	1852.5	1880	1907.5
3	Channel	18615	18900	19185
	Frequency	1851.5	1880	1908.5
1.4	Channel	18607	18900	19193
	Frequency	1850.7	1880	1909.3



LTE Band 4 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	20050	20175	20300
	Frequency	1720	1732.5	1745
15	Channel	20025	20175	20325
	Frequency	1717.5	1732.5	1747.5
10	Channel	20000	20175	20350
	Frequency	1715	1732.5	1750
5	Channel	19975	20175	20375
	Frequency	1712.5	1732.5	1752.5
3	Channel	19965	20175	20385
	Frequency	1711.5	1732.5	1753.5
1.4	Channel	19957	20175	20393
	Frequency	1710.7	1732.5	1754.3

LTE Band 5 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	20450	20525	20600
	Frequency	829	836.5	844
5	Channel	20425	20525	20625
	Frequency	826.5	836.5	846.5
3	Channel	20415	20525	20635
	Frequency	825.5	836.5	847.5
1.4	Channel	20407	20525	20643
	Frequency	824.7	836.5	848.3



LTE Band 7 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	20850	21100	21350
	Frequency	2510	2535	2560
15	Channel	20825	21100	21375
	Frequency	2507.5	2535	2562.5
10	Channel	20800	21100	21400
	Frequency	2505	2535	2565
5	Channel	20775	21100	21425
	Frequency	2502.5	2535	2567.5

LTE Band 12 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	23060	23095	23130
	Frequency	704	707.5	711
5	Channel	23035	23095	23155
	Frequency	701.5	707.5	713.5
3	Channel	23025	23095	23165
	Frequency	700.5	707.5	714.5
1.4	Channel	23017	23095	23173
	Frequency	699.7	707.5	715.3

LTE Band 13 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	-	23230	-
	Frequency	-	782	-
5	Channel	23205	23230	23255
	Frequency	779.5	782	784.5



LTE Band 14 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	-	23330	-
	Frequency	-	793	-
5	Channel	23305	23330	23355
	Frequency	790.5	793	795.5

LTE Band 17 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	23780	23790	23800
	Frequency	709	710	711
5	Channel	23755	23790	23825
	Frequency	706.5	710	713.5

LTE Band 25 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	26140	26340	26590
	Frequency	1860	1880	1905
15	Channel	26115	26340	26615
	Frequency	1857.5	1880	1907.5
10	Channel	26090	26340	26640
	Frequency	1855	1880	1910
5	Channel	26065	26340	26665
	Frequency	1852.5	1880	1912.5
3	Channel	26055	26340	26675
	Frequency	1851.5	1880	1913.5
1.4	Channel	26047	26340	26683
	Frequency	1850.7	1880	1914.3



LTE Band 26 Channel and Frequency List for Part 22				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
15	Channel	26865	26915	26965
	Frequency	831.5	836.5	841.5
10	Channel	26840	26915	26990
	Frequency	829	836.5	844
5	Channel	26815	26915	27015
	Frequency	826.5	836.5	846.5
3	Channel	26805	26915	27025
	Frequency	825.5	836.5	847.5
1.4	Channel	26797	26915	27033
	Frequency	824.7	836.5	848.3

LTE Band 26 Channel and Frequency List for 90S				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
15	Channel	26765	-	-
	Frequency	821.5	-	-
10	Channel	-	26740	-
	Frequency	-	819	-
5	Channel	26715	26740	26765
	Frequency	816.5	819	821.5
3	Channel	26705	26740	26775
	Frequency	815.5	819	822.5
1.4	Channel	26697	26740	26783
	Frequency	814.7	819	823.3



LTE Band 26 Cross-rule Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	-	Middle	-
15	Channel	-	26790	-
	Frequency	-	824	-
10	Channel	-	26790	-
	Frequency	-	824	-
5	Channel	-	26790	-
	Frequency	-	824	-
3	Channel	-	26790	-
	Frequency	-	824	-
1.4	Channel	-	26790	-
	Frequency	-	824	-

LTE Band 38 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	37850	38000	38150
	Frequency	2580	2595	2610
15	Channel	37825	38000	38175
	Frequency	2577.5	2595	2612.5
10	Channel	37800	38000	38200
	Frequency	2575	2595	2615
5	Channel	37775	38000	38225
	Frequency	2572.5	2595	2617.5

LTE Band 41 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	39750	40620	41490
	Frequency	2506	2593	2680
15	Channel	39725	40620	41515
	Frequency	2503.5	2593	2682.5
10	Channel	39700	40620	41540
	Frequency	2501	2593	2685
5	Channel	39675	40620	41565
	Frequency	2498.5	2593	2687.5





LTE Band 48 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	55340	55990	56640
	Frequency	3560.0	3625.0	3690.0
15	Channel	55315	55990	56665
	Frequency	3557.5	3625.0	3692.5
10	Channel	55290	55990	56690
	Frequency	3555.0	3625.0	3695.0
5	Channel	55265	55990	56715
	Frequency	3552.5	3625.0	3697.5

LTE Band 66 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	132072	132322	132572
	Frequency	1720	1745	1770
15	Channel	132047	132322	132597
	Frequency	1717.5	1745	1772.5
10	Channel	132022	132322	132622
	Frequency	1715	1745	1775
5	Channel	131997	132322	132647
	Frequency	1712.5	1745	1777.5
3	Channel	131987	132322	132657
	Frequency	1711.5	1745	1778.5
1.4	Channel	131979	132322	132665
	Frequency	1710.7	1745	1779.3

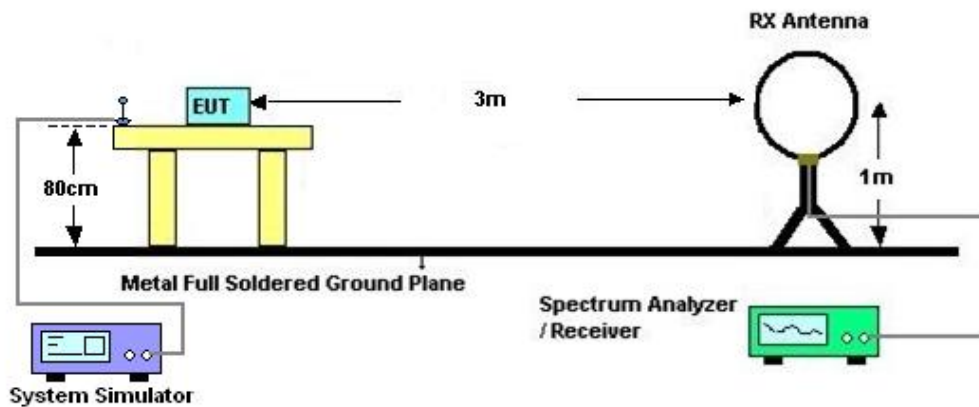
### 3 Radiated Test Items

#### 3.1 Measuring Instruments

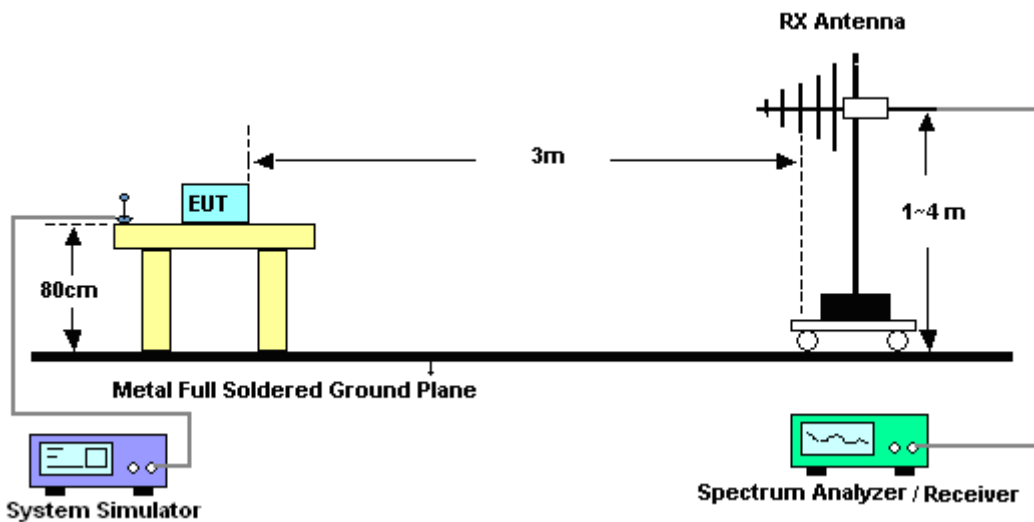
See list of measuring instruments of this test report.

#### 3.2 Test Setup

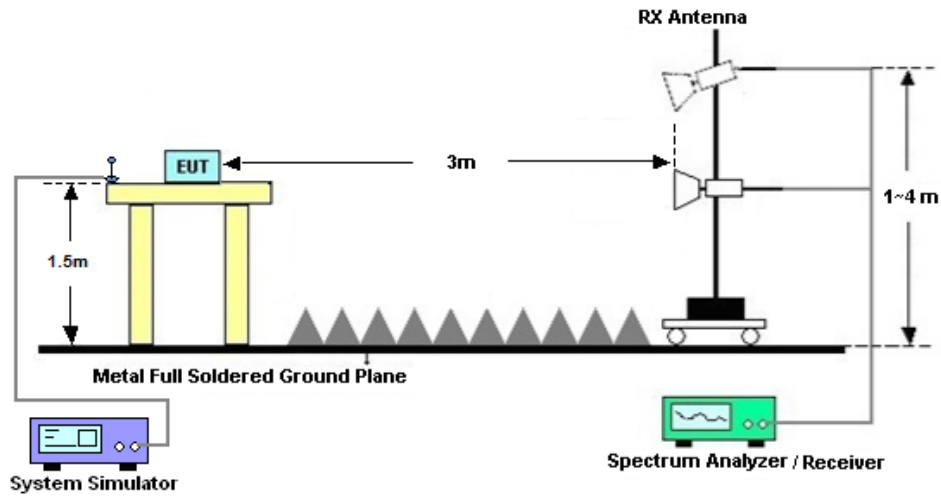
##### 3.2.1 For radiated test below 30MHz



##### 3.2.2 For radiated test from 30MHz to 1GHz



### 3.2.3 For radiated test above 1GHz



### 3.3 Test Result of Radiated Test

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

Please refer to Appendix A.



## 3.4 Radiated Spurious Emission

### 3.4.1 Description of Radiated Spurious Emission

For Band 2, 4, 5, 12, 14, 17, 25, 26, 66

The radiated spurious emission was measured by substitution method according to ANSI C63.26. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least  $43 + 10 \log (P)$  dB.

For Band 7, 38, 41

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least  $55 + 10 \log (P)$  dB.

For LTE Band 13

For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to  $-70$  dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and  $-80$  dBW EIRP for discrete emissions of less than 700 Hz bandwidth.

For LTE Band 48

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least  $-40$  dBm / MHz.

The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.



### 3.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.5
2. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
6. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
7. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
8. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
9. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
10.  $EIRP \text{ (dBm)} = S.G. \text{ Power} - Tx \text{ Cable Loss} + Tx \text{ Antenna Gain}$
11.  $ERP \text{ (dBm)} = EIRP - 2.15$
12. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.  
The limit line is derived from  $43 + 10\log(P)\text{dB}$  below the transmitter power  $P(\text{Watts})$   
 $= P(\text{W}) - [43 + 10\log(P)] \text{ (dB)}$   
 $= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$   
 $= -13\text{dBm}$ .
13. For Band 7, 38, 41:  
The limit line is derived from  $55 + 10\log(P)\text{dB}$  below the transmitter power  $P(\text{Watts})$
14. For Band 48:  
The limit line is  $-40\text{dBm/MHz}$ .



## 4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Test Receiver&SA	KEYSIGHT	N9038A	MY54450083	20Hz~8.4GHz	Apr. 06, 2022	Mar. 15, 2023	Apr. 05, 2023	Radiation (03CH03-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jun. 28, 2022	Mar. 15, 2023	Jun. 27, 2023	Radiation (03CH03-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150246	10Hz~44GHz;	Apr. 06, 2022	Mar. 15, 2023	Apr. 05, 2023	Radiation (03CH03-SZ)
Bilog Antenna	TeseQ	CBL6112D	35408	30MHz~2GHz	Aug. 09, 2021	Mar. 15, 2023	Aug. 08, 2023	Radiation (03CH03-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1355	1GHz~18GHz	Apr. 08, 2022	Mar. 15, 2023	Apr. 07, 2023	Radiation (03CH03-SZ)
Amplifier	Burgeon	BPA-530	102211	0.01Hz ~3000MHz	Oct. 19, 2022	Mar. 15, 2023	Oct. 18, 2023	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 06, 2022	Mar. 15, 2023	Jul. 05, 2023	Radiation (03CH03-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Apr. 10, 2022	Mar. 15, 2023	Apr. 09, 2023	Radiation (03CH03-SZ)
Amplifier	Agilent Technologies	83017A	MY39501302	500MHz~26.5GHz	Dec. 26, 2022	Mar. 15, 2023	Dec. 25, 2023	Radiation (03CH03-SZ)
AC Power Source	Chroma	61601	616010002729	N/A	Nov. 10, 2022	Mar. 15, 2023	Nov. 09, 2023	Radiation (03CH03-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Mar. 15, 2023	NCR	Radiation (03CH03-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Mar. 15, 2023	NCR	Radiation (03CH03-SZ)

NCR: No Calibration Required



## 5 Uncertainty of Evaluation

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.26-2015. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.0dB
---	-------

### Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.6dB
---	-------

### Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.8dB
---	-------



## Appendix A. Test Results of Radiated Test

### Radiated Spurious Emission

Test Engineer :	Liangping Zhou	Temperature :	22~25°C
		Relative Humidity :	48~52%

WCDMA Band V									
Channel	Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1672.8	-67.03	-13	-54.03	-73.11	-70.28	4.00	9.40	H
	2509.2	-64.75	-13	-51.75	-74.90	-68.32	4.88	10.60	H
	3345.6	-64.30	-13	-51.30	-76.13	-69.23	5.52	12.60	H
	1672.8	-67.31	-13	-54.31	-73.11	-70.56	4.00	9.40	V
	2509.2	-64.35	-13	-51.35	-74.83	-67.92	4.88	10.60	V
	3345.6	-63.56	-13	-50.56	-75.77	-68.49	5.52	12.60	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

WCDMA Band II									
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Highest	3815.2	-62.58	-13	-49.58	-77.17	-69.32	5.88	12.62	H
	5722.8	-60.00	-13	-47.00	-77.19	-65.81	7.32	13.13	H
	7630.4	-57.73	-13	-44.73	-79.93	-60.89	8.38	11.54	H
	3815.2	-62.41	-13	-49.41	-77.09	-69.15	5.88	12.62	V
	5722.8	-56.09	-13	-43.09	-73.37	-61.90	7.32	13.13	V
	7630.4	-57.59	-13	-44.59	-79.6	-60.75	8.38	11.54	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

WCDMA Band IV									
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	3465.2	-63.65	-13	-50.65	-76.19	-70.50	5.65	12.50	H
	5197.8	-61.27	-13	-48.27	-78.51	-66.94	7.13	12.80	H
	6930.4	-58.87	-13	-45.87	-79.40	-62.27	8.40	11.80	H
	3465.2	-63.18	-13	-50.18	-76.26	-70.03	5.65	12.50	V
	5197.8	-59.45	-13	-46.45	-76.64	-65.12	7.13	12.80	V
	6930.4	-59.05	-13	-46.05	-79.59	-62.45	8.40	11.80	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.





LTE Band 7 / 20MHz / QPSK									
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	5002.18	-61.23	-25	-36.23	-78.70	-66.79	7.12	12.68	H
	7503.27	-58.05	-25	-33.05	-80.38	-61.38	8.26	11.59	H
	10004.36	-55.98	-25	-30.98	-82.91	-57.51	10.45	11.98	H
	5002.18	-60.75	-25	-35.75	-78.14	-66.31	7.12	12.68	V
	7503.27	-58.06	-25	-33.06	-80.29	-61.39	8.26	11.59	V
	10004.36	-56.70	-25	-31.70	-83.02	-58.23	10.45	11.98	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

LTE Band 12 / 10MHz / QPSK									
Channel	Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1406	-64.98	-13	-51.98	-72.94	-68.23	4.00	9.40	H
	2109	-65.43	-13	-52.43	-75.09	-69.00	4.88	10.60	H
	2812	-63.62	-13	-50.62	-75.48	-68.55	5.52	12.60	H
	1406	-65.23	-13	-52.23	-73.27	-68.48	4.00	9.40	V
	2109	-64.86	-13	-51.86	-74.89	-68.43	4.88	10.60	V
	2812	-63.73	-13	-50.73	-75.83	-68.66	5.52	12.60	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

LTE Band 13 / 5MHz / QPSK									
Channel	Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Highest	1564.5	-66.73	-42.15	-24.58	-73.30	-69.90	4.10	9.42	H
	2346.75	-64.54	-13	-51.54	-75.19	-68.12	4.90	10.63	H
	3129	-62.84	-13	-49.84	-75.56	-67.76	5.55	12.62	H
	1564.5	-66.65	-42.15	-24.50	-73.44	-69.82	4.10	9.42	V
	2346.75	-64.41	-13	-51.41	-75.45	-67.99	4.90	10.63	V
	3129	-62.38	-13	-49.38	-75.63	-67.30	5.55	12.62	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



LTE Band 14 / 10MHz / QPSK									
Channel	Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1577	-66.52	-42.15	-24.37	-72.95	-69.77	4.00	9.40	H
	2365.5	-64.64	-13	-51.64	-75.21	-68.21	4.88	10.60	H
	3154	-62.55	-13	-49.55	-75.37	-67.48	5.52	12.60	H
	1577	-66.50	-42.15	-24.35	-73.15	-69.75	4.00	9.40	V
	2365.5	-64.21	-13	-51.21	-75.18	-67.78	4.88	10.60	V
	3154	-62.31	-13	-49.31	-75.68	-67.24	5.52	12.60	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

LTE Band 25 / 20MHz / QPSK									
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Highest	3792	-62.50	-13	-49.50	-77.03	-69.24	5.88	12.62	H
	5688	-61.93	-13	-48.93	-78.99	-67.74	7.32	13.13	H
	7584	-58.10	-13	-45.10	-80.25	-61.26	8.38	11.54	H
	3792	-62.60	-13	-49.60	-77.25	-69.34	5.88	12.62	V
	5688	-59.21	-13	-46.21	-76.27	-65.02	7.32	13.13	V
	7584	-58.08	-13	-45.08	-80.02	-61.24	8.38	11.54	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

LTE Band 26 (Part 22H) / 15MHz / QPSK									
Channel	Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1649.5	-67.46	-13	-54.46	-73.58	-70.71	4.00	9.40	H
	2474.25	-65.13	-13	-52.13	-75.37	-68.70	4.88	10.60	H
	3299	-63.40	-13	-50.40	-75.61	-68.33	5.52	12.60	H
	1649.5	-67.58	-13	-54.58	-73.58	-70.83	4.00	9.40	V
	2474.25	-64.43	-13	-51.43	-75.02	-68.00	4.88	10.60	V
	3299	-63.48	-13	-50.48	-76.14	-68.41	5.52	12.60	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



LTE Band 26 (Part 90S) / 15MHz / QPSK									
Channel	Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Highest	1634.5	-67.66	-13	-54.66	-73.82	-70.83	4.10	9.42	H
	2451.75	-65.33	-13	-52.33	-75.62	-68.91	4.90	10.63	H
	3269	-63.39	-13	-50.39	-75.83	-68.31	5.55	12.62	H
	1634.5	-67.40	-13	-54.40	-73.56	-70.57	4.10	9.42	V
	2451.75	-64.84	-13	-51.84	-75.51	-68.42	4.90	10.63	V
	3269	-62.72	-13	-49.72	-75.66	-67.64	5.55	12.62	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

LTE Band 41 / 20MHz / QPSK									
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	5168.18	-59.34	-25	-34.34	-81.13	-64.90	7.14	12.70	H
	7752.27	-52.50	-25	-27.50	-79.88	-55.80	8.30	11.60	H
	10336.36	-47.98	-25	-22.98	-79.85	-49.50	10.48	12.00	H
	5168.18	-58.71	-25	-33.71	-80.77	-64.27	7.14	12.70	V
	7752.27	-50.81	-25	-25.81	-78.04	-54.11	8.30	11.60	V
	10336.36	-49.16	-25	-24.16	-80.12	-50.68	10.48	12.00	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

LTE Band 48 / 20MHz / QPSK									
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	7232.00	-58.40	-40	-18.40	-57.47	-61.70	8.30	11.60	H
	10848.00	-53.33	-40	-13.33	-58.32	-54.85	10.48	12.00	H
	14464.00	-48.12	-40	-8.12	-58.55	-49.82	11.80	13.50	H
	7232.00	-55.00	-40	-15.00	-54.38	-58.30	8.30	11.60	V
	10848.00	-53.51	-40	-13.51	-58.13	-55.03	10.48	12.00	V
	14464.00	-48.32	-40	-8.32	-58.17	-50.02	11.80	13.50	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



LTE Band 66 / 20MHz / QPSK									
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Highest	3557.34	-63.39	-13	-50.39	-77.02	-70.23	5.68	12.52	H
	5336.01	-62.92	-13	-49.92	-79.28	-68.59	7.15	12.82	H
	7114.68	-57.31	-13	-44.31	-78.70	-60.74	8.42	11.85	H
	3557.34	-62.64	-13	-49.64	-76.79	-69.48	5.68	12.52	V
	5336.01	-62.83	-13	-49.83	-79.41	-68.50	7.15	12.82	V
	7114.68	-57.51	-13	-44.51	-79.01	-60.94	8.42	11.85	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.