



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 27(M)
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, 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



Sporton International Inc. (Kunshan)

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



TABLE OF CONTENTS

REVISION HISTORY	3
SUMMARY OF TEST RESULT	4
1 GENERAL DESCRIPTION	5
1.1 Applicant	5
1.2 Manufacturer	5
1.3 Product Feature of Equipment Under Test	5
1.4 Product Specification of Equipment Under Test	5
1.5 Modification of EUT	6
1.6 Maximum EIRP	6
1.7 Testing Location	8
1.8 Test Software	8
1.9 Applicable Standards	8
2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST	9
2.1 Test Mode	9
2.2 Connection Diagram of Test System	10
2.3 Support Unit used in test configuration and system	10
2.4 Frequency List of Low/Middle/High Channels	11
3 CONDUCTED TEST ITEMS	15
3.1 Measuring Instruments	15
3.2 Test Setup	15
3.3 Test Result of Conducted Test	15
3.4 Conducted Output Power and EIRP	16
4 RADIATED TEST ITEMS	18
4.1 Measuring Instruments	18
4.2 Test Setup	18
4.3 Test Result of Radiated Test	19
4.4 Radiated Spurious Emission	20
5 LIST OF MEASURING EQUIPMENT	21
6 MEASUREMENT UNCERTAINTY	22
APPENDIX A. TEST RESULTS OF CONDUCTED TEST	
APPENDIX B. TEST RESULTS OF RADIATED TEST	
APPENDIX C. TEST SETUP PHOTOGRAPHS	



REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG492317D	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	-
	§27.50(h)(2)	Equivalent Isotropic Radiated Power (Band 7) (Band 38) (Band 41)	EIRP < 2Watt	PASS	-
-	N/A	Peak-to-Average Ratio	<13 dB	PASS	1
-	§2.1049	Occupied Bandwidth	-	Report Only	1
-	§27.53(m)(4)	Conducted Band Edge Measurement (Band 7) (Band 38) (Band 41)	§27.53(m)(4)	PASS	1
-	§2.1051 §27.53(m)(4)	Conducted Spurious Emission (Band 7) (Band 38) (Band 41)	< 55+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 §27.53(m)(4)	Radiated Spurious Emission (Band 7) (Band 38) (Band 41)	< 55+10log ₁₀ (P[Watts])	PASS	Under limit 34.76 dB at 10300.00 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 7 : 2500 MHz ~ 2570 MHz LTE Band 38 : 2570 MHz ~ 2620 MHz LTE Band 41 : 2496 MHz ~ 2690 MHz
Rx Frequency	LTE Band 7 : 2620 MHz ~ 2690 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41 : 2496 MHz ~ 2690 MHz
Bandwidth	LTE Band 7 : 5MHz / 10MHz / 15MHz / 20MHz LTE Band 38 : 5MHz / 10MHz / 15MHz / 20MHz LTE Band 41 : 5MHz / 10MHz / 15MHz / 20MHz
Maximum Output Power to Antenna	LTE Band 7 : 20.60 dBm LTE CA_7C : 20.61 dBm LTE Band 38 : 20.43 dBm LTE CA_38C : 21.01 dBm LTE Band 41 : 22.93 dBm LTE CA_41C : 24.35 dBm
Antenna Type	Dipole Antenna
Antenna Gain	<Ant.0> Paddle antenna: LTE Band 7 : 2.0 dBi

	LTE Band 38 : 2.0 dBi LTE Band 41 : 2.0 dBi Sharkfin antenna: LTE Band 7 : 2.4 dBi LTE Band 38 : 2.1 dBi LTE Band 41 : 2.1 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 EIRP

LTE Band 7		QPSK		16QAM/64QAM/256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
5	2502.5 ~ 2567.5	0.1910	-	0.1528	-
10	2505.0 ~ 2565.0	0.1995	-	0.1611	-
15	2507.5 ~ 2562.5	0.1687	-	0.1710	-
20	2510.0 ~ 2560.0	0.1698	-	0.1524	-
LTE Band 38		QPSK		16QAM/64QAM/256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
5	2572.5 ~ 2617.5	0.1791	-	0.1435	-
10	2575.0 ~ 2615.0	0.1791	-	0.1439	-
15	2577.5 ~ 2612.5	0.1722	-	0.1380	-
20	2580.0 ~ 2610.0	0.1730	-	0.1416	-
LTE Band 41		QPSK		16QAM/64QAM/256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
5	2498.5 ~ 2687.5	0.3105	-	0.2594	-
10	2501.0 ~ 2685.0	0.3184	-	0.2612	-
15	2503.5 ~ 2682.5	0.3041	-	0.2612	-
20	2506.0 ~ 2680.0	0.3170	-	0.2624	-



LTE Band 7 CA	QPSK		16QAM/64QAM/256QAM	
BW (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
10MHz+20MHz	0.1786	-	0.1496	-
15MHz+15MHz	0.1803	-	0.1466	-
15MHz+20MHz	0.1782	-	0.1419	-
15MHz+10MHz	0.1845	-	0.1426	-
20MHz+10MHz	0.1837	-	0.1493	-
20MHz+15MHz	0.1795	-	0.1432	-
20MHz+20MHz	0.2000	-	0.1589	-

LTE Band 38 CA	QPSK		16QAM/64QAM/256QAM	
BW (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
15MHz+15MHz	0.2037	-	0.1629	-
20MHz+20MHz	0.2046	-	0.1644	-

LTE Band 41 CA	QPSK		16QAM/64QAM/256QAM	
BW (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
5MHz+20MHz	0.4169	-	0.2851	-
10MHz+20MHz	0.3936	-	0.2698	-
10MHz+15MHz	0.4111	-	0.2858	-
15MHz+15MHz	0.4083	-	0.2761	-
15MHz+20MHz	0.3963	-	0.2761	-
15MHz+10MHz	0.3990	-	0.2761	-
20MHz+5MHz	0.4416	-	0.2805	-
20MHz+10MHz	0.4027	-	0.2729	-
20MHz+15MHz	0.3899	-	0.2692	-
20MHz+20MHz	0.3846	-	0.2723	-

Note:

1. 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.
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 27(M)
- ♦ 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

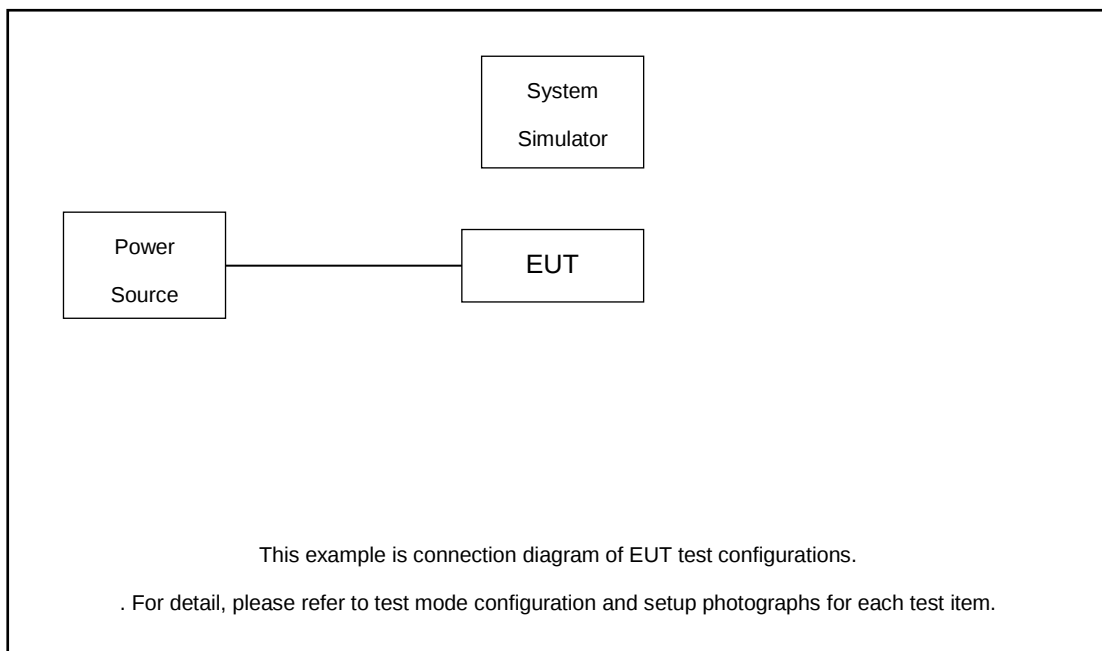
Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas License Digital Systems v03r01 with maximum output power.

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	16 QAM	64 QAM	256 QAM	1	Half	Full	L	M	H
Max. Output Power	7	-	-	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
	41	-	-	v	v	v	v	v	v	v	v	v		v	v	v	v
E.I.R.P.	7	-	-	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
	41	-	-	v	v	v	v	v	v	v	v	v		v	v	v	v
Radiated Spurious Emission	7	Worst Case													v		
	41	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	16 QAM	64 QAM	256 QAM	1	Half	Full	L	M	H
Max. Output Power	7C_CA	v	v	v	v	v	-	-	v	v	-	v	v	v	v	v			v	v	v
	38C_CA	v	-	-	-	-	-	-	v	-	-	v	v	v	v	v			v	v	v
	41C_CA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v			v	v	v
E.I.R.P.	7C_CA	v	v	v	v	v	-	-	v	v	-	v	v	v	v	v			v	v	v
	38C_CA	v	-	-	-	-	-	-	v	-	-	v	v	v	v	v			v	v	v
	41C_CA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v			v	v	v
Radiated Spurious Emission	7C_CA	Worst Case																		v	
	41C_CA	Worst Case																		v	
Note	1. The mark “v” means that this configuration is chosen for testing 2. The mark “-” means that this bandwidth is not supported. 3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.																				

2.2 Connection Diagram of Test System



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 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 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 7C_CA Channel and Frequency List					
BW [MHz]	Channel/Frequency(MHz)		Lowest	Middle	Highest
20 + 20	PCC	Channel	20850	21001	21152
		Frequency	2510.0	2525.1	2540.2
	SCC	Channel	21048	21199	21350
		Frequency	2529.8	2544.9	2560.0
20 + 15	PCC	Channel	20850	21026	21201
		Frequency	2510.0	2527.6	2545.1
	SCC	Channel	21021	21197	21372
		Frequency	2527.1	2544.7	2562.2
15 + 20	PCC	Channel	20828	21003	21179
		Frequency	2507.8	2525.3	2542.9
	SCC	Channel	20999	21174	21350
		Frequency	2524.9	2542.4	2560.0
20 + 10	PCC	Channel	20850	21051	21251
		Frequency	2510.0	2530.1	2550.1
	SCC	Channel	20994	21195	21395
		Frequency	2524.4	2544.5	2564.5
10 + 20	PCC	Channel	20805	21006	21206
		Frequency	2505.5	2525.6	2545.6
	SCC	Channel	20949	21150	21350
		Frequency	2519.9	2540.0	2560.0
15 + 15	PCC	Channel	20825	21025	21225
		Frequency	2507.5	2527.5	2547.5
	SCC	Channel	20975	21175	21375
		Frequency	2522.5	2542.5	2562.5
15 + 10	PCC	Channel	20825	21051	21277
		Frequency	2507.5	2530.1	2552.7
	SCC	Channel	20945	21171	21397
		Frequency	2519.5	2542.1	2564.7



LTE Band 38C_CA Channel and Frequency List					
BW [MHz]	Channel/Frequency(MHz)		Lowest	Middle	Highest
20 + 20	PCC	Channel	37850	37901	37952
		Frequency	2580.0	2585.1	2590.2
	SCC	Channel	38048	38099	38150
		Frequency	2599.8	2604.9	2610.0
15+ 15	PCC	Channel	37825	37925	38025
		Frequency	2577.5	2587.5	2597.5
	SCC	Channel	37975	38075	38175
		Frequency	2592.5	2602.5	2612.5

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



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

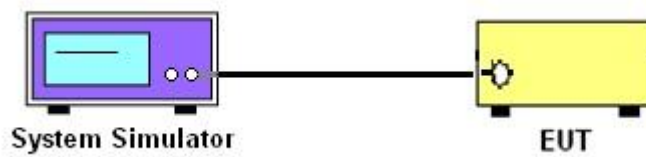
3 Conducted Test Items

3.1 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 EIRP

3.4.1 Description of the Conducted Output Power Measurement and 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 EIRP of mobile transmitters must not exceed 2 Watts for LTE Band 7 and Band 38 and Band 41.

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

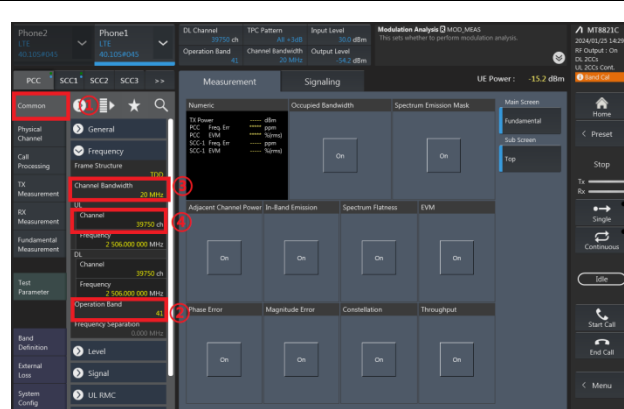
3.4.2 Test Procedures

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.

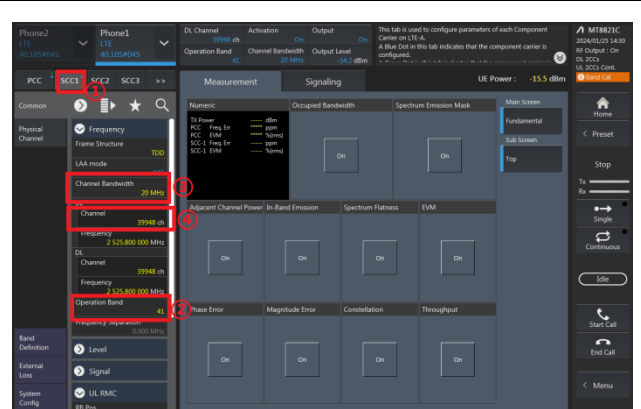
3.4.3 Test Procedures for LTE ULCA

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.

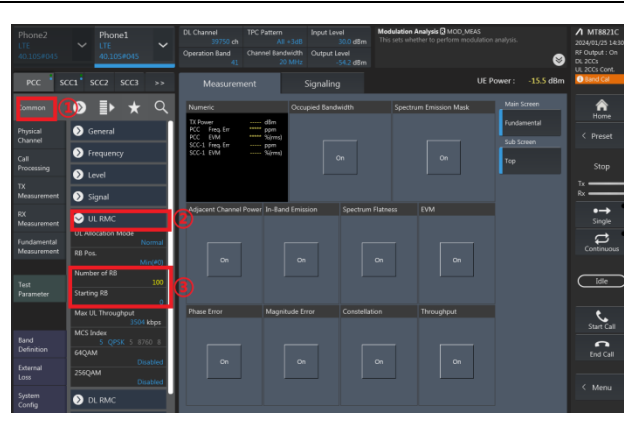
PCC config_ (Channel Bandwidth / Channel / Band)



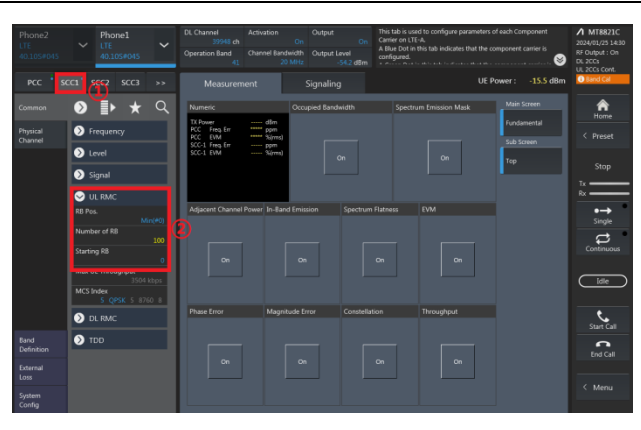
SCC config_ (Channel Bandwidth / Channel / Band)



PCC config_ (Number of RB / Starting RB)

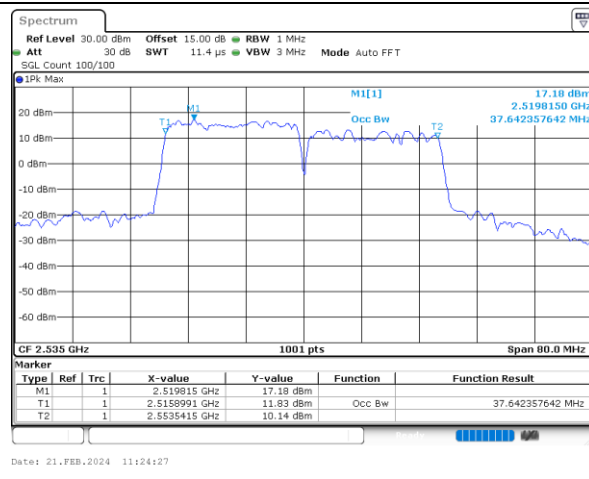


SCC config_ (Number of RB / Starting RB)

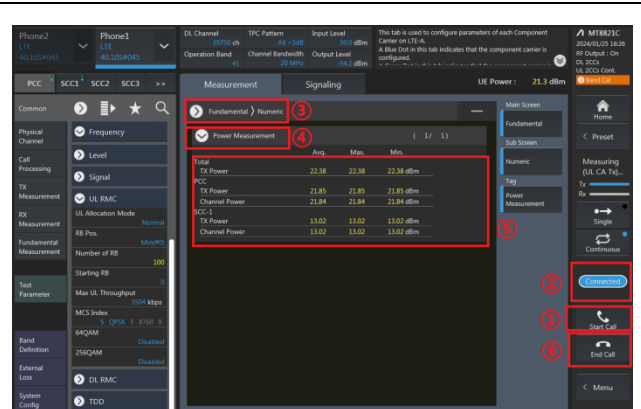


4. Select lowest, middle, and highest channels for each ULCA band and different modulation.
5. Check the ULCA spectrum and record the total power from the system simulator.

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



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



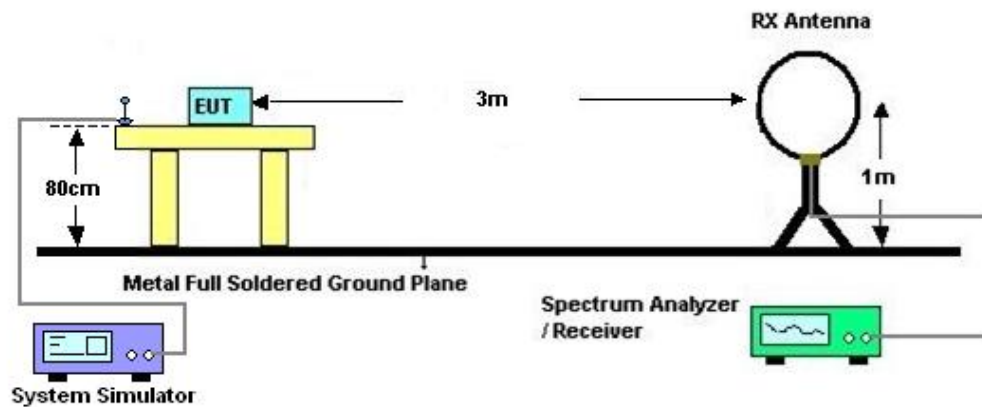
4 Radiated Test Items

4.1 Measuring Instruments

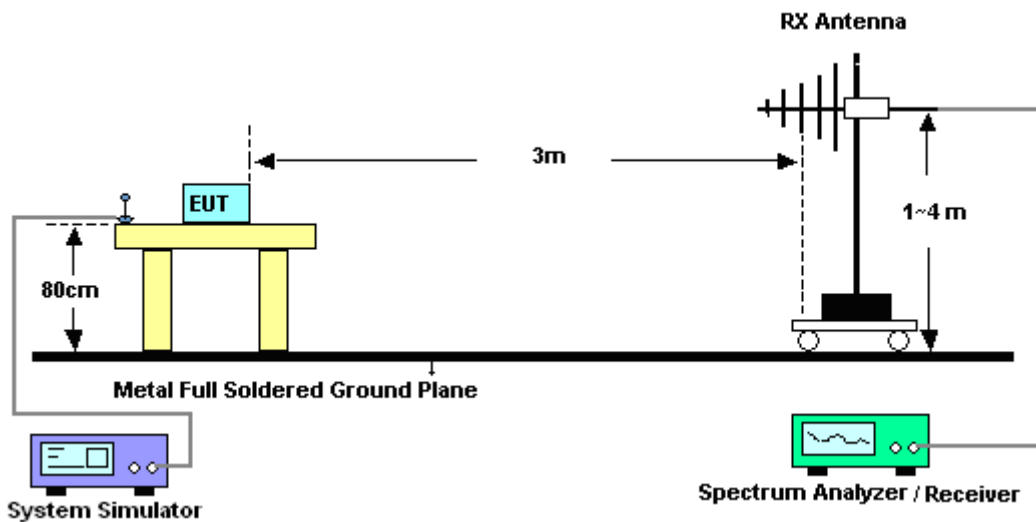
See list of measuring instruments of this test report.

4.2 Test Setup

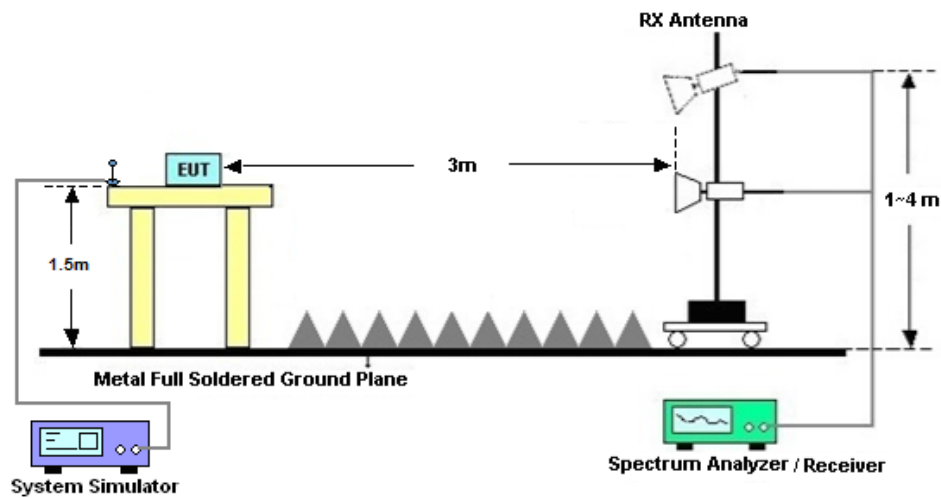
4.2.1 For radiated test below 30MHz



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.

For Band 7, 38, 41

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

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

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

13. For Band 7, 38, 41:

The limit line is derived from $55 + 10\log(P)$ 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. 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
--	---------

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 EIRP

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	21100	21350			
Frequency (MHz)				2510	2535	2560	L	M	H
20	QPSK	1	0	18.84	19.44	19.88	0.1330	0.1528	0.1690
20	QPSK	1	99	19.26	19.63	19.90	0.1466	0.1596	0.1698
20	QPSK	100	0	18.32	18.73	19.20	0.1180	0.1297	0.1445
20	16QAM	1	0	18.14	18.71	19.43	0.1132	0.1291	0.1524
20	64QAM	1	0	17.16	17.67	18.43	0.0904	0.1016	0.1211
20	256QAM	1	0	14.19	14.74	15.06	0.0456	0.0518	0.0557
Channel				20825	21100	21375	EIRP(W)		
Frequency (MHz)				2507.5	2535	2562.5	L	M	H
15	QPSK	1	0	18.90	19.56	19.87	0.1349	0.1570	0.1687
15	16QAM	1	0	18.23	19.24	19.93	0.1156	0.1459	0.1710
Channel				20800	21100	21400	EIRP(W)		
Frequency (MHz)				2505	2535	2565	L	M	H
10	QPSK	1	0	19.19	19.79	20.60	0.1442	0.1656	0.1995
10	16QAM	1	0	18.44	19.15	19.67	0.1213	0.1429	0.1611
Channel				20775	21100	21425	EIRP(W)		
Frequency (MHz)				2502.5	2535	2567.5	L	M	H
5	QPSK	1	0	19.11	19.78	20.41	0.1416	0.1652	0.1910
5	16QAM	1	0	18.31	19.04	19.44	0.1178	0.1393	0.1528



LTE Band 38:

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	20.28	20.27	20.17	0.1730	0.1726	0.1687
20	QPSK	1	99	20.15	20.04	19.92	0.1679	0.1637	0.1592
20	QPSK	100	0	19.38	19.29	19.19	0.1406	0.1377	0.1346
20	16QAM	1	0	19.41	19.26	19.18	0.1416	0.1368	0.1343
20	64QAM	1	0	19.30	18.40	18.35	0.1380	0.1122	0.1109
20	256QAM	1	0	15.43	15.36	15.21	0.0566	0.0557	0.0538
Channel				37825	38000	38175	EIRP(W)		
Frequency (MHz)				2577.5	2595	2612.5	L	M	H
15	QPSK	1	0	20.26	20.22	20.13	0.1722	0.1706	0.1671
15	16QAM	1	0	19.30	19.08	19.08	0.1380	0.1312	0.1312
Channel				37800	38000	38200	EIRP(W)		
Frequency (MHz)				2575	2595	2615	L	M	H
10	QPSK	1	0	20.43	20.43	20.20	0.1791	0.1791	0.1698
10	16QAM	1	0	19.30	19.38	19.48	0.1380	0.1406	0.1439
Channel				37775	38000	38225	EIRP(W)		
Frequency (MHz)				2572.5	2595	2617.5	L	M	H
5	QPSK	1	0	20.43	20.35	20.17	0.1791	0.1758	0.1687
5	16QAM	1	0	19.38	19.47	19.23	0.1406	0.1435	0.1358



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	21.20	22.91	22.30	0.2138	0.3170	0.2754
20	QPSK	1	99	21.52	22.69	22.29	0.2301	0.3013	0.2748
20	QPSK	100	0	19.07	21.80	21.26	0.1309	0.2455	0.2168
20	16QAM	1	0	20.72	22.09	21.67	0.1914	0.2624	0.2382
20	64QAM	1	0	19.52	21.03	20.59	0.1452	0.2056	0.1858
20	256QAM	1	0	16.50	17.81	17.39	0.0724	0.0979	0.0889
Channel				39725	40620	41515	EIRP(W)		
Frequency (MHz)				2503.5	2593	2682.5	L	M	H
15	QPSK	1	0	21.40	22.73	22.26	0.2239	0.3041	0.2729
15	16QAM	1	0	20.53	22.07	21.53	0.1832	0.2612	0.2307
Channel				39700	40620	41540	EIRP(W)		
Frequency (MHz)				2501	2593	2685	L	M	H
10	QPSK	1	0	21.47	22.93	22.38	0.2275	0.3184	0.2805
10	16QAM	1	0	20.69	22.07	21.54	0.1901	0.2612	0.2312
Channel				39675	40620	41565	EIRP(W)		
Frequency (MHz)				2498.5	2593	2687.5	L	M	H
5	QPSK	1	0	21.40	22.82	22.31	0.2239	0.3105	0.2761
5	16QAM	1	0	20.62	22.04	21.60	0.1871	0.2594	0.2344



LTE CA_7C:

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	20.34	0.1879
M	QPSK	1	Max	1	0	20.31	0.1866
H	QPSK	1	Max	1	0	20.61	0.2000
L	16QAM	1	Max	1	0	19.38	0.1507
M	16QAM	1	Max	1	0	19.35	0.1496
H	16QAM	1	Max	1	0	19.61	0.1589
L	64QAM	1	Max	1	0	18.28	0.1169
M	64QAM	1	Max	1	0	18.26	0.1164
H	64QAM	1	Max	1	0	18.66	0.1276
L	256QAM	1	Max	1	0	15.36	0.0597
M	256QAM	1	Max	1	0	15.39	0.0601
H	256QAM	1	Max	1	0	15.64	0.0637
Combination 20MHz+15MHz (100RB+75RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
H	QPSK	1	Max	1	0	20.14	0.1795
H	16QAM	1	Max	1	0	19.16	0.1432
Combination 15MHz+20MHz (75RB+100RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
H	QPSK	1	Max	1	0	20.11	0.1782
H	16QAM	1	Max	1	0	19.12	0.1419
Combination 15MHz+15MHz (75RB+75RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
H	QPSK	1	Max	1	0	20.16	0.1803
H	16QAM	1	Max	1	0	19.26	0.1466
Combination 20MHz+10MHz (100RB+50RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
H	QPSK	1	Max	1	0	20.24	0.1837
H	16QAM	1	Max	1	0	19.34	0.1493
Combination 10MHz+20MHz (50RB+100RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
H	QPSK	1	Max	1	0	20.12	0.1786
H	16QAM	1	Max	1	0	19.35	0.1496
Combination 15MHz+10MHz (75RB+50RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
H	QPSK	1	Max	1	0	20.26	0.1845
H	16QAM	1	Max	1	0	19.14	0.1426



LTE CA_38C:

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	20.98	0.2032
M	QPSK	1	Max	1	0	21.01	0.2046
H	QPSK	1	Max	1	0	20.95	0.2018
L	16QAM	1	Max	1	0	20.06	0.1644
M	16QAM	1	Max	1	0	20.02	0.1629
H	16QAM	1	Max	1	0	19.98	0.1614
L	64QAM	1	Max	1	0	19.06	0.1306
M	64QAM	1	Max	1	0	19.16	0.1337
H	64QAM	1	Max	1	0	19.05	0.1303
L	256QAM	1	Max	1	0	16.08	0.0658
M	256QAM	1	Max	1	0	16.02	0.0649
H	256QAM	1	Max	1	0	16.09	0.0659
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	20.99	0.2037
L	16QAM	1	Max	1	0	20.02	0.1629

LTE CA_41C:

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	23.07	0.3289
M	QPSK	1	Max	1	0	23.75	0.3846
H	QPSK	1	Max	1	0	23.24	0.3420
L	16QAM	1	Max	1	0	21.54	0.2312
M	16QAM	1	Max	1	0	22.25	0.2723
H	16QAM	1	Max	1	0	21.85	0.2483
L	64QAM	1	Max	1	0	20.92	0.2004
M	64QAM	1	Max	1	0	21.55	0.2317
H	64QAM	1	Max	1	0	20.10	0.1660
L	256QAM	1	Max	1	0	18.12	0.1052
M	256QAM	1	Max	1	0	18.92	0.1265
H	256QAM	1	Max	1	0	18.26	0.1086
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	23.81	0.3899
M	16QAM	1	Max	1	0	22.20	0.2692
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	23.88	0.3963



M	16QAM	1	Max	1	0	22.31	0.2761
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	24.01	0.4083
M	16QAM	1	Max	1	0	22.31	0.2761
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	23.95	0.4027
M	16QAM	1	Max	1	0	22.26	0.2729
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	23.85	0.3936
M	16QAM	1	Max	1	0	22.21	0.2698
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	23.91	0.3990
M	16QAM	1	Max	1	0	22.31	0.2761
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	24.04	0.4111
M	16QAM	1	Max	1	0	22.46	0.2858
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	24.35	0.4416
M	16QAM	1	Max	1	0	22.38	0.2805
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	24.10	0.4169
M	16QAM	1	Max	1	0	22.45	0.2851



Appendix B. Test Results of Radiated Test

Radiated Spurious Emission

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

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	-61.93	-25	-36.93	-72.14	3.03	13.24	H
	7584	-62.23	-25	-37.23	-71.68	3.56	13.01	H
	10104	-61.30	-25	-36.30	-70.82	3.92	13.44	H
	5050	-61.82	-25	-36.82	-72.03	3.03	13.24	V
	7584	-61.79	-25	-36.79	-71.24	3.56	13.01	V
	10104	-61.12	-25	-36.12	-70.64	3.92	13.44	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	-61.57	-25	-36.57	-71.78	3.03	13.24	H
	7752	-61.11	-25	-36.11	-70.56	3.56	13.01	H
	10342	-59.82	-25	-34.82	-69.34	3.92	13.44	H
	5162	-61.83	-25	-36.83	-72.04	3.03	13.24	V
	7752	-60.85	-25	-35.85	-70.30	3.56	13.01	V
	10342	-59.77	-25	-34.77	-69.29	3.92	13.44	V

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



LTE CA_7C / 20MHz +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	5036	-62.86	-25	-37.86	-73.07	3.03	13.24	H
	7542	-61.85	-25	-36.85	-71.30	3.56	13.01	H
	10062	-60.78	-25	-35.78	-70.30	3.92	13.44	H
	5036	-62.43	-25	-37.43	-72.64	3.03	13.24	V
	7542	-61.78	-25	-36.78	-71.23	3.56	13.01	V
	10062	-61.03	-25	-36.03	-70.55	3.92	13.44	V
	5078	-62.46	-25	-37.46	-72.67	3.03	13.24	H
	7612	-61.55	-25	-36.55	-71.00	3.56	13.01	H
	10146	-60.52	-25	-35.52	-70.04	3.92	13.44	H
	5078	-62.82	-25	-37.82	-73.03	3.03	13.24	V
	7612	-61.76	-25	-36.76	-71.21	3.56	13.01	V
	10146	-61.23	-25	-36.23	-70.75	3.92	13.44	V

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

LTE CA_41C / 20MHz+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	5148	-62.22	-25	-37.22	-72.43	3.03	13.24	H
	7724	-60.86	-25	-35.86	-70.31	3.56	13.01	H
	10300	-59.76	-25	-34.76	-69.28	3.92	13.44	H
	5148	-62.03	-25	-37.03	-72.24	3.03	13.24	V
	7724	-61.10	-25	-36.10	-70.55	3.56	13.01	V
	10300	-59.81	-25	-34.81	-69.33	3.92	13.44	V
	5190	-62.04	-25	-37.04	-72.25	3.03	13.24	H
	7780	-61.15	-25	-36.15	-70.60	3.56	13.01	H
	10370	-59.90	-25	-34.90	-69.42	3.92	13.44	H
	5190	-62.42	-25	-37.42	-72.63	3.03	13.24	V
	7780	-61.13	-25	-36.13	-70.58	3.56	13.01	V
	10370	-59.90	-25	-34.90	-69.42	3.92	13.44	V

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