FCC RF Test Report

APPLICANT	:	**Franklin Technology Inc.**
EQUIPMENT	:	**Mobile Hotspot**
MODEL NAME	:	**RG2100**
FCC ID	:	**XHG-RG2100**
STANDARD	:	**47 CFR Part 2, 22(H), 24(E), 27(L), 27(H), 27(M), 27(N)**
CLASSIFICATION	:	**PCS Licensed Transmitter (PCB)**
TEST DATE(S)	:	**Sep. 08, 2022**

We, Sporton International Inc. (Kunshan), 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.

This product installed a RF module (Model Name: M2500, FCC ID: XHG-M2500) during the test, only ERP/EIRP and RSE test items are tested in this report, all the other test results are leveraged from module RF report.

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

Jason Jia

Approved by: Jason Jia

ACCREDITED
Cert #5145.02

Sporton International Inc. (Kunshan)
No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China

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APPENDIX A. TEST RESULTS OF CONDUCTED TEST

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG262007-01B	Rev. 01	Initial issue of report	Sep. 09, 2022

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	§2.1046	Conducted Output Power	-	Report Only	-
	§22.913(a)(5)	Effective Radiated Power (Band 5) (Band 26)	ERP < 7 Watt	PASS	-
	§27.50(c)(10)	Effective Radiated Power (Band 12) (Band 71)	ERP < 3 Watt		-
	§24.232(c) §27.50(h)(2)	Equivalent Isotropic Radiated Power (Band 2) (Band 25) (Band 41)	EIRP < 2Watt		-
	§27.50(d)(4)	Equivalent Isotropic Radiated Power (Band 4) (Band 66)	EIRP < 1Watt		-
-	§24.232(d)	Peak-to-Average Ratio	<13 dB	PASS	1
-	§2.1049	Occupied Bandwidth	-	Report Only	1
-	§2.1051 §22.917(a) §24.238(a) §27.53(g) §27.53(h)	Conducted Band Edge Measurement (Band 2) (Band 4) (Band 5) (Band 12) (Band 25) (Band 26) (Band 66) (Band 71)	< 43+10log10(P[Watts])	PASS	1
	§27.53(m)(4)	Conducted Band Edge Measurement (Band 41)	§27.53(m)(4)		
-	§2.1051 §22.917(a) §24.238(a) §27.53(g) §27.53(h)	Conducted Spurious Emission (Band 2) (Band 4) (Band 5) (Band 12) (Band 25) (Band 26) (Band 66) (Band 71)	< 43+10log10(P[Watts])	PASS	1
	§2.1051 §27.53(m)(4)	Conducted Spurious Emission (Band 41)	< 55+10$\log_{10}$(P[Watts])		
-	§2.1055 §22.355	Frequency Stability Temperature & Voltage	< 2.5 ppm for Part 22	PASS	1
	§2.1055 §24.235 §27.54		Within Authorized Band		

Report Section	FCC Rule	Description	Limit	Result	Remark
4.4	§2.1053 §22.917(a) §24.238(a) §27.53(g) §27.53(h)	Radiated Spurious Emission (Band 2) (Band 4) (Band 5) (Band 12) (Band 25) (Band 26) (Band 66) (Band 71)	< 43+10log$_{10}$(P[Watts])	PASS	Under limit 30.12 dB at 7724.00 MHz
	§2.1053 §27.53(m)(4)	Radiated Spurious Emission (Band 41)	< 55+10log$_{10}$(P[Watts])		
Remark 1: The conducted test items were leverage from module RF report which can refer to Report No. “FG262007B”.					

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
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

Franklin Technology Inc.
906 JEI Platz, 186, Gasan digital 1-ro, Gumcheon-Gu, Seoul, South Korea, 08502

1.2 Manufacturer

Franklin Technology Inc.
906 JEI Platz, 186, Gasan digital 1-ro, Gumcheon-Gu, Seoul, South Korea, 08502

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Hotspot
Model Name	RG2100
FCC ID	XHG-RG2100
IMEI Code	Radiation : 358563790000959
HW Version	P1
SW Version	RG2100.TM.1354
EUT Stage	Identical Prototype

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	LTE Band 2 : 1850 MHz ~ 1910 MHz LTE Band 4 : 1710 MHz ~ 1755 MHz LTE Band 5 : 824 MHz ~ 849 MHz LTE Band 12 : 699 MHz ~ 716 MHz LTE Band 25 : 1850 MHz ~ 1915 MHz LTE Band 26 : 824 MHz ~ 849 MHz LTE Band 41 : 2496 MHz ~ 2690 MHz LTE Band 66 : 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz
Rx Frequency	LTE Band 2 : 1930 MHz ~ 1990 MHz LTE Band 4 : 2110 MHz ~ 2155 MHz LTE Band 5 : 869 MHz ~ 894 MHz LTE Band 12 : 729 MHz ~ 746 MHz LTE Band 25 : 1930 MHz ~ 1995 MHz LTE Band 26 : 869 MHz ~ 894 MHz LTE Band 41 : 2496 MHz ~ 2690 MHz LTE Band 66 : 2110 MHz~ 2180 MHz LTE Band 71: 617 MHz ~ 652 MHz
Bandwidth	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 12 : 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 25 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 26 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz LTE Band 41 : 5MHz / 10MHz / 15MHz / 20MHz LTE Band 66 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 71 : 5MHz / 10MHz / 15MHz / 20MHz
Maximum Output Power to Antenna	LTE Band 2 : 21.99 dBm LTE Band 4 : 22.49 dBm LTE Band 5 : 22.82 dBm LTE Band 12 : 23.05 dBm LTE Band 25 : 22.16 dBm LTE Band 26 : 23.06 dBm LTE Band 41 : 24.98 dBm; LTE Band 41C : 22.96 dBm LTE Band 66 : 22.50 dBm LTE Band 71 : 23.08 dBm
Antenna Gain	LTE Band 2 : -1.66 dBi LTE Band 4 : -1.56 dBi LTE Band 5 : -0.66 dBi LTE Band 12 : -1.43 dBi LTE Band 25 : -1.66 dBi LTE Band 26 : -0.66 dBi LTE Band 41 : -2.99 dBi LTE Band 66 : -1.56 dBi LTE Band 71 : -2.75 dBi
Type of Modulation	QPSK / 16QAM

1.5 Modification of EUT

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

1.6 Maximum ERP/EIRP and Emission Designator

LTE Band 2		QPSK		16QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
20	1860.0 ~ 1900.0	0.1079	-	0.0839	-
LTE Band 25		**QPSK**		**16QAM**	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
20	1860.0 ~ 1905.0	0.1122	-	0.1012	-
LTE Band 4		**QPSK**		**16QAM**	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
20	1720.0 ~ 1745.0	0.1239	-	0.0991	-
LTE Band 5		**QPSK**		**16QAM**	
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Emission Designator (99%OBW)	Maximum ERP(W)	Emission Designator (99%OBW)
10	829.0 ~ 844.0	0.1002	-	0.0869	-
LTE Band 12		**QPSK**		**16QAM**	
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Emission Designator (99%OBW)	Maximum ERP(W)	Emission Designator (99%OBW)
10	704.0 ~ 711.0	0.0885	-	0.0776	-
LTE Band 26		**QPSK**		**16QAM**	
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Emission Designator (99%OBW)	Maximum ERP(W)	Emission Designator (99%OBW)
15	831.5 ~ 841.5	0.1040	-	0.0899	-
CH26790	824	0.1059	-	0.0851	-
LTE Band 41		**QPSK**		**16QAM**	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
20	2506.0 ~ 2680.0	0.1581	-	0.1416	-

LTE Band 66		QPSK		16QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
20	1720.0 ~ 1770.0	0.1242	-	0.0867	-
LTE Band 71		QPSK		16QAM	
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Emission Designator (99%OBW)	Maximum ERP(W)	Emission Designator (99%OBW)
20	673.0 ~ 688.0	0.0658	-	0.0568	-
LTE Band 41 CA		QPSK		16QAM	
BW (MHz)		Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
20MHz+20MHz		0.0993	-	0.0738	-

Note:

1. All modulations have been tested, and only the maximum bandwidth test results are shown in the report.
2. This device antenna is designed for the same Peak Gain/Type as the module for intentional transmit frequency bands and the power is lower as well, Radiated Spurious Emission is verified worse case.

1.7 Testing Location

Sporton International Inc. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158 FAX : +86-512-57900958		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	03CH04-KS	CN1257	314309

1.8 Test Software

Item	Site	Manufacture	Name	Version
1.	03CH04-KS	AUDIX	E3	6.2009-8-24a

1.9 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(H), 27(M), 27(N)
- 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

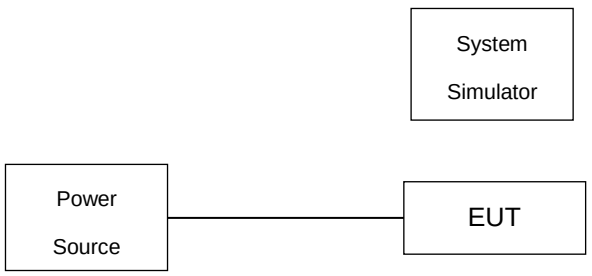
Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas License Digital Systems v03r01 with maximum output power.

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

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
Max. Output Power	2	v	v	v	v	v	v	v	v	-	v		v	v	v	v
	4	v	v	v	v	v	v	v	v	-	v		v	v	v	v
	5	v	v	v	v	-	-	v	v	-	v		v	v	v	v
	12	v	v	v	v	-	-	v	v	-	v		v	v	v	v
	25	v	v	v	v	v	v	v	v	-	v		v	v	v	v
	26	v	v	v	v	v	-	v	v	-	v		v	v	v	v
	41	-	-	v	v	v	v	v	v	-	v		v	v	v	v
	66	v	v	v	v	v	v	v	v	-	v		v	v	v	v
	71	-	-	v	v	v	v	v	v	-	v		v	v	v	v
E.R.P / E.I.R.P	2	v	v	v	v	v	v	v	v	-	v		v	v	v	v
	4	v	v	v	v	v	v	v	v	-	v		v	v	v	v
	5	v	v	v	v	-	-	v	v	-	v		v	v	v	v
	12	v	v	v	v	-	-	v	v	-	v		v	v	v	v
	25	v	v	v	v	v	v	v	v	-	v		v	v	v	v
	26	v	v	v	v	v	-	v	v	-	v		v	v	v	v
	41	-	-	v	v	v	v	v	v	-	v		v	v	v	v
	66	v	v	v	v	v	v	v	v	-	v		v	v	v	v
	71	-	-	v	v	v	v	v	v	-	v		v	v	v	v
Note	1. The mark "**v** " means that this configuration is chosen for testing 2. The mark "-" means that this bandwidth is not supported. 3. 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.															

Test Items	Band	Bandwidth (MHz)										Modulation			RB #			Test Channel		
		20+20	20+15	15+20	20+10	10+20	20+5	5+20	15+15	15+10	10+15	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Max. Output Power	41C_CA	v	v	v	v	v	v	v	v	v	v	v	v	-	v			v	v	v
E.I.R.P.	41C_CA	v	v	v	v	v	v	v	v	v	v	v	v	-	v			v	v	v
Radiated Spurious Emission	41C_CA	Worst Case																	v	
Note	1. The mark "**v** " means that this configuration is chosen for testing 2. The mark "-" means that this bandwidth is not supported. 3. 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.																			

2.2 Connection Diagram of Test System



This example is connection diagram of EUT test configurations.

For detail, please refer to test mode configuration and setup photographs for each test item.

2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m

2.4 Frequency List of Low/Middle/High Channels

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 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 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				
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 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 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

LTE Band 71 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	133222	133322	133372
	Frequency	673.0	680.5	688.0
15	Channel	133197	133297	133397
	Frequency	670.5	680.5	690.5
10	Channel	133172	133272	133422
	Frequency	668.0	678.0	693.0
5	Channel	133147	133247	133447
	Frequency	665.5	675.5	695.5

LTE Band 41C_CA Channel and Frequency List					
BW [MHz]	Channel/Frequency(MHz)		Lowest	Middle	Highest
20 + 20	PCC	Channel	39750	40521	41292
		Frequency	2506.0	2583.1	2660.2
	SCC	Channel	39948	40719	41490
		Frequency	2525.8	2602.9	2680.0
20 + 15	PCC	Channel	39750	40546	41341
		Frequency	2506.0	2585.6	2665.1
	SCC	Channel	39921	40717	41512
		Frequency	2523.1	2602.7	2682.2
15 + 20	PCC	Channel	39728	40523	41319
		Frequency	2503.8	2593.3	2662.9
	SCC	Channel	39899	40694	41490
		Frequency	2520.9	2600.4	2680.0
20 + 10	PCC	Channel	39750	40571	41391
		Frequency	2506.0	2588.1	2670.1
	SCC	Channel	39894	40715	41535
		Frequency	2520.4	2602.5	2684.5
10 + 20	PCC	Channel	39705	40526	41346
		Frequency	2501.5	2583.6	2665.6
	SCC	Channel	39849	40670	41490
		Frequency	2515.9	2598.0	2680.0

LTE Band 41C_CA Channel and Frequency List					
20 + 5	PCC	Channel	39750	40595	41440
		Frequency	2506.0	2590.5	2675.0
	SCC	Channel	39867	40712	41557
		Frequency	2517.7	2602.2	2686.7
5 + 20	PCC	Channel	39683	40528	41373
		Frequency	2499.3	2583.8	2668.3
	SCC	Channel	39800	40645	41490
		Frequency	2511.0	2595.5	2680.0
15 + 15	PCC	Channel	39725	40545	41365
		Frequency	2503.5	2585.5	2667.5
	SCC	Channel	39875	40695	41515
		Frequency	2518.5	2600.5	2682.5
10 + 15	PCC	Channel	39703	40549	41395
		Frequency	2501.3	2585.9	2670.5
	SCC	Channel	39823	40669	41515
		Frequency	2513.3	2597.9	2682.5
15 + 10	PCC	Channel	39725	40571	41417
		Frequency	2503.5	2588.1	2672.7
	SCC	Channel	39845	40691	41537
		Frequency	2515.5	2600.1	2684.7

3 Conducted Test Items

3.1 Conducted Output Power and ERP/EIRP

3.1.1 Description of the Conducted Output Power Measurement and ERP/EIRP Measurement

A system simulator was used to establish communication with the EUT. Its parameters were set to force the EUT transmitting at maximum output power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

The ERP of mobile transmitters must not exceed 7 Watts for LTE Band 5 and Band 26.

The ERP of mobile transmitters must not exceed 3 Watts for LTE Band 12 and Band 71.

The EIRP of mobile transmitters must not exceed 2 Watts for LTE Band 2 and Band 25 and Band 41.

The EIRP of mobile transmitters must not exceed 1 Watts for LTE Band 4 and Band 66.

According to KDB 412172 D01 Power Approach,

EIRP = $P_T + G_T – L_C$, ERP = EIRP -2.15, where

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

L_C = signal attenuation in the connecting cable between the transmitter and antenna in dB

3.1.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.2
2. The transmitter output port was connected to the system simulator.
3. Set EUT at maximum power through the system simulator.
4. Select lowest, middle, and highest channels for each band and different modulation.
5. Measure and record the power level from the system simulator.

3.1.3 Test Result

Please refer to Appendix A.

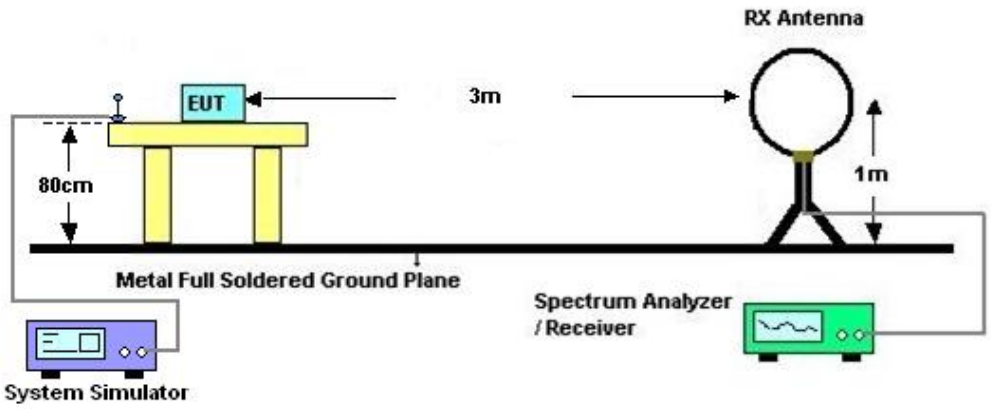
4 Radiated Test Items

4.1 Measuring Instruments

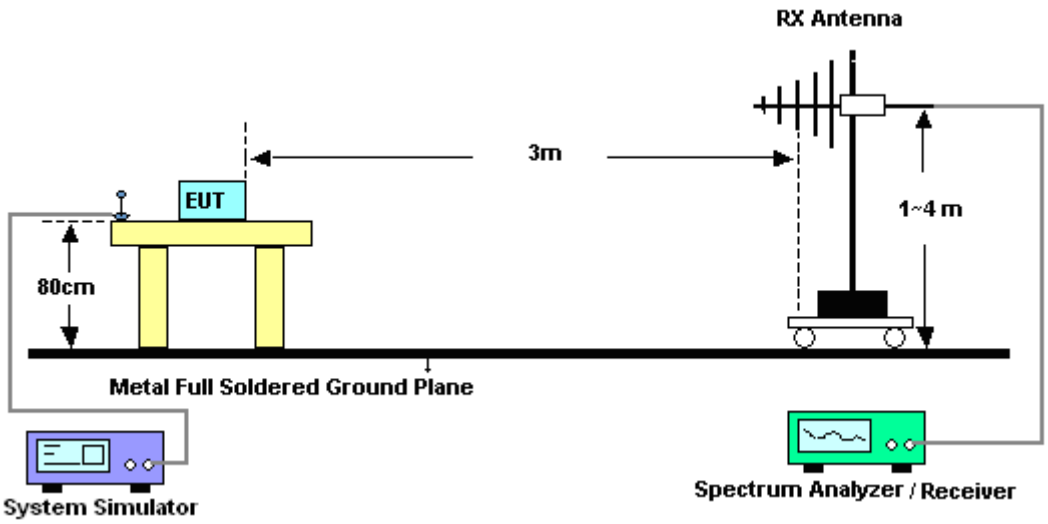
See list of measuring instruments of this test report.

4.2 Test Setup

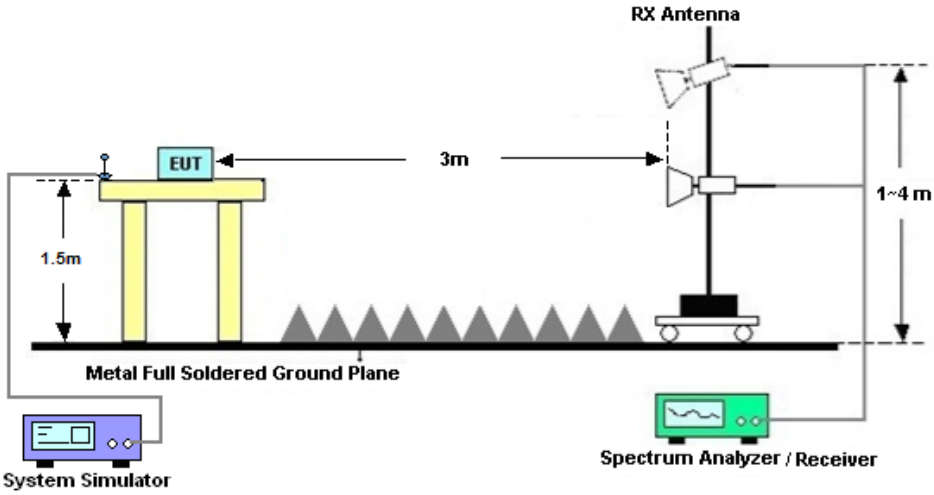
4.2.1 For radiated test below 30MHz



4.2.2 For radiated test from 30MHz to 1GHz



4.2.3 For radiated test above 1GHz



4.3 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 B.

4.4 Radiated Spurious Emission

4.4.1 Description of Radiated Spurious Emission

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 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.

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

4.4.2 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 (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
11. ERP (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 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [43 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
    = -13dBm.
13. For Band 41:
    The limit line is derived from 55 + 10log(P)dB below the transmitter power P(Watts)

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EXA Spectrum Analyzer	Keysight	N9010B	MY57541079	10Hz-44G,MAX 30dB	Oct. 14, 2021	Sep. 08, 2022	Oct. 13, 2022	Radiation (03CH04-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 30, 2021	Sep. 08, 2022	Oct. 29, 2022	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz-1GHz	May 30, 2022	Sep. 08, 2022	May 29, 2023	Radiation (03CH04-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	1284	1GHz~18GHz	Oct. 18, 2021	Sep. 08, 2022	Oct. 17, 2022	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 05, 2022	Sep. 08, 2022	Jan. 04, 2023	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	187289	9KHz-1GHz	Jan. 05, 2022	Sep. 08, 2022	Jan. 04, 2023	Radiation (03CH04-KS)
Amplifier	MITEQ	EM18G40G GA	060728	18~40GHz	Jan. 05, 2022	Sep. 08, 2022	Jan. 04, 2023	Radiation (03CH04-KS)
high gain Amplifier	EM	EM01G18G A	060839	1Ghz-18Ghz	Oct. 14, 2021	Sep. 08, 2022	Oct. 13, 2022	Radiation (03CH04-KS)
Amplifier	Keysight	83017A	MY57280106	500MHz~26.5GHz	Oct. 13, 2021	Sep. 08, 2022	Oct. 12, 2022	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Sep. 08, 2022	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Sep. 08, 2022	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Sep. 08, 2022	NCR	Radiation (03CH04-KS)

NCR: No Calibration Required

6 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))	**3.3dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.8dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.8dB**

Appendix A. Test Results of Conducted Test

Test Engineer :	Lex Wu	Temperature :	22~23℃
		Relative Humidity :	40~42%

Conducted Output Power(Average power) and ERP/EIRP

LTE Band 2:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP(W)		
Channel				18700	18900	19100			
Frequency (MHz)				1860	1880	1900	L	M	H
20	QPSK	1	0	21.95	21.99	21.94	0.1069	0.1079	0.1067
20	QPSK	1	99	21.89	21.88	21.91	0.1054	0.1052	0.1059
20	QPSK	100	0	21.00	20.91	20.94	0.0859	0.0841	0.0847
20	16QAM	1	0	20.65	20.52	20.90	0.0793	0.0769	0.0839
Channel				18675	18900	19125	EIRP(W)		
Frequency (MHz)				1857.5	1880	1902.5	L	M	H
15	QPSK	1	0	21.86	21.90	21.92	0.1047	0.1057	0.1062
15	16QAM	1	0	20.59	20.58	20.80	0.0782	0.0780	0.0820
Channel				18650	18900	19150	EIRP(W)		
Frequency (MHz)				1855	1880	1905	L	M	H
10	QPSK	1	0	21.87	21.93	21.88	0.1050	0.1064	0.1052
10	16QAM	1	0	20.65	20.59	20.84	0.0793	0.0782	0.0828
Channel				18625	18900	19175	EIRP(W)		
Frequency (MHz)				1852.5	1880	1907.5	L	M	H
5	QPSK	1	0	21.85	21.93	21.91	0.1045	0.1064	0.1059
5	16QAM	1	0	20.59	20.50	20.86	0.0782	0.0766	0.0832
Channel				18615	18900	19185	EIRP(W)		
Frequency (MHz)				1851.5	1880	1908.5	L	M	H
3	QPSK	1	0	21.88	21.98	21.85	0.1052	0.1076	0.1045
3	16QAM	1	0	20.55	20.51	20.80	0.0774	0.0767	0.0820
Channel				18607	18900	19193	EIRP(W)		
Frequency (MHz)				1850.7	1880	1909.3	L	M	H
1.4	QPSK	1	0	21.95	21.94	21.91	0.1069	0.1067	0.1059
1.4	16QAM	1	0	20.60	20.58	20.90	0.0783	0.0780	0.0839

LTE Band 4:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP(W)		
Channel				20050	20175	20300			
Frequency (MHz)				1720	1732.5	1745	L	M	H
20	QPSK	1	0	22.41	22.49	22.48	0.1216	0.1239	0.1236
20	QPSK	1	99	22.33	22.34	22.27	0.1194	0.1197	0.1178
20	QPSK	100	0	21.54	21.40	21.43	0.0995	0.0964	0.0971
20	16QAM	1	0	21.44	21.52	21.49	0.0973	0.0991	0.0984
Channel				20025	20175	20325	EIRP(W)		
Frequency (MHz)				1717.5	1732.5	1747.5	L	M	H
15	QPSK	1	0	22.33	22.40	22.39	0.1194	0.1213	0.1211
15	16QAM	1	0	21.40	21.45	21.41	0.0964	0.0975	0.0966
Channel				20000	20175	20350	EIRP(W)		
Frequency (MHz)				1715	1732.5	1750	L	M	H
10	QPSK	1	0	22.31	22.44	22.43	0.1189	0.1225	0.1222
10	16QAM	1	0	21.39	21.46	21.48	0.0962	0.0977	0.0982
Channel				19975	20175	20375	EIRP(W)		
Frequency (MHz)				1712.5	1732.5	1752.5	L	M	H
5	QPSK	1	0	22.41	22.46	22.38	0.1216	0.1230	0.1208
5	16QAM	1	0	21.44	21.49	21.42	0.0973	0.0984	0.0968
Channel				19965	20175	20385	EIRP(W)		
Frequency (MHz)				1711.5	1732.5	1753.5	L	M	H
3	QPSK	1	0	22.35	22.45	22.45	0.1199	0.1227	0.1227
3	16QAM	1	0	21.41	21.45	21.46	0.0966	0.0975	0.0977
Channel				19950	20175	20393	EIRP(W)		
Frequency (MHz)				1710	1732.5	1754.3	L	M	H
1.4	QPSK	1	0	22.35	22.43	22.48	0.1199	0.1222	0.1236
1.4	16QAM	1	0	21.35	21.48	21.45	0.0953	0.0982	0.0975

LTE Band 5:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	ERP(W)		
Channel				20450	20525	20600			
Frequency (MHz)				829	836.5	844	L	M	H
10	QPSK	1	0	22.79	22.82	22.80	0.0995	0.1002	0.0998
10	QPSK	1	49	22.76	22.81	22.74	0.0989	0.1000	0.0984
10	QPSK	50	0	21.92	21.91	21.93	0.0815	0.0813	0.0817
10	16QAM	1	0	22.15	22.19	22.20	0.0859	0.0867	0.0869
Channel				20425	20525	20625	ERP(W)		
Frequency (MHz)				826.5	836.5	846.5	L	M	H
5	QPSK	1	0	22.79	22.74	22.77	0.0995	0.0984	0.0991
5	16QAM	1	0	22.15	22.12	22.16	0.0859	0.0853	0.0861
Channel				20415	20525	20635	ERP(W)		
Frequency (MHz)				825.5	836.5	847.5	L	M	H
3	QPSK	1	0	22.73	22.75	22.79	0.0982	0.0986	0.0995
3	16QAM	1	0	22.14	22.10	22.12	0.0857	0.0849	0.0853
Channel				20407	20525	20643	ERP(W)		
Frequency (MHz)				824.7	836.5	848.3	L	M	H
1.4	QPSK	1	0	22.76	22.78	22.75	0.0989	0.0993	0.0986
1.4	16QAM	1	0	22.05	22.15	22.14	0.0839	0.0859	0.0857

LTE Band 12:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	ERP(W)		
Channel				23060	23095	23130			
Frequency (MHz)				704	707.5	711	L	M	H
10	QPSK	1	0	23.04	23.05	23.03	0.0883	0.0885	0.0881
10	QPSK	1	49	23.00	23.01	23.00	0.0875	0.0877	0.0875
10	QPSK	50	0	22.06	21.95	22.10	0.0705	0.0687	0.0711
10	16QAM	1	0	22.43	22.35	22.48	0.0767	0.0753	0.0776
Channel				23035	23095	23155	ERP(W)		
Frequency (MHz)				701.5	707.5	713.5	L	M	H
5	QPSK	1	0	22.94	22.99	23.00	0.0863	0.0873	0.0875
5	16QAM	1	0	22.41	22.25	22.25	0.0764	0.0736	0.0736
Channel				23025	23095	23165	ERP(W)		
Frequency (MHz)				700.5	707.5	714.5	L	M	H
3	QPSK	1	0	23.03	23.01	23.00	0.0881	0.0877	0.0875
3	16QAM	1	0	22.33	22.26	22.45	0.0750	0.0738	0.0771
Channel				23017	23095	23173	ERP(W)		
Frequency (MHz)				699.7	707.5	715.3	L	M	H
1.4	QPSK	1	0	22.99	23.00	22.94	0.0873	0.0875	0.0863
1.4	16QAM	1	0	22.43	22.25	22.48	0.0767	0.0736	0.0776

LTE Band 25:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP(W)		
Channel				26140	26340	26590			
Frequency (MHz)				1860	1880	1905	L	M	H
20	QPSK	1	0	22.02	21.91	22.16	0.1086	0.1059	0.1122
20	QPSK	1	99	21.76	21.96	22.06	0.1023	0.1072	0.1096
20	QPSK	100	0	21.04	21.01	21.35	0.0867	0.0861	0.0931
20	16QAM	1	0	21.26	21.39	21.71	0.0912	0.0940	0.1012
Channel				26115	26340	26615	EIRP(W)		
Frequency (MHz)				1857.5	1880	1907.5	L	M	H
15	QPSK	1	0	21.99	21.88	22.14	0.1079	0.1052	0.1117
15	16QAM	1	0	21.17	21.39	21.67	0.0893	0.0940	0.1002
Channel				26090	26340	26640	EIRP(W)		
Frequency (MHz)				1855	1880	1910	L	M	H
10	QPSK	1	0	21.94	21.82	22.12	0.1067	0.1038	0.1112
10	16QAM	1	0	21.25	21.36	21.69	0.0910	0.0933	0.1007
Channel				26065	26340	26665	EIRP(W)		
Frequency (MHz)				1852.5	1880	1912.5	L	M	H
5	QPSK	1	0	21.95	21.90	22.07	0.1069	0.1057	0.1099
5	16QAM	1	0	21.20	21.29	21.69	0.0899	0.0918	0.1007
Channel				26055	26340	26675	EIRP(W)		
Frequency (MHz)				1851.5	1880	1913.5	L	M	H
3	QPSK	1	0	21.94	21.84	22.11	0.1067	0.1042	0.1109
3	16QAM	1	0	21.24	21.36	21.68	0.0908	0.0933	0.1005
Channel				26047	26340	26683	EIRP(W)		
Frequency (MHz)				1850.7	1880	1914.3	L	M	H
1.4	QPSK	1	0	21.95	21.83	22.06	0.1069	0.1040	0.1096
1.4	16QAM	1	0	21.24	21.39	21.65	0.0908	0.0940	0.0998

LTE Band 26:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	ERP(W)			
Channel				26790	26865	26915	26965				
Frequency (MHz)				824	831.5	836.5	841.5	L		M	H
15	QPSK	1	0	23.06	22.97	22.98	22.93	0.1059	0.1038	0.1040	0.1028
15	QPSK	1	74	22.86	22.84	22.93	22.87	0.1012	0.1007	0.1028	0.1014
15	QPSK	75	0	21.89	22.10	22.00	22.05	0.0809	0.0849	0.0830	0.0839
15	16QAM	1	0	22.11	22.16	22.35	22.27	0.0851	0.0861	0.0899	0.0883
Channel				-	26840	26915	26990	-	ERP(W)		
Frequency (MHz)					829	836.5	844		L	M	H
10	QPSK	1	0		22.94	22.94	22.83		0.1030	0.1030	0.1005
10	16QAM	1	0		22.04	22.29	22.00		0.0838	0.0887	0.0830
Channel					26815	26915	27015		ERP(W)		
Frequency (MHz)					826.5	836.5	846.5		L	M	H
5	QPSK	1	0		22.95	22.92	22.91		0.1033	0.1026	0.1023
5	16QAM	1	0		22.29	22.22	22.34		0.0887	0.0873	0.0897
Channel					26815	26915	27025		ERP(W)		
Frequency (MHz)					825.5	836.5	847.5		L	M	H
3	QPSK	1	0		22.92	22.94	22.87		0.1026	0.1030	0.1014
3	16QAM	1	0		22.32	22.24	22.26		0.0893	0.0877	0.0881
Channel					26797	26915	27033		ERP(W)		
Frequency (MHz)					824.7	836.5	848.3		L	M	H
1.4	QPSK	1	0		22.97	22.88	22.93		0.1038	0.1016	0.1028
1.4	16QAM	1	0		22.06	22.31	22.20		0.0841	0.0891	0.0869

LTE Band 41:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP(W)		
Channel				39750	40620	41490			
Frequency (MHz)				2506	2593	2680	L	M	H
20	QPSK	1	0	24.98	24.89	24.02	0.1581	0.1549	0.1268
20	QPSK	1	99	24.93	24.80	24.48	0.1563	0.1517	0.1409
20	QPSK	100	0	24.18	23.96	23.49	0.1315	0.1250	0.1122
20	16QAM	1	0	24.50	24.20	23.79	0.1416	0.1321	0.1202
Channel				39725	40620	41515	EIRP(W)		
Frequency (MHz)				2503.5	2593	2682.5	L	M	H
15	QPSK	1	0	24.89	24.86	24.09	0.1549	0.1538	0.1288
15	16QAM	1	0	24.41	24.27	23.92	0.1387	0.1343	0.1239
Channel				39700	40620	41540	EIRP(W)		
Frequency (MHz)				2501	2593	2685	L	M	H
10	QPSK	1	0	24.94	24.86	24.03	0.1567	0.1538	0.1271
10	16QAM	1	0	24.38	24.19	23.77	0.1377	0.1318	0.1197
Channel				39675	40620	41565	EIRP(W)		
Frequency (MHz)				2498.5	2593	2687.5	L	M	H
5	QPSK	1	0	24.90	24.86	24.01	0.1552	0.1538	0.1265
5	16QAM	1	0	24.38	24.15	23.71	0.1377	0.1306	0.1180

LTE Band 66:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP(W)		
Channel				132072	132322	132572			
Frequency (MHz)				1720	1745	1770	L	M	H
20	QPSK	1	0	22.14	22.50	22.24	0.1143	0.1242	0.1169
20	QPSK	1	99	21.80	21.88	21.74	0.1057	0.1076	0.1042
20	QPSK	100	0	20.83	20.91	20.70	0.0845	0.0861	0.0820
20	16QAM	1	0	20.84	20.94	20.77	0.0847	0.0867	0.0834
Channel				132047	132322	132597	EIRP(W)		
Frequency (MHz)				1717.5	1745	1772.5	L	M	H
15	QPSK	1	0	21.82	21.88	21.82	0.1062	0.1076	0.1062
15	16QAM	1	0	20.75	20.91	20.64	0.0830	0.0861	0.0809
Channel				132022	132322	132622	EIRP(W)		
Frequency (MHz)				1715	1745	1775	L	M	H
10	QPSK	1	0	21.86	21.88	21.81	0.1072	0.1076	0.1059
10	16QAM	1	0	20.78	20.86	20.69	0.0836	0.0851	0.0818
Channel				131997	132322	132647	EIRP(W)		
Frequency (MHz)				1712.5	1745	1777.5	L	M	H
5	QPSK	1	0	21.76	21.90	21.76	0.1047	0.1081	0.1047
5	16QAM	1	0	20.74	20.86	20.73	0.0828	0.0851	0.0826
Channel				131987	132322	132657	EIRP(W)		
Frequency (MHz)				1711.5	1745	1778.5	L	M	H
3	QPSK	1	0	21.81	21.92	21.79	0.1059	0.1086	0.1054
3	16QAM	1	0	20.75	20.92	20.73	0.0830	0.0863	0.0826
Channel				131979	132322	132665	EIRP(W)		
Frequency (MHz)				1710.7	1745	1779.3	L	M	H
1.4	QPSK	1	0	21.80	21.87	21.75	0.1057	0.1074	0.1045
1.4	16QAM	1	0	20.79	20.93	20.74	0.0838	0.0865	0.0828

LTE Band 71:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	ERP(W)		
Channel				133222	133322	133372			
Frequency (MHz)				673	683	688	L	M	H
20	QPSK	1	0	23.06	23.08	23.07	0.0655	0.0658	0.0656
20	QPSK	1	99	23.04	23.03	23.06	0.0652	0.0650	0.0655
20	QPSK	100	0	22.16	22.03	22.12	0.0532	0.0516	0.0527
20	16QAM	1	0	22.40	22.44	22.37	0.0562	0.0568	0.0558
Channel				133197	133297	133397	ERP(W)		
Frequency (MHz)				670.5	680.5	690.5	L	M	H
15	QPSK	1	0	23.03	23.05	23.06	0.0650	0.0653	0.0655
15	16QAM	1	0	22.25	22.35	22.39	0.0543	0.0556	0.0561
Channel				133172	133272	133422	ERP(W)		
Frequency (MHz)				668	678	693	L	M	H
10	QPSK	1	0	22.97	22.91	23.05	0.0641	0.0632	0.0653
10	16QAM	1	0	22.36	22.44	22.35	0.0557	0.0568	0.0556
Channel				133147	133247	133447	ERP(W)		
Frequency (MHz)				665.5	675.5	695.5	L	M	H
5	QPSK	1	0	23.04	22.99	22.99	0.0652	0.0644	0.0644
5	16QAM	1	0	22.40	22.43	22.28	0.0562	0.0566	0.0547

LTE Band 41C_CA:

Combination 20MHz+20MHz (100RB+100RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
L	QPSK	1	Max	1	0	22.78	0.0953
M	QPSK	1	Max	1	0	22.91	0.0982
H	QPSK	1	Max	1	0	22.96	0.0993
L	16QAM	1	Max	1	0	21.36	0.0687
M	16QAM	1	Max	1	0	21.54	0.0716
H	16QAM	1	Max	1	0	21.67	0.0738
Combination 20MHz+15MHz (100RB+75RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
H	QPSK	1	Max	1	0	22.65	0.0925
H	16QAM	1	Max	1	0	21.39	0.0692
Combination 15MHz+20MHz (75RB+100RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
H	QPSK	1	Max	1	0	22.49	0.0891
H	16QAM	1	Max	1	0	21.64	0.0733
Combination 15MHz+15MHz (75RB+75RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
H	QPSK	1	Max	1	0	22.71	0.0938
H	16QAM	1	Max	1	0	21.43	0.0698
Combination 20MHz+10MHz (100RB+50RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
H	QPSK	1	Max	1	0	22.87	0.0973
H	16QAM	1	Max	1	0	21.36	0.0687
Combination 10MHz+20MHz (50RB+100RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
H	QPSK	1	Max	1	0	22.59	0.0912
H	16QAM	1	Max	1	0	21.06	0.0641
Combination 15MHz+10MHz (75RB+50RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
H	QPSK	1	Max	1	0	22.66	0.0927
H	16QAM	1	Max	1	0	21.27	0.0673
Combination 10MHz+15MHz (50RB+75RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
H	QPSK	1	Max	1	0	22.83	0.0964
H	16QAM	1	Max	1	0	21.39	0.0692

Combination 20MHz+5MHz (100RB+25RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
H	QPSK	1	Max	1	0	22.69	0.0933
H	16QAM	1	Max	1	0	21.47	0.0705
Combination 5MHz+20MHz (25RB+100RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
H	QPSK	1	Max	1	0	22.71	0.0938
H	16QAM	1	Max	1	0	21.26	0.0671

Appendix B. Test Results of Radiated Test

Radiated Spurious Emission

Test Engineer :	Levi Zhuo	Temperature :	22~23℃
		Relative Humidity :	41~42%

LTE Band 41C_CA / 20MHz + 20MHz / QPSK for 1RB0								
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	5148	-59.18	-25	-34.18	-69.39	3.03	13.24	H
	7724	-55.12	-25	-30.12	-64.57	3.56	13.01	H
	10300	-57.40	-25	-32.40	-66.92	3.92	13.44	H
	5148	-56.98	-25	-31.98	-67.19	3.03	13.24	V
	7724	-61.53	-25	-36.53	-70.98	3.56	13.01	V
	10300	-60.65	-25	-35.65	-70.17	3.92	13.44	V

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

LTE Band 41C_CA / 20MHz + 20MHz / QPSK for 1RBmax								
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	5184	-63.20	-25	-38.20	-73.41	3.03	13.24	H
	7776	-62.33	-25	-37.33	-71.78	3.56	13.01	H
	10370	-60.46	-25	-35.46	-69.98	3.92	13.44	H
	5184	-63.36	-25	-38.36	-73.57	3.03	13.24	V
	7776	-62.37	-25	-37.37	-71.82	3.56	13.01	V
	10370	-61.53	-25	-36.53	-71.05	3.92	13.44	V

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