



FCC RF Test Report

APPLICANT : Nextivity, Inc.
EQUIPMENT : SHIELD MegaFi 2
BRAND NAME : Nextivity
MODEL NAME : M4D-UC
FCC ID : YETM4D-UC
STANDARD : 47 CFR Part 22(H), 27(F), 27(H), 27(N)
CLASSIFICATION : PCS Licensed Transmitter (PCB)
TEST DATE(S) : Dec. 25, 2024 ~ Jan. 14, 2025

This product installed a RF module (Brand Name: Telit, Model Name: FN990A40, FCC ID: RI7FN990A40) during the test, only Conducted Power, ERP 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



Sporton International Inc. (Kunshan)

**No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300
People's Republic of China**



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG492317C	Rev. 01	Initial issue of report	Feb. 10, 2025

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		-
-	N/A	Peak-to-Average Ratio	<13 dB	PASS	1
-	§2.1049	Occupied Bandwidth	-	Report Only	1
-	§2.1051 §22.917(a) §27.53(c)(2)(4) §27.53(g)	Conducted Band Edge Measurement (Band 5)(Band 12) (Band 13) (Band 17) (Band 26) (Band 71)	< 43+10log ₁₀ (P[Watts])	PASS	1
-	§2.1051 §22.917(a) §27.53(c)(2) §27.53(g)	Conducted Spurious Emission (Band 5)(Band 12) (Band 13) (Band 17)(Band 26) (Band 71)	< 43+10log ₁₀ (P[Watts])	PASS	1
-	§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		
4.4	§2.1053 §22.917(a) §27.53(f) §27.53(g)	Radiated Spurious Emission (Band 5)(Band 12) (Band 13) (Band 17)(Band 26) (Band 71)	< 43+10log ₁₀ (P[Watts])	PASS	Under limit 51.32 dB at 2688.00 MHz

Remark 1: The conducted test results were leveraged from module RF report which can refer to Report No. "FG270608B".

Conformity Assessment Condition:

- 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/manufacture who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
- 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

Nextivity, Inc.

16550 West Bernardo Drive, Building 5, Suite 550, San Diego, CA 92127 USA

1.2 Manufacturer

Asiatelco Technologies Co.

#68 HuaTuo Road, Building-8, Zhangjiang Hi-Tech Park, Pudong, Shanghai 201204, China

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	SHIELD MegaFi 2
Brand Name	Nextivity
Model Name	M4D-UC
FCC ID	YETM4D-UC
SN Code	Conducted : 243902000029, 243902000034 Radiation: 243902000026
HW Version	1.0
SW Version	1.2.0.0
EUT Stage	Identical Prototype

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	LTE Band 5 : 824 MHz ~ 849 MHz LTE Band 12 : 699 MHz ~ 716 MHz LTE Band 13 : 777 MHz ~ 787 MHz LTE Band 17 : 704 MHz ~ 716 MHz LTE Band 26 : 824 MHz ~ 849 MHz LTE Band 71: 663 MHz ~ 698 MHz
Rx Frequency	LTE Band 5 : 869 MHz ~ 894 MHz LTE Band 12 : 729 MHz ~ 746 MHz LTE Band 13 : 746 MHz ~ 756 MHz LTE Band 17 : 734 MHz ~ 746 MHz LTE Band 26 : 869 MHz ~ 894 MHz LTE Band 71: 617 MHz ~ 652 MHz
Bandwidth	LTE Band 5 : 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 12 : 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 13 : 5MHz / 10MHz LTE Band 17 : 5MHz / 10MHz LTE Band 26 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz LTE Band 71 : 5MHz / 10MHz / 15MHz / 20MHz
Maximum Output Power to Antenna	LTE Band 5 : 22.25 dBm LTE CA_5B : 22.96 dBm LTE Band 12 : 22.47 dBm LTE Band 13 : 22.01 dBm LTE Band 17 : 22.60 dBm LTE Band 26 : 21.94 dBm LTE Band 71 : 22.65 dBm
Antenna Type	Dipole Antenna
Antenna Gain	<Ant.0> Paddle antenna: LTE Band 5 : 0.2 dBi LTE Band 12 : 1.2 dBi LTE Band 13 : 1.2 dBi LTE Band 17 : 1.2 dBi LTE Band 26 : 0.2 dBi LTE Band 71 : 1.5 dBi Sharkfin antenna: LTE Band 5 : 2.7 dBi LTE Band 12 : 2.2 dBi LTE Band 13 : 2.2 dBi LTE Band 17 : 2.2 dBi LTE Band 26 : 2.7 dBi LTE Band 71 : 1.8 dBi
Type of Modulation	QPSK / 16QAM / 64QAM / 256QAM

Note: There are two type of EUT, which only differ in antenna. Sample 1 with paddle antenna and sample 2 with sharkfin antenna. Based on the max antenna gain, we chose sample 2 for RF testing.

1.5 Modification of EUT

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



1.6 Maximum ERP

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	0.1845	-	0.1600	-
3	825.5 ~ 847.5	0.1811	-	0.1622	-
5	826.5 ~ 846.5	0.1858	-	0.1567	-
10	829.0 ~ 844.0	0.1905	-	0.1663	-
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	0.1795	-	0.1552	-
3	700.5 ~ 714.5	0.1774	-	0.1507	-
5	701.5 ~ 713.5	0.1786	-	0.1496	-
10	704.0 ~ 711.0	0.1786	-	0.1510	-
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	0.1574	-	0.1327	-
10	782.0	0.1607	-	0.1312	-
LTE Band 17		QPSK		16QAM/64QAM/256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Emission Designator (99%OBW)	Maximum ERP(W)	Emission Designator (99%OBW)
5	706.5 ~ 713.5	0.1750	-	0.1493	-
10	709.0 ~ 711.0	0.1841	-	0.1479	-
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	0.1807	-	0.1644	-
3	825.5 ~ 847.5	0.1807	-	0.1563	-
5	826.5 ~ 846.5	0.1845	-	0.1560	-
10	829.0 ~ 844.0	0.1849	-	0.1521	-
15	831.5 ~ 841.5	0.1774	-	0.1535	-
CH26790	824.0	0.1730	-	0.1469	-



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	0.1698	-	0.1377	-
10	668.0 ~ 693.0	0.1644	-	0.1442	-
15	670.5 ~ 690.5	0.1545	-	0.1419	-
20	673.0 ~ 688.0	0.1698	-	0.1343	-
LTE Band CA_5B		QPSK		16QAM/64QAM/256QAM	
BW (MHz)		Maximum ERP(W)	Emission Designator (99%OBW)	Maximum ERP(W)	Emission Designator (99%OBW)
3MHz+5MHz		0.2234	-	0.2037	-
5MHz+3MHz		0.2244	-	0.2193	-
5MHz+10MHz		0.2203	-	0.1871	-
10MHz+5MHz		0.2065	-	0.1807	-
10MHz+10MHz		0.2168	-	0.1849	-

Note:

1. 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.
2. All modulations have been tested, and only the worst test results of PSK & QAM are shown in the report.

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.
	03CH03-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.	03CH03-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 22(H), 27(F), 27(H), 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:

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 Test Configuration of Equipment Under Test

2.1 Test Mode

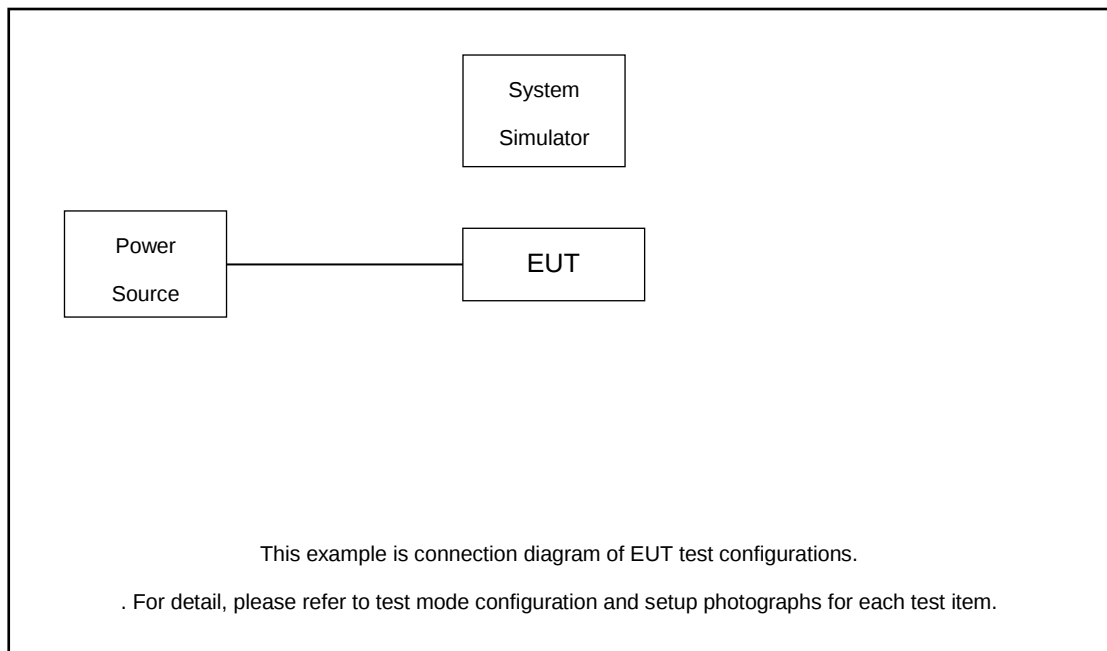
Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas License Digital Systems v03r01 with maximum output power.

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

Test Items	Band	Bandwidth (MHz)						Modulation				RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64 QAM	256 QAM	1	Half	Full	L	M	H
Max. Output Power	5	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
	13	-	-	v	v	-	-	v	v	v	v	v		v	v	v	v
	17	-	-	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
	71	-	-	v	v	v	v	v	v	v	v	v		v	v	v	v
E.R.P.	5	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
	13	-	-	v	v	-	-	v	v	v	v	v		v	v	v	v
	17	-	-	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
	71	-	-	v	v	v	v	v	v	v	v	v		v	v	v	v
Radiated Spurious Emission	12	Worst Case														v	
	13	Worst Case														v	
	26	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		
		10+10	15+5	5+15	10+5	5+10	5+5	5+3	3+5	QPSK	16QAM	64QAM	256QAM	1	Half	Full	L	M	H
Max. Output Power	5B_CA	v	-	-	v	v	-	v	v	v	v	v	v	v			v	v	v
E.I.R.P.	5B_CA	v	-	-	v	v	-	v	v	v	v	v	v	v			v	v	v
Radiated Spurious Emission	5B_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. 4. All test items are based on engineering evaluation. 5. For QAM modulation mode, the whole testing has assessed 16QAM&64QAM mode by referring to the higher conducted power																		

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

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

2.4 Frequency List of Low/Middle/High Channels

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

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

LTE Band 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 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 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 5B_CA Channel and Frequency List					
BW [MHz]	Channel/Frequency(MHz)		Lowest	Middle	Highest
3 + 5	PCC	Channel	20416	20501	20586
		Frequency	825.6	834.1	842.6
	SCC	Channel	20455	20540	20625
		Frequency	829.5	838.0	846.5
5 + 3	PCC	Channel	20425	20510	20595
		Frequency	826.5	835.0	843.5
	SCC	Channel	20464	20549	20634
		Frequency	830.4	838.9	847.4
5 + 10	PCC	Channel	20428	20478	20528
		Frequency	826.8	831.8	836.8
	SCC	Channel	20500	20550	20600
		Frequency	834	839	844
10 + 5	PCC	Channel	20450	20500	20550
		Frequency	829	834	839
	SCC	Channel	20522	20572	20622
		Frequency	836.2	841.2	846.2
10 + 10	PCC	Channel	20450	20476	20501
		Frequency	829	831.6	834.1
	SCC	Channel	20549	20575	20600
		Frequency	838.9	841.5	844

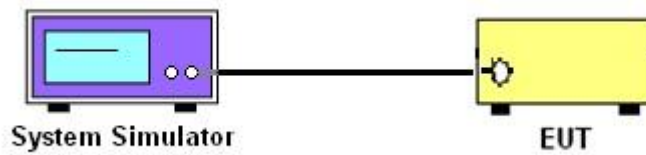
3 Conducted Test Items

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

3.4.1 Description of the Conducted Output Power Measurement and ERP 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.

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

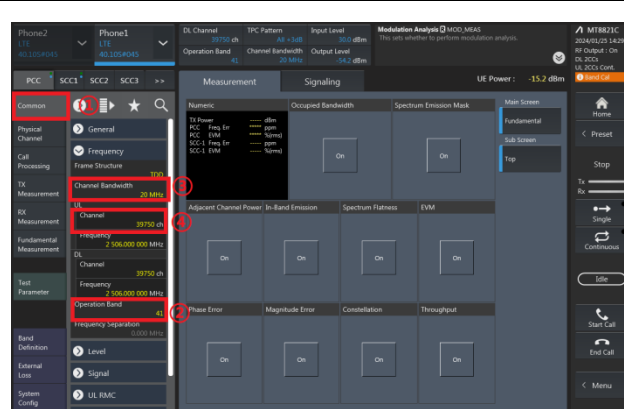
3.4.2 Test Procedures

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.

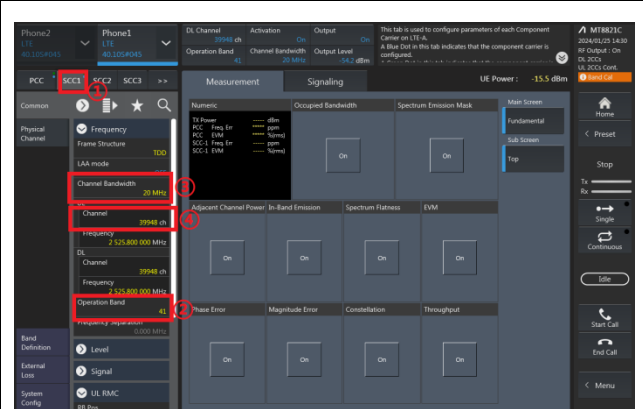
3.4.3 Test Procedures for LTE ULCA

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.

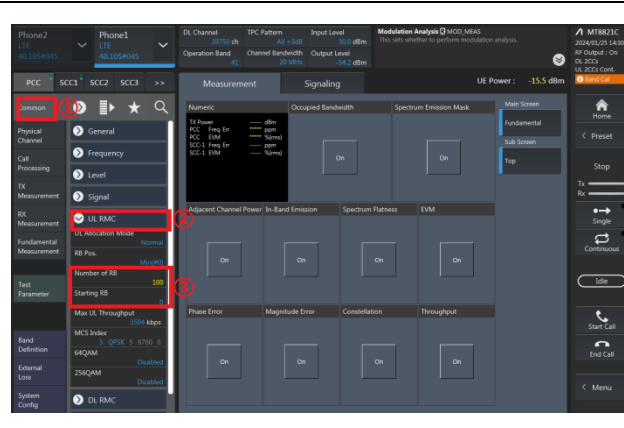
PCC config_ (Channel Bandwidth / Channel / Band)



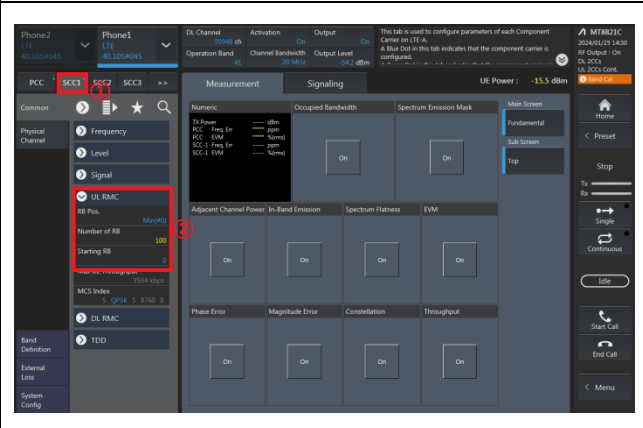
SCC config_ (Channel Bandwidth / Channel / Band)



PCC config_ (Number of RB / Starting RB)

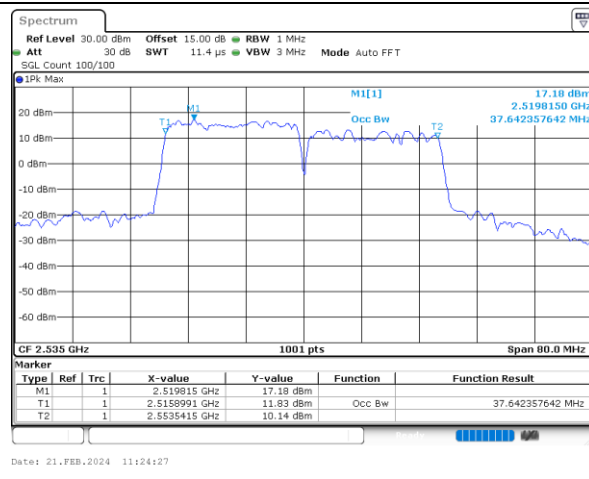


SCC config_ (Number of RB / Starting RB)

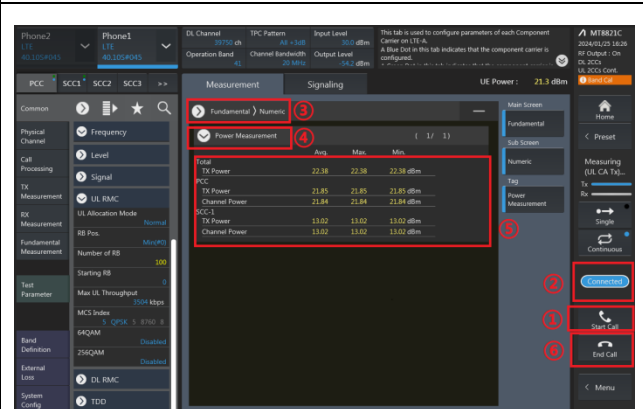


4. Select lowest, middle, and highest channels for each ULCA band and different modulation.
5. Check the ULCA spectrum and record the total power from the system simulator.

Check the ULCA spectrum (eg. 20M+20M)



Read the Total UL CA output power (PCC+SCC)



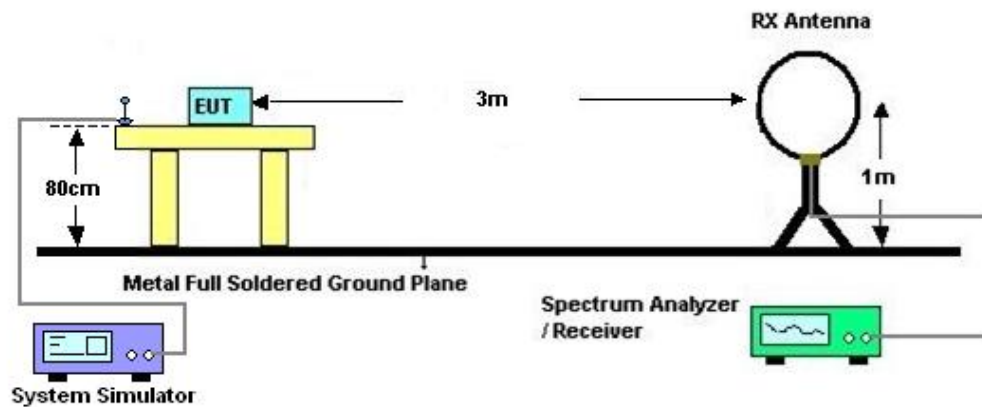
4 Radiated Test Items

4.1 Measuring Instruments

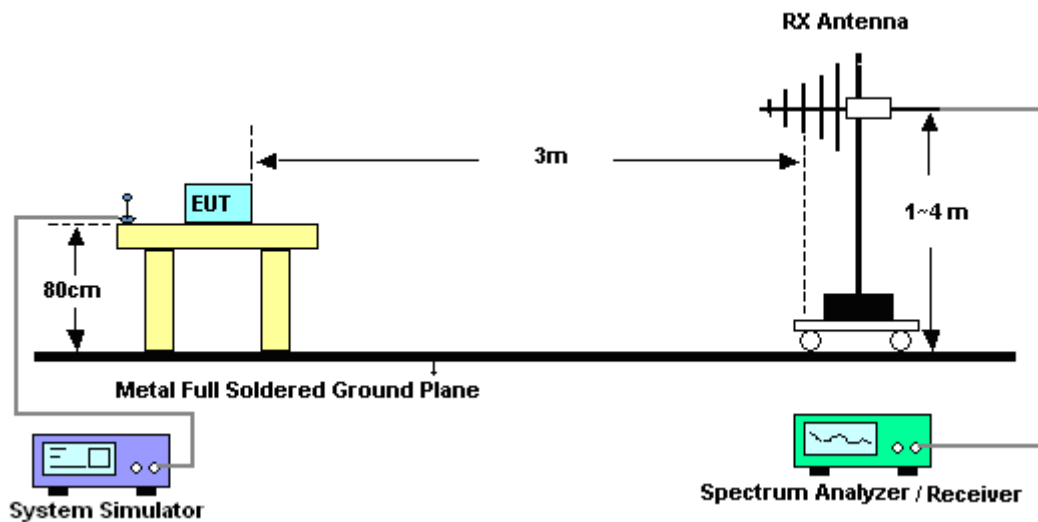
See list of measuring instruments of this test report.

4.2 Test Setup

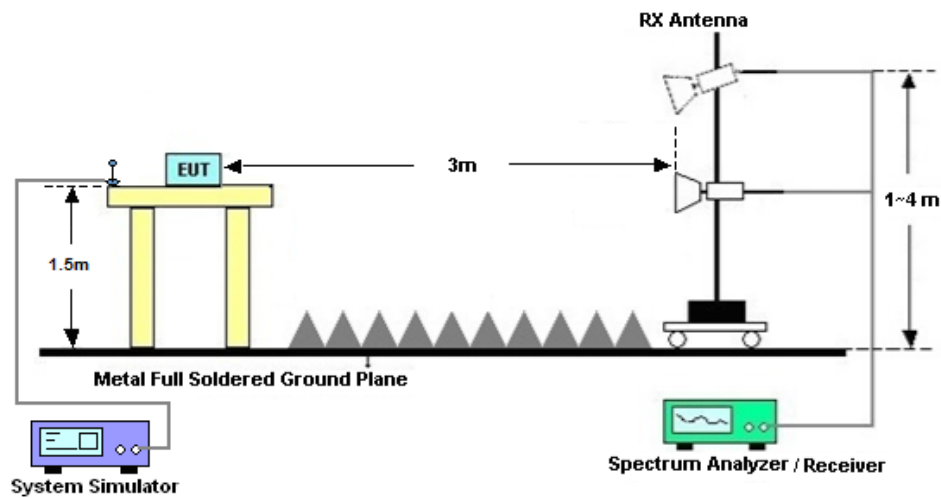
4.2.1 For radiated test below 30MHz



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 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. $\text{EIRP (dBm)} = \text{S.G. Power} - \text{Tx Cable Loss} + \text{Tx Antenna Gain}$
11. $\text{ERP (dBm)} = \text{EIRP} - 2.15$
12. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
 $= P(W) - [43 + 10\log(P)] \text{ (dB)}$
 $= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$
 $= -13\text{dBm}.$



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. 10, 2024	Jan. 14, 2025	Oct. 09, 2025	Conducted (TH01-KS)
Power divider	STI	STI08-0055	-	0.5~40GHz	NCR	Jan. 14, 2025	NCR	Conducted (TH01-KS)
Temperature & humidity	Hongzhan	LP-150U	H2014011440	-40~+150°C 20%~95%RH	Jul. 04, 2024	Jan. 14, 2025	Jul. 03, 2025	Conducted (TH01-KS)
EMI Test Receiver	Keysight	N9038A	MY56400004	3Hz~8.5GHz;Max 30dBm	Oct. 11, 2024	Dec. 25, 2024	Oct. 10, 2025	Radiation (03CH03-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz~44GHz	Apr. 18, 2024	Dec. 25, 2024	Apr. 13, 2025	Radiation (03CH03-KS)
Loop Antenna	R&S	HFH2-Z2E	101125	9kHz~30MHz	Sep. 08, 2024	Dec. 25, 2024	Sep. 07, 2025	Radiation (03CH03-KS)
Bilog Antenna	TeseQ	CBL6112D	23182	30MHz~1GHz	Dec. 05, 2024	Dec. 25, 2024	Dec. 04, 2025	Radiation (03CH03-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00251982	1GHz~18GHz	Aug. 16, 2024	Dec. 25, 2024	Aug. 15, 2025	Radiation (03CH03-KS)
SHF-EHF Horn	com-power	AH-840	101116	18GHz~40GHz	Oct. 22, 2024	Dec. 25, 2024	Oct. 21, 2025	Radiation (03CH03-KS)
Amplifier	SONOMA	310N	380826	9KHz~1GHz	Jul. 03, 2024	Dec. 25, 2024	Jul. 02, 2025	Radiation (03CH03-KS)
Amplifier	EM	EM18G40G A	060851	18~40GHz	Jan. 03, 2024	Dec. 25, 2024	Jan. 02, 2025	Radiation (03CH03-KS)
high gain Amplifier	EM	EM01G18G A	060834	1Ghz~18Ghz	Dec. 02, 2024	Dec. 25, 2024	Dec. 01, 2025	Radiation (03CH03-KS)
Amplifier	EM	EM01G18G A	EM	1GHz~26.5GHz	Oct. 09, 2024	Dec. 25, 2024	Oct. 08, 2025	Radiation (03CH03-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Dec. 25, 2024	NCR	Radiation (03CH03-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Dec. 25, 2024	NCR	Radiation (03CH03-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Dec. 25, 2024	NCR	Radiation (03CH03-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

Conducted Power	± 0.50 dB
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.84 dB
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.84 dB
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.83 dB
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----- THE END -----



Appendix A. Test Results of Conducted Test

Test Engineer :	Smile Wang	Temperature :	22~23°C
		Relative Humidity :	40~42%

Conducted Output Power(Average power) and ERP

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	22.25	22.21	21.99	0.1905	0.1888	0.1795
10	QPSK	1	49	22.07	21.83	21.79	0.1828	0.1730	0.1714
10	QPSK	50	0	21.99	21.10	21.02	0.1795	0.1462	0.1435
10	16QAM	1	0	21.51	21.66	21.34	0.1607	0.1663	0.1545
10	64QAM	1	0	20.36	20.39	20.37	0.1233	0.1242	0.1236
10	256QAM	1	0	17.30	17.36	17.23	0.0610	0.0618	0.0600
Channel				20425	20525	20625	ERP(W)		
Frequency (MHz)				826.5	836.5	846.5	L	M	H
5	QPSK	1	0	22.14	21.99	21.90	0.1858	0.1795	0.1758
5	16QAM	1	0	21.40	21.28	21.14	0.1567	0.1524	0.1476
Channel				20415	20525	20635	ERP(W)		
Frequency (MHz)				825.5	836.5	847.5	L	M	H
3	QPSK	1	0	21.99	22.03	21.75	0.1795	0.1811	0.1698
3	16QAM	1	0	21.55	21.27	20.89	0.1622	0.1521	0.1393
Channel				20407	20525	20643	ERP(W)		
Frequency (MHz)				824.7	836.5	848.3	L	M	H
1.4	QPSK	1	0	22.11	22.04	21.69	0.1845	0.1816	0.1675
1.4	16QAM	1	0	21.49	21.44	21.07	0.1600	0.1581	0.1452



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	22.47	22.45	22.44	0.1786	0.1778	0.1774
10	QPSK	1	49	22.15	22.03	21.92	0.1660	0.1614	0.1574
10	QPSK	50	0	21.39	21.43	21.18	0.1393	0.1406	0.1327
10	16QAM	1	0	21.74	21.57	21.68	0.1510	0.1452	0.1489
10	64QAM	1	0	20.61	20.52	20.72	0.1164	0.1140	0.1194
10	256QAM	1	0	17.57	17.54	17.46	0.0578	0.0574	0.0564
Channel				23035	23095	23155	ERP(W)		
Frequency (MHz)				701.5	707.5	713.5	L	M	H
5	QPSK	1	0	22.47	22.36	22.12	0.1786	0.1742	0.1648
5	16QAM	1	0	21.59	21.70	21.32	0.1459	0.1496	0.1371
Channel				23025	23095	23165	ERP(W)		
Frequency (MHz)				700.5	707.5	714.5	L	M	H
3	QPSK	1	0	22.44	22.34	21.97	0.1774	0.1734	0.1592
3	16QAM	1	0	21.73	21.62	21.13	0.1507	0.1469	0.1312
Channel				23017	23095	23173	ERP(W)		
Frequency (MHz)				699.7	707.5	715.3	L	M	H
1.4	QPSK	1	0	22.49	22.33	21.94	0.1795	0.1730	0.1581
1.4	16QAM	1	0	21.86	21.51	21.31	0.1552	0.1432	0.1368

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		21.78			0.1524	
10	QPSK	1	49		22.01			0.1607	
10	QPSK	50	0		20.93			0.1253	
10	16QAM	1	0		21.13			0.1312	
10	64QAM	1	0		19.98			0.1007	
10	256QAM	1	0		16.85			0.0490	
Channel				23205	23230	23255	ERP(W)		
Frequency (MHz)				779.5	782	784.5	L	M	H
5	QPSK	1	0	21.68	21.88	21.92	0.1489	0.1560	0.1574
5	16QAM	1	0	20.99	21.18	21.08	0.1271	0.1327	0.1297



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		22.47			0.1786	
10	QPSK	1	49		22.60			0.1841	
10	QPSK	50	0		21.15			0.1318	
10	16QAM	1	0		21.65			0.1479	
10	64QAM	1	0		20.64			0.1172	
10	256QAM	1	0		17.47			0.0565	
Channel				23755	23790	23825	ERP(W)		
Frequency (MHz)				706.5	710	713.5	L	M	H
5	QPSK	1	0	22.38	22.28	21.97	0.1750	0.1710	0.1592
5	16QAM	1	0	21.69	21.56	21.41	0.1493	0.1449	0.1400

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					26865	26915	26965				
Frequency (MHz)					831.5	836.5	841.5		L	M	H
15	QPSK	1	0	21.83	21.85	21.94	21.85	0.1730	0.1738	0.1774	0.1738
15	QPSK	1	74	21.51	21.54	21.63	21.54	0.1607	0.1618	0.1652	0.1618
15	QPSK	75	0	20.95	20.98	20.99	20.98	0.1413	0.1422	0.1426	0.1422
15	16QAM	1	0	21.12	21.18	21.31	21.18	0.1469	0.1489	0.1535	0.1489
15	64QAM	1	0	20.05	20.11	20.38	20.11	0.1148	0.1164	0.1239	0.1164
15	256QAM	1	0	16.98	16.99	17.04	16.99	0.0566	0.0568	0.0574	0.0568
Channel					26840	26915	26990	ERP(W)			
Frequency (MHz)					829	836.5	844		L	M	H
10	QPSK	1	0		22.12	22.06	21.90		0.1849	0.1824	0.1758
10	16QAM	1	0		21.26	21.27	21.20		0.1517	0.1521	0.1496
Channel					26815	26915	27015	ERP(W)			
Frequency (MHz)					826.5	836.5	846.5		L	M	H
5	QPSK	1	0		22.10	22.11	21.78		0.1841	0.1845	0.1710
5	16QAM	1	0		21.38	21.25	21.09		0.1560	0.1514	0.1459
Channel					26815	26915	27025	ERP(W)			
Frequency (MHz)					825.5	836.5	847.5		L	M	H
3	QPSK	1	0		22.02	21.93	21.82		0.1807	0.1770	0.1726
3	16QAM	1	0		21.39	21.26	20.99		0.1563	0.1517	0.1426
Channel					26797	26915	27033	ERP(W)			
Frequency (MHz)					824.7	836.5	848.3		L	M	H
1.4	QPSK	1	0		22.01	22.02	21.76		0.1803	0.1807	0.1702



1.4	16QAM	1	0		21.61	21.35	20.96		0.1644	0.1549	0.1416
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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	22.14	22.25	22.65	0.1510	0.1549	0.1698
20	QPSK	1	99	22.08	22.18	22.26	0.1489	0.1524	0.1552
20	QPSK	100	0	21.39	21.38	21.42	0.1271	0.1268	0.1279
20	16QAM	1	0	21.52	21.54	21.63	0.1309	0.1315	0.1343
20	64QAM	1	0	20.42	20.36	20.46	0.1016	0.1002	0.1026
20	256QAM	1	0	17.48	17.54	17.55	0.0516	0.0524	0.0525
Channel				133197	133297	133397	ERP(W)		
Frequency (MHz)				670.5	680.5	690.5	L	M	H
15	QPSK	1	0	22.20	22.24	22.24	0.1531	0.1545	0.1545
15	16QAM	1	0	21.47	21.87	21.48	0.1294	0.1419	0.1297
Channel				133172	133272	133422	ERP(W)		
Frequency (MHz)				668	678	693	L	M	H
10	QPSK	1	0	22.49	22.46	22.51	0.1637	0.1626	0.1644
10	16QAM	1	0	21.59	21.94	21.72	0.1330	0.1442	0.1371
Channel				133147	133247	133447	ERP(W)		
Frequency (MHz)				665.5	675.5	695.5	L	M	H
5	QPSK	1	0	22.33	22.39	22.65	0.1578	0.1600	0.1698
5	16QAM	1	0	21.56	21.74	21.74	0.1321	0.1377	0.1377

LTE CA_5B:

Combination 10MHz+10MHz (50RB+50RB)							
Channel	Modulation	PCC		SCC		Measured Power	ERP(W)
		RB Size	RB offset	RB Size	RB offset		
L	QPSK	1	Max	1	0	22.76	0.2143
M	QPSK	1	Max	1	0	22.81	0.2168
H	QPSK	1	Max	1	0	22.57	0.2051
L	16QAM	1	Max	1	0	22.12	0.1849
M	16QAM	1	Max	1	0	22.02	0.1807
H	16QAM	1	Max	1	0	21.95	0.1778
L	64QAM	1	Max	1	0	21.13	0.1472
M	64QAM	1	Max	1	0	21.10	0.1462
H	64QAM	1	Max	1	0	20.94	0.1409
L	256QAM	1	Max	1	0	18.10	0.0733
M	256QAM	1	Max	1	0	18.15	0.0741
H	256QAM	1	Max	1	0	18.02	0.0719
Combination 10MHz+5MHz (50RB+25RB)							
Channel	Modulation	PCC		SCC		Measured	ERP(W)



		RB Size	RB offset	RB Size	RB offset		
M	QPSK	1	Max	1	0	22.60	0.2065
L	16QAM	1	Max	1	0	22.02	0.1807
Combination 5MHz+10MHz (25RB+50RB)							
Channel	Modulation	PCC		SCC		Measured Power	ERP(W)
		RB Size	RB offset	RB Size	RB offset		
M	QPSK	1	Max	1	0	22.88	0.2203
L	16QAM	1	Max	1	0	22.17	0.1871
Combination 5MHz+3MHz (25RB+15RB)							
Channel	Modulation	PCC		SCC		Measured Power	ERP(W)
		RB Size	RB offset	RB Size	RB offset		
M	QPSK	1	Max	1	0	22.96	0.2244
L	16QAM	1	Max	1	0	22.86	0.2193
Combination 3MHz+5MHz (15RB+25RB)							
Channel	Modulation	PCC		SCC		Measured Power	ERP(W)
		RB Size	RB offset	RB Size	RB offset		
M	QPSK	1	Max	1	0	22.94	0.2234
L	16QAM	1	Max	1	0	22.54	0.2037



Appendix B. Test Results of Radiated Test

Radiated Spurious Emission

Test Engineer :	Jake zhou	Temperature :	23~25℃
		Relative Humidity :	52~58%

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	-70.63	-13	-57.63	-77.60	1.58	10.70	H
	2112	-66.63	-13	-53.63	-74.88	2.102	12.50	H
	2808	-64.49	-13	-51.49	-73.38	2.856	13.90	H
	1408	-69.59	-13	-56.59	-76.56	1.58	10.70	V
	2112	-66.83	-13	-53.83	-75.08	2.10	12.50	V
	2808	-64.41	-13	-51.41	-73.30	2.86	13.90	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	-71.41	-13	-58.41	-74.04	1.09	5.87	H
	2336	-66.45	-13	-53.45	-68.85	1.37	5.92	H
	3112	-65.99	-13	-52.99	-69.88	1.64	7.68	H
	1552	-71.66	-13	-58.66	-74.29	1.09	5.87	V
	2336	-66.38	-13	-53.38	-68.78	1.37	5.92	V
	3112	-66.08	-13	-53.08	-69.97	1.64	7.68	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	-69.98	-13	-56.98	-76.95	1.58	10.70	H
	2488	-65.33	-13	-52.33	-73.58	2.102	12.50	H
	3320	-66.58	-13	-53.58	-75.47	2.856	13.90	H
	1656	-69.97	-13	-56.97	-76.94	1.58	10.70	V
	2488	-65.66	-13	-52.66	-73.91	2.10	12.50	V
	3320	-66.53	-13	-53.53	-75.42	2.86	13.90	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	1344	-71.39	-13	-58.39	-82.13	2.604	13.34	H
	2016	-66.47	-13	-53.47	-76.98	3.011	13.52	H
	2688	-64.32	-13	-51.32	-74.52	3.271	13.47	H
	1344	-70.65	-13	-57.65	-81.39	2.604	13.34	V
	2016	-66.76	-13	-53.76	-77.27	3.011	13.52	V
	2688	-64.51	-13	-51.51	-74.71	3.271	13.47	V

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

LTE CA_5B / 20MHz+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	1656.00	-69.98	-13	-56.98	-73.22	1.11	6.50	H
	2480.00	-65.70	-13	-52.70	-68.32	1.43	6.20	H
	3304.00	-66.53	-13	-53.53	-70.97	1.71	8.30	H
	1656.00	-69.97	-13	-56.97	-73.21	1.11	6.50	V
	2480.00	-65.32	-13	-52.32	-67.94	1.43	6.20	V
	3304.00	-66.29	-13	-53.29	-70.73	1.71	8.30	V
	1672.00	-70.07	-13	-57.07	-73.31	1.11	6.50	H
	2512.00	-65.82	-13	-52.82	-68.44	1.43	6.20	H
	3352.00	-66.32	-13	-53.32	-70.76	1.71	8.30	H
	1672.00	-70.19	-13	-57.19	-73.43	1.11	6.50	V
	2512.00	-65.68	-13	-52.68	-68.30	1.43	6.20	V
	3352.00	-66.16	-13	-53.16	-70.60	1.71	8.30	V

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