



# FCC RADIO TEST REPORT

**FCC ID** : PU5-TP00137BLQ  
**Equipment** : Notebook Computer  
**Brand Name** : Lenovo  
**Model Name** : TP00137A, TP00137B  
**Applicant** : Wistron Corporation  
21F, No. 88, Sec. 1, Hsin Tai Wu Rd., Hsichih  
Dist, New Taipei City 221, Taiwan  
**Manufacturer** : Lenovo PC HK Limited.  
23/F, Lincoln House, Taikoo Place, 979 King's  
Road, Quarry Bay, Hong Kong, P.R. China  
**Standard** : FCC 47 CFR Part 2, 22(H), 24(E), 27

Equipment: Quectel EM05-G tested inside of Lenovo Notebook Computer.

The product was received on Dec. 07, 2021 and testing was performed from Dec. 17, 2021 to Dec. 28, 2021. We, Sporton International Inc. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA-603-E and has been in compliance with the applicable technical standards.

The test results in this partial report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

*Louis Wu*

Approved by: Louis Wu

**Sporton International Inc. EMC & Wireless Communications Laboratory**



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### Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.2	§2.1046	Conducted Output Power	Reporting only	-
	§22.913 (a)(5)	Effective Radiated Power (Band 5) (Band 26)	Pass	
	§27.50 (b)(10) §27.50 (c)(10)	Effective Radiated Power (Band 12) (Band 13) (Band 71)		
	§24.232 (c) §27.50 (h)(2)	Equivalent Isotropic Radiated Power (Band 2) (Band 25) (Band 7) (Band 38) (Band 41)		
	§27.50 (d)(4)	Equivalent Isotropic Radiated Power (Band 4) (Band 66)		
-	§24.232 (d) §27.50 (d)(5)	Peak-to-Average Ratio	-	See Note
-	§2.1049	Occupied Bandwidth	-	See Note
-	§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 25) (Band 26) (Band 66) (Band 71)	-	See Note
	§2.1051 §27.53 (m)(4)	Conducted Band Edge Measurement (Band 7) (Band 38) (Band 41)		
-	§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 25) (Band 26) (Band 66) (Band 71)	-	See Note
	§2.1051 §27.53 (m)(4)	Conducted Spurious Emission (Band 7) (Band 38) (Band 41)		
-	§2.1055 §22.355 §24.235 §27.54	Frequency Stability Temperature & Voltage	-	See Note



Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
4.2	§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 25) (Band 26) (Band 66) (Band 71)	Pass	Under limit 7.06 dB at 1560.000 MHz
	§2.1051 §27.53 (m)(4)	Radiated Spurious Emission (Band 7) (Band 38) (Band 41)		

**Note:** The module (Model: EM05-G) makes no difference after verifying output power, this report reuses test data from the module report.

**Declaration of Conformity:**

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers. It's means measurement values may risk exceeding the limit of regulation standards, if measurement uncertainty is include in test results.
2. The measurement uncertainty please refer to this report "Uncertainty of Evaluation".

**Comments and Explanations:**

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

**Reviewed by: Sheng Kuo**

**Report Producer: Vivian Hsu**



# 1 General Description

## 1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	Notebook Computer
Brand Name	Lenovo
Model Name	TP00137A, TP00137B
FCC ID	PU5-TP00137BLQ
Sample 1	EUT with AVX Antenna
Sample 2	EUT with AWAN Antenna
EUT supports Radios application	WCDMA/HSPA/LTE/GNSS
EUT Stage	Production Unit

**Remark:**

1. The above EUT's information was declared by manufacturer.
2. Equipment: Quectel EM05-G tested inside of Lenovo Notebook Computer.

Antenna Information				
Main Antenna	Manufacturer	AVX	Peak gain (dBi)	LTE Band 2 : 1.99 LTE Band 4 : 1.99 LTE Band 5 : 1.96 LTE Band 7 : 0.53 LTE Band 12 : -0.28 LTE Band 13 : 1.79 LTE Band 25 : 1.95 LTE Band 26 : 1.96 LTE Band 38 : -0.33 LTE Band 41 : 0.61 LTE Band 66 : 1.85 LTE Band 71 : -1.44
	Part number	025.901X1.0001	Type	PIFA
	Manufacturer	AWAN	Peak gain (dBi)	LTE Band 2 : -1.24 LTE Band 4 : -0.20 LTE Band 5 : -2.27 LTE Band 7 : -0.68 LTE Band 12 : -4.87 LTE Band 13 : -2.13 LTE Band 25 : -0.68 LTE Band 26 : -1.70 LTE Band 38 : -1.24 LTE Band 41 : 0.01 LTE Band 66 : -0.40 LTE Band 71 : -5.23
	Part number	025.901WX.0001	Type	PIFA

**Remark:**The above EUT's information was declared by manufacturer. Please refer to Comments and Explanations in report summary.



### 1.2 Product Specification of Equipment Under Test

Product Specification is subject to this standard	
<b>Tx Frequency</b>	LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 7: 2502.5 MHz ~ 2567.5 MHz LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 13: 779.5 MHz ~ 784.5 MHz LTE Band 25: 1850.7MHz ~ 1914.3 MHz LTE Band 26: 824.7MHz ~ 848.3 MHz LTE Band 38: 2572.5MHz ~ 2617.5MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz LTE Band 66: 1710.7 MHz ~ 1779.3 MHz LTE Band 71: 665.5 MHz ~ 695.5 MHz
<b>Rx Frequency</b>	LTE Band 2: 1930.7 MHz ~ 1989.3 MHz LTE Band 4: 2110.7 MHz ~ 2154.3 MHz LTE Band 5: 869.7 MHz ~ 893.3 MHz LTE Band 7: 2622.5MHz ~ 2687.5 MHz LTE Band 12: 729.7 MHz ~ 745.3 MHz LTE Band 13: 748.5 MHz ~ 753.5 MHz LTE Band 25: 1930.7MHz ~ 1994.3 MHz LTE Band 26: 869.7MHz ~ 893.3MHz LTE Band 38: 2572.5MHz ~ 2617.5MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz LTE Band 66: 2110.7 MHz ~ 2199.3 MHz LTE Band 71: 619.5 MHz ~ 649.5 MHz
<b>Bandwidth</b>	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 25: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 26: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz LTE Band 38: 5MHz / 10MHz / 15MHz / 20MHz LTE Band 41: 5MHz / 10MHz / 15MHz / 20MHz LTE Band 66: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 71: 5MHz / 10MHz / 15MHz / 20MHz



Product Specification is subject to this standard	
<b>Maximum Output Power to Antenna</b>	LTE Band 2 : 24.30 dBm LTE Band 4 : 24.19 dBm LTE Band 5 : 23.87 dBm LTE Band 7 : 24.04 dBm LTE Band 12 : 24.00 dBm LTE Band 13 : 23.97 dBm LTE Band 25 : 23.93 dBm LTE Band 26 : 23.97 dBm LTE Band 38 : 23.89 dBm LTE Band 41 : 23.82 dBm LTE Band 66 : 24.14 dBm LTE Band 71 : 24.11 dBm
<b>Type of Modulation</b>	QPSK / 16QAM

### 1.3 Modification of EUT

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

### 1.4 Testing Location

<b>Test Site</b>	Sporton International Inc. EMC & Wireless Communications Laboratory
<b>Test Site Location</b>	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333
<b>Test Site No.</b>	<b>Sporton Site No.</b>
	TH03-HY
<b>Test Engineer</b>	Benjamin Lin
<b>Temperature (°C)</b>	23.5~25.0
<b>Relative Humidity (%)</b>	49.4~52.0

<b>Test Site</b>	Sporton International Inc. Wensan Laboratory
<b>Test Site Location</b>	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010
<b>Test Site No.</b>	<b>Sporton Site No.</b>
	03CH16-HY (TAF Code: 3786)
<b>Test Engineer</b>	Andy Yang, Karl Hou and Wilson Wu
<b>Temperature (°C)</b>	20~25
<b>Relative Humidity (%)</b>	50~60
<b>Remark</b>	The Radiated Spurious Emission test item subcontracted to Sporton International Inc. Wensan Laboratory

**Note:** The test site complies with ANSI C63.4 2014 requirement.

FCC Designation No.: TW1190 and TW3786





## 1.5 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ ANSI C63.26-2015
- ♦ ANSI / TIA-603-E
- ♦ FCC 47 CFR Part 2, 22(H), 24(E), 27
- ♦ FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- ♦ FCC KDB 412172 D01 Determining ERP and EIRP v01r01
- ♦ FCC KDB 414788 D01 Radiated Test Site v01r01.

**Remark:**

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. The TAF code is not including all the FCC KDB listed without accreditation.



## 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.

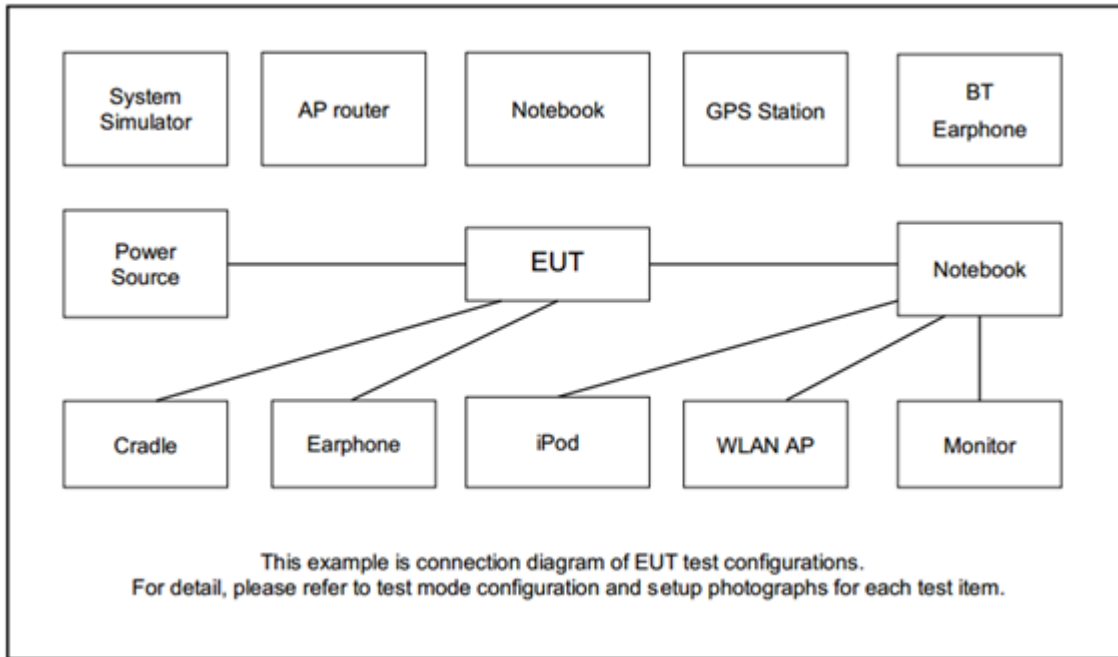
For radiated measurement, the measured emission level of the EUT was maximized by rotating the EUT on a turntable, adjusting the orientation of the EUT and EUT antenna in Tablet Type (three orthogonal axis (X: flat, Y: portrait, Z: landscape)) and Notebook Type, adjusting the measurement antenna orientation, following C63.26 exploratory test procedures and find Notebook Type with accessory for LTE Band 2, 5, 13, 26, 71; Y Plane with accessory for LTE Band 4, 7, 12, 25, 38, 41; Z Plane with accessory for LTE Band 66 as worst plane.

Test Items	Band	Bandwidth (MHz)						Modulation				RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	256QAM	1	Half	Full	L	M	H
Max. Output Power	2	v	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	v
	5	v	v	v	v	-	-	v	v			v	v	v	v	v	v
	7	-	-	v	v	v	v	v	v			v	v	v	v	v	v
	12	v	v	v	v	-	-	v	v			v	v	v	v	v	v
	13	-	-	v	v	-	-	v	v			v	v	v	v	v	v
	25	v	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	v
	38	-	-	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
	66	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	



Test Items	Band	Bandwidth (MHz)						Modulation				RB #			Test Channel			
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	256QAM	1	Half	Full	L	M	H	
E.R.P / E.I.R.P	2	v	v	v	v	v	v	v	v									
	4	v	v	v	v	v	v	v	v									
	5	v	v	v	v	-	-	v	v									
	7	-	-	v	v	v	v	v	v									
	12	v	v	v	v	-	-	v	v									
	13	-	-	v	v	-	-	v	v									
	25	v	v	v	v	v	v	v	v									
	26	v	v	v	v	v	-	v	v									
	38	-	-	v	v	v	v	v	v									
	41	-	-	v	v	v	v	v	v									
	66	v	v	v	v	v	v	v	v									
71	-	-	v	v	v	v	v	v										
Radiated Spurious Emission	2				v			v					v			v	v	v
	4				v			v					v			v	v	v
	5				v		-	v					v			v	v	v
	7	-	-		v			v					v			v	v	v
	12				v	-	-	v					v			v	v	v
	13	-	-	v	v	-	-	v					v			v	v	v
	25				v			v					v			v	v	v
	26				v		-	v					v			v	v	v
	38	-	-		v			v					v			v	v	v
	41	-	-		v			v					v			v	v	v
	66				v			v					v			v	v	v
71	-	-		v			v					v			v	v	v	
Remark	<ol style="list-style-type: none"> <li>The mark "v" means that this configuration is chosen for testing</li> <li>The mark "-" means that this bandwidth is not supported.</li> <li>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.</li> <li>All the radiated test cases were performed with Sample 1.</li> </ol>																	

## 2.2 Connection Diagram of Test System



## 2.3 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model No.	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritsu	8821C	N/A	N/A	Unshielded, 1.8 m
2.	iPod Earphone	Apple	N/A	Verification	Unshielded, 1.0 m	N/A



### 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



<b>LTE Band 13 Channel and Frequency List</b>				
<b>BW [MHz]</b>	<b>Channel/Frequency(MHz)</b>	<b>Lowest</b>	<b>Middle</b>	<b>Highest</b>
10	Channel	-	23230	-
	Frequency	-	782	-
5	Channel	23205	23230	23255
	Frequency	779.5	782	784.5

<b>LTE Band 25 Channel and Frequency List</b>				
<b>BW [MHz]</b>	<b>Channel/Frequency(MHz)</b>	<b>Lowest</b>	<b>Middle</b>	<b>Highest</b>
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



<b>LTE Band 26 Channel and Frequency List</b>				
<b>BW [MHz]</b>	<b>Channel/Frequency(MHz)</b>	<b>Lowest</b>	<b>Middle</b>	<b>Highest</b>
15	Channel	26865	26915	26965
	Frequency	831.5	836.5	841.5
10	Channel	26840	26915	26990
	Frequency	829.0	836.5	844.0
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

<b>LTE Band 38 Channel and Frequency List</b>				
<b>BW [MHz]</b>	<b>Channel/Frequency(MHz)</b>	<b>Lowest</b>	<b>Middle</b>	<b>Highest</b>
20	Channel	37850	38000	38150
	Frequency	2580.0	2595.0	2610.0
15	Channel	37825	38000	38175
	Frequency	2577.5	2595.0	2612.5
10	Channel	37800	38000	38200
	Frequency	2575.0	2595.0	2615.0
5	Channel	37775	38000	38225
	Frequency	2572.5	2595.0	2617.5

<b>LTE Band 41 Channel and Frequency List</b>				
<b>BW [MHz]</b>	<b>Channel/Frequency(MHz)</b>	<b>Lowest</b>	<b>Middle</b>	<b>Highest</b>
20	Channel	39750	40620	41490
	Frequency	2506.0	2593.0	2680.0
15	Channel	39725	40620	41515
	Frequency	2503.5	2593.0	2682.5
10	Channel	39700	40620	41540
	Frequency	2501.0	2593.0	2685.0
5	Channel	39675	40620	41565
	Frequency	2498.5	2593.0	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	133297	133372
	Frequency	673.0	680.5	688.0
15	Channel	133197	133297	133397
	Frequency	670.5	680.5	690.5
10	Channel	133172	133297	133422
	Frequency	668.0	680.5	693.0
5	Channel	133147	133297	133447
	Frequency	665.5	680.5	695.5

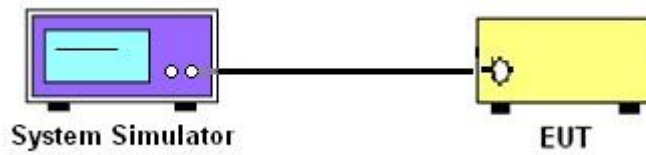
### 3 Conducted Test Items

#### 3.1 Measuring Instruments

See list of measuring instruments of this test report.

##### 3.1.1 Test Setup

##### 3.1.2 Conducted Output Power



##### 3.1.3 Test Result of Conducted Test

Please refer to Appendix A.



## 3.2 Conducted Output Power and ERP/EIRP

### 3.2.1 Description of the Conducted Output Power Measurement and ERP/EIRP Measurement

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

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

The ERP of mobile transmitters must not exceed 3 Watts for LTE Band 12 and Band 13 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 38 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

### 3.2.2 Test Procedures

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

## 4 Radiated Test Items

### 4.1 Measuring Instruments

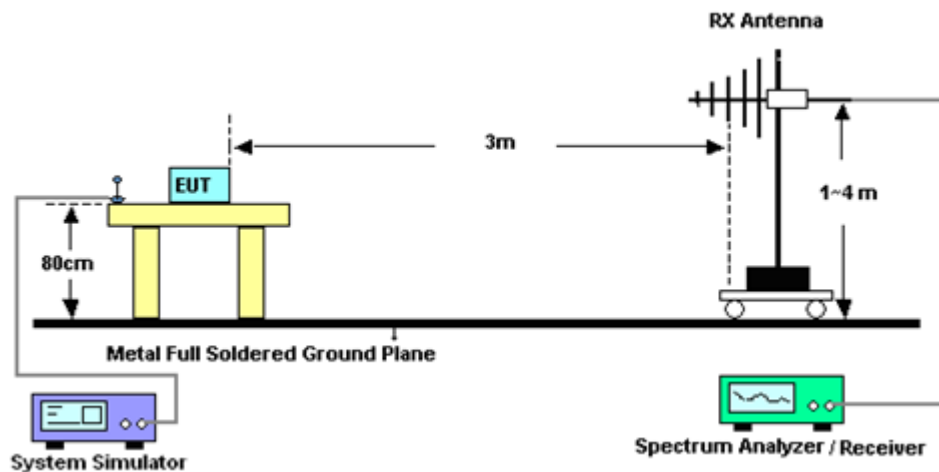
See list of measuring instruments of this test report.

#### 4.1.1 Test Setup

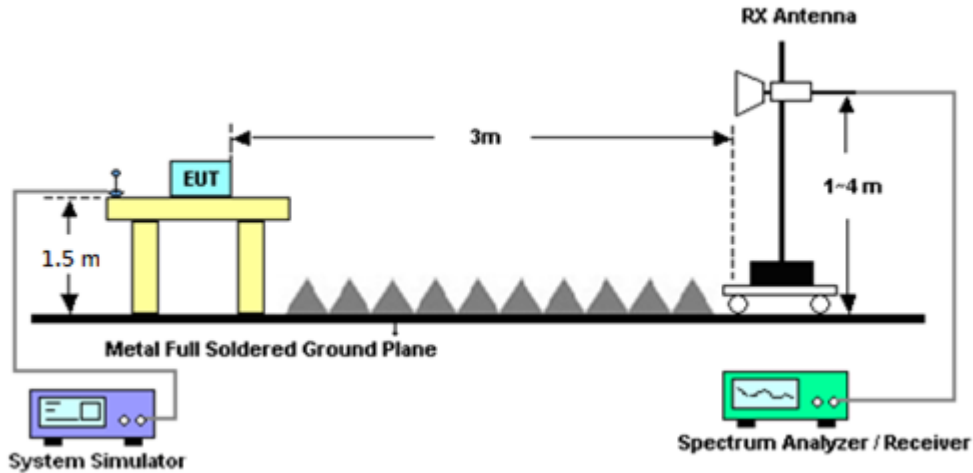
For radiated test below 30MHz



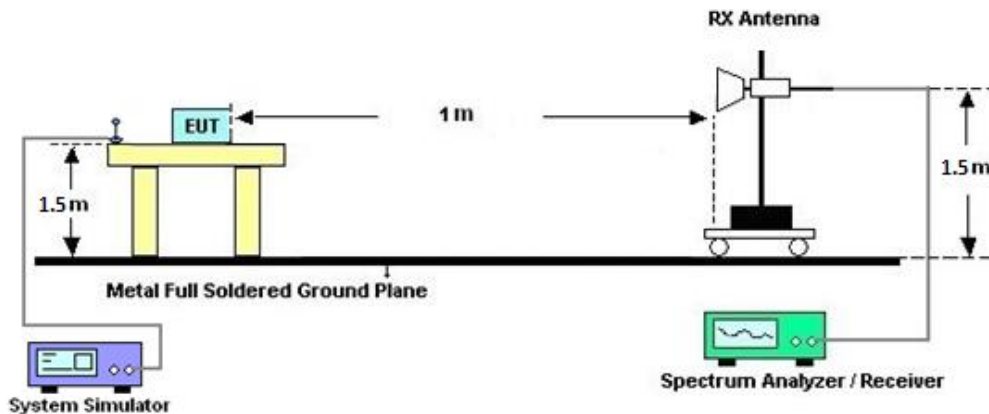
For radiated test from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz



#### 4.1.2 Test Result of Radiated Test

Please refer to Appendix B.

**Note:**

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.

There is adequate comparison measurement of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.



## 4.2 Radiated Spurious Emission Measurement

### 4.2.1 Description of Radiated Spurious Emission Measurement

The radiated spurious emission was measured by substitution method according to ANSI / TIA-603-E. 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 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.

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.

### 4.2.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 7 and ANSI / TIA-603-E Section 2.2.12.

1. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. 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)

For LTE Band 7, 38, 41

The limit line is derived from  $55 + 10\log(P)$ dB below the transmitter power P(Watts)

EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain

ERP (dBm) = EIRP - 2.15



## 5 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Sep. 07, 2021	Dec. 25, 2021~ Dec. 28, 2021	Sep. 06, 2022	Radiation (03CH16-HY)
Signal Generator	Agilent	MG3694C	163401	0.1Hz~40GHz	Jan. 31, 2021	Dec. 25, 2021~ Dec. 28, 2021	Jan. 30, 2022	Radiation (03CH16-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N -06	41912 & 05	30MHz to 1GHz	Feb. 08, 2021	Dec. 25, 2021~ Dec. 28, 2021	Feb. 07, 2022	Radiation (03CH16-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00802N1D01N -06	47020 & 06	30MHz to 1GHz	Oct. 09, 2021	Dec. 25, 2021~ Dec. 28, 2021	Oct. 08, 2022	Radiation (03CH16-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	9120D-02114	1G~18GHz	Aug. 04, 2021	Dec. 25, 2021~ Dec. 28, 2021	Aug. 03, 2022	Radiation (03CH16-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA9170	00991	18GHz-40GHz	May 12, 2021	Dec. 25, 2021~ Dec. 28, 2021	May 11, 2022	Radiation (03CH16-HY)
Amplifier	SONOMA	310N	371607	9kHz~1G	Jul. 05, 2021	Dec. 25, 2021~ Dec. 28, 2021	Jul. 04, 2022	Radiation (03CH16-HY)
Amplifier	EMCI	EMC051845S E	980729	1-18GHz	Jul. 09, 2021	Dec. 25, 2021~ Dec. 28, 2021	Jul. 08, 2022	Radiation (03CH16-HY)
Preamplifier	Keysight	83017A	MY53270264	1GHz~26.5GHz	Dec. 09, 2021	Dec. 25, 2021~ Dec. 28, 2021	Dec. 08, 2022	Radiation (03CH16-HY)
EMI Test Receiver	Keysight	N9038A	MY57290111	3Hz~26.5GHz	Dec. 15, 2021	Dec. 25, 2021~ Dec. 28, 2021	Dec. 14, 2022	Radiation (03CH16-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY11680/4PE	NA	Aug. 28, 2021	Dec. 25, 2021~ Dec. 28, 2021	Aug. 27, 2022	Radiation (03CH16-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY11688/4PE	NA	Aug. 28, 2021	Dec. 25, 2021~ Dec. 28, 2021	Aug. 27, 2022	Radiation (03CH16-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	EC-A5-300-57 57	NA	Aug. 28, 2021	Dec. 25, 2021~ Dec. 28, 2021	Aug. 27, 2022	Radiation (03CH16-HY)
Software	Audix	E3 6.2009-8-24	RK-001136	N/A	N/A	Dec. 25, 2021~ Dec. 28, 2021	N/A	Radiation (03CH16-HY)
Controller	ChainTek	3000-1	N/A	Control Turn table & Ant Mast	N/A	Dec. 25, 2021~ Dec. 28, 2021	N/A	Radiation (03CH16-HY)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Dec. 25, 2021~ Dec. 28, 2021	N/A	Radiation (03CH16-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Dec. 25, 2021~ Dec. 28, 2021	N/A	Radiation (03CH16-HY)
Base Station (Measure)	Anritsu	MT8821C	6262025341	N/A	Oct. 05, 2021	Dec. 17, 2021	Oct. 04, 2022	Conducted (TH03-HY)



## 6 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	2.86 dB
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### Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	3.68 dB
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### Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	4.00 dB
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## Appendix A. Test Results of Conducted Test

### Conducted Output Power (Average power & ERP/EIRP)

LTE Band 2 Maximum Average Power [dBm] (GT - LC = 1.99 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	24.23	24.20	24.30	26.29	0.4256
20	1	49		23.86	24.07	24.23		
20	1	99		23.74	23.75	24.22		
20	50	0		23.11	23.05	23.31		
20	50	24		23.09	22.96	23.23		
20	50	50		23.05	22.93	23.21		
20	100	0		22.99	22.94	23.25		
20	1	0	16-QAM	22.89	22.77	22.90	25.18	0.3296
20	1	49		22.87	22.65	23.03		
20	1	99		22.69	22.73	23.19		
20	50	0		22.07	22.01	22.09		
20	50	24		22.04	21.94	22.11		
20	50	50		22.01	21.97	22.00		
20	100	0		22.04	21.91	22.12		
Limit	EIRP < 2W			Result			Pass	

LTE Band 2 Maximum Average Power [dBm] (GT - LC = 1.99 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	24.21	24.21	24.27	26.26	0.4227
15	1	37		23.86	24.01	24.17		
15	1	74		23.74	23.68	24.18		
15	36	0		23.07	23.08	23.27		
15	36	20		23.02	22.95	23.19		
15	36	39		23.00	22.86	23.19		
15	75	0		23.00	22.90	23.25		
15	1	0	16-QAM	22.84	22.80	22.84	25.16	0.3281
15	1	37		22.84	22.58	23.03		
15	1	74		22.67	22.66	23.17		
15	36	0		22.03	22.03	22.04		
15	36	20		22.03	21.87	22.13		
15	36	39		22.03	21.94	21.99		
15	75	0		22.01	21.91	22.06		
Limit	EIRP < 2W			Result			Pass	



LTE Band 2 Maximum Average Power [dBm] (GT - LC = 1.99 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	24.17	24.14	24.22	26.21	0.4178
10	1	25		23.87	24.01	24.20		
10	1	49		23.68	23.70	24.20		
10	25	0		23.02	23.04	23.24		
10	25	12		23.01	22.91	23.12		
10	25	25		23.00	22.83	23.21		
10	50	0		22.97	22.89	23.23		
10	1	0	16-QAM	22.85	22.78	22.87	25.10	0.3236
10	1	25		22.87	22.60	22.98		
10	1	49		22.70	22.59	23.11		
10	25	0		22.06	22.00	22.06		
10	25	12		22.06	21.87	22.08		
10	25	25		21.98	21.92	21.92		
10	50	0		22.03	21.89	21.99		
Limit	EIRP < 2W			Result			Pass	

LTE Band 2 Maximum Average Power [dBm] (GT - LC = 1.99 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	24.13	24.08	24.21	26.20	0.4169
5	1	12		23.83	23.98	24.15		
5	1	24		23.66	23.73	24.18		
5	12	0		22.99	22.97	23.26		
5	12	7		22.94	22.94	23.13		
5	12	13		23.00	22.76	23.22		
5	25	0		22.93	22.83	23.16		
5	1	0	16-QAM	22.81	22.80	22.84	25.09	0.3228
5	1	12		22.87	22.53	22.98		
5	1	24		22.72	22.62	23.10		
5	12	0		21.99	21.94	22.08		
5	12	7		22.07	21.84	22.02		
5	12	13		22.01	21.94	21.86		
5	25	0		21.97	21.89	22.02		
Limit	EIRP < 2W			Result			Pass	



LTE Band 2 Maximum Average Power [dBm] (GT - LC = 1.99 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
3	1	0	QPSK	24.12	24.11	24.23	26.22	0.4188
3	1	8		23.83	23.97	24.13		
3	1	14		23.60	23.70	24.14		
3	8	0		22.99	22.96	23.22		
3	8	4		22.94	22.93	23.12		
3	8	7		23.02	22.76	23.17		
3	15	0		22.94	22.85	23.11		
3	1	0	16-QAM	22.77	22.75	22.82	25.07	0.3214
3	1	8		22.87	22.51	22.94		
3	1	14		22.72	22.63	23.08		
3	8	0		21.92	21.88	22.05		
3	8	4		22.04	21.77	21.96		
3	8	7		22.00	21.87	21.84		
3	15	0		21.93	21.87	22.05		
Limit	EIRP < 2W			Result			Pass	

LTE Band 2 Maximum Average Power [dBm] (GT - LC = 1.99 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
1.4	1	0	QPSK	24.05	24.13	24.24	26.25	0.4217
1.4	1	3		23.79	23.96	24.15		
1.4	1	5		23.57	23.67	24.17		
1.4	3	0		24.09	24.05	24.26		
1.4	3	1		23.80	23.91	24.07		
1.4	3	3		23.62	23.63	24.12		
1.4	6	0		22.92	22.96	23.25		
1.4	1	0	16-QAM	22.95	22.92	23.20	25.24	0.3342
1.4	1	3		22.96	22.93	23.25		
1.4	1	5		22.97	22.97	23.20		
1.4	3	0		23.00	22.92	23.25		
1.4	3	1		23.02	22.99	23.22		
1.4	3	3		23.02	22.96	23.22		
1.4	6	0		21.88	21.89	22.00		
Limit	EIRP < 2W			Result			Pass	



LTE Band 25 Maximum Average Power [dBm] (GT - LC = 1.95 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	23.92	23.87	23.93	25.88	0.3873
20	1	49		23.57	23.79	23.53		
20	1	99		23.56	23.54	23.58		
20	50	0		22.64	22.55	23.04		
20	50	24		22.63	22.55	22.99		
20	50	50		22.63	22.60	22.84		
20	100	0		22.68	22.62	22.90		
20	1	0	16-QAM	22.56	22.58	22.66	24.81	0.3027
20	1	49		22.56	22.50	22.86		
20	1	99		22.54	22.51	22.61		
20	50	0		21.72	21.54	21.89		
20	50	24		21.77	21.54	22.00		
20	50	50		21.63	21.57	21.94		
20	100	0		21.75	21.50	21.76		
Limit	EIRP < 2W			Result			Pass	

LTE Band 25 Maximum Average Power [dBm] (GT - LC = 1.95 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	23.89	23.82	23.89	25.84	0.3837
15	1	37		23.52	23.77	23.53		
15	1	74		23.57	23.53	23.58		
15	36	0		22.60	22.57	23.02		
15	36	20		22.62	22.57	22.94		
15	36	39		22.61	22.55	22.82		
15	75	0		22.67	22.64	22.86		
15	1	0	16-QAM	22.54	22.55	22.65	24.82	0.3034
15	1	37		22.56	22.50	22.87		
15	1	74		22.47	22.48	22.61		
15	36	0		21.68	21.57	21.88		
15	36	20		21.71	21.55	21.96		
15	36	39		21.58	21.51	21.90		
15	75	0		21.70	21.48	21.70		
Limit	EIRP < 2W			Result			Pass	



LTE Band 25 Maximum Average Power [dBm] (GT - LC = 1.95 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	23.82	23.76	23.81	25.77	0.3776
10	1	25		23.70	23.77	23.75		
10	1	49		23.59	23.71	23.61		
10	25	0		22.59	22.55	23.02		
10	25	12		22.58	22.53	22.97		
10	25	25		22.60	22.54	22.78		
10	50	0		22.67	22.67	22.89		
10	1	0	16-QAM	22.69	22.56	22.64	24.81	0.3027
10	1	25		22.52	22.52	22.86		
10	1	49		22.50	22.51	22.60		
10	25	0		21.70	21.60	21.82		
10	25	12		21.68	21.58	21.99		
10	25	25		21.61	21.56	21.84		
10	50	0		21.68	21.54	21.73		
Limit	EIRP < 2W			Result			Pass	

LTE Band 25 Maximum Average Power [dBm] (GT - LC = 1.95 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	23.80	23.74	23.78	25.75	0.3758
5	1	12		23.68	23.76	23.74		
5	1	24		23.60	23.66	23.60		
5	12	0		22.56	22.54	22.97		
5	12	7		22.53	22.52	22.98		
5	12	13		22.61	22.51	22.72		
5	25	0		22.70	22.69	22.88		
5	1	0	16-QAM	22.67	22.51	22.64	24.77	0.2999
5	1	12		22.52	22.52	22.82		
5	1	24		22.53	22.50	22.59		
5	12	0		21.63	21.55	21.80		
5	12	7		21.62	21.56	21.96		
5	12	13		21.58	21.51	21.85		
5	25	0		21.61	21.53	21.68		
Limit	EIRP < 2W			Result			Pass	



LTE Band 25 Maximum Average Power [dBm] (GT - LC = 1.95 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
3	1	0	QPSK	23.79	23.71	23.75	25.74	0.3750
3	1	8		23.62	23.77	23.70		
3	1	14		23.54	23.60	23.55		
3	8	0		22.50	22.52	22.94		
3	8	4		22.55	22.51	22.94		
3	8	7		22.59	22.50	22.68		
3	15	0		22.66	22.68	22.81		
3	1	0	16-QAM	22.68	22.65	22.66	24.73	0.2972
3	1	8		22.55	22.60	22.78		
3	1	14		22.53	22.52	22.57		
3	8	0		21.59	21.53	21.78		
3	8	4		21.55	21.50	21.93		
3	8	7		21.54	21.52	21.80		
3	15	0		21.63	21.52	21.64		
Limit	EIRP < 2W			Result			Pass	

LTE Band 25 Maximum Average Power [dBm] (GT - LC = 1.95 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
1.4	1	0	QPSK	23.73	23.66	23.62	25.78	0.3784
1.4	1	3		23.51	23.55	23.83		
1.4	1	5		23.50	23.51	23.79		
1.4	3	0		23.77	23.60	23.53		
1.4	3	1		23.60	23.52	23.64		
1.4	3	3		23.60	23.55	23.60		
1.4	6	0		22.54	22.68	22.83		
1.4	1	0	16-QAM	22.58	22.59	22.84	24.82	0.3034
1.4	1	3		22.53	22.56	22.84		
1.4	1	5		22.56	22.56	22.87		
1.4	3	0		22.63	22.55	22.87		
1.4	3	1		22.60	22.51	22.77		
1.4	3	3		22.68	22.54	22.79		
1.4	6	0		21.50	21.51	21.60		
Limit	EIRP < 2W			Result			Pass	



LTE Band 4 Maximum Average Power [dBm] (GT - LC = 1.99 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	23.97	24.19	24.02	26.18	0.4150
20	1	49		23.73	23.79	23.98		
20	1	99		23.79	23.54	24.02		
20	50	0		22.83	23.05	22.98		
20	50	24		22.86	22.97	23.01		
20	50	50		22.86	22.98	22.97		
20	100	0		22.92	22.99	22.97		
20	1	0	16-QAM	22.70	22.79	22.95	24.94	0.3119
20	1	49		22.62	22.87	22.75		
20	1	99		22.70	22.69	22.79		
20	50	0		21.99	22.05	21.77		
20	50	24		22.01	21.99	22.14		
20	50	50		21.94	22.07	22.05		
20	100	0		21.97	21.86	21.96		
Limit	EIRP < 1W			Result			Pass	

LTE Band 4 Maximum Average Power [dBm] (GT - LC = 1.99 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	23.92	24.11	24.00	26.10	0.4074
15	1	37		23.69	23.77	23.97		
15	1	74		23.81	23.53	23.97		
15	36	0		22.79	23.07	23.01		
15	36	20		22.81	22.93	22.95		
15	36	39		22.87	23.01	22.98		
15	75	0		22.93	22.97	22.99		
15	1	0	16-QAM	22.71	22.78	22.98	24.97	0.3141
15	1	37		22.60	22.88	22.72		
15	1	74		22.67	22.69	22.75		
15	36	0		21.99	21.99	21.79		
15	36	20		21.94	21.95	22.13		
15	36	39		21.94	22.06	22.04		
15	75	0		21.92	21.80	21.94		
Limit	EIRP < 1W			Result			Pass	



LTE Band 4 Maximum Average Power [dBm] (GT - LC = 1.99 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	23.89	24.10	24.03	26.09	0.4064
10	1	25		23.63	23.78	23.97		
10	1	49		23.82	23.54	23.92		
10	25	0		22.76	23.09	23.01		
10	25	12		22.81	22.87	22.88		
10	25	25		22.86	23.00	22.93		
10	50	0		22.91	22.97	22.95		
10	1	0	16-QAM	22.66	22.74	23.01	25.00	0.3162
10	1	25		22.62	22.84	22.69		
10	1	49		22.61	22.63	22.74		
10	25	0		21.98	21.97	21.72		
10	25	12		21.93	21.88	22.09		
10	25	25		21.89	22.05	21.98		
10	50	0		21.85	21.81	21.87		
Limit	EIRP < 1W			Result			Pass	

LTE Band 4 Maximum Average Power [dBm] (GT - LC = 1.99 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	23.84	24.08	24.06	26.07	0.4046
5	1	12		23.61	23.74	23.94		
5	1	24		23.76	23.51	23.92		
5	12	0		22.79	23.02	22.97		
5	12	7		22.80	22.88	22.88		
5	12	13		22.80	23.01	22.87		
5	25	0		22.88	22.95	22.93		
5	1	0	16-QAM	22.68	22.72	22.97	24.96	0.3133
5	1	12		22.58	22.83	22.71		
5	1	24		22.64	22.63	22.71		
5	12	0		21.99	21.94	21.72		
5	12	7		21.93	21.81	22.03		
5	12	13		21.87	22.06	21.98		
5	25	0		21.80	21.75	21.90		
Limit	EIRP < 1W			Result			Pass	





LTE Band 4 Maximum Average Power [dBm] (GT - LC = 1.99 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
3	1	0	QPSK	23.85	24.10	24.04	26.09	0.4064
3	1	8		23.55	23.77	23.92		
3	1	14		23.77	23.51	23.85		
3	8	0		22.73	22.99	22.95		
3	8	4		22.74	22.90	22.86		
3	8	7		22.73	23.04	22.87		
3	15	0		22.83	22.92	22.95		
3	1	0	16-QAM	22.71	22.68	22.92	24.91	0.3097
3	1	8		22.55	22.82	22.71		
3	1	14		22.61	22.58	22.65		
3	8	0		22.00	21.93	21.70		
3	8	4		21.87	21.74	22.01		
3	8	7		21.81	22.09	21.98		
3	15	0		21.74	21.69	21.88		
Limit	EIRP < 1W			Result			Pass	

LTE Band 4 Maximum Average Power [dBm] (GT - LC = 1.99 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
1.4	1	0	QPSK	23.73	23.76	23.89	25.90	0.3890
1.4	1	3		23.50	23.62	23.85		
1.4	1	5		23.50	23.52	23.86		
1.4	3	0		23.79	23.70	23.91		
1.4	3	1		23.51	23.59	23.73		
1.4	3	3		23.50	23.52	23.82		
1.4	6	0		22.65	22.69	22.88		
1.4	1	0	16-QAM	22.66	22.64	22.85	24.95	0.3126
1.4	1	3		22.59	22.62	22.89		
1.4	1	5		22.66	22.61	22.90		
1.4	3	0		22.64	22.55	22.96		
1.4	3	1		22.65	22.64	22.89		
1.4	3	3		22.71	22.64	22.91		
1.4	6	0		21.59	21.53	21.66		
Limit	EIRP < 1W			Result			Pass	



LTE Band 5 Maximum Average Power [dBm] (GT - LC = 1.96 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	23.66	23.87	23.69	23.68	0.2333
10	1	25		23.63	23.68	23.55		
10	1	49		23.60	23.59	23.56		
10	25	0		22.54	22.77	22.54		
10	25	12		22.58	22.67	22.59		
10	25	25		22.67	22.61	22.57		
10	50	0		22.56	22.74	22.54		
10	1	0	16-QAM	22.62	22.64	22.70	22.51	0.1782
10	1	25		22.58	22.68	22.59		
10	1	49		22.61	22.54	22.53		
10	25	0		21.59	21.97	21.65		
10	25	12		21.71	21.79	21.62		
10	25	25		21.99	21.62	21.64		
10	50	0		21.78	21.76	21.59		
Limit	ERP < 7W			Result			Pass	

LTE Band 5 Maximum Average Power [dBm] (GT - LC = 1.96 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0	QPSK	23.59	23.81	23.62	23.62	0.2301
5	1	12		23.65	23.62	23.58		
5	1	24		23.56	23.59	23.52		
5	12	0		22.64	22.74	22.60		
5	12	7		22.59	22.68	22.56		
5	12	13		22.70	22.57	22.58		
5	25	0		22.53	22.67	22.56		
5	1	0	16-QAM	22.58	22.66	22.73	22.54	0.1795
5	1	12		22.58	22.69	22.54		
5	1	24		22.54	22.50	22.52		
5	12	0		21.56	21.96	21.62		
5	12	7		21.71	21.82	21.65		
5	12	13		21.96	21.62	21.64		
5	25	0		21.81	21.79	21.54		
Limit	ERP < 7W			Result			Pass	



LTE Band 5 Maximum Average Power [dBm] (GT - LC = 1.96 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
3	1	0	QPSK	23.55	23.80	23.62	23.61	0.2296
3	1	8		23.61	23.64	23.55		
3	1	14		23.54	23.53	23.51		
3	8	0		22.58	22.74	22.57		
3	8	4		22.56	22.71	22.54		
3	8	7		22.70	22.54	22.58		
3	15	0		23.51	22.69	23.52		
3	1	0	16-QAM	22.60	22.65	22.71	22.52	0.1786
3	1	8		22.54	22.64	22.60		
3	1	14		22.52	22.51	22.52		
3	8	0		21.80	21.94	21.56		
3	8	4		21.73	21.85	21.59		
3	8	7		21.98	21.56	21.57		
3	15	0		21.78	21.79	21.57		
Limit	ERP < 7W			Result			Pass	

LTE Band 5 Maximum Average Power [dBm] (GT - LC = 1.96 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
1.4	1	0	QPSK	23.76	23.70	23.60	23.61	0.2296
1.4	1	3		23.51	23.61	23.80		
1.4	1	5		23.51	23.54	23.79		
1.4	3	0		23.76	23.71	23.61		
1.4	3	1		23.55	23.53	23.67		
1.4	3	3		23.51	23.51	23.56		
1.4	6	0		22.64	22.68	22.82		
1.4	1	0	16-QAM	22.65	22.63	22.86	22.75	0.1884
1.4	1	3		22.61	22.63	22.92		
1.4	1	5		22.61	22.61	22.92		
1.4	3	0		22.63	22.52	22.94		
1.4	3	1		22.59	22.60	22.87		
1.4	3	3		22.70	22.58	22.87		
1.4	6	0		21.58	21.53	21.68		
Limit	ERP < 7W			Result			Pass	



LTE Band 7 Maximum Average Power [dBm] (GT - LC = 0.53 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	23.99	23.83	23.83	24.52	0.2831
20	1	49		23.83	23.73	23.81		
20	1	99		23.92	23.78	23.72		
20	50	0		23.02	22.77	22.79		
20	50	24		22.95	22.81	22.81		
20	50	50		22.87	22.77	22.81		
20	100	0		22.85	22.79	22.78		
20	1	0	16-QAM	23.03	23.01	22.76	23.56	0.2270
20	1	49		23.02	22.99	22.80		
20	1	99		22.99	22.96	22.81		
20	50	0		22.01	21.87	21.86		
20	50	24		21.94	21.81	21.79		
20	50	50		21.88	21.77	21.74		
20	100	0		21.84	21.79	21.73		
Limit	EIRP < 2W			Result			Pass	

LTE Band 7 Maximum Average Power [dBm] (GT - LC = 0.53 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	24.02	23.82	23.78	24.55	0.2851
15	1	37		23.80	23.66	23.74		
15	1	74		23.86	23.74	23.74		
15	36	0		23.00	22.73	22.77		
15	36	20		22.95	22.81	22.84		
15	36	39		22.81	22.76	22.78		
15	75	0		22.81	22.78	22.78		
15	1	0	16-QAM	22.98	22.94	22.75	23.54	0.2259
15	1	37		23.00	22.95	22.76		
15	1	74		23.01	22.94	22.83		
15	36	0		22.04	21.85	21.82		
15	36	20		21.91	21.77	21.81		
15	36	39		21.88	21.75	21.73		
15	75	0		21.82	21.78	21.76		
Limit	EIRP < 2W			Result			Pass	



LTE Band 7 Maximum Average Power [dBm] (GT - LC = 0.53 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	24.04	23.77	23.80	24.57	0.2864
10	1	25		23.83	23.68	23.70		
10	1	49		23.85	23.68	23.67		
10	25	0		22.97	22.67	22.77		
10	25	12		22.89	22.74	22.80		
10	25	25		22.84	22.72	22.79		
10	50	0		22.74	22.75	22.72		
10	1	0	16-QAM	22.92	22.88	22.78	23.56	0.2270
10	1	25		22.98	22.98	22.73		
10	1	49		23.03	22.93	22.83		
10	25	0		22.03	21.88	21.77		
10	25	12		21.94	21.73	21.75		
10	25	25		21.91	21.70	21.71		
10	50	0		21.84	21.71	21.69		
Limit	EIRP < 2W			Result			Pass	

LTE Band 7 Maximum Average Power [dBm] (GT - LC = 0.53 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	24.03	23.75	23.76	24.56	0.2858
5	1	12		23.77	23.61	23.65		
5	1	24		23.82	23.64	23.63		
5	12	0		22.93	22.67	22.80		
5	12	7		22.86	22.72	22.82		
5	12	13		22.82	22.71	22.80		
5	25	0		22.72	22.70	22.72		
5	1	0	16-QAM	22.89	22.82	22.72	23.55	0.2265
5	1	12		23.01	22.97	22.71		
5	1	24		23.02	22.93	22.77		
5	12	0		21.98	21.87	21.80		
5	12	7		21.90	21.75	21.74		
5	12	13		21.85	21.66	21.72		
5	25	0		21.77	21.66	21.70		
Limit	EIRP < 2W			Result			Pass	



LTE Band 12 Maximum Average Power [dBm] (GT - LC = -0.28 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	23.90	23.88	24.00	21.57	0.1435
10	1	25		23.63	23.77	23.85		
10	1	49		23.68	23.59	23.84		
10	25	0		22.85	22.91	22.93		
10	25	12		22.84	22.83	22.81		
10	25	25		22.83	22.86	22.89		
10	50	0		22.83	22.88	22.92		
10	1	0	16-QAM	22.62	22.56	22.76	20.41	0.1099
10	1	25		22.69	22.72	22.84		
10	1	49		22.60	22.56	22.66		
10	25	0		21.86	21.82	21.82		
10	25	12		21.96	21.84	21.84		
10	25	25		21.93	21.78	22.03		
10	50	0		21.95	21.81	22.06		
Limit	ERP < 3W			Result			Pass	

LTE Band 12 Maximum Average Power [dBm] (GT - LC = -0.28 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0	QPSK	23.86	23.87	23.98	21.55	0.1429
5	1	12		23.58	23.78	23.79		
5	1	24		23.63	23.58	23.80		
5	12	0		22.78	22.92	22.91		
5	12	7		22.79	22.80	22.79		
5	12	13		22.83	22.88	22.83		
5	25	0		22.79	22.88	22.92		
5	1	0	16-QAM	22.62	22.55	22.69	20.44	0.1107
5	1	12		22.69	22.74	22.87		
5	1	24		22.62	22.56	22.69		
5	12	0		21.82	21.77	21.84		
5	12	7		21.89	21.80	21.82		
5	12	13		21.96	21.77	22.05		
5	25	0		21.93	21.82	22.06		
Limit	ERP < 3W			Result			Pass	



LTE Band 12 Maximum Average Power [dBm] (GT - LC = -0.28 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
3	1	0	QPSK	23.84	23.80	23.92	21.49	0.1409
3	1	8		23.53	23.71	23.73		
3	1	14		23.58	23.51	23.81		
3	8	0		22.81	22.91	22.90		
3	8	4		22.74	22.75	22.73		
3	8	7		22.76	22.87	22.81		
3	15	0		22.73	22.88	22.94		
3	1	0	16-QAM	22.65	22.64	22.66	20.42	0.1102
3	1	8		22.64	22.77	22.85		
3	1	14		22.57	22.52	22.62		
3	8	0		21.83	21.73	21.85		
3	8	4		21.86	21.79	21.83		
3	8	7		21.90	21.77	22.06		
3	15	0		21.93	21.84	22.00		
Limit	ERP < 3W			Result			Pass	

LTE Band 12 Maximum Average Power [dBm] (GT - LC = -0.28 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
1.4	1	0	QPSK	23.77	23.72	23.60	21.4	0.1380
1.4	1	3		23.53	23.55	23.83		
1.4	1	5		23.50	23.52	23.76		
1.4	3	0		23.78	23.64	23.59		
1.4	3	1		23.66	23.52	23.63		
1.4	3	3		23.60	23.60	23.56		
1.4	6	0		22.60	22.67	22.82		
1.4	1	0	16-QAM	22.60	22.57	22.84	20.48	0.1117
1.4	1	3		22.58	22.61	22.86		
1.4	1	5		22.54	22.59	22.85		
1.4	3	0		22.60	22.54	22.91		
1.4	3	1		22.55	22.57	22.82		
1.4	3	3		22.72	22.52	22.80		
1.4	6	0		21.56	21.55	21.68		
Limit	ERP < 3W			Result			Pass	



LTE Band 13 Maximum Average Power [dBm] (GT - LC = 1.79 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK		23.97		23.61	0.2296
10	1	25			23.74			
10	1	49			23.74			
10	25	0			23.08			
10	25	12			22.86			
10	25	25			23.00			
10	50	0			22.90			
10	1	0	16-QAM		22.78		22.53	0.1791
10	1	25			22.89			
10	1	49			22.77			
10	25	0			21.90			
10	25	12			21.89			
10	25	25			22.00			
10	50	0			22.01			
Limit	ERP < 3W			Result			Pass	

LTE Band 13 Maximum Average Power [dBm] (GT - LC = 1.79 dB)									
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)	
5	1	0	QPSK	23.89	23.91	23.90	23.55	0.2265	
5	1	12			23.71	23.68			23.68
5	1	24			23.71	23.75			23.77
5	12	0			23.01	23.03			23.07
5	12	7			22.87	22.89			22.87
5	12	13			23.01	23.01			23.03
5	25	0			22.83	22.90			22.88
5	1	0	16-QAM	22.72	22.74	22.71	22.56	0.1803	
5	1	12			22.92	22.82			22.82
5	1	24			22.76	22.77			22.72
5	12	0			21.91	21.92			21.89
5	12	7			21.85	21.87			21.85
5	12	13			22.01	22.02			21.95
5	25	0			21.98	22.03			22.02
Limit	ERP < 3W			Result			Pass		





LTE Band 26 Maximum Average Power [dBm] (GT - LC = 1.96 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
15	1	0	QPSK	23.71	23.97	23.88	23.78	0.2388
15	1	37		23.64	23.91	23.53		
15	1	74		23.50	23.60	23.84		
15	36	0		22.85	23.06	22.96		
15	36	20		22.86	23.02	22.76		
15	36	39		22.80	23.02	22.69		
15	75	0		22.80	22.90	22.78		
15	1	0	16-QAM	22.56	22.76	22.75	22.93	0.1963
15	1	37		22.61	23.12	22.53		
15	1	74		22.67	22.64	22.58		
15	36	0		21.84	21.77	21.97		
15	36	20		21.85	22.13	21.88		
15	36	39		21.80	21.96	21.81		
15	75	0		21.80	22.01	21.89		
Limit	ERP < 7W			Result			Pass	

LTE Band 26 Maximum Average Power [dBm] (GT - LC = 1.96 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	23.71	23.94	23.83	23.75	0.2371
10	1	25		23.60	23.84	23.52		
10	1	49		23.55	23.59	23.85		
10	25	0		22.79	23.07	22.90		
10	25	12		22.84	22.99	22.77		
10	25	25		22.83	22.95	22.69		
10	50	0		22.76	22.93	22.79		
10	1	0	16-QAM	22.55	22.74	22.77	22.89	0.1945
10	1	25		22.56	23.08	22.50		
10	1	49		22.70	22.59	22.52		
10	25	0		21.80	21.70	22.00		
10	25	12		21.86	22.10	21.82		
10	25	25		21.76	21.93	21.81		
10	50	0		21.80	22.01	21.87		
Limit	ERP < 7W			Result			Pass	



LTE Band 26 Maximum Average Power [dBm] (GT - LC = 1.96 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0	QPSK	23.65	23.92	23.84	23.73	0.2360
5	1	12		23.61	23.83	23.52		
5	1	24		23.54	23.57	23.82		
5	12	0		22.79	23.07	22.85		
5	12	7		22.85	22.99	22.78		
5	12	13		22.77	22.95	22.69		
5	25	0		22.76	22.95	22.78		
5	1	0	16-QAM	22.55	22.70	22.77	22.91	0.1954
5	1	12		22.51	23.10	22.60		
5	1	24		22.67	22.61	22.55		
5	12	0		21.77	21.67	21.98		
5	12	7		21.79	22.05	21.80		
5	12	13		21.76	21.86	21.82		
5	25	0		21.76	22.00	21.84		
Limit	ERP < 7W			Result			Pass	

LTE Band 26 Maximum Average Power [dBm] (GT - LC = 1.96 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
3	1	0	QPSK	23.65	23.88	23.78	23.69	0.2339
3	1	8		23.62	23.83	23.52		
3	1	14		23.60	23.60	23.75		
3	8	0		22.75	23.07	22.80		
3	8	4		22.78	22.97	22.72		
3	8	7		22.78	22.89	22.71		
3	15	0		22.70	22.93	22.71		
3	1	0	16-QAM	22.60	22.63	22.70	22.85	0.1928
3	1	8		22.61	23.04	22.57		
3	1	14		22.66	22.59	22.57		
3	8	0		21.77	21.62	21.99		
3	8	4		21.82	22.08	21.73		
3	8	7		21.69	21.86	21.78		
3	15	0		21.72	22.01	21.79		
Limit	ERP < 7W			Result			Pass	



LTE Band 26 Maximum Average Power [dBm] (GT - LC = 1.96 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
1.4	1	0	QPSK	23.67	23.59	23.59	23.63	0.2307
1.4	1	3		23.53	23.53	23.82		
1.4	1	5		23.53	23.53	23.78		
1.4	3	0		23.70	23.58	23.52		
1.4	3	1		23.53	23.54	23.61		
1.4	3	3		23.59	23.52	23.54		
1.4	6	0		22.57	22.65	22.85		
1.4	1	0	16-QAM	22.60	22.56	22.79	22.7	0.1862
1.4	1	3		22.54	22.54	22.80		
1.4	1	5		22.60	22.55	22.88		
1.4	3	0		22.62	22.62	22.89		
1.4	3	1		22.55	22.51	22.77		
1.4	3	3		22.62	22.54	22.77		
1.4	6	0		21.54	21.59	21.60		
Limit	ERP < 7W			Result			Pass	



LTE Band 38 Maximum Average Power [dBm] (GT - LC = -0.33 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	23.76	23.88	23.89	23.56	0.2270
20	1	49		23.74	23.71	23.80		
20	1	99		23.60	23.59	23.53		
20	50	0		22.72	22.66	22.96		
20	50	24		22.86	22.68	22.91		
20	50	50		22.78	22.65	22.78		
20	100	0		22.81	22.71	22.89		
20	1	0	16-QAM	22.63	22.59	22.58	22.61	0.1824
20	1	49		22.94	22.62	22.59		
20	1	99		22.63	22.63	22.64		
20	50	0		21.83	21.75	22.16		
20	50	24		21.77	21.78	22.11		
20	50	50		21.69	21.76	21.88		
20	100	0		21.82	21.70	21.77		
Limit	EIRP < 2W			Result			Pass	

LTE Band 38 Maximum Average Power [dBm] (GT - LC = -0.33 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	23.79	23.80	23.82	23.49	0.2234
15	1	37		23.67	23.73	23.73		
15	1	74		23.58	23.55	23.60		
15	36	0		22.69	22.64	22.98		
15	36	20		22.82	22.64	22.92		
15	36	39		22.71	22.60	22.79		
15	75	0		22.74	22.70	22.86		
15	1	0	16-QAM	22.58	22.55	22.61	22.28	0.1690
15	1	37		22.61	22.54	22.52		
15	1	74		22.60	22.53	22.52		
15	36	0		21.78	21.74	22.09		
15	36	20		21.79	21.77	22.11		
15	36	39		21.68	21.79	21.83		
15	75	0		21.76	21.68	21.77		
Limit	EIRP < 2W			Result			Pass	



LTE Band 38 Maximum Average Power [dBm] (GT - LC = -0.33 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	23.79	23.73	23.77	23.46	0.2218
10	1	25		23.62	23.75	23.73		
10	1	49		23.52	23.53	23.59		
10	25	0		22.72	22.58	22.93		
10	25	12		22.75	22.61	22.91		
10	25	25		22.74	22.61	22.73		
10	50	0		22.75	22.73	22.87		
10	1	0	16-QAM	22.54	22.58	22.54	22.31	0.1702
10	1	25		22.64	22.55	22.53		
10	1	49		22.63	22.51	22.52		
10	25	0		21.73	21.72	22.08		
10	25	12		21.81	21.73	22.14		
10	25	25		21.68	21.78	21.82		
10	50	0		21.72	21.66	21.74		
Limit	EIRP < 2W			Result			Pass	

LTE Band 38 Maximum Average Power [dBm] (GT - LC = -0.33 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	23.82	23.73	23.70	23.49	0.2234
5	1	12		23.56	23.68	23.67		
5	1	24		23.51	23.53	23.58		
5	12	0		22.68	22.52	22.91		
5	12	7		22.71	22.57	22.85		
5	12	13		22.70	22.61	22.66		
5	25	0		22.71	22.70	22.80		
5	1	0	16-QAM	22.60	22.58	22.57	22.30	0.1698
5	1	12		22.57	22.51	22.55		
5	1	24		22.63	22.50	22.50		
5	12	0		21.74	21.75	22.07		
5	12	7		21.74	21.67	22.07		
5	12	13		21.61	21.81	21.80		
5	25	0		21.73	21.68	21.74		
Limit	EIRP < 2W			Result			Pass	



LTE Band 41 Maximum Average Power [dBm] (GT - LC = 0.61 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	23.82	23.79	23.69	24.43	0.2773
20	1	49		23.62	23.69	23.64		
20	1	99		23.69	23.57	23.59		
20	50	0		22.85	22.74	22.81		
20	50	24		22.93	22.75	22.77		
20	50	50		22.77	22.82	22.72		
20	100	0		22.80	22.69	22.65		
20	1	0	16-QAM	22.60	22.24	22.64	23.37	0.2173
20	1	49		22.72	22.76	22.48		
20	1	99		22.18	22.26	22.30		
20	50	0		21.84	21.83	21.87		
20	50	24		21.94	21.74	21.76		
20	50	50		21.70	21.74	21.64		
20	100	0		21.82	21.69	21.72		
Limit	EIRP < 2W			Result			Pass	

LTE Band 41 Maximum Average Power [dBm] (GT - LC = 0.61 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	23.78	23.76	23.64	24.39	0.2748
15	1	37		23.55	23.68	23.57		
15	1	74		23.67	23.56	23.52		
15	36	0		22.79	22.75	22.79		
15	36	20		22.95	22.78	22.71		
15	36	39		22.70	22.84	22.75		
15	75	0		22.78	22.65	22.61		
15	1	0	16-QAM	22.53	22.25	22.62	23.30	0.2138
15	1	37		22.66	22.69	22.42		
15	1	74		22.17	22.20	22.30		
15	36	0		21.84	21.76	21.86		
15	36	20		21.91	21.68	21.71		
15	36	39		21.68	21.69	21.67		
15	75	0		21.83	21.68	21.73		
Limit	EIRP < 2W			Result			Pass	



LTE Band 41 Maximum Average Power [dBm] (GT - LC = 0.61 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	23.78	23.72	23.62	24.39	0.2748
10	1	25		23.48	23.68	23.52		
10	1	49		23.68	23.59	23.52		
10	25	0		22.78	22.69	22.79		
10	25	12		22.88	22.73	22.65		
10	25	25		22.63	22.82	22.74		
10	50	0		22.77	22.67	22.62		
10	1	0	16-QAM	22.56	22.23	22.63	23.29	0.2133
10	1	25		22.60	22.68	22.45		
10	1	49		22.13	22.21	22.23		
10	25	0		21.86	21.74	21.89		
10	25	12		21.88	21.67	21.67		
10	25	25		21.62	21.65	21.62		
10	50	0		21.83	21.65	21.72		
Limit	EIRP < 2W			Result			Pass	

LTE Band 41 Maximum Average Power [dBm] (GT - LC = 0.61 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	23.79	23.68	23.61	24.40	0.2754
5	1	12		23.51	23.69	23.54		
5	1	24		23.65	23.55	23.52		
5	12	0		22.75	22.71	22.72		
5	12	7		22.84	22.70	22.62		
5	12	13		22.66	22.82	22.75		
5	25	0		22.74	22.62	22.65		
5	1	0	16-QAM	22.59	22.23	22.57	23.24	0.2109
5	1	12		22.62	22.63	22.44		
5	1	24		22.08	22.24	22.24		
5	12	0		21.88	21.68	21.90		
5	12	7		21.85	21.65	21.61		
5	12	13		21.56	21.66	21.57		
5	25	0		21.81	21.68	21.65		
Limit	EIRP < 2W			Result			Pass	



LTE Band 66 Maximum Average Power [dBm] (GT - LC = 1.85 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	23.87	24.14	24.10	25.99	0.3972
20	1	49		23.77	23.87	24.08		
20	1	99		23.69	24.06	23.54		
20	50	0		22.69	23.04	22.93		
20	50	24		22.79	22.89	22.76		
20	50	50		22.65	22.86	22.61		
20	100	0		22.67	22.96	22.70		
20	1	0	16-QAM	22.59	23.23	22.70	25.08	0.3221
20	1	49		22.64	22.71	22.65		
20	1	99		22.50	22.81	22.57		
20	50	0		21.63	21.73	21.92		
20	50	24		21.76	21.91	21.69		
20	50	50		21.64	21.95	21.56		
20	100	0		21.73	21.93	21.69		
Limit	EIRP < 1W			Result			Pass	

LTE Band 66 Maximum Average Power [dBm] (GT - LC = 1.85 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	23.80	24.11	24.10	25.96	0.3945
15	1	37		23.75	23.81	24.04		
15	1	74		23.72	23.99	23.57		
15	36	0		22.64	23.01	22.90		
15	36	20		22.78	22.87	22.72		
15	36	39		22.60	22.80	22.61		
15	75	0		22.64	22.98	22.70		
15	1	0	16-QAM	22.57	23.24	22.70	25.09	0.3228
15	1	37		22.58	22.70	22.60		
15	1	74		22.57	22.76	22.57		
15	36	0		21.63	21.69	21.87		
15	36	20		21.72	21.85	21.64		
15	36	39		21.64	21.94	21.51		
15	75	0		21.67	21.96	21.64		
Limit	EIRP < 1W			Result			Pass	





LTE Band 66 Maximum Average Power [dBm] (GT - LC = 1.85 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	23.79	24.10	24.10	25.95	0.3936
10	1	25		23.76	23.74	23.97		
10	1	49		23.66	23.93	23.56		
10	25	0		22.64	22.99	22.86		
10	25	12		22.80	22.88	22.75		
10	25	25		22.53	22.79	22.60		
10	50	0		22.64	22.98	22.64		
10	1	0	16-QAM	22.59	23.21	22.65	25.06	0.3206
10	1	25		22.53	22.70	22.54		
10	1	49		22.58	22.73	22.51		
10	25	0		21.63	21.71	21.88		
10	25	12		21.68	21.81	21.58		
10	25	25		21.66	21.96	21.51		
10	50	0		21.66	21.89	21.57		
Limit	EIRP < 1W			Result			Pass	

LTE Band 66 Maximum Average Power [dBm] (GT - LC = 1.85 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	23.81	24.08	24.08	25.93	0.3917
5	1	12		23.70	23.76	23.94		
5	1	24		23.64	23.92	23.53		
5	12	0		22.57	22.96	22.88		
5	12	7		22.82	22.82	22.69		
5	12	13		22.56	22.82	22.60		
5	25	0		22.65	22.92	22.57		
5	1	0	16-QAM	22.55	23.22	22.59	25.07	0.3214
5	1	12		22.53	22.73	22.56		
5	1	24		22.51	22.68	22.51		
5	12	0		21.65	21.66	21.82		
5	12	7		21.67	21.84	21.52		
5	12	13		21.69	21.91	21.54		
5	25	0		21.66	21.82	21.57		
Limit	EIRP < 1W			Result			Pass	



LTE Band 66 Maximum Average Power [dBm] (GT - LC = 1.85 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
3	1	0	QPSK	23.75	24.02	24.05	25.90	0.3890
3	1	8		23.68	23.79	23.88		
3	1	14		23.58	23.94	23.50		
3	8	0		22.57	22.99	22.85		
3	8	4		22.85	22.85	22.66		
3	8	7		22.55	22.78	22.54		
3	15	0		22.59	22.88	22.51		
3	1	0	16-QAM	22.54	23.17	22.58	25.02	0.3177
3	1	8		22.55	22.76	22.58		
3	1	14		22.54	22.65	22.56		
3	8	0		21.68	21.59	21.85		
3	8	4		21.69	21.87	21.51		
3	8	7		21.65	21.88	21.53		
3	15	0		21.62	21.78	21.56		
Limit	EIRP < 1W			Result			Pass	

LTE Band 66 Maximum Average Power [dBm] (GT - LC = 1.85 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
1.4	1	0	QPSK	23.69	23.57	23.60	25.68	0.3698
1.4	1	3		23.50	23.56	23.83		
1.4	1	5		23.53	23.57	23.75		
1.4	3	0		23.75	23.64	23.53		
1.4	3	1		23.57	23.57	23.60		
1.4	3	3		23.62	23.53	23.56		
1.4	6	0		22.57	22.61	22.91		
1.4	1	0	16-QAM	22.57	22.55	22.75	24.77	0.2999
1.4	1	3		22.53	22.50	22.86		
1.4	1	5		22.57	22.60	22.92		
1.4	3	0		22.63	22.67	22.86		
1.4	3	1		22.52	22.48	22.82		
1.4	3	3		22.67	22.52	22.82		
1.4	6	0		21.55	21.60	21.58		
Limit	EIRP < 1W			Result			Pass	



LTE Band 71 Maximum Average Power [dBm] (GT - LC = -1.44 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
20	1	0	QPSK	23.85	24.11	23.65	20.52	0.1127
20	1	49		23.73	23.58	23.56		
20	1	99		23.51	23.59	23.54		
20	50	0		22.86	23.06	22.50		
20	50	24		22.73	22.71	22.72		
20	50	50		22.70	22.59	22.77		
20	100	0		22.72	22.99	22.81		
20	1	0	16-QAM	22.66	22.71	22.56	19.12	0.0817
20	1	49		22.61	22.56	22.51		
20	1	99		22.37	22.66	22.51		
20	50	0		21.86	21.78	21.67		
20	50	24		21.65	21.81	21.84		
20	50	50		21.80	21.93	21.77		
20	100	0		21.88	21.70	21.79		
Limit	ERP < 3W			Result			Pass	

LTE Band 71 Maximum Average Power [dBm] (GT - LC = -1.44 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
15	1	0	QPSK	23.80	24.10	23.60	20.51	0.1125
15	1	37		23.73	23.53	23.53		
15	1	74		23.48	23.61	23.54		
15	36	0		22.82	23.01	22.44		
15	36	20		22.74	22.69	22.73		
15	36	39		22.70	22.58	22.70		
15	75	0		22.70	22.98	22.80		
15	1	0	16-QAM	22.63	22.66	22.59	19.10	0.0813
15	1	37		22.57	22.51	22.48		
15	1	74		22.32	22.69	22.46		
15	36	0		21.85	21.73	21.63		
15	36	20		21.62	21.84	21.78		
15	36	39		21.73	21.91	21.71		
15	75	0		21.91	21.70	21.73		
Limit	ERP < 3W			Result			Pass	



LTE Band 71 Maximum Average Power [dBm] (GT - LC = -1.44 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	23.83	24.06	23.54	20.47	0.1114
10	1	25		23.70	23.47	23.56		
10	1	49		23.47	23.60	23.48		
10	25	0		22.83	23.02	22.45		
10	25	12		22.76	22.62	22.73		
10	25	25		22.69	22.53	22.66		
10	50	0		22.72	22.91	22.75		
10	1	0	16-QAM	22.63	22.63	22.57	19.06	0.0805
10	1	25		22.56	22.49	22.50		
10	1	49		22.29	22.65	22.44		
10	25	0		21.79	21.74	21.66		
10	25	12		21.62	21.82	21.77		
10	25	25		21.68	21.91	21.65		
10	50	0		21.86	21.65	21.70		
Limit	ERP < 3W			Result			Pass	

LTE Band 71 Maximum Average Power [dBm] (GT - LC = -1.44 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0	QPSK	23.86	24.02	23.51	20.43	0.1104
5	1	12		23.64	23.47	23.49		
5	1	24		23.44	23.58	23.43		
5	12	0		22.80	23.05	22.48		
5	12	7		22.75	22.62	22.67		
5	12	13		22.70	22.49	22.60		
5	25	0		22.65	22.88	22.74		
5	1	0	16-QAM	22.59	22.56	22.54	19.05	0.0804
5	1	12		22.51	22.47	22.47		
5	1	24		22.27	22.64	22.46		
5	12	0		21.81	21.77	21.59		
5	12	7		21.62	21.85	21.74		
5	12	13		21.64	21.89	21.59		
5	25	0		21.81	21.60	21.72		
Limit	ERP < 3W			Result			Pass	



## Appendix B. Test Results of Radiated Test

### LTE Band 5

LTE Band 5 / 10MHz / QPSK									
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	1649	-53.42	-13	-40.42	-69.13	-56.88	3.88	9.49	H
	2473	-42.26	-13	-29.26	-61.65	-45.86	4.80	10.55	H
	3298	-53.62	-13	-40.62	-75.9	-58.1	5.55	12.19	H
									H
									H
									H
	1649	-50.73	-13	-37.73	-66.33	-54.19	3.88	9.49	V
	2473	-39.68	-13	-26.68	-59.05	-43.28	4.80	10.55	V
	3298	-53.73	-13	-40.73	-75.91	-58.21	5.55	12.19	V
									V
									V
									V
Middle	1664	-53.49	-13	-40.49	-67.13	-57.02	3.90	9.58	H
	2496	-42.15	-13	-29.15	-63.91	-45.77	4.83	10.59	H
	3328	-53.62	-13	-40.62	-75.61	-58.2	5.58	12.31	H
									H
									H
									H
	1664	-50.75	-13	-37.75	-63.57	-54.28	3.90	9.58	V
	2496	-39.60	-13	-26.60	-56.24	-43.22	4.83	10.59	V
	3328	-53.73	-13	-40.73	-75.85	-58.31	5.58	12.31	V
									V
									V
									V



Highest	1679	-51.52	-13	-38.52	-67.22	-55.13	3.92	9.67	H
	2518	-48.07	-13	-35.07	-67.6	-51.78	4.85	10.71	H
	3358	-53.45	-13	-40.45	-75.6	-58.11	5.61	12.42	H
									H
									H
									H
	1679	-47.39	-13	-34.39	-63.02	-51	3.92	9.67	V
	2518	-43.37	-13	-30.37	-62.76	-47.08	4.85	10.71	V
	3358	-53.85	-13	-40.85	-75.97	-58.51	5.61	12.42	V
									V
									V
									V

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



LTE Band 26

LTE Band 26 / 10MHz / QPSK									
Channel	Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	1648	-51.88	-13	-38.88	-67.49	-55.33	3.88	9.49	H
	2473	-53.12	-13	-40.12	-72.5	-56.71	4.80	10.55	H
	3298	-53.57	-13	-40.57	-75.75	-58.05	5.55	12.19	H
									H
									H
									H
	1648	-50.48	-13	-37.48	-65.98	-53.93	3.88	9.49	V
	2473	-54.01	-13	-41.01	-73.36	-57.60	4.80	10.55	V
	3298	-53.79	-13	-40.79	-75.87	-58.27	5.55	12.19	V
									V
									V
									V
Middle	1664	-51.02	-13	-38.02	-66.77	-54.55	3.90	9.58	H
	2496	-35.73	-13	-22.73	-55.16	-39.35	4.83	10.59	H
	3328	-52.92	-13	-39.92	-75.15	-57.5	5.58	12.31	H
									H
									H
									H
	1664	-49.15	-13	-36.15	-64.78	-52.68	3.90	9.58	V
	2496	-50.71	-13	-37.71	-70.1	-54.33	4.83	10.59	V
	3328	-53.84	-13	-40.84	-76.04	-58.42	5.58	12.31	V
									V
									V
									V



Highest	1680	-49.20	-13	-36.20	-64.89	-52.81	3.92	9.68	H
	2518	-54.98	-13	-41.98	-74.4	-58.69	4.85	10.71	H
	3358	-52.88	-13	-39.88	-74.96	-57.53	5.61	12.42	H
									H
									H
									H
	1680	-48.06	-13	-35.06	-63.68	-51.67	3.92	9.68	V
	2518	-53.53	-13	-40.53	-72.88	-57.24	4.85	10.71	V
	3358	-53.40	-13	-40.40	-75.41	-58.05	5.61	12.42	V
									V
									V
									V

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





LTE Band 2

LTE Band 2 / 10MHz / QPSK									
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3701	-52.39	-13	-39.39	-76.21	-58.77	5.92	12.30	H
	5551	-44.12	-13	-31.12	-73.41	-49.68	7.74	13.30	H
	7402	-41.33	-13	-28.33	-76.93	-43.81	8.72	11.20	H
									H
									H
									H
	3701	-52.17	-13	-39.17	-75.95	-58.55	5.92	12.30	V
	5551	-44.45	-13	-31.45	-73.87	-50.01	7.74	13.30	V
	7402	-40.74	-13	-27.74	-76.72	-43.22	8.72	11.20	V
									V
									V
									V
Middle	3751	-51.97	-13	-38.97	-76.04	-58.3	5.97	12.30	H
	5626	-45.21	-13	-32.21	-74.56	-50.86	7.80	13.45	H
	7500	-40.33	-13	-27.33	-76.21	-42.77	8.76	11.20	H
									H
									H
									H
	3751	-51.79	-13	-38.79	-75.96	-58.12	5.97	12.30	V
	5626	-42.15	-13	-29.15	-71.5	-47.8	7.80	13.45	V
	7502	-39.99	-13	-26.99	-76.26	-42.44	8.76	11.21	V
									V
									V
									V



Highest	3801	-51.42	-13	-38.42	-75.76	-57.7	6.02	12.30	H
	5701	-46.37	-13	-33.37	-75.98	-52	7.86	13.50	H
	7602	-39.53	-13	-26.53	-76.17	-42.33	8.81	11.60	H
									H
									H
									H
	3801	-50.73	-13	-37.73	-75.05	-57.01	6.02	12.30	V
	5701	-46.38	-13	-33.38	-75.96	-52.01	7.86	13.50	V
	7602	-39.42	-13	-26.42	-76.38	-42.22	8.81	11.60	V
									V
									V
									V

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



LTE Band 25

LTE Band 25 / 10MHz / QPSK									
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3701	-52.05	-13	-39.05	-75.96	-58.43	5.92	12.30	H
	5551	-44.14	-13	-31.14	-73.38	-49.7	7.74	13.30	H
	7402	-41.21	-13	-28.21	-76.75	-43.69	8.72	11.20	H
									H
									H
									H
	3701	-52.39	-13	-39.39	-76.3	-58.77	5.92	12.30	V
	5551	-44.79	-13	-31.79	-74.12	-50.35	7.74	13.30	V
	7402	-39.63	-13	-26.63	-76.53	-42.11	8.72	11.20	V
									V
									V
									V
Middle	3751	-52.02	-13	-39.02	-75.96	-58.35	5.97	12.30	H
	5625	-43.45	-13	-30.45	-73.38	-49.1	7.80	13.45	H
	7502	-40.43	-13	-27.43	-76.75	-42.88	8.76	11.21	H
									H
									H
									H
	3751	-52.08	-13	-39.08	-76.3	-58.41	5.97	12.30	V
	5625	-42.60	-13	-29.60	-74.12	-48.25	7.80	13.45	V
	7502	-40.25	-13	-27.25	-76.53	-42.7	8.76	11.21	V
									V
									V
									V



Highest	3811	-50.99	-13	-37.99	-75.4	-57.24	6.03	12.28	H
	5716	-43.89	-13	-30.89	-73.59	-49.45	7.88	13.44	H
	7622	-39.47	-13	-26.47	-76	-42.3	8.82	11.64	H
									H
									H
									H
	3811	-50.38	-13	-37.38	-74.78	-56.63	6.03	12.28	V
	5716	-43.14	-13	-30.14	-72.78	-48.7	7.88	13.44	V
	7622	-39.46	-13	-26.46	-76.19	-42.29	8.82	11.64	V
									V
									V
									V

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



LTE Band 12

LTE Band 12 / 10MHz / QPSK									
Channel	Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	1400	-51.91	-13.00	-38.91	-67.05	-53.59	3.57	7.40	H
	2096	-53.78	-13.00	-40.78	-72.12	-56.98	4.39	9.74	H
	2800	-47.35	-13.00	-34.35	-68.39	-51.10	5.10	11.00	H
	3496	-39.91	-13.00	-26.91	-62.85	-44.43	5.74	12.41	H
	4200	-39.19	-13.00	-26.19	-64.18	-43.51	6.33	12.80	H
	4896	-44.64	-13.00	-31.64	-73.04	-48.19	7.29	12.98	H
									H
	1400	-48.36	-13.00	-35.36	-63.87	-50.04	3.57	7.40	V
	2096	-49.97	-13.00	-36.97	-68.77	-53.17	4.39	9.74	V
	2800	-46.21	-13.00	-33.21	-67.18	-49.96	5.10	11.00	V
	3496	-39.08	-13.00	-26.08	-61.93	-43.60	5.74	12.41	V
	4200	-38.06	-13.00	-25.06	-62.89	-42.38	6.33	12.80	V
	4896	-42.97	-13.00	-29.97	-71.11	-46.52	7.29	12.98	V
									V
Middle	1408	-52.62	-13.00	-39.62	-67.78	-54.32	3.58	7.43	H
	2112	-41.78	-13.00	-28.78	-60.26	-44.82	4.41	9.60	H
	2816	-47.12	-13.00	-34.12	-68.21	-50.86	5.11	11.00	H
	3512	-40.06	-13.00	-27.06	-63.00	-44.49	5.75	12.33	H
	4216	-39.33	-13.00	-26.33	-64.42	-43.64	6.34	12.80	H
	4920	-45.72	-13.00	-32.72	-74.25	-49.16	7.33	12.92	H
									H
	1408	-47.86	-13.00	-34.86	-63.37	-49.56	3.58	7.43	V
	2112	-46.78	-13.00	-33.78	-65.74	-49.82	4.41	9.60	V
	2816	-46.15	-13.00	-33.15	-67.17	-49.89	5.11	11.00	V
	3512	-39.58	-13.00	-26.58	-62.42	-44.01	5.75	12.33	V
	4216	-37.30	-13.00	-24.30	-62.22	-41.61	6.34	12.80	V
	4920	-44.10	-13.00	-31.10	-72.33	-47.54	7.33	12.92	V
									V



Highest	1413	-50.50	-13.00	-37.50	-65.68	-52.21	3.59	7.45	H
	2120	-49.07	-13.00	-36.07	-67.62	-52.04	4.42	9.54	H
	2824	-50.30	-13.00	-37.30	-71.41	-54.03	5.12	11.00	H
	3536	-43.03	-13.00	-30.03	-65.91	-47.29	5.77	12.18	H
	4240	-41.27	-13.00	-28.27	-66.51	-45.57	6.35	12.80	H
	4944	-47.71	-13.00	-34.71	-76.40	-51.00	7.38	12.82	H
									H
	1413	-48.59	-13.00	-35.59	-64.10	-50.30	3.59	7.45	V
	2120	-47.05	-13.00	-34.05	-66.09	-50.02	4.42	9.54	V
	2824	-49.97	-13.00	-36.97	-71.02	-53.70	5.12	11.00	V
	3536	-42.45	-13.00	-29.45	-65.21	-46.71	5.77	12.18	V
	4240	-39.65	-13.00	-26.65	-64.70	-43.95	6.35	12.80	V
	4944	-46.58	-13.00	-33.58	-74.92	-49.87	7.38	12.82	V
									V

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



LTE Band 13

LTE Band 13 / 5MHz / QPSK									
Channel	Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	1554	-51.10	-13	-38.10	-66.54	-54.01	3.77	8.83	H
	2336	-44.67	-13	-31.67	-64.22	-47.61	4.65	9.74	H
	3109	-53.09	-13	-40.09	-75.12	-56.86	5.38	11.30	H
									H
									H
									H
	1554	-49.85	-13	-36.85	-65.23	-52.76	3.77	8.83	V
	2336	-51.16	-13	-38.16	-70.75	-54.10	4.65	9.74	V
	3109	-53.47	-13	-40.47	-75.43	-57.24	5.38	11.30	V
									V
									V
									V
Middle	1560	-51.60	-42.15	-9.45	-67.06	-54.55	3.78	8.88	H
	2336	-42.22	-13	-29.22	-61.77	-45.16	4.65	9.74	H
	3119	-53.77	-13	-40.77	-75.83	-57.53	5.39	11.30	H
									H
									H
									H
	1560	-49.21	-42.15	-7.06	-64.59	-52.16	3.78	8.88	V
	2336	-49.02	-13	-36.02	-68.61	-51.96	4.65	9.74	V
	3119	-53.49	-13	-40.49	-75.48	-57.25	5.39	11.30	V
									V
									V
									V



Highest	1564	-49.86	-42.15	-7.71	-65.32	-52.84	3.78	8.91	H
	2344	-47.80	-13	-34.80	-67.37	-50.76	4.66	9.78	H
	3129	-53.95	-13	-40.95	-76.06	-57.70	5.40	11.30	H
									H
									H
									H
	1564	-49.84	-42.15	-7.69	-65.21	-52.82	3.78	8.91	V
	2344	-46.86	-13	-33.86	-66.43	-49.82	4.66	9.78	V
	3129	-53.64	-13	-40.64	-75.66	-57.39	5.40	11.30	V
									V
									V
									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 )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1555	-50.36	-13	-37.36	-65.81	-53.27	3.77	8.84	H
	2336	-48.11	-13	-35.11	-67.66	-51.05	4.65	9.74	H
	3112	-53.13	-13	-40.13	-75.17	-56.89	5.38	11.30	H
									H
									H
									H
	1555	-49.63	-13	-36.63	-65.01	-52.54	3.77	8.84	V
	2336	-39.25	-13	-26.25	-58.84	-42.19	4.65	9.74	V
	3112	-53.19	-13	-40.19	-75.16	-56.95	5.38	11.30	V
									V
									V
									V

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



LTE Band 4

LTE Band 4 / 10MHz / QPSK									
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3421	-51.18	-13	-38.18	-74.03	-58.01	5.67	12.50	H
	5131	-43.97	-13	-30.97	-72.68	-48.89	7.55	12.46	H
	6842	-43.11	-13	-30.11	-76.47	-46.89	8.44	12.22	H
									H
									H
									H
	3421	-52.17	-13	-39.17	-74.98	-59	5.67	12.50	V
	5131	-40.76	-13	-27.76	-69.3	-45.68	7.55	12.46	V
	6842	-43.11	-13	-30.11	-76.26	-46.89	8.44	12.22	V
									V
									V
									V
Middle	3456	-51.47	-13	-38.47	-74.71	-58.26	5.70	12.49	H
	5184	-38.52	-13	-25.52	-66.91	-43.72	7.57	12.77	H
	6912	-43.62	-13	-30.62	-77.46	-47.11	8.49	11.98	H
									H
									H
									H
	3456	-51.52	-13	-38.52	-74.69	-58.31	5.70	12.49	V
	5184	-39.76	-13	-26.76	-68.12	-44.96	7.57	12.77	V
	6912	-44.19	-13	-31.19	-78.01	-47.68	8.49	11.98	V
									V
									V
									V



Highest	3491	-49.49	-13	-36.49	-72.98	-56.18	5.73	12.42	H
	5236	-47.01	-13	-34.01	-75.64	-52.54	7.59	13.12	H
	6982	-42.29	-13	-29.29	-76.5	-45.65	8.54	11.90	H
									H
									H
									H
	3491	-51.41	-13	-38.41	-74.83	-58.1	5.73	12.42	V
	5236	-44.76	-13	-31.76	-73.21	-50.29	7.59	13.12	V
	6982	-42.02	-13	-29.02	-76.4	-45.38	8.54	11.90	V
									V
									V
									V

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



LTE Band 66

LTE Band 66 / 10MHz / QPSK									
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3421	-50.44	-13	-37.44	-73.22	-57.27	5.67	12.50	H
	5130	-44.35	-13	-31.35	-72.99	-49.27	7.54	12.46	H
	6842	-43.14	-13	-30.14	-76.44	-46.92	8.44	12.22	H
									H
									H
									H
	3421	-52.79	-13	-39.79	-75.52	-59.62	5.67	12.50	V
	5130	-48.94	-13	-35.94	-77.39	-53.86	7.54	12.46	V
	6842	-43.41	-13	-30.41	-76.51	-47.19	8.44	12.22	V
									V
									V
									V
Middle	3480	-49.34	-13	-36.34	-72.68	-56.06	5.72	12.44	H
	5220	-45.03	-13	-32.03	-73.46	-50.47	7.58	13.02	H
	6962	-42.61	-13	-29.61	-76.65	-45.99	8.52	11.90	H
									H
									H
									H
	3480	-50.71	-13	-37.71	-73.96	-57.43	5.72	12.44	V
	5220	-46.47	-13	-33.47	-74.84	-51.91	7.58	13.02	V
	6962	-42.45	-13	-29.45	-76.61	-45.83	8.52	11.90	V
									V
									V
									V



Highest	3540	-48.96	-13	-35.96	-72.38	-55.34	5.78	12.16	H
	5310	-43.65	-13	-30.65	-72.37	-49.47	7.62	13.44	H
	7082	-41.85	-13	-28.85	-76.39	-44.74	8.58	11.47	H
									H
									H
									H
	3540	-50.77	-13	-37.77	-74.07	-57.15	5.78	12.16	V
	5310	-39.37	-13	-26.37	-67.97	-45.19	7.62	13.44	V
	7082	-41.54	-13	-28.54	-76.41	-44.43	8.58	11.47	V
									V
									V
									V

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



**LTE Band 7**

LTE Band 7 / 10MHz / QPSK									
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	5001	-51.17	-25	-26.17	-55.35	-56.38	7.49	12.70	H
	7501	-43.44	-25	-18.44	-54.49	-45.88	8.76	11.20	H
	10002	-52.53	-25	-27.53	-68.58	-53.62	10.01	11.10	H
									H
									H
									H
	5001	-48.57	-25	-23.57	-52.3	-53.78	7.49	12.70	V
	7501	-42.14	-25	-17.14	-53.54	-44.58	8.76	11.20	V
	10002	-53.79	-25	-28.79	-69.25	-54.88	10.01	11.10	V
									V
									V
									V
Middle	5061	-50.28	-25	-25.28	-54.3	-55.32	7.52	12.56	H
	7591	-46.34	-25	-21.34	-58.1	-49.1	8.80	11.56	H
	10122	-53.09	-25	-28.09	-69.24	-54.28	10.11	11.30	H
									H
									H
									H
	5061	-47.29	-25	-22.29	-51.04	-52.33	7.52	12.56	V
	7591	-42.74	-25	-17.74	-54.69	-45.5	8.80	11.56	V
	10122	-53.81	-25	-28.81	-69.28	-55	10.11	11.30	V
									V
									V
									V



Highest	5121	-51.49	-25	-26.49	-55.44	-56.39	7.54	12.44	H
	7681	-40.84	-25	-15.84	-52.42	-43.7	8.84	11.70	H
	10242	-53.43	-25	-28.43	-69.83	-54.44	10.21	11.22	H
									H
									H
									H
	5121	-49.10	-25	-24.10	-52.74	-54	7.54	12.44	V
	7681	-37.73	-25	-12.73	-49.46	-40.59	8.84	11.70	V
	10242	-53.99	-25	-28.99	-69.63	-55	10.21	11.22	V
									V
									V
									V

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



**LTE Band 38**

LTE Band 38 / 10MHz / QPSK									
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	5141	-55.48	-25	-30.48	-59.29	-60.41	7.55	12.48	H
	7711	-37.58	-25	-12.58	-49.05	-40.44	8.86	11.72	H
	10282	-53.28	-25	-28.28	-69.72	-54.17	10.24	11.14	H
									H
									H
									H
	5141	-51.47	-25	-26.47	-55.13	-56.4	7.55	12.48	V
	7711	-39.51	-25	-14.51	-51.1	-42.37	8.86	11.72	V
	10282	-53.92	-25	-28.92	-69.63	-54.81	10.24	11.14	V
									V
									V
									V
Middle	5181	-55.40	-25	-30.40	-59.09	-60.58	7.57	12.75	H
	7770	-32.11	-25	-7.11	-43.4	-35.07	8.88	11.84	H
	10362	-52.98	-25	-27.98	-69.59	-53.59	10.31	10.91	H
									H
									H
									H
	5181	-52.36	-25	-27.36	-55.96	-57.54	7.57	12.75	V
	7770	-36.15	-25	-11.15	-47.58	-39.11	8.88	11.84	V
	10362	-54.04	-25	-29.04	-69.88	-54.65	10.31	10.91	V
									V
									V
									V





Highest	5221	-55.36	-25	-30.36	-59.13	-60.8	7.58	13.03	H
	7831	-34.66	-25	-9.66	-45.99	-37.52	8.91	11.78	H
	10442	-53.42	-25	-28.42	-70.35	-53.85	10.37	10.80	H
									H
									H
									H
	5221	-54.44	-25	-29.44	-58.18	-59.88	7.58	13.03	V
	7831	-37.21	-25	-12.21	-48.64	-40.07	8.91	11.78	V
	10442	-54.35	-25	-29.35	-70.39	-54.78	10.37	10.80	V
									V
									V
									V

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



LTE Band 41

LTE Band 41 / 10MHz / QPSK									
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	4995	-48.64	-25	-23.64	-49.16	-53.87	7.48	12.71	H
	7491	-48.95	-25	-23.95	-57.05	-51.39	8.76	11.20	H
	9988	-51.64	-25	-26.64	-60.82	-52.71	10.01	11.08	H
									H
									H
									H
	4995	-50.90	-25	-25.90	-51.16	-56.13	7.48	12.71	V
	7491	-46.42	-25	-21.42	-54.77	-48.86	8.76	11.20	V
	9988	-52.65	-25	-27.65	-61.08	-53.72	10.01	11.08	V
									V
									V
									V
Middle	5170	-47.16	-25	-22.16	-47.23	-52.26	7.56	12.66	H
	7755	-47.08	-25	-22.08	-55.45	-50.01	8.88	11.81	H
	10336	-52.17	-25	-27.17	-61.38	-52.88	10.29	10.99	H
									H
									H
									H
	5170	-45.47	-25	-20.47	-45.22	-50.57	7.56	12.66	V
	7755	-41.70	-25	-16.70	-50.32	-44.63	8.88	11.81	V
	10336	-50.25	-25	-25.25	-58.62	-50.96	10.29	10.99	V
									V
									V
									V



Highest	5340	-41.32	-25	-16.32	-41.71	-47.25	7.63	13.56	H
	8010	-38.85	-25	-13.85	-47.81	-41.13	9.00	11.28	H
	10684	-50.03	-25	-25.03	-60.09	-50.46	10.49	10.92	H
									H
									H
									H
	5340	-38.83	-25	-13.83	-38.96	-44.76	7.63	13.56	V
	8010	-35.78	-25	-10.78	-44.69	-38.06	9.00	11.28	V
	10684	-50.09	-25	-25.09	-59.04	-50.52	10.49	10.92	V
									V
									V
									V

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



LTE Band 71

LTE Band 71 / 10MHz / QPSK									
Channel	Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	1376	-51.85	-13	-38.85	-66.96	-55.47	3.54	7.16	H
	2064	-34.87	-13	-21.87	-52.96	-40.57	4.36	10.06	H
	3440	-50.94	-13	-37.94	-73.33	-57.76	5.68	12.50	H
									H
									H
									H
	1376	-52.44	-13	-39.44	-67.83	-56.06	3.54	7.16	V
	2064	-51.18	-13	-38.18	-69.67	-56.88	4.36	10.06	V
	3440	-53.40	-13	-40.40	-75.72	-60.22	5.68	12.50	V
									V
									V
									V
Middle	1347	-48.59	-13	-35.59	-63.64	-51.99	3.50	6.89	H
	2024	-37.97	-13	-24.97	-55.74	-43.85	4.32	10.20	H
	3368	-51.83	-13	-38.83	-73.88	-58.65	5.62	12.44	H
									H
									H
									H
	1347	-50.88	-13	-37.88	-66.11	-54.28	3.50	6.89	V
	2024	-52.94	-13	-39.94	-71.04	-58.82	4.32	10.20	V
	3368	-53.56	-13	-40.56	-75.55	-60.38	5.62	12.44	V
									V
									V
									V



Highest	1328	-45.48	-13	-32.48	-60.51	-48.86	3.47	6.86	H
	1992	-38.05	-13	-25.05	-55.55	-43.97	4.28	10.20	H
	2654	-54.79	-13	-41.79	-75.19	-60.62	4.97	10.80	H
									H
									H
									H
	1328	-47.12	-13	-34.12	-62.26	-50.50	3.47	6.86	V
	1992	-42.83	-13	-29.83	-60.63	-48.75	4.28	10.20	V
	2654	-54.85	-13	-41.85	-74.77	-60.68	4.97	10.80	V
									V
									V
									V

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