FCC RF Test Report

APPLICANT	:	Repairify, Inc.
EQUIPMENT	:	Diagnostic Tool
BRAND NAME	:	asTech®
MODEL NAME	:	AIO-5700-4G
FCC ID	:	2A8NIAAI14G
STANDARD	:	47 CFR Part 2, 22(H), 24(E), 27(L), 27(M), 27(H) , 27(F), 27(N)
CLASSIFICATION	:	PCS Licensed Transmitter (PCB)
TEST DATE(S)	:	Apr. 09, 2024 ~ Apr. 30, 2024

This product installed a RF module (Brand Name: Quectel, Model Name: SC668S-NA, FCC ID: XMR2022SC668SNA) during the test, only Conducted Power, ERP/EIRP and RSE test items are tested in this report, all the other test results are leveraged from module RF report.

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.
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

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People's Republic of China

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APPENDIX A. TEST RESULTS OF CONDUCTED TEST

APPENDIX B. TEST RESULTS OF RADIATED TEST

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG422003A	Rev. 01	Initial issue of report	May 28, 2024

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	-	Report Only	-
	§22.913(a)(5)	Effective Radiated Power (Band 5) (Band 26)	ERP < 7 Watt	PASS	-
	§27.50(b)(10) §27.50(c)(10)	Effective Radiated Power (Band 12) (Band 13) (Band 17) (Band 71)	ERP < 3 Watt		-
	§24.232(c) §27.50(h)(2)	Equivalent Isotropic Radiated Power (Band 2) (Band 25) (Band 7) (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(c)(2)(4) §27.53(g) §27.53(h)	Conducted Band Edge Measurement (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 17) (Band 25) (Band 26) (Band 66) (Band 71)	< 43+10log10(P[Watts])	PASS	1
	§27.53(m)(4)	Conducted Band Edge Measurement (Band 7) (Band 41)	§27.53(m)(4)		
-	§2.1051 §22.917(a) §24.238(a) §27.53(c)(2) §27.53(g) §27.53(h)	Conducted Spurious Emission (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 17) (Band 25) (Band 26) (Band 66) (Band 71)	< 43+10log10(P[Watts])	PASS	1
	§2.1051 §27.53(m)(4)	Conducted Spurious Emission (Band 7) (Band 41)	< 55+10log$_{10}$(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(c)(2) §27.53(f) §27.53(g) §27.53(h)	Radiated Spurious Emission (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 17) (Band 25) (Band 26) (Band 66) (Band 71)	< $43+10\log_{10}$(P[Watts])	PASS	Under limit 10.52 dB at 1560.00 MHz
	§2.1053 §27.53(m)(4)	Radiated Spurious Emission (Band 7) (Band 41)	< $55+10\log_{10}$(P[Watts])		

Remark 1: The conducted test results were leveraged from module RF report which can refer to Report No. FG311713A & FG311713B.

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

Repairify, Inc.
5700 Tennyson PKWY, STE 600, Plano, TX 75024

1.2 Manufacturer

Launch Tech Co., Ltd.
Launch Industrial Park, North of Wuhe Avenue, Banxuegang, Longgang, Shenzhen 518031

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Diagnostic Tool
Brand Name	asTech®
Model Name	AIO-5700-4G
FCC ID	2A8NIAAI14G
IMEI Code	865696060076162/866910402879374 8
HW Version	V1.2
SW Version	SC668SNANAR02A05_BP01.001V02_QDM550
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 7 : 2500 MHz ~ 2570 MHz LTE Band 12 : 699 MHz ~ 716 MHz LTE Band 13 : 777 MHz ~ 787 MHz LTE Band 17 : 704 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 7 : 2620 MHz ~ 2690 MHz LTE Band 12 : 729 MHz ~ 746 MHz LTE Band 13 : 746 MHz ~ 756 MHz LTE Band 17 : 734 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 7 : 5MHz/ 10MHz / 15MHz / 20MHz LTE Band 12 : 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 13 : 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 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 : 20.21 dBm LTE Band 4 : 22.86 dBm LTE Band 5 : 23.01 dBm LTE Band 7 : 23.81 dBm LTE Band 12 : 23.19 dBm LTE Band 13 : 22.91 dBm LTE Band 17 : 23.04 dBm LTE Band 25 : 20.44 dBm LTE Band 26 : 23.11 dBm LTE Band 41 : 23.52 dBm LTE Band 66 : 23.06 dBm LTE Band 71 : 23.58 dBm
Antenna Gain	LTE Band 2 : 1.68 dBi LTE Band 4 : 1.27 dBi LTE Band 5 : 0.33 dBi LTE Band 7 : 3.33 dBi LTE Band 12 : 0.48 dBi LTE Band 13 : 0.90 dBi LTE Band 17 : 0.48 dBi LTE Band 25 : 1.68 dBi LTE Band 26 : 0.33 dBi LTE Band 41 : 4.45 dBi LTE Band 66 : 1.27 dBi LTE Band 71 : -0.73 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

LTE Band 2		QPSK	16QAM
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Maximum EIRP(W)
1.4	1850.7 ~ 1909.3	0.1535	0.1442
3	1851.5 ~ 1908.5	0.1538	0.1426
5	1852.5 ~ 1907.5	0.1486	0.1435
10	1855.0 ~ 1905.0	0.1503	0.1393
15	1857.5 ~ 1902.5	0.1528	0.1422
20	1860.0 ~ 1900.0	0.1545	0.1400
LTE Band 25		QPSK	16QAM
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Maximum EIRP(W)
1.4	1850.7 ~ 1914.3	0.1596	0.1439
3	1851.5 ~ 1913.5	0.1607	0.1459
5	1852.5 ~ 1912.5	0.1581	0.1455
10	1855.0 ~ 1910.0	0.1574	0.1442
15	1857.5 ~ 1907.5	0.1626	0.1400
20	1860.0 ~ 1905.0	0.1629	0.1466
LTE Band 4		QPSK	16QAM
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Maximum EIRP(W)
1.4	1710.7 ~ 1754.3	0.2582	0.2415
3	1711.5 ~ 1753.5	0.2559	0.2388
5	1712.5 ~ 1752.5	0.2495	0.2344
10	1715.0 ~ 1750.0	0.2553	0.2443
15	1717.5 ~ 1747.5	0.2576	0.2455
20	1720.0 ~ 1745.0	0.2588	0.2466
LTE Band 5		QPSK	16QAM
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Maximum ERP(W)
1.4	824.7 ~ 848.3	0.1288	0.1107
3	825.5 ~ 847.5	0.1288	0.1114
5	826.5 ~ 846.5	0.1294	0.1089
10	829.0 ~ 844.0	0.1315	0.1130

LTE Band 7		QPSK	16QAM
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Maximum EIRP(W)
5	2502.5 ~ 2567.5	0.4989	0.4217
10	2505.0 ~ 2565.0	0.4898	0.4406
15	2507.5 ~ 2562.5	0.4864	0.4335
20	2510.0 ~ 2560.0	0.5176	0.4581
LTE Band 12		QPSK	16QAM
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Maximum ERP(W)
1.4	699.7 ~ 715.3	0.1377	0.1227
3	700.5 ~ 714.5	0.1384	0.1202
5	701.5 ~ 713.5	0.1374	0.1191
10	704.0 ~ 711.0	0.1419	0.1227

LTE Band 13		QPSK	16QAM
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Maximum ERP(W)
5	779.5 ~ 784.5	0.1400	0.1253
10	782.0	0.1466	0.1276
LTE Band 17		QPSK	16QAM
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Maximum ERP(W)
5	706.5 ~ 713.5	0.1343	0.1135
10	709.0 ~ 711.0	0.1371	0.1189
LTE Band 26		QPSK	16QAM
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Maximum ERP(W)
1.4	824.7 ~ 848.3	0.1309	0.1156
3	825.5 ~ 847.5	0.1334	0.1122
5	826.5 ~ 846.5	0.1330	0.1102
10	829.0 ~ 844.0	0.1340	0.1156
15	831.5 ~ 841.5	0.1346	0.1119
CH26790	824.0	0.1337	0.1153

LTE Band 41		QPSK	16QAM
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Maximum EIRP(W)
5	2498.5 ~ 2687.5	0.6138	0.5105
10	2501.0 ~ 2685.0	0.6109	0.5105
15	2503.5 ~ 2682.5	0.6252	0.5176
20	2506.0 ~ 2680.0	0.6266	0.5236
LTE Band 66		QPSK	16QAM
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Maximum EIRP(W)
1.4	1710.7 ~ 1779.3	0.2649	0.2404
3	1711.5 ~ 1778.5	0.2618	0.2460
5	1712.5 ~ 1777.5	0.2588	0.2500
10	1715.0 ~ 1775.0	0.2606	0.2477
15	1717.5 ~ 1772.5	0.2679	0.2415
20	1720.0 ~ 1770.0	0.2710	0.2489
LTE Band 71		QPSK	16QAM
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Maximum ERP(W)
5	665.5 ~ 695.5	0.1169	0.1005
10	668.0 ~ 693.0	0.1151	0.1033
15	670.5 ~ 690.5	0.1132	0.1028
20	673.0 ~ 688.0	0.1175	0.1030

Note:

1. 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.
2. 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.
3. 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.
4. 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.

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		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	03CH04-KS TH01-KS	CN1257	314309

1.8 Test Software

Item	Site	Manufacture	Name	Version
1.	TH01-KS	SPORTON	FCC LTE_Ver2.0 Auto_china_210503	2.0
2.	03CH04-KS	AUDIX	E3	210616

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(M), 27(H) , 27(F), 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

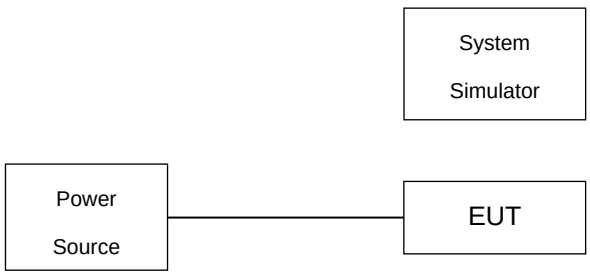
Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas License Digital Systems v03r01 with maximum output power.

Radiated measurements are performed by rotating the EUT in three different orthogonal test planes to find the maximum emission.(Y/Z 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
	7	-	-	v	v	v	v	v	v	-	v		v	v	v	v
	12	v	v	v	v	-	-	v	v	-	v		v	v	v	v
	13	-	-	v	v	-	-	v	v	-	v		v	v	v	v
	17	-	-	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
	7	-	-	v	v	v	v	v	v	-	v		v	v	v	v
	12	v	v	v	v	-	-	v	v	-	v		v	v	v	v
	13	-	-	v	v	-	-	v	v	-	v		v	v	v	v
	17	-	-	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
Radiated Spurious Emission	7	Worst Case													v	
	12	Worst Case													v	

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
	13	Worst Case													v	
	25	Worst Case													v	
	26	Worst Case													v	
	41	Worst Case													v	
	66	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.															

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.	LTE 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 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 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				
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

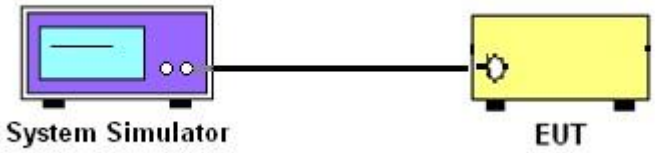
3 Conducted Test Items

3.1 Measuring Instruments

See list of measuring instruments of this test report.

3.2 Test Setup

3.2.1 Conducted Output Power



3.3 Test Result of Conducted Test

Please refer to Appendix A.

3.4 Conducted Output Power and ERP/EIRP

3.4.1 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 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, Band 13 and Band 17 and Band 71.

The EIRP of mobile transmitters must not exceed 2 Watts for LTE Band 2 and Band 25 and Band 7 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

3.4.2 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.

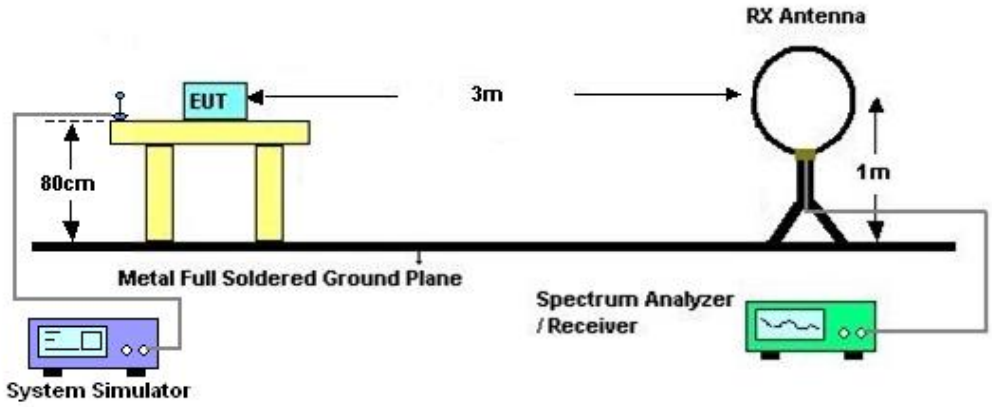
4 Radiated Test Items

4.1 Measuring Instruments

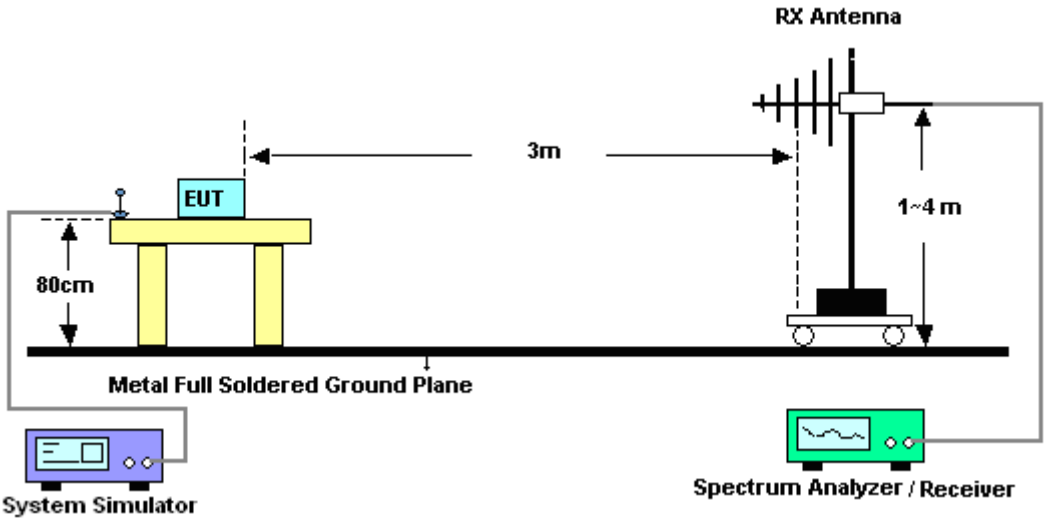
See list of measuring instruments of this test report.

4.2 Test Setup

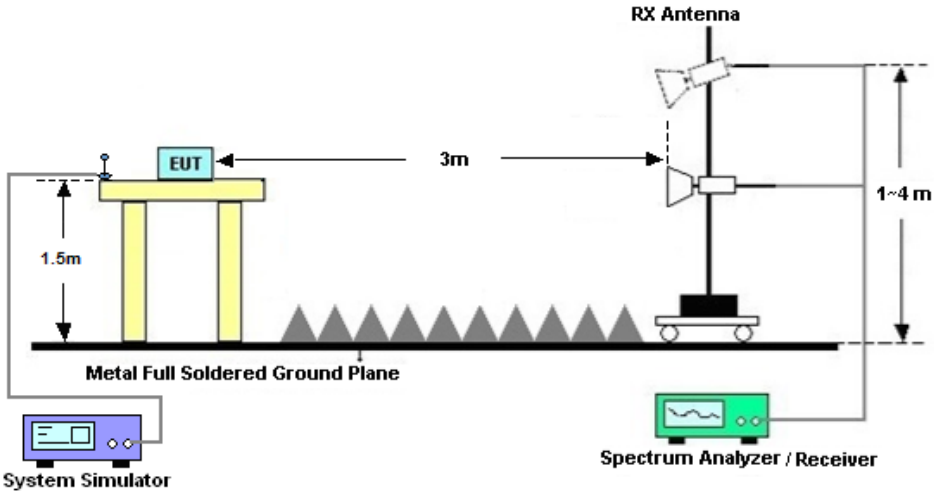
4.2.1 For radiated test below 30MHz



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 7, 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.

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 7, 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
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Oct. 11, 2023	Apr. 30, 2024	Oct. 10, 2024	Conducted (TH01-KS)
Power divider	STI	STI08-0055	-	0.5~40GHz	NCR	Apr. 30, 2024	NCR	Conducted (TH01-KS)
EXA Spectrum Analyzer	Keysight	N9010B	MY57471079	10Hz-44G,MAX 30dB	Oct. 10, 2023	Apr. 09, 2024	Oct. 09, 2024	Radiation (03CH04-KS)
Loop Antenna	R&S	HFH2-Z2E	101125	9kHz~30MHz	Sep. 11, 2023	Apr. 09, 2024	Sep. 10, 2024	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	59913	30MHz-1GHz	Aug. 19, 2023	Apr. 09, 2024	Aug. 18, 2024	Radiation (03CH04-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00251694	1GHz~18GHz	Jul. 12, 2023	Apr. 09, 2024	Jul. 11, 2024	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 05, 2024	Apr. 09, 2024	Jan. 04, 2025	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	380827	9KHz-1GHz	Jul. 06, 2023	Apr. 09, 2024	Jul. 05, 2024	Radiation (03CH04-KS)
Amplifier	MITEQ	EM18G40GGA	060728	18~40GHz	Jan. 05, 2024	Apr. 09, 2024	Jan. 04, 2025	Radiation (03CH04-KS)
high gain Amplifier	EM	EM01G18GA	060840	1Ghz-18Ghz	Oct. 10, 2023	Apr. 09, 2024	Oct. 09, 2024	Radiation (03CH04-KS)
Amplifier	Agilent	8449B	3008A02370	1Ghz-18Ghz	Oct. 10, 2023	Apr. 09, 2024	Oct. 09, 2024	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Apr. 09, 2024	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Apr. 09, 2024	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Apr. 09, 2024	NCR	Radiation (03CH04-KS)

NCR: No Calibration Required

6 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	±0.46 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.82 dB

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.56 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.54 dB

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

Appendix A. Test Results of Conducted Test

Test Engineer :	Simle Wang	Temperature :	22~23℃
		Relative Humidity :	40~42%

Conducted Output Power(Average power) and 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	20.19	20.21	20.04	0.1538	0.1545	0.1486
20	QPSK	1	99	20.15	20.16	19.92	0.1524	0.1528	0.1445
20	QPSK	100	0	19.11	19.18	19.02	0.1199	0.1219	0.1175
20	16QAM	1	0	19.78	19.75	19.55	0.1400	0.1390	0.1327
Channel				18675	18900	19125	EIRP(W)		
Frequency (MHz)				1857.5	1880	1902.5	L	M	H
15	QPSK	1	0	20.00	20.16	19.86	0.1472	0.1528	0.1426
15	16QAM	1	0	19.85	19.75	19.72	0.1422	0.1390	0.1380
Channel				18650	18900	19150	EIRP(W)		
Frequency (MHz)				1855	1880	1905	L	M	H
10	QPSK	1	0	19.99	20.09	19.97	0.1469	0.1503	0.1462
10	16QAM	1	0	19.76	19.75	19.70	0.1393	0.1390	0.1374
Channel				18625	18900	19175	EIRP(W)		
Frequency (MHz)				1852.5	1880	1907.5	L	M	H
5	QPSK	1	0	20.04	20.04	19.90	0.1486	0.1486	0.1439
5	16QAM	1	0	19.89	19.85	19.65	0.1435	0.1422	0.1358
Channel				18615	18900	19185	EIRP(W)		
Frequency (MHz)				1851.5	1880	1908.5	L	M	H
3	QPSK	1	0	20.19	20.03	19.89	0.1538	0.1483	0.1435
3	16QAM	1	0	19.86	19.69	19.60	0.1426	0.1371	0.1343
Channel				18607	18900	19193	EIRP(W)		
Frequency (MHz)				1850.7	1880	1909.3	L	M	H
1.4	QPSK	1	0	20.12	20.18	19.91	0.1514	0.1535	0.1442
1.4	16QAM	1	0	19.79	19.91	19.61	0.1403	0.1442	0.1346

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	22.81	22.86	22.62	0.2559	0.2588	0.2449
20	QPSK	1	99	22.72	22.84	22.54	0.2506	0.2576	0.2404
20	QPSK	100	0	21.42	21.46	21.41	0.1858	0.1875	0.1854
20	16QAM	1	0	22.51	22.56	22.65	0.2388	0.2415	0.2466
Channel				20025	20175	20325	EIRP(W)		
Frequency (MHz)				1717.5	1732.5	1747.5	L	M	H
15	QPSK	1	0	22.60	22.84	22.59	0.2438	0.2576	0.2432
15	16QAM	1	0	22.51	22.43	22.63	0.2388	0.2344	0.2455
Channel				20000	20175	20350	EIRP(W)		
Frequency (MHz)				1715	1732.5	1750	L	M	H
10	QPSK	1	0	22.77	22.80	22.60	0.2535	0.2553	0.2438
10	16QAM	1	0	22.46	22.45	22.61	0.2360	0.2355	0.2443
Channel				19975	20175	20375	EIRP(W)		
Frequency (MHz)				1712.5	1732.5	1752.5	L	M	H
5	QPSK	1	0	22.70	22.67	22.62	0.2495	0.2477	0.2449
5	16QAM	1	0	22.42	22.35	22.43	0.2339	0.2301	0.2344
Channel				19965	20175	20385	EIRP(W)		
Frequency (MHz)				1711.5	1732.5	1753.5	L	M	H
3	QPSK	1	0	22.64	22.81	22.58	0.2460	0.2559	0.2427
3	16QAM	1	0	22.42	22.36	22.51	0.2339	0.2307	0.2388
Channel				19950	20175	20393	EIRP(W)		
Frequency (MHz)				1710	1732.5	1754.3	L	M	H
1.4	QPSK	1	0	22.66	22.85	22.43	0.2472	0.2582	0.2344
1.4	16QAM	1	0	22.51	22.53	22.56	0.2388	0.2399	0.2415

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	22.94	23.01	22.98	0.1294	0.1315	0.1306
10	QPSK	1	49	22.95	22.88	22.86	0.1297	0.1276	0.1271
10	QPSK	50	0	21.84	22.03	21.88	0.1005	0.1050	0.1014
10	16QAM	1	0	22.28	22.35	22.23	0.1112	0.1130	0.1099
Channel				20425	20525	20625	ERP(W)		
Frequency (MHz)				826.5	836.5	846.5	L	M	H
5	QPSK	1	0	22.73	22.94	22.94	0.1233	0.1294	0.1294
5	16QAM	1	0	22.10	22.19	22.07	0.1067	0.1089	0.1059
Channel				20415	20525	20635	ERP(W)		
Frequency (MHz)				825.5	836.5	847.5	L	M	H
3	QPSK	1	0	22.74	22.91	22.92	0.1236	0.1285	0.1288
3	16QAM	1	0	22.10	22.29	22.03	0.1067	0.1114	0.1050
Channel				20407	20525	20643	ERP(W)		
Frequency (MHz)				824.7	836.5	848.3	L	M	H
1.4	QPSK	1	0	22.77	22.92	22.87	0.1245	0.1288	0.1274
1.4	16QAM	1	0	22.26	22.25	22.20	0.1107	0.1104	0.1091

LTE Band 7:

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	23.63	23.81	23.35	0.4966	0.5176	0.4656
20	QPSK	1	99	23.39	23.56	23.33	0.4699	0.4887	0.4634
20	QPSK	100	0	22.67	22.80	22.42	0.3981	0.4102	0.3758
20	16QAM	1	0	23.05	23.23	23.28	0.4345	0.4529	0.4581
Channel				20825	21100	21375	EIRP(W)		
Frequency (MHz)				2507.5	2535	2562.5	L	M	H
15	QPSK	1	0	23.34	23.54	23.26	0.4645	0.4864	0.4560
15	16QAM	1	0	23.04	22.96	23.04	0.4335	0.4256	0.4335
Channel				20800	21100	21400	EIRP(W)		
Frequency (MHz)				2505	2535	2565	L	M	H
10	QPSK	1	0	23.43	23.57	23.22	0.4742	0.4898	0.4519
10	16QAM	1	0	23.11	22.90	23.09	0.4406	0.4198	0.4385
Channel				20775	21100	21425	EIRP(W)		
Frequency (MHz)				2502.5	2535	2567.5	L	M	H
5	QPSK	1	0	23.28	23.65	23.21	0.4581	0.4989	0.4508
5	16QAM	1	0	22.92	22.90	22.92	0.4217	0.4198	0.4217

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	23.06	23.19	23.06	0.1377	0.1419	0.1377
10	QPSK	1	49	23.04	22.93	23.02	0.1371	0.1337	0.1365
10	QPSK	50	0	21.83	22.06	21.87	0.1038	0.1094	0.1047
10	16QAM	1	0	22.28	22.56	22.44	0.1151	0.1227	0.1194
Channel				23035	23095	23155	ERP(W)		
Frequency (MHz)				701.5	707.5	713.5	L	M	H
5	QPSK	1	0	22.92	22.99	23.05	0.1334	0.1355	0.1374
5	16QAM	1	0	22.29	22.38	22.43	0.1153	0.1178	0.1191
Channel				23025	23095	23165	ERP(W)		
Frequency (MHz)				700.5	707.5	714.5	L	M	H
3	QPSK	1	0	22.95	23.08	22.98	0.1343	0.1384	0.1352
3	16QAM	1	0	22.09	22.47	22.23	0.1102	0.1202	0.1138
Channel				23017	23095	23173	ERP(W)		
Frequency (MHz)				699.7	707.5	715.3	L	M	H
1.4	QPSK	1	0	23.06	23.00	22.89	0.1377	0.1358	0.1324
1.4	16QAM	1	0	22.08	22.56	22.44	0.1099	0.1227	0.1194

LTE Band 13:

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		22.91			0.1466	
10	QPSK	1	49		22.56			0.1352	
10	QPSK	50	0		21.85			0.1148	
10	16QAM	1	0		22.31			0.1276	
Channel				23205	23230	23255	ERP(W)		
Frequency (MHz)				779.5	782	784.5	L	M	H
5	QPSK	1	0	22.70	22.71	22.66	0.1396	0.1400	0.1384
5	16QAM	1	0	21.85	22.23	22.00	0.1148	0.1253	0.1189

LTE Band 17:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	ERP(W)		
Channel				23780	23790	23800			
Frequency (MHz)				709	710	711	L	M	H
10	QPSK	1	0	22.64	23.04	22.80	0.1250	0.1371	0.1297
10	QPSK	1	49	22.65	22.98	22.84	0.1253	0.1352	0.1309
10	QPSK	50	0	21.50	21.76	21.58	0.0962	0.1021	0.0979
10	16QAM	1	0	21.92	22.42	22.10	0.1059	0.1189	0.1104
Channel				23755	23790	23825	ERP(W)		
Frequency (MHz)				706.5	710	713.5	L	M	H
5	QPSK	1	0	22.47	22.95	22.60	0.1202	0.1343	0.1239
5	16QAM	1	0	21.85	22.22	21.92	0.1042	0.1135	0.1059

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	20.38	20.44	20.24	0.1607	0.1629	0.1556
20	QPSK	1	99	19.28	19.37	19.31	0.1247	0.1274	0.1256
20	QPSK	100	0	19.21	19.33	19.21	0.1227	0.1262	0.1227
20	16QAM	1	0	19.86	19.98	19.75	0.1426	0.1466	0.1390
Channel				26115	26340	26615	EIRP(W)		
Frequency (MHz)				1857.5	1880	1907.5	L	M	H
15	QPSK	1	0	20.36	20.43	20.06	0.1600	0.1626	0.1493
15	16QAM	1	0	19.67	19.78	19.58	0.1365	0.1400	0.1337
Channel				26090	26340	26640	EIRP(W)		
Frequency (MHz)				1855	1880	1910	L	M	H
10	QPSK	1	0	20.29	20.23	20.08	0.1574	0.1552	0.1500
10	16QAM	1	0	19.68	19.91	19.59	0.1368	0.1442	0.1340
Channel				26065	26340	26665	EIRP(W)		
Frequency (MHz)				1852.5	1880	1912.5	L	M	H
5	QPSK	1	0	20.21	20.31	20.13	0.1545	0.1581	0.1517
5	16QAM	1	0	19.76	19.95	19.64	0.1393	0.1455	0.1355
Channel				26055	26340	26675	EIRP(W)		
Frequency (MHz)				1851.5	1880	1913.5	L	M	H
3	QPSK	1	0	20.29	20.38	20.14	0.1574	0.1607	0.1521
3	16QAM	1	0	19.79	19.96	19.76	0.1403	0.1459	0.1393
Channel				26047	26340	26683	EIRP(W)		
Frequency (MHz)				1850.7	1880	1914.3	L	M	H
1.4	QPSK	1	0	20.18	20.35	20.25	0.1535	0.1596	0.1560
1.4	16QAM	1	0	19.69	19.90	19.65	0.1371	0.1439	0.1358

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	Straddle Ch	L	M	H
15	QPSK	1	0	23.08	23.11	23.09	23.01	0.1337	0.1346	0.1340	0.1315
15	QPSK	1	74	22.96	23.02	22.98	22.96	0.1300	0.1318	0.1306	0.1300
15	QPSK	75	0	21.85	22.15	22.05	21.99	0.1007	0.1079	0.1054	0.1040
15	16QAM	1	0	22.44	22.31	22.20	22.28	0.1153	0.1119	0.1091	0.1112
Channel					26840	26915	26990	ERP(W)			
Frequency (MHz)					829	836.5	844		L	M	H
10	QPSK	1	0		22.97	23.09	22.92		0.1303	0.1340	0.1288
10	16QAM	1	0		22.45	22.23	22.10		0.1156	0.1099	0.1067
Channel					26815	26915	27015	ERP(W)			
Frequency (MHz)					826.5	836.5	846.5		L	M	H
5	QPSK	1	0		23.06	23.05	22.93		0.1330	0.1327	0.1291
5	16QAM	1	0		22.24	22.16	22.07		0.1102	0.1081	0.1059
Channel					26815	26915	27025	ERP(W)			
Frequency (MHz)					825.5	836.5	847.5	Straddle Ch	L	M	H
3	QPSK	1	0		23.07	23.01	22.88		0.1334	0.1315	0.1276
3	16QAM	1	0		22.32	22.20	22.28		0.1122	0.1091	0.1112
Channel					26797	26915	27033	ERP(W)			
Frequency (MHz)					824.7	836.5	848.3		L	M	H
1.4	QPSK	1	0		22.95	22.99	22.85		0.1297	0.1309	0.1268
1.4	16QAM	1	0		22.45	22.20	22.08		0.1156	0.1091	0.1062

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	23.14	23.52	23.40	0.5741	0.6266	0.6095
20	QPSK	1	99	23.11	23.38	23.27	0.5702	0.6067	0.5916
20	QPSK	100	0	22.23	22.42	22.32	0.4656	0.4864	0.4753
20	16QAM	1	0	22.62	22.74	22.64	0.5093	0.5236	0.5117
Channel				39725	40620	41515	EIRP(W)		
Frequency (MHz)				2503.5	2593	2682.5	L	M	H
15	QPSK	1	0	23.10	23.51	23.33	0.5689	0.6252	0.5998
15	16QAM	1	0	22.53	22.69	22.65	0.4989	0.5176	0.5129
Channel				39700	40620	41540	EIRP(W)		
Frequency (MHz)				2501	2593	2685	L	M	H
10	QPSK	1	0	23.04	23.41	23.23	0.5610	0.6109	0.5861
10	16QAM	1	0	22.53	22.63	22.57	0.4989	0.5105	0.5035
Channel				39675	40620	41565	EIRP(W)		
Frequency (MHz)				2498.5	2593	2687.5	L	M	H
5	QPSK	1	0	23.12	23.43	23.26	0.5715	0.6138	0.5902
5	16QAM	1	0	22.44	22.52	22.63	0.4887	0.4977	0.5105

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	22.80	23.06	22.77	0.2553	0.2710	0.2535
20	QPSK	1	99	22.87	22.83	22.63	0.2594	0.2570	0.2455
20	QPSK	100	0	21.40	21.49	21.45	0.1849	0.1888	0.1871
20	16QAM	1	0	22.69	22.64	22.66	0.2489	0.2460	0.2472
Channel				132047	132322	132597	EIRP(W)		
Frequency (MHz)				1717.5	1745	1772.5	L	M	H
15	QPSK	1	0	22.75	23.01	22.70	0.2523	0.2679	0.2495
15	16QAM	1	0	22.56	22.44	22.44	0.2415	0.2350	0.2350
Channel				132022	132322	132622	EIRP(W)		
Frequency (MHz)				1715	1745	1775	L	M	H
10	QPSK	1	0	22.79	22.89	22.71	0.2547	0.2606	0.2500
10	16QAM	1	0	22.62	22.48	22.67	0.2449	0.2371	0.2477
Channel				131997	132322	132647	EIRP(W)		
Frequency (MHz)				1712.5	1745	1777.5	L	M	H
5	QPSK	1	0	22.59	22.86	22.70	0.2432	0.2588	0.2495
5	16QAM	1	0	22.71	22.63	22.57	0.2500	0.2455	0.2421
Channel				131987	132322	132657	EIRP(W)		
Frequency (MHz)				1711.5	1745	1778.5	L	M	H
3	QPSK	1	0	22.79	22.91	22.74	0.2547	0.2618	0.2518
3	16QAM	1	0	22.64	22.54	22.50	0.2460	0.2404	0.2382
Channel				131979	132322	132665	EIRP(W)		
Frequency (MHz)				1710.7	1745	1779.3	L	M	H
1.4	QPSK	1	0	22.67	22.96	22.56	0.2477	0.2649	0.2415
1.4	16QAM	1	0	22.52	22.47	22.54	0.2393	0.2366	0.2404

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	23.57	23.58	23.50	0.1172	0.1175	0.1153
20	QPSK	1	99	23.41	23.47	23.37	0.1130	0.1146	0.1119
20	QPSK	100	0	22.28	22.48	22.38	0.0871	0.0912	0.0891
20	16QAM	1	0	23.01	23.01	22.78	0.1030	0.1030	0.0977
Channel				133197	133297	133397	EIRP(W)		
Frequency (MHz)				670.5	680.5	690.5	L	M	H
15	QPSK	1	0	23.39	23.42	23.41	0.1125	0.1132	0.1130
15	16QAM	1	0	22.88	23.00	22.77	0.1000	0.1028	0.0975
Channel				133172	133272	133422	EIRP(W)		
Frequency (MHz)				668	678	693	L	M	H
10	QPSK	1	0	23.47	23.37	23.49	0.1146	0.1119	0.1151
10	16QAM	1	0	22.97	23.02	22.63	0.1021	0.1033	0.0944
Channel				133147	133247	133447	EIRP(W)		
Frequency (MHz)				665.5	675.5	695.5	L	M	H
5	QPSK	1	0	23.56	23.39	23.43	0.1169	0.1125	0.1135
5	16QAM	1	0	22.90	22.86	22.68	0.1005	0.0995	0.0955

Appendix B. Test Results of Radiated Test

Radiated Spurious Emission

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

LTE Band 7 / 20MHz / QPSK								
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	5050	-62.83	-25	-37.83	-73.04	3.03	13.24	H
	7584	-61.83	-25	-36.83	-71.28	3.56	13.01	H
	10104	-60.72	-25	-35.72	-70.24	3.92	13.44	H
	5050	-62.84	-25	-37.84	-73.05	3.03	13.24	V
	7584	-61.43	-25	-36.43	-70.88	3.56	13.01	V
	10104	-60.86	-25	-35.86	-70.38	3.92	13.44	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)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1408	-68.50	-13	-55.50	-75.47	1.58	10.70	H
	2112	-63.05	-13	-50.05	-71.30	2.102	12.50	H
	2816	-60.31	-13	-47.31	-69.20	2.856	13.90	H
	1408	-67.84	-13	-54.84	-74.81	1.58	10.70	V
	2112	-61.90	-13	-48.90	-70.15	2.10	12.50	V
	2816	-60.01	-13	-47.01	-68.90	2.86	13.90	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)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1560	-57.04	-42.15	-14.89	-59.67	1.09	5.87	H
	2336	-61.89	-13	-48.89	-64.29	1.37	5.92	H
	3120	-60.80	-13	-47.80	-64.69	1.64	7.68	H
	1560	-52.67	-42.15	-10.52	-55.30	1.09	5.87	V
	2336	-60.26	-13	-47.26	-62.66	1.37	5.92	V
	3120	-60.56	-13	-47.56	-64.45	1.64	7.68	V

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

LTE Band 13 / 10MHz / QPSK								
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1552	-55.69	-13	-42.69	-58.32	1.09	5.87	H
	2336	-62.01	-13	-49.01	-64.41	1.37	5.92	H
	3112	-61.13	-13	-48.13	-65.02	1.64	7.68	H
	1552	-55.17	-13	-42.17	-57.80	1.09	5.87	V
	2336	-60.32	-13	-47.32	-62.72	1.37	5.92	V
	3112	-60.69	-13	-47.69	-64.58	1.64	7.68	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)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	3735	-57.64	-13	-44.64	-69.90	2.64	14.90	H
	5610	-56.45	-13	-43.45	-68.31	2.94	14.80	H
	7485	-55.06	-13	-42.06	-64.83	3.39	13.16	H
	3735	-57.80	-13	-44.80	-70.06	2.64	14.90	V
	5610	-56.78	-13	-43.78	-68.64	2.94	14.80	V
	7485	-55.21	-13	-42.21	-64.98	3.39	13.16	V

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

LTE Band 26 / 15MHz / QPSK								
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1656	-65.83	-13	-52.83	-72.80	1.58	10.70	H
	2472	-61.42	-13	-48.42	-69.67	2.102	12.50	H
	3320	-61.09	-13	-48.09	-69.98	2.856	13.90	H
	1656	-64.82	-13	-51.82	-71.79	1.58	10.70	V
	2472	-52.58	-13	-39.58	-60.83	2.10	12.50	V
	3320	-61.06	-13	-48.06	-69.95	2.86	13.90	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)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	3465	-57.49	-13	-44.49	-68.23	2.604	13.34	H
	5205	-52.99	-13	-39.99	-63.50	3.011	13.52	H
	6945	-54.00	-13	-41.00	-64.20	3.271	13.47	H
	3465	-58.59	-13	-45.59	-69.33	2.604	13.34	V
	5205	-53.09	-13	-40.09	-63.60	3.011	13.52	V
	6945	-54.31	-13	-41.31	-64.51	3.271	13.47	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)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	5162	-62.33	-25	-37.33	-72.54	3.03	13.24	H
	7752	-61.82	-25	-36.82	-71.27	3.56	13.01	H
	10342	-60.58	-25	-35.58	-70.10	3.92	13.44	H
	5162	-62.15	-25	-37.15	-72.36	3.03	13.24	V
	7752	-61.64	-25	-36.64	-71.09	3.56	13.01	V
	10342	-60.82	-25	-35.82	-70.34	3.92	13.44	V

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

LTE Band 71 / 20MHz / QPSK								
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1352	-69.15	-13	-56.15	-70.90	1.02	4.92	H
	2024	-63.98	-13	-50.98	-65.95	1.27	5.39	H
	2696	-60.97	-13	-47.97	-63.90	1.49	6.57	H
	1352	-68.40	-13	-55.40	-70.15	1.02	4.92	V
	2024	-63.58	-13	-50.58	-65.55	1.27	5.39	V
	2696	-60.29	-13	-47.29	-63.22	1.49	6.57	V

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