FCC RF Test Report

APPLICANT	:	Nokia Shanghai Bell Co., Ltd.
EQUIPMENT	:	Nokia FastMile 5G Receiver
BRAND NAME	:	Nokia
MODEL NAME	:	5G16-B
FCC ID	:	2ADZR5G16B
STANDARD	:	47 CFR Part 2, 22(H), 27(F), 27(H), 27(M), 27(N), 27(Q), 90(S)
CLASSIFICATION	:	PCS Licensed Transmitter (PCB)
TEST DATE(S)	:	Jun. 24, 2024 ~ Jul. 12, 2024

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

ACCREDITED Cert #5145.01

Sporton International Inc. (ShenZhen)

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

People's Republic of China

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG341901-02B	Rev. 01	Initial issue of report	Jul. 26, 2024

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
4.4	§2.1046	Conducted Output Power (Band 5) (Band 26) (Band 12) (Band 13) (Band 71) (Band 42)	-	Report Only	-
	§2.1046 §27.50(h)(2)	Conducted Output Power (Band 7) (Band 38) (Band 41)	< 2Watt	PASS	
	§22.913(a)(5)	Effective Radiated Power (Band 5) (Band 26)	ERP < 7 Watt	PASS	-
	§27.50(b)(4) §27.50(c)(3)	Effective Radiated Power (Band 12) (Band 13)	ERP < 1000 Watt		-
	§27.50(c)(10)	Effective Radiated Power (Band 71)	ERP < 3 Watt		
	§24.232(c) §27.50(h)(2)	Equivalent Isotropic Radiated Power (Band 7) (Band 38) (Band 41)	Report Only		-
	§27.50 (k)(2)	EIRP (Band 42)	EIRP < 1640W	PASS	
5.4	§2.1053 §22.917(a) §27.53(c)(2) §27.53(f) §27.53(g)	Radiated Spurious Emission (Band 5) (Band 26) (Band 12) (Band 13) (Band 71)	< 43+10log$_{10}$(P[Watts])	PASS	Under limit 11.81 dB at 1559.500 MHz
	§2.1053 §27.53(m)(2)(v)	Radiated Spurious Emission (Band 7) (Band 38) (Band 41)	< 43+10log$_{10}$(P[Watts])		
	§2.1053 §90.691	Field Strength of Spurious Radiation	< 43+10log$_{10}$(P[Watts])		
	§2.1053 §27.53 (n)(2)	Radiated Spurious Emission (Band 42)	-13dBm/MHz		

Conformity Assessment Condition:

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the section “Measurement Uncertainty”

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

1 General Description

1.1 Applicant

Nokia Shanghai Bell Co., Ltd.
388#, Ningqiao Road, China (Shanghai) Pilot Free Trade Zone, Shanghai 201206, China

1.2 Manufacturer

Nokia Solutions and Networks Oy
Karakaari 7, 02610 Espoo, Finland

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Nokia FastMile 5G Receiver
Brand Name	Nokia
Model Name	5G16-B
FCC ID	2ADZR5G16B
IMEI Code	Conducted: 358937920000081 Radiation: 358937920000248
HW Version	3TG02508Axxx(x:A~Z)
SW Version	5GReceiver-HG-2_D240200BieT0001E0643
EUT Stage	Identical Prototype

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. There are two Samples under test, Sample 1 is 1st antenna, Sample 2 is 2nd antenna and they are with the same Gain but different manufacturers. According to the difference, we choose sample 1 to full test and the sample 2 is verified the worse case for Radiation Spurious Emission among LTE WWAN Bands which can refer to FG341901-02C.

Specification of Accessory				
AC Adapter	**Brand Name**	NOKIA	**Model Name**	G1418B-540-028-2.5G

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	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 26(90S) : 814 MHz – 824 MHz LTE Band 26(22H) : 824 MHz – 849 MHz LTE Band 38 : 2570 MHz – 2620 MHz LTE Band 41 : 2496 MHz – 2690 MHz LTE Band 71: 663 MHz – 698 MHz LTE Band 42: 3450 MHz – 3550 MHz
Rx Frequency	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 26(90S) : 859 MHz – 869 MHz LTE Band 26(22H) : 869 MHz – 894 MHz LTE Band 38: 2570 MHz – 2620 MHz LTE Band 41 : 2496 MHz – 2690 MHz LTE Band 71 : 617 MHz – 652 MHz LTE Band 42 : 3450 MHz – 3550 MHz
Bandwidth	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 26 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz LTE Band 38 : 5MHz / 10MHz / 15MHz / 20MHz LTE Band 41 : 5MHz / 10MHz / 15MHz / 20MHz LTE Band 66 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 71 : 5MHz / 10MHz / 15MHz / 20MHz LTE Band 42 : 5MHz / 10MHz / 15MHz / 20MHz
Maximum Output Power to Antenna	Ant.0 LTE Band 5 : 22.52 dBm LTE Band 7 : 22.90 dBm LTE Band 12 : 22.82 dBm LTE Band 13 : 22.62 dBm LTE Band 26(90S) : 22.54 dBm LTE Band 26(22H) : 22.67 dBm LTE Band 71 : 22.73 dBm Ant.1 LTE Band 38 : 25.51 dBm LTE Band 41 : 25.52 dBm LTE Band 41C : 24.56 dBm Ant.5 LTE Band 42 : 22.82 dBm
Antenna Gain	LTE Band 5 : 2.3 dBi LTE Band 7 : 2.8 dBi LTE Band 12 : 1.8 dBi LTE Band 13 : 1.0 dBi LTE Band 26 : 2.3 dBi

	LTE Band 38 : 2.0 dBi LTE Band 41 : 2.0 dBi LTE Band 71 : 1.0 dBi LTE Band 42 : 8.8 dBi
Type of Modulation	QPSK / 16QAM / 64QAM / 256QAM

1.5 Modification of EUT

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

1.6 Maximum ERP/EIRP Power and Conducted Power and Emission Designator

LTE Band 5		**QPSK**		**16QAM/64QAM/256QAM**	
BW (MHz)	**Frequency Range (MHz)**	**Maximum ERP(W)**	**Emission Designator (99%OBW)**	**Maximum ERP(W)**	**Emission Designator (99%OBW)**
1.4	824.7 – 848.3	0.1824	-	0.1435	-
3	825.5 – 847.5	0.1837	-	0.1563	-
5	826.5 – 846.5	0.1824	-	0.1563	-
10	829.0 – 844.0	0.1849	-	0.1567	-
LTE Band 7		**QPSK**		**16QAM/64QAM/256QAM**	
BW (MHz)	**Frequency Range (MHz)**	**Maximum Conducted power (W)**	**Emission Designator (99%OBW)**	**Maximum Conducted power (W)**	**Emission Designator (99%OBW)**
5	2502.5 – 2567.5	0.1919	-	0.1633	-
10	2505.0 – 2565.0	0.1932	-	0.1618	-
15	2507.5 – 2562.5	0.1919	-	0.1629	-
20	2510.0 – 2560.0	0.1950	-	0.1641	-
LTE Band 12		**QPSK**		**16QAM/64QAM/256QAM**	
BW (MHz)	**Frequency Range (MHz)**	**Maximum ERP(W)**	**Emission Designator (99%OBW)**	**Maximum ERP(W)**	**Emission Designator (99%OBW)**
1.4	699.7 – 715.3	0.1754	-	0.1337	-
3	700.5 – 714.5	0.1742	-	0.1486	-
5	701.5 – 713.5	0.1746	-	0.1486	-
10	704.0 – 711.0	0.1766	-	0.1493	-

LTE Band 13		QPSK		16QAM/64QAM/256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Emission Designator (99%OBW)	Maximum ERP(W)	Emission Designator (99%OBW)
5	779.5 – 784.5	0.1400	-	0.1169	-
10	782.0	0.1403	-	0.1178	-
LTE Band 26		**QPSK**		**16QAM/64QAM/256QAM**	
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Emission Designator (99%OBW)	Maximum ERP(W)	Emission Designator (99%OBW)
1.4	824.7 – 848.3	0.1888	-	0.1455	-
3	825.5 – 847.5	0.1884	-	0.1633	-
5	826.5 – 846.5	0.1884	-	0.1618	-
10	829.0 – 844.0	0.1901	-	0.1622	-
15	831.5 – 841.5	0.1914	-	0.1637	-
CH26790	824.0	0.1807	-	0.1556	-
LTE Band 38		**QPSK**		**16QAM/64QAM/256QAM**	
BW (MHz)	Frequency Range (MHz)	Maximum Conducted power (W)	Emission Designator (99%OBW)	Maximum Conducted power (W)	Emission Designator (99%OBW)
5	2572.5 – 2617.5	0.3491	-	0.2931	-
10	2575.0 – 2615.0	0.3475	-	0.2938	-
15	2577.5 – 2612.5	0.3499	-	0.2917	-
20	2580.0 – 2610.0	0.3556	-	0.2958	-
LTE Band 41		**QPSK**		**16QAM/64QAM/256QAM**	
BW (MHz)	Frequency Range (MHz)	Maximum Conducted power (W)	Emission Designator (99%OBW)	Maximum Conducted power (W)	Emission Designator (99%OBW)
5	2498.5 – 2687.5	0.3540	-	0.2938	-
10	2501.0 – 2685.0	0.3508	-	0.2965	-
15	2503.5 – 2682.5	0.3483	-	0.2951	-
20	2506.0 – 2680.0	0.3565	-	0.2972	-
LTE Band 71		**QPSK**		**16QAM/64QAM/256QAM**	
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Emission Designator (99%OBW)	Maximum ERP(W)	Emission Designator (99%OBW)
5	665.5 – 695.5	0.1426	-	0.1205	-
10	668.0 – 693.0	0.1429	-	0.1205	-
15	670.5 – 690.5	0.1422	-	0.1211	-
20	673.0 – 688.0	0.1439	-	0.1222	-

LTE Band 41 CA	QPSK		16QAM/64QAM/256QAM	
BW (MHz)	Maximum Conducted power (W)	Emission Designator (99%OBW)	Maximum Conducted power (W)	Emission Designator (99%OBW)
5MHz+20MHz	0.2786	-	0.2259	-
10MHz+20MHz	0.2805	-	0.2307	-
10MHz+15MHz	0.2812	-	0.2280	-
15MHz+15MHz	0.2761	-	0.2307	-
15MHz+20MHz	0.2773	-	0.2317	-
15MHz+10MHz	0.2799	-	0.2328	-
20MHz+5MHz	0.2780	-	0.2275	-
20MHz+10MHz	0.2812	-	0.2317	-
20MHz+15MHz	0.2761	-	0.2280	-
20MHz+20MHz	0.2858	-	0.2291	-

LTE Band 42		QPSK		16QAM/64QAM/256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
5	3452.5 – 3547.5	1.4289	-	1.1220	-
10	3455 – 3545	1.4355	-	1.1324	-
15	3457.5 – 3542.5	1.4454	-	1.1272	-
20	3460 – 3540	1.4521	-	1.1350	-

LTE Band 26(90S)		QPSK		16QAM/64QAM/256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum Conducted power (W)	Emission Designator (99%OBW)	Maximum Conducted power (W)	Emission Designator (99%OBW)
1.4	814.7 – 823.3	0.1782	-	0.1531	-
3	815.5 – 822.5	0.1791	-	0.1514	-
5	816.5 – 821.5	0.1782	-	0.1524	-
10	819.0	0.1795	-	0.1514	-
15	824	0.1746	-	0.1503	-

Note:

1. LTE Band 26 overlaps the entire frequency range of LTE Band 5. Therefore, the test results provided in this report covers Band 26 as well as Band 5.
2. 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.

1.7 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	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	TH01-SZ	CN1256	421272

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 518103 People's Republic of China TEL: +86-755-86066985		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	03CH02-SZ	CN1256	421272

1.8 Test Software

Item	Site	Manufacture	Name	Version
1.	03CH02-SZ	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), 27(F), 27(H), 27(M), 27(N), 27(Q), 90(S)
- ANSI C63.26-2015
- FCC KDB 971168 D01 Power Meas License Digital Systems v03r01
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Re-use of Measured Data

2.1 Introduction Section

The subject device of this application (Model: 5G16-B, FCC ID: 2ADZR5G16B) is electrically identical to the reference device (Model: 5G16-A, FCC ID: 2ADZR5G16A) for the portions of the circuitry corresponding to the data being re-used.

The applicant takes full responsibility that the test data as referenced in this report represent compliance for this FCC ID: 2ADZR5G16B .

2.2 Model Difference Information

The **main** difference between FCC ID: 2ADZR5G16A and FCC ID: 2ADZR5G16B is as below:

- Remove 5G NR n78.
- Change the Antenna Gain.
- Change equipment class of Part 96
- Disable 5G NR n71AA by Software

Other differences and all the details of similarity and difference can be found in the confidential documents (5G16-B_Operational Description of Product Equality Declaration).

2.3 Reference detail Section:

Rule Part	Equipment Class	Frequency Band (MHz)	Reference FCC ID (Parent)	Reference on test	Reference Title	FCC ID Filling (Variant)	Test on the variant	Data Referencing (Y/N)
22, 27, 90	PCB (LTE)	B5/26/71	2ADZR5G16A	Full test	FG341901A	2ADZR5G16B	Spot check, Full test on Power/ERP/EIRP/RSE	Y, Conducted Items
		B12/13/7/38/41/41C	2ADZR5G16A	Full test	FG341901B	2ADZR5G16B	Spot check, Full test on Power/ERP/EIRP/RSE	Y, Conducted Items
		B26(90S)	2ADZR5G16A	Full test	FG341901C	2ADZR5G16B	Spot check, Full test on Conducted Power /RSE	Y, Conducted Items
		B42	2ADZR5G16A	Full test	FG341901D	2ADZR5G16B	Spot check, Full test on Power/EIRP/RSE	Y, Conducted Items

Y: Pointer to spot-check exhibit; N: Pointer to full test exhibit

3 Test Configuration of Equipment Under Test

3.1 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.

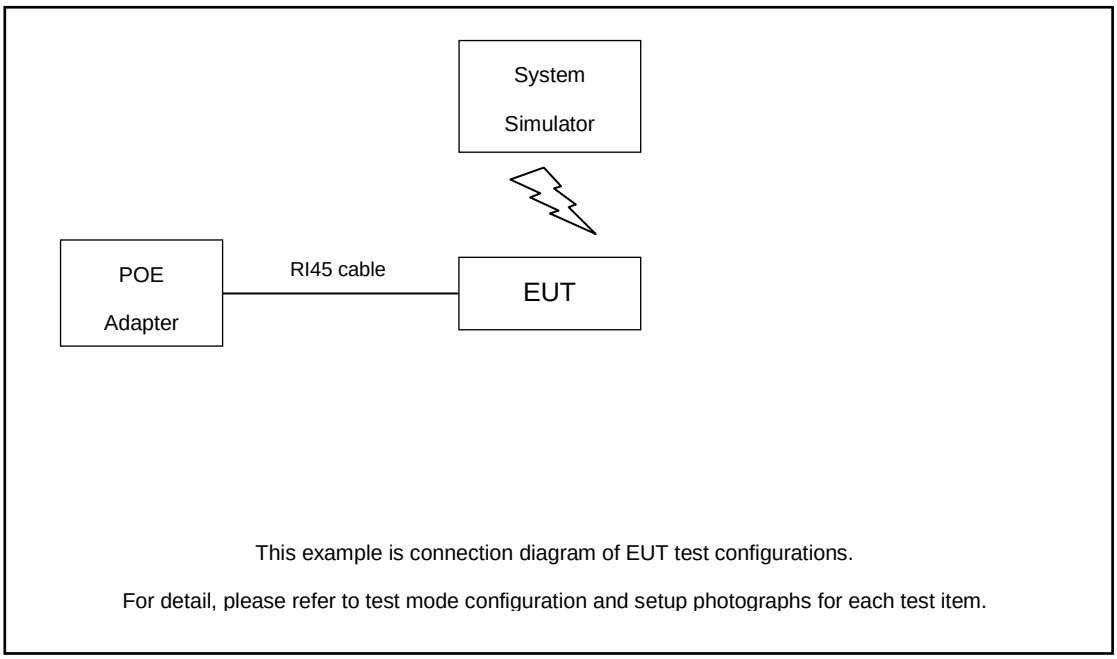
Radiated measurements are performed by rotating the EUT in three different orthogonal test planes to find the maximum emission.

Test Items	Band	Bandwidth (MHz)							Modulation			RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	256QAM	1	Half	Full	L	M	H
Max. Output Power	5	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v	v
	7	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	12	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v	v
	13	-	-	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	v	v	v
	26(90S)	v	v	v	v	v	-	v	v	v	v	v	v	v	v	v	v
	38	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	41	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	42			v	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	v	v	v
E.R.P / E.I.R.P	5	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v	v
	7	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	12	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v	v
	13	-	-	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	v	v	v
	38	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	41	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	42			v	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	v	v	v
Radiated Spurious Emission	7	Worst Case														v	
	12	Worst Case														v	
	13	Worst Case														v	
	26	Worst Case														v	
	26(90S)	Worst Case														v	
	41	Worst Case														v	
	42	Worst Case														v	

	71	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.				

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	256QAM	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	v	v
E.I.R.P.	41C_CA	v	v	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.																				

3.2 Connection Diagram of Test System



3.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	Base Station	Anritsu	MT8821C	N/A	N/A	Unshielded, 1.5 m

3.4 Frequency List of Low/Middle/High Channels

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 26 Channel and Frequency List (Part 22H)				
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 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 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

LTE Band 26 Channel and Frequency List (Part 90S)				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
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 42 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
20	Channel	42190	42590	42990
	Frequency	3460	3500	3540
15	Channel	42165	42590	43015
	Frequency	3457.5	3500	3542.5
10	Channel	42140	42590	43040
	Frequency	3455	3500	3545
5	Channel	42115	42590	43065
	Frequency	3452.5	3500	3547.5

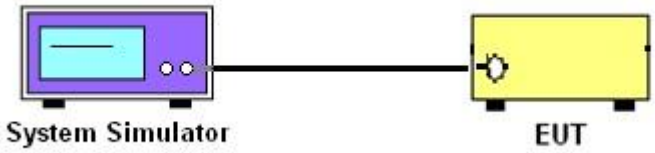
4 Conducted Test Items

4.1 Measuring Instruments

See list of measuring instruments of this test report.

4.2 Test Setup

4.2.1 Conducted Output Power



4.3 Test Result of Conducted Test

Please refer to Appendix A.

4.4 Conducted Output Power and ERP/EIRP

4.4.1 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 must not exceed 7 Watts for LTE Band 5 and Band 26.

The ERP must not exceed 3 Watts for LTE Band 71.

The transmitter output power must not exceed 2 Watts for LTE and Band 7and Band 38 and Band 41.

The ERP exceed 1000 Watts for LTE Band 12, Band 13.

Fixed devices are limited to 1640 Watt EIRP for LTE and Band 42

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

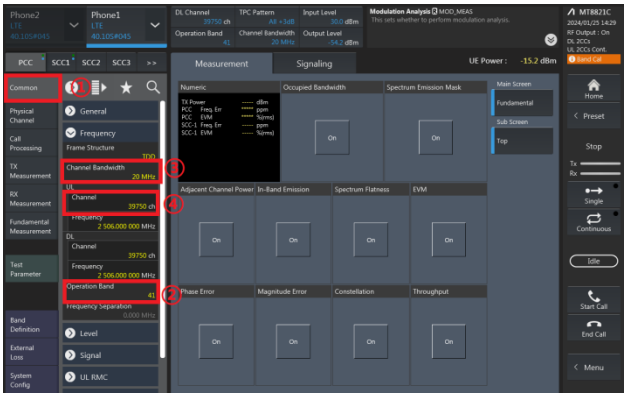
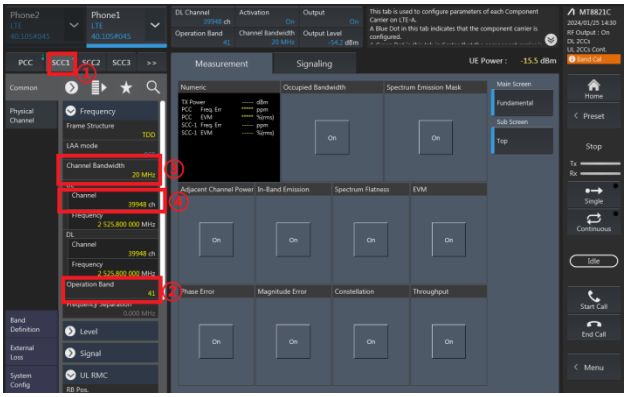
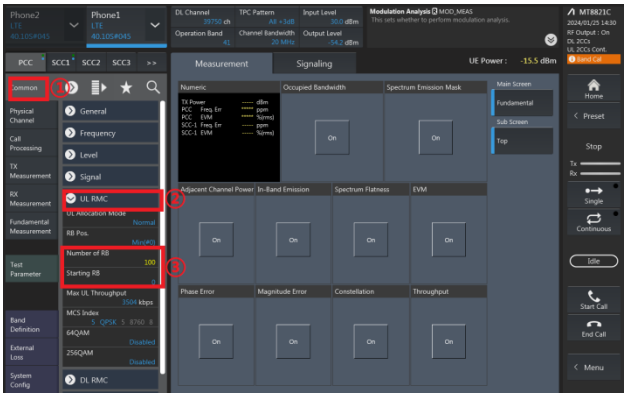
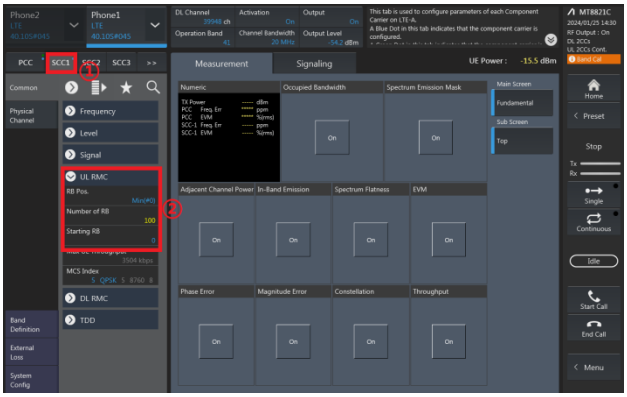
L_C = signal attenuation in the connecting cable between the transmitter and antenna in dB

4.4.2 Test Procedures

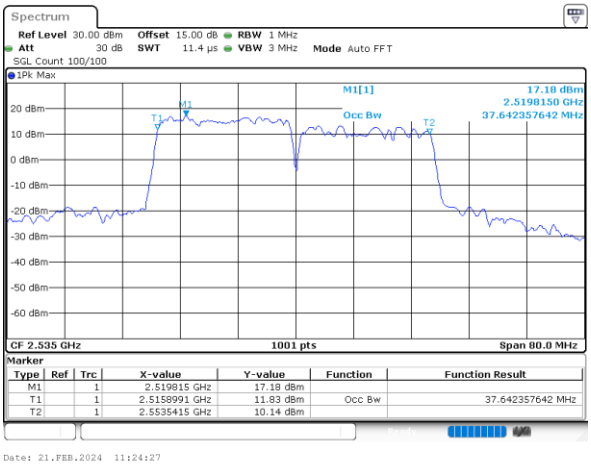
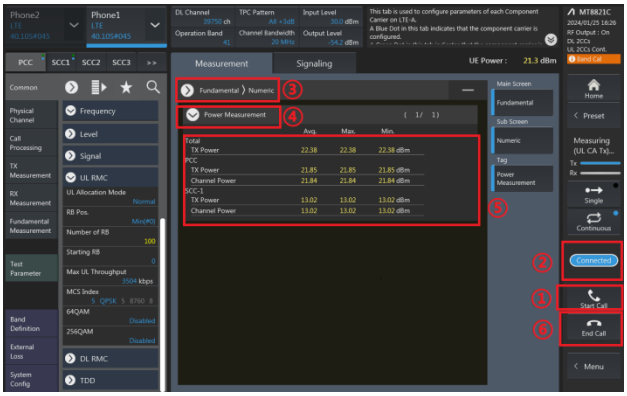
1. The testing follows ANSI C63.26 Section 5.2
2. The transmitter output port was connected to the system simulator.
3. Set EUT at maximum power through the system simulator.
4. Select lowest, middle, and highest channels for each band and different modulation.
5. Measure and record the power level from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

4.4.3 Test Procedures for LTE ULCA

1. The testing follows ANSI C63.26 Section 5.2
2. The transmitter PCC & SCC output ports were connected to the system simulator.
3. Set EUT at maximum power, set the PCC/SCC CA band, channel, bandwidth and RB config.

PCC config_(Channel Bandwidth / Channel / Band)	SCC config_(Channel Bandwidth / Channel / Band)
	
PCC config_(Number of RB / Starting RB)	**SCC config_(Number of RB / Starting RB)**
	

4. Select lowest, middle, and highest channels for each ULCA band and different modulation.
5. Check the ULCA spectrum and record the total power from the system simulator.

Check the ULCA spectrum (eg. 20M+20M)	Read the Total UL CA output power (PCC+SCC)
	

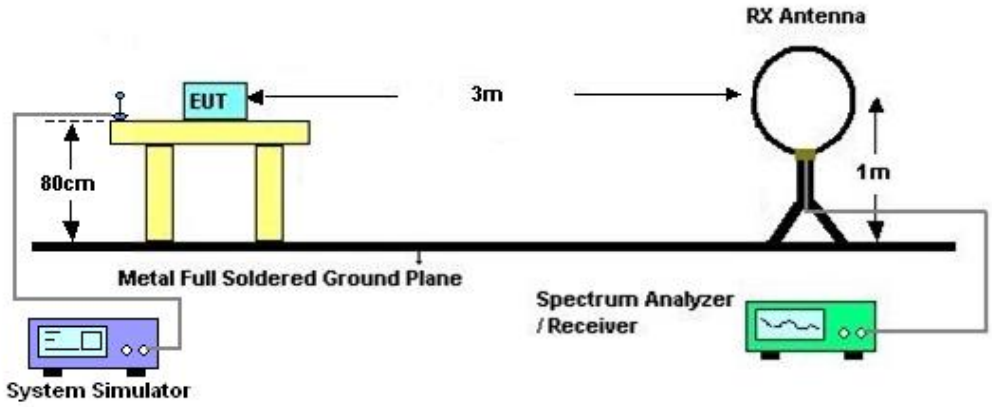
5 Radiated Test Items

5.1 Measuring Instruments

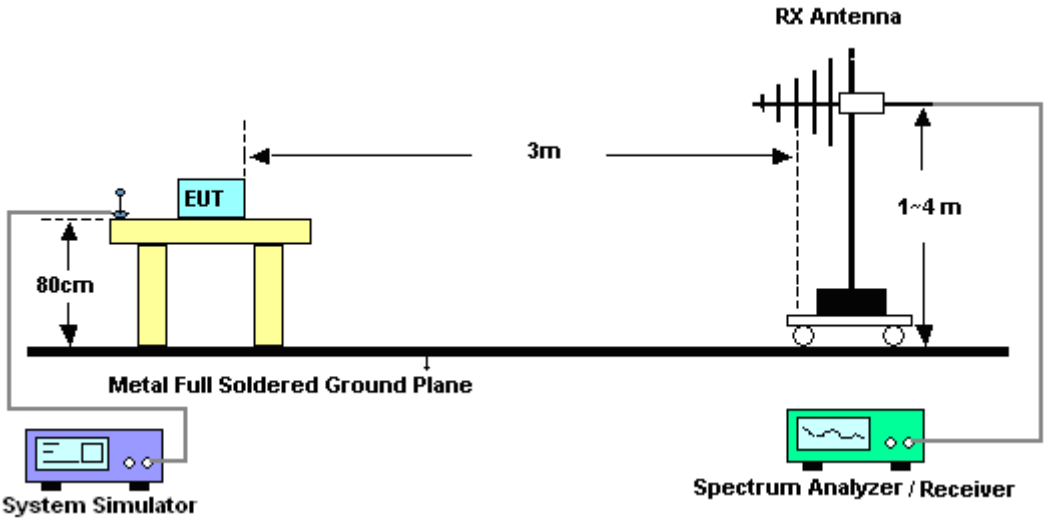
See list of measuring instruments of this test report.

5.2 Test Setup

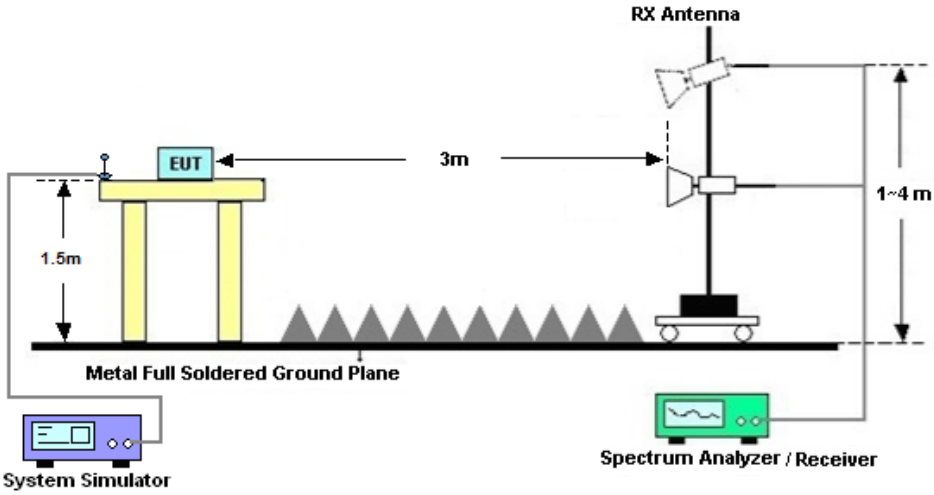
5.2.1 For radiated test below 30MHz



5.2.2 For radiated test from 30MHz to 1GHz



5.2.3 For radiated test above 1GHz



5.3 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.

5.4 Radiated Spurious Emission

5.4.1 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 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.

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

5.4.2 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.

6 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 09, 2024	Jul. 10, 2024~ Jul. 12, 2024	Apr. 08, 2025	Conducted (TH01-SZ)
Power Divider	SOLVANG TECHNOLOY	STI08-0055	-	Max 40GHz	Mar. 20, 2024	Jul. 10, 2024~ Jul. 12, 2024	Mar. 19, 2025	Conducted (TH01-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Jul. 07, 2023	Jun. 24, 2024	Jul. 06, 2024	Radiation (03CH02-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jul. 28, 2022	Jun. 24, 2024	Jul. 27, 2024	Radiation (03CH02-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz-2GHz	Oct. 24, 2023	Jun. 24, 2024	Oct. 23, 2025	Radiation (03CH02-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Jul. 08, 2023	Jun. 24, 2024	Jul. 07, 2024	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	TTA1840-35 -HG	1871923	18GHz~40GHz	Jul. 07, 2023	Jun. 24, 2024	Jul. 06, 2024	Radiation (03CH02-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Apr. 09, 2024	Jun. 24, 2024	Apr. 08, 2025	Radiation (03CH02-SZ)
LF Amplifier	Burgeon	BPA-530	102211	0.01~3000Mhz	Oct. 18, 2023	Jun. 24, 2024	Oct. 17, 2024	Radiation (03CH02-SZ)
HF Amplifier	KEYSIGHT	83017A	MY53270105	0.5GHz~26.5Ghz	Oct. 18, 2023	Jun. 24, 2024	Oct. 17, 2024	Radiation (03CH02-SZ)
AC Power Source	Chroma	61601	616010003043	N/A	Oct. 18, 2023	Jun. 24, 2024	Oct. 17, 2024	Radiation (03CH02-SZ)
Turn Table	Chaintek	T-200	N/A	0~360 degree	NCR	Jun. 24, 2024	NCR	Radiation (03CH02-SZ)
Antenna Mast	Chaintek	MBS-400	N/A	1 m~4 m	NCR	Jun. 24, 2024	NCR	Radiation (03CH02-SZ)

NCR: No Calibration Required

7 Measurement Uncertainty

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 Conducted Measurement

Test Item	Uncertainty
Conducted Power	±1.34 dB
Frequency Stability	±1.3 Hz

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.47 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.31 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.72 dB

---------- THE END ----------

Appendix A. Test Results of Conducted Test

Test Engineer :	Lorenzo Liu	Temperature :	23~25℃
		Relative Humidity :	41~42%

A1. Conducted Output Power(Average power) and ERP/EIRP

LTE Band 5_ANT 0

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	22.50	22.52	22.47	0.1841	0.1849	0.1828
10	QPSK	1	25	22.48	22.50	22.45	0.1832	0.1841	0.1820
10	QPSK	1	49	22.47	22.48	22.41	0.1828	0.1832	0.1803
10	QPSK	25	0	21.42	21.50	21.45	0.1435	0.1462	0.1445
10	QPSK	25	12	21.39	21.47	21.45	0.1426	0.1452	0.1445
10	QPSK	25	25	21.43	21.44	21.42	0.1439	0.1442	0.1435
10	QPSK	50	0	21.43	21.45	21.42	0.1439	0.1445	0.1435
10	16QAM	1	0	21.79	21.80	21.78	0.1563	0.1567	0.1560
10	64QAM	1	0	20.70	20.71	20.64	0.1216	0.1219	0.1199
10	256QAM	1	0	17.42	17.49	17.48	0.0571	0.0581	0.0579
Channel				20425	20525	20625	ERP(W)		
Frequency (MHz)				826.5	836.5	846.5	L	M	H
5	QPSK	1	0	22.45	22.46	22.41	0.1820	0.1824	0.1803
5	16QAM	1	0	21.78	21.79	21.76	0.1560	0.1563	0.1552
Channel				20415	20525	20635	ERP(W)		
Frequency (MHz)				825.5	836.5	847.5	L	M	H
3	QPSK	1	0	22.49	22.47	22.44	0.1837	0.1828	0.1816
3	16QAM	1	0	21.72	21.79	21.74	0.1538	0.1563	0.1545
Channel				20407	20525	20643	ERP(W)		
Frequency (MHz)				824.7	836.5	848.3	L	M	H
1.4	QPSK	1	0	22.43	22.46	22.42	0.1811	0.1824	0.1807
1.4	16QAM	1	0	21.32	21.40	21.42	0.1403	0.1429	0.1435

LTE Band 7_ANT 0

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP(W)		
Channel				20850	20850	21350			
Frequency (MHz)				2510	2535	2560	L	M	H
20	QPSK	1	0	22.85	22.90	22.87	0.3673	0.3715	0.3690
20	QPSK	1	49	22.68	22.76	22.72	0.3532	0.3597	0.3565
20	QPSK	1	99	22.65	22.70	22.68	0.3508	0.3548	0.3532
20	QPSK	50	0	21.75	21.83	21.76	0.2851	0.2904	0.2858
20	QPSK	50	24	21.73	21.81	21.73	0.2838	0.2891	0.2838
20	QPSK	50	50	21.68	21.70	21.68	0.2805	0.2818	0.2805
20	QPSK	100	0	21.75	21.79	21.74	0.2851	0.2877	0.2844
20	16QAM	1	0	22.14	22.15	22.08	0.3119	0.3126	0.3076
20	64QAM	1	0	21.03	21.05	21.01	0.2415	0.2427	0.2404
20	256QAM	1	0	17.95	18.00	17.96	0.1189	0.1202	0.1191
Channel				20825	21100	21375	EIRP(W)		
Frequency (MHz)				2507.5	2535	2562.5	L	M	H
15	QPSK	1	0	22.78	22.83	22.80	0.3614	0.3656	0.3631
15	16QAM	1	0	22.12	22.10	22.06	0.3105	0.3090	0.3062
Channel				20800	21100	21400	EIRP(W)		
Frequency (MHz)				2505	2535	2565	L	M	H
10	QPSK	1	0	22.81	22.86	22.82	0.3639	0.3681	0.3648
10	16QAM	1	0	22.07	22.09	22.07	0.3069	0.3083	0.3069
Channel				20775	21100	21425	EIRP(W)		
Frequency (MHz)				2502.5	2535	2567.5	L	M	H
5	QPSK	1	0	22.77	22.83	22.83	0.3606	0.3656	0.3656
5	16QAM	1	0	22.11	22.13	22.06	0.3097	0.3112	0.3062

LTE Band 12_ANT 0

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	22.77	22.82	22.75	0.1746	0.1766	0.1738
10	QPSK	1	25	22.67	22.73	22.66	0.1706	0.1730	0.1702
10	QPSK	1	49	22.61	22.69	22.68	0.1683	0.1714	0.1710
10	QPSK	25	0	21.61	21.63	21.58	0.1337	0.1343	0.1327
10	QPSK	25	12	21.60	21.65	21.61	0.1334	0.1349	0.1337
10	QPSK	25	25	21.50	21.58	21.52	0.1303	0.1327	0.1309
10	QPSK	50	0	21.55	21.62	21.56	0.1318	0.1340	0.1321
10	16QAM	1	0	22.08	22.09	22.04	0.1489	0.1493	0.1476
10	64QAM	1	0	20.90	20.93	20.87	0.1135	0.1143	0.1127
10	256QAM	1	0	17.78	17.79	17.75	0.0553	0.0555	0.0550
Channel				23035	23095	23155	ERP(W)		
Frequency (MHz)				701.5	707.5	713.5	L	M	H
5	QPSK	1	0	22.71	22.77	22.67	0.1722	0.1746	0.1706
5	16QAM	1	0	22.06	22.07	21.98	0.1483	0.1486	0.1455
Channel				23025	23095	23165	ERP(W)		
Frequency (MHz)				700.5	707.5	714.5	L	M	H
3	QPSK	1	0	22.73	22.76	22.72	0.1730	0.1742	0.1726
3	16QAM	1	0	22.02	22.07	22.01	0.1469	0.1486	0.1466
Channel				23017	23095	23173	ERP(W)		
Frequency (MHz)				699.7	707.5	715.3	L	M	H
1.4	QPSK	1	0	22.69	22.79	22.70	0.1714	0.1754	0.1718
1.4	16QAM	1	0	21.59	21.61	21.54	0.1330	0.1337	0.1315

LTE Band 13_ANT 0

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	ERP(W)		
Channel				23230					
Frequency (MHz)				782				M	
10	QPSK	1	0		22.62			0.1403	
10	QPSK	1	25		22.55			0.1380	
10	QPSK	1	49		22.47			0.1355	
10	QPSK	25	0		21.22			0.1016	
10	QPSK	25	12		21.46			0.1074	
10	QPSK	25	25		21.43			0.1067	
10	QPSK	50	0		21.34			0.1045	
10	16QAM	1	0		21.86			0.1178	
10	64QAM	1	0		20.78			0.0918	
10	256QAM	1	0		17.59			0.0441	
Channel				23205	23230	23255	ERP(W)		
Frequency (MHz)				779.5	782	784.5	L	M	H
5	QPSK	1	0	22.54	22.61	22.54	0.1377	0.1400	0.1377
5	16QAM	1	0	21.83	21.80	21.78	0.1169	0.1161	0.1156

LTE Band 26_ANT 0

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	Straddle Ch	L	M	H
15	QPSK	1	0	22.42	22.67	22.58	22.55	0.1807	0.1914	0.1875	0.1862
15	QPSK	1	37	22.38	22.59	22.52	22.57	0.1791	0.1879	0.1849	0.1871
15	QPSK	1	74	22.40	22.54	22.46	22.50	0.1799	0.1858	0.1824	0.1841
15	QPSK	36	0	21.31	21.59	21.54	21.55	0.1400	0.1493	0.1476	0.1479
15	QPSK	36	20	21.18	21.49	21.47	21.43	0.1358	0.1459	0.1452	0.1439
15	QPSK	36	39	21.18	21.46	21.45	21.41	0.1358	0.1449	0.1445	0.1432
15	QPSK	75	0	21.39	21.52	21.49	21.47	0.1426	0.1469	0.1459	0.1452
15	16QAM	1	0	21.77	21.99	21.92	21.96	0.1556	0.1637	0.1611	0.1626
15	64QAM	1	0	20.46	20.76	20.73	20.70	0.1151	0.1233	0.1225	0.1216
15	256QAM	1	0	17.34	17.67	17.66	17.64	0.0561	0.0605	0.0604	0.0601
Channel					26840	26915	26990	ERP(W)			
Frequency (MHz)					829	836.5	844		L	M	H
10	QPSK	1	0		22.62	22.64	22.54		0.1892	0.1901	0.1858
10	16QAM	1	0		21.83	21.94	21.95		0.1578	0.1618	0.1622
Channel					26815	26915	27015	ERP(W)			
Frequency (MHz)					826.5	836.5	846.5		L	M	H
5	QPSK	1	0		22.55	22.60	22.49		0.1862	0.1884	0.1837
5	16QAM	1	0		21.88	21.94	21.88		0.1596	0.1618	0.1596
Channel					26815	26915	27025	ERP(W)			
Frequency (MHz)					825.5	836.5	847.5		L	M	H
3	QPSK	1	0		22.57	22.60	22.48		0.1871	0.1884	0.1832
3	16QAM	1	0		21.90	21.98	21.92		0.1603	0.1633	0.1611
Channel					26797	26915	27033	ERP(W)			
Frequency (MHz)					824.7	836.5	848.3		L	M	H
1.4	QPSK	1	0		22.61	22.61	22.50		0.1888	0.1888	0.1841
1.4	16QAM	1	0		21.34	21.48	21.37		0.1409	0.1455	0.1419

LTE Band 26_ANT 0_Part 90S:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel					26790	
Frequency (MHz)					824	
15	QPSK	1	0		22.42	
15	QPSK	1	37		22.38	
15	QPSK	1	74		22.40	
15	QPSK	36	0		21.31	
15	QPSK	36	20		21.18	
15	QPSK	36	39		21.18	
15	QPSK	75	0		21.39	
15	16QAM	1	0		21.77	
15	64QAM	1	0		20.46	
15	256QAM	1	0		17.34	
Channel					26740	
Frequency (MHz)					819	
10	QPSK	1	0		22.54	
10	QPSK	1	25		22.48	
10	QPSK	1	49		22.28	
10	QPSK	25	0		21.36	
10	QPSK	25	12		21.24	
10	QPSK	25	25		21.22	
10	QPSK	50	0		21.32	
10	16QAM	1	0		21.80	
10	64QAM	1	0		20.57	
10	256QAM	1	0		17.47	
Channel				26715	26740	26765
Frequency (MHz)				816.5	819	821.5
5	QPSK	1	0	22.49	22.43	22.51
5	16QAM	1	0	21.83	21.79	21.83
Channel				26705	26740	26775
Frequency (MHz)				815.5	819	822.5
3	QPSK	1	0	22.53	22.51	22.49
3	16QAM	1	0	21.80	21.74	21.75
Channel				26697	26740	26783
Frequency (MHz)				814.7	819	823.3
1.4	QPSK	1	0	22.48	22.44	22.51
1.4	16QAM	1	0	21.76	21.75	21.85

LTE Band 71_ANT 0

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	22.70	22.73	22.69	0.1429	0.1439	0.1426
20	QPSK	1	49	22.65	22.70	22.63	0.1413	0.1429	0.1406
20	QPSK	1	99	22.65	22.71	22.67	0.1413	0.1432	0.1419
20	QPSK	50	0	21.77	21.83	21.78	0.1153	0.1169	0.1156
20	QPSK	50	24	21.67	21.71	21.70	0.1127	0.1138	0.1135
20	QPSK	50	50	21.79	21.81	21.74	0.1159	0.1164	0.1146
20	QPSK	100	0	21.73	21.78	21.71	0.1143	0.1156	0.1138
20	16QAM	1	0	21.95	22.02	22.00	0.1202	0.1222	0.1216
20	64QAM	1	0	20.87	20.92	20.89	0.0938	0.0948	0.0942
20	256QAM	1	0	17.86	17.88	17.83	0.0469	0.0471	0.0466
Channel				133197	133297	133397	EIRP(W)		
Frequency (MHz)				670.5	680.5	690.5	L	M	H
15	QPSK	1	0	22.68	22.65	22.65	0.1422	0.1413	0.1413
15	16QAM	1	0	21.92	21.98	21.98	0.1194	0.1211	0.1211
Channel				133172	133272	133422	EIRP(W)		
Frequency (MHz)				668	678	693	L	M	H
10	QPSK	1	0	22.62	22.70	22.63	0.1403	0.1429	0.1406
10	16QAM	1	0	21.91	21.96	21.93	0.1191	0.1205	0.1197
Channel				133147	133247	133447	EIRP(W)		
Frequency (MHz)				665.5	675.5	695.5	L	M	H
5	QPSK	1	0	22.69	22.65	22.67	0.1426	0.1413	0.1419
5	16QAM	1	0	21.94	21.96	21.96	0.1199	0.1205	0.1205

LTE Band 38_ANT 1

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP(W)		
Channel				37850	38000	38150			
Frequency (MHz)				2580	2595	2610	L	M	H
20	QPSK	1	0	25.40	25.46	25.43	0.5495	0.5572	0.5534
20	QPSK	1	49	25.46	25.51	25.50	0.5572	0.5636	0.5623
20	QPSK	1	99	25.45	25.47	25.42	0.5559	0.5585	0.5521
20	QPSK	50	0	24.52	24.53	24.47	0.4487	0.4498	0.4436
20	QPSK	50	24	24.36	24.44	24.38	0.4325	0.4406	0.4345
20	QPSK	50	50	24.42	24.47	24.43	0.4385	0.4436	0.4395
20	QPSK	100	0	24.46	24.50	24.46	0.4426	0.4467	0.4426
20	16QAM	1	0	24.65	24.71	24.66	0.4624	0.4688	0.4634
20	64QAM	1	0	23.43	23.44	23.43	0.3491	0.3499	0.3491
20	256QAM	1	0	20.68	20.75	20.73	0.1854	0.1884	0.1875
Channel				37825	38000	38175	EIRP(W)		
Frequency (MHz)				2577.5	2595	2612.5	L	M	H
15	QPSK	1	0	25.36	25.44	25.36	0.5445	0.5546	0.5445
15	16QAM	1	0	24.61	24.65	24.63	0.4581	0.4624	0.4603
Channel				37800	38000	38200	EIRP(W)		
Frequency (MHz)				2575	2595	2615	L	M	H
10	QPSK	1	0	25.39	25.41	25.35	0.5483	0.5508	0.5433
10	16QAM	1	0	24.61	24.68	24.61	0.4581	0.4656	0.4581
Channel				37775	38000	38225	EIRP(W)		
Frequency (MHz)				2572.5	2595	2617.5	L	M	H
5	QPSK	1	0	25.35	25.43	25.36	0.5433	0.5534	0.5445
5	16QAM	1	0	24.63	24.67	24.59	0.4603	0.4645	0.4560

LTE Band 41_ANT 1

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	25.18	25.52	25.47	0.5224	0.5649	0.5585
20	QPSK	1	49	25.06	25.47	25.46	0.5082	0.5585	0.5572
20	QPSK	1	99	25.05	25.43	25.38	0.5070	0.5534	0.5470
20	QPSK	50	0	24.13	24.52	24.48	0.4102	0.4487	0.4446
20	QPSK	50	24	24.04	24.42	24.40	0.4018	0.4385	0.4365
20	QPSK	50	50	24.05	24.47	24.44	0.4027	0.4436	0.4406
20	QPSK	100	0	24.10	24.48	24.44	0.4074	0.4446	0.4406
20	16QAM	1	0	24.35	24.73	24.66	0.4315	0.4710	0.4634
20	64QAM	1	0	23.03	23.44	23.43	0.3184	0.3499	0.3491
20	256QAM	1	0	20.24	20.62	20.57	0.1675	0.1828	0.1807
Channel				39725	40620	41515	EIRP(W)		
Frequency (MHz)				2503.5	2593	2682.5	L	M	H
15	QPSK	1	0	25.16	25.42	25.41	0.5200	0.5521	0.5508
15	16QAM	1	0	24.28	24.70	24.59	0.4246	0.4677	0.4560
Channel				39700	40620	41540	EIRP(W)		
Frequency (MHz)				2501	2593	2685	L	M	H
10	QPSK	1	0	25.17	25.45	25.43	0.5212	0.5559	0.5534
10	16QAM	1	0	24.29	24.72	24.58	0.4256	0.4699	0.4550
Channel				39675	40620	41565	EIRP(W)		
Frequency (MHz)				2498.5	2593	2687.5	L	M	H
5	QPSK	1	0	25.14	25.49	25.39	0.5176	0.5610	0.5483
5	16QAM	1	0	24.29	24.68	24.58	0.4256	0.4656	0.4550

LTE Band 41C_ANT 1

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	24.47	0.4436
M	QPSK	1	Max	1	0	24.56	0.4529
H	QPSK	1	Max	1	0	24.54	0.4508
L	16QAM	1	Max	1	0	23.40	0.3467
M	16QAM	1	Max	1	0	23.60	0.3631
H	16QAM	1	Max	1	0	23.60	0.3631
L	64QAM	1	Max	1	0	21.30	0.2138
M	64QAM	1	Max	1	0	21.56	0.2270
H	64QAM	1	Max	1	0	21.52	0.2249
L	256QAM	1	Max	1	0	19.57	0.1435
M	256QAM	1	Max	1	0	19.65	0.1462
H	256QAM	1	Max	1	0	19.49	0.1409
Combination 20MHz+15MHz (100RB+75RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
M	QPSK	1	Max	1	0	24.41	0.4375
M	16QAM	1	Max	1	0	23.58	0.3614
Combination 15MHz+20MHz (75RB+100RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
M	QPSK	1	Max	1	0	24.43	0.4395
M	16QAM	1	Max	1	0	23.65	0.3673
Combination 15MHz+15MHz (75RB+75RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
M	QPSK	1	Max	1	0	24.41	0.4375
M	16QAM	1	Max	1	0	23.63	0.3656
Combination 20MHz+10MHz (100RB+50RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
M	QPSK	1	Max	1	0	24.49	0.4457
M	16QAM	1	Max	1	0	23.65	0.3673
Combination 10MHz+20MHz (50RB+100RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
M	QPSK	1	Max	1	0	24.48	0.4446
M	16QAM	1	Max	1	0	23.63	0.3656
Combination 15MHz+10MHz (75RB+50RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
M	QPSK	1	Max	1	0	24.47	0.4436

M	16QAM	1	Max	1	0	23.67	0.3690
Combination 10MHz+15MHz (50RB+75RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
M	QPSK	1	Max	1	0	24.49	0.4457
M	16QAM	1	Max	1	0	23.58	0.3614
Combination 20MHz+5MHz (100RB+25RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
M	QPSK	1	Max	1	0	24.44	0.4406
M	16QAM	1	Max	1	0	23.57	0.3606
Combination 5MHz+20MHz (25RB+100RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
M	QPSK	1	Max	1	0	24.45	0.4416
M	16QAM	1	Max	1	0	23.54	0.3581

LTE Band 42_ANT 5

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP(W)		
Channel				42190	42590	42990			
Frequency (MHz)				3460	3500	3540	L	M	H
20	QPSK	1	0	22.71	22.62	22.82	1.4158	1.3868	1.4521
20	QPSK	1	49	22.61	22.61	22.71	1.3836	1.3836	1.4158
20	QPSK	1	99	22.56	22.56	22.60	1.3677	1.3677	1.3804
20	QPSK	50	0	21.66	21.65	21.75	1.1117	1.1092	1.1350
20	QPSK	50	24	21.60	21.56	21.59	1.0965	1.0864	1.0940
20	QPSK	50	50	21.63	21.65	21.74	1.1041	1.1092	1.1324
20	QPSK	100	0	21.64	21.65	21.75	1.1066	1.1092	1.1350
20	16QAM	1	0	21.67	21.66	21.75	1.1143	1.1117	1.1350
20	64QAM	1	0	20.40	20.36	20.42	0.8318	0.8241	0.8356
20	256QAM	1	0	17.52	17.48	17.53	0.4285	0.4246	0.4295
Channel				42165	42590	43015	EIRP(W)		
Frequency (MHz)				3457.5	3500	3542.5	L	M	H
15	QPSK	1	0	22.65	22.54	22.80	1.3964	1.3614	1.4454
15	16QAM	1	0	21.62	21.62	21.72	1.1015	1.1015	1.1272
Channel				42140	42590	43040	EIRP(W)		
Frequency (MHz)				3455	3500	3545	L	M	H
10	QPSK	1	0	22.70	22.58	22.77	1.4125	1.3740	1.4355
10	16QAM	1	0	21.65	21.65	21.74	1.1092	1.1092	1.1324
Channel				42115	42590	43065	EIRP(W)		
Frequency (MHz)				3452.5	3500	3547.5	L	M	H
5	QPSK	1	0	22.70	22.57	22.75	1.4125	1.3709	1.4289
5	16QAM	1	0	21.62	21.62	21.70	1.1015	1.1015	1.1220

Appendix B. Test Results of Radiated Test

Radiated Spurious Emission

Test Engineer :	LiangPing Zhou	Temperature :	22~23℃
		Relative Humidity :	40~42%

LTE Band 7 / 20MHz / QPSK / ANT0									
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	5052.18	-59.86	-13	-46.86	-81.87	-65.42	7.14	12.70	H
	7578.27	-52.49	-13	-39.49	-79.14	-55.79	8.30	11.60	H
	10104.36	-46.78	-13	-33.78	-78.18	-48.30	10.48	12.00	H
	5052.18	-59.66	-13	-46.66	-81.79	-65.22	7.14	12.70	V
	7578.27	-49.31	-13	-36.31	-75.92	-52.61	8.30	11.60	V
	10104.36	-44.19	-13	-31.19	-74.19	-45.71	10.48	12.00	V

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

LTE Band 12 / 10MHz / QPSK / ANT0									
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	-58.21	-13	-45.21	-68.94	-61.46	4.00	9.40	H
	2109	-47.61	-13	-34.61	-60.65	-51.18	4.88	10.60	H
	2812	-61.77	-13	-48.77	-77.79	-66.70	5.52	12.60	H
	1406	-63.47	-13	-50.47	-73.76	-66.72	4.00	9.40	V
	2109	-55.72	-13	-42.72	-68.71	-59.29	4.88	10.60	V
	2812	-61.53	-13	-48.53	-77.74	-66.46	5.52	12.60	V

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

LTE Band 13 / 5MHz / QPSK / ANT0									
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	1559.5	-54.87	-42.15	-12.72	-64.89	-58.12	4.00	9.40	H
	2339.25	-46.33	-13	-33.33	-61.08	-49.90	4.88	10.60	H
	3119	-60.37	-13	-47.37	-77.50	-65.30	5.52	12.60	H
	1559.5	-53.96	-42.15	-11.81	-64.06	-57.21	4.00	9.40	V
	2339.25	-45.36	-13	-32.36	-60.11	-48.93	4.88	10.60	V
	3119	-60.51	-13	-47.51	-77.68	-65.44	5.52	12.60	V

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

LTE Band 13 / 10MHz / QPSK / ANT0									
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	1559.5	-65.06	-42.15	-22.91	-75.08	-75.08	4.00	9.40	H
	2339.25	-62.29	-13	-49.29	-77.04	-77.04	4.88	10.60	H
	3119	-60.56	-13	-47.56	-77.69	-77.69	5.52	12.60	H
	1559.5	-65.25	-42.15	-23.10	-75.35	-75.35	4.00	9.40	V
	2339.25	-62.31	-13	-49.31	-77.06	-77.06	4.88	10.60	V
	3119	-60.86	-13	-47.86	-78.03	-78.03	5.52	12.60	V

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

LTE Band 26 / 15MHz / QPSK / ANT0									
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	-60.73	-13	-47.73	-70.65	-63.98	4.00	9.40	H
	2474.25	-58.66	-13	-45.66	-73.13	-62.23	4.88	10.60	H
	3299	-61.53	-13	-48.53	-78.03	-66.46	5.52	12.60	V
	1649.5	-58.66	-13	-45.66	-68.32	-61.91	4.00	9.40	V
	2474.25	-53.84	-13	-40.84	-68.28	-57.41	4.88	10.60	V
	3299	-61.17	-13	-48.17	-77.48	-66.10	5.52	12.60	V

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

LTE Band 26(90S) / 10MHz / QPSK / ANT0									
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	1629	-56.68	-13	-43.68	-66.56	-59.93	4.00	9.40	H
	2443.5	-62.34	-13	-49.34	-76.88	-65.91	4.88	10.60	H
	3258	-61.21	-13	-48.21	-78.05	-66.14	5.52	12.60	H
	1629	-63.32	-13	-50.32	-73.10	-66.57	4.00	9.40	V
	2443.5	-62.58	-13	-49.58	-77.10	-66.15	4.88	10.60	V
	3258	-61.26	-13	-48.26	-77.96	-66.19	5.52	12.60	V

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

LTE Band 41 / 20MHz / QPSK / ANT1									
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	5168.00	-38.81	-13	-25.81	-60.63	-44.37	7.14	12.70	H
	7752.00	-51.20	-13	-38.20	-77.99	-54.50	8.30	11.60	H
	10336.00	-49.48	-13	-36.48	-80.61	-51.00	10.48	12.00	H
	5168.00	-38.44	-13	-25.44	-60.53	-44.00	7.14	12.70	V
	7752.00	-46.52	-13	-33.52	-73.16	-49.82	8.30	11.60	V
	10336.00	-50.92	-13	-37.92	-81.14	-52.44	10.48	12.00	V

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

LTE Band 42 / 20MHz / QPSK / ANT5									
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	6982.00	-58.97	-13	-45.97	-64.01	-62.27	8.30	11.60	H
	10473.00	-56.30	-13	-43.30	-67.60	-57.82	10.48	12.00	H
	13964.00	-52.08	-13	-39.08	-66.76	-53.78	11.80	13.50	H
	6982.00	-59.35	-13	-46.35	-64.85	-62.65	8.30	11.60	V
	10473.00	-57.00	-13	-44.00	-67.69	-58.52	10.48	12.00	V
	13964.00	-52.25	-13	-39.25	-66.54	-53.95	11.80	13.50	V

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

LTE Band 71 / 20MHz / QPSK / ANT0									
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	1348	-61.65	-13	-48.65	-71.73	-64.90	4.00	9.40	H
	2022	-64.58	-13	-51.58	-75.95	-68.15	4.88	10.60	H
	2696	-61.81	-13	-48.81	-77.16	-66.74	5.52	12.60	H
	1348	-64.51	-13	-51.51	-74.22	-67.76	4.00	9.40	V
	2022	-64.93	-13	-51.93	-76.19	-68.50	4.88	10.60	V
	2696	-62.10	-13	-49.10	-77.49	-67.03	5.52	12.60	V

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

LTE Band 41C_CA / 20+20MHz / QPSK / ANT1									
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	5186.00	-60.01	-13	-47.01	-81.81	-65.57	7.14	12.70	H
	7779.00	-53.90	-13	-40.90	-80.73	-57.20	8.30	11.60	H
	10372.00	-50.53	-13	-37.53	-81.61	-52.05	10.48	12.00	H
	5186.00	-59.75	-13	-46.75	-81.84	-65.31	7.14	12.70	V
	7779.00	-54.34	-13	-41.34	-81	-57.64	8.30	11.60	V
	10372.00	-51.21	-13	-38.21	-81.46	-52.73	10.48	12.00	V

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