



FCC RADIO TEST REPORT

FCC ID : 2AJN7-TP00136AL
Equipment : Notebook Computer
Brand Name : Lenovo
Model Name : TP00136A; TP00136B
Applicant : LC Future Center Limited Taiwan Branch
7F., No.780, Beian Rd., Zhongshan Dist., Taipei 104, Taiwan
Manufacturer : LCFC (HeFei) Electronics Technology Co., Ltd.
No. 3188-1, Yungu Road (Hefei Export Processing Zone),
Hefei Economics & Technology Development Area, Anhui,
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 Oct. 18, 2021 and testing was performed from Oct. 27, 2021 to Dec. 05, 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



Table of Contents

History of this test report.....	3
Summary of Test Result.....	4
1 General Description	6
1.1 Product Feature of Equipment Under Test.....	6
1.2 Product Specification of Equipment Under Test.....	7
1.3 Modification of EUT	8
1.4 Testing Location	8
1.5 Applicable Standards.....	8
2 Test Configuration of Equipment Under Test	9
2.1 Test Mode.....	9
2.2 Connection Diagram of Test System.....	11
2.3 Support Unit used in test configuration and system	11
2.4 Frequency List of Low/Middle/High Channels	12
3 Conducted Test Items.....	17
3.1 Measuring Instruments	17
3.2 Conducted Output Power and ERP/EIRP	18
4 Radiated Test Items	19
4.1 Measuring Instruments	19
4.2 Radiated Spurious Emission Measurement	21
5 List of Measuring Equipment.....	22
6 Uncertainty of Evaluation	23
Appendix A. Test Results of Conducted Test	
Appendix B. Test Results of Radiated Test	
Appendix C. Test Setup Photographs	



History of this test report

Report No.	Version	Description	Issued Date
FG1O1802B	01	Initial issue of report	Jan. 05, 2022
FG1O1802B	02	Revise Product Feature of Equipment Under Test	Jan. 12, 2022



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 13.17 dB at 7758.000 MHz
	§2.1051 §27.53 (m)(4)	Radiated Spurious Emission (Band 7) (Band 38) (Band 41)		

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

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Sheng Kuo

Report Producer: Cindy Liu



1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	Notebook Computer
Brand Name	Lenovo
Model Name	TP00136A; TP00136B
FCC ID	2AJN7-TP00136AL
Sample 1	EUT with AWAN Antenna
Sample 2	EUT with Speed 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	AWAN	Peak gain(dBi)	LTE Band 2 : -0.17 LTE Band 4 : 0.49 LTE Band 5 : -2.10 LTE Band 7 : 1.41 LTE Band 12 : -2.11 LTE Band 13 : 0.70 LTE Band 25 : -0.17 LTE Band 26 : -1.56 LTE Band 38 : 1.81 LTE Band 41 : 1.77 LTE Band 66 : 0.40 LTE Band 71 : -2.27
	Part number	DC33001VX00	Type	PIFA
	Manufacturer	Speed	Peak gain(dBi)	LTE Band 2 : -0.17 LTE Band 4 : 0.49 LTE Band 5 : -2.10 LTE Band 7 : 1.41 LTE Band 12 : -2.11 LTE Band 13 : 0.70 LTE Band 25 : -0.17 LTE Band 26 : -1.56 LTE Band 38 : 1.81 LTE Band 41 : 1.77 LTE Band 66 : 0.40 LTE Band 71 : -2.27
	Part number	DC33001VY00	Type	PIFA

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to Comments and Explanations in report summary.
2. The output power measurement was performed with "AWAN Antenna", and performed with "Speed Antenna" in radiated spurious emission test as representative.



1.2 Product Specification of Equipment Under Test

Product Specification is subject to this standard	
Tx Frequency	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
Rx Frequency	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
Bandwidth	LTE Band 2: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 4: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 5: 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 7: 5MHz / 10MHz / 15MHz / 20MHz LTE Band 12: 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 13: 5MHz / 10MHz LTE Band 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
Maximum Output Power to Antenna	LTE Band 2 : 24.30 dBm LTE Band 4 : 24.46 dBm LTE Band 5 : 24.10 dBm LTE Band 7 : 24.13 dBm LTE Band 12 : 24.08 dBm LTE Band 13 : 23.78 dBm LTE Band 25 : 24.02 dBm LTE Band 26 : 23.77 dBm LTE Band 38 : 24.45 dBm LTE Band 41 : 24.20 dBm LTE Band 66 : 24.20 dBm LTE Band 71 : 23.83 dBm
Type of Modulation	QPSK / 16QAM



1.3 Modification of EUT

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

1.4 Testing Location

Test Site	Sporton International Inc. EMC & Wireless Communications Laboratory
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333
Test Site No.	Sporton Site No.
	TH03-HY
Test Engineer	Benjamin Lin
Temperature (°C)	23.5~25
Relative Humidity (%)	49.4~52

Test Site	Sporton International Inc. Wensan Laboratory
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010
Test Site No.	Sporton Site No.
	03CH15-HY (TAF Code: 3786)
Test Engineer	Leo Lee, Mancy Chou and Bigshow Wang
Temperature (°C)	22.5~24.5
Relative Humidity (%)	45~55
Remark	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

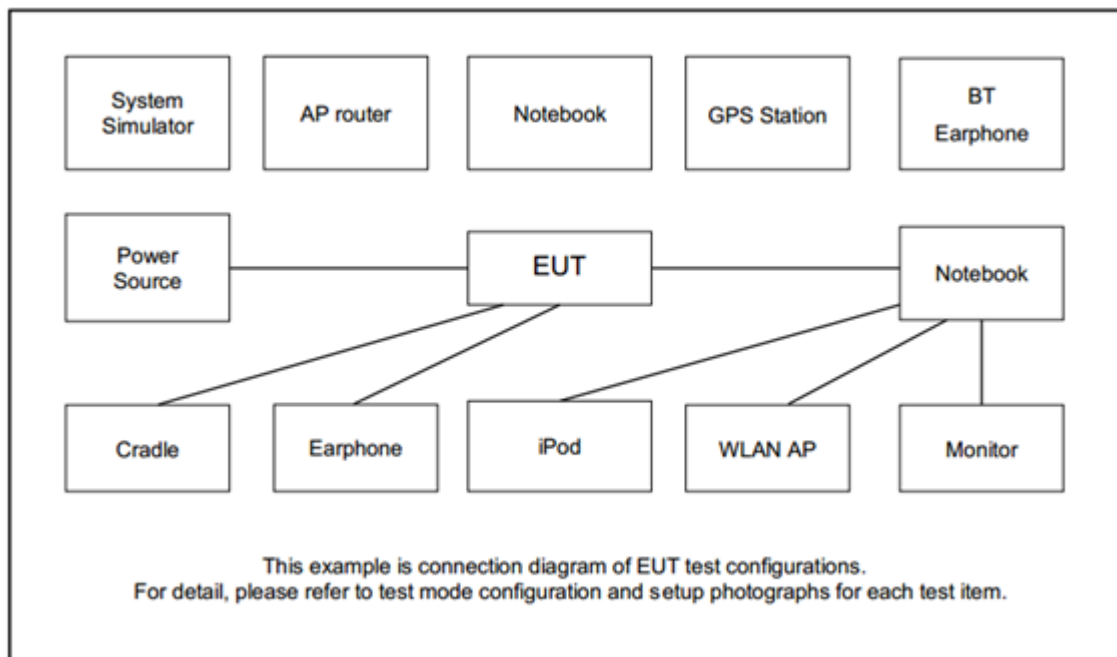
D01 Power Meas. License Digital Systems v03r01 with maximum output power.

Test Items	Band	Bandwidth (MHz)						Modulation		RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	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
E.R.P / E.I.R.P	2	v	v	v	v	v	v	v	v	Max. Power					
	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						



Test Items	Band	Bandwidth (MHz)						Modulation		RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full	L	M	H
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	- The mark "v" means that this configuration is chosen for testing - The mark "-" means that this bandwidth is not supported. - 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. - All the radiated test cases were performed with Battery 1.														

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	MT8820C	N/A	N/A	Unshielded, 1.8 m
2.	System Simulator	Anritsu	MT8821C	N/A	N/A	Unshielded, 1.8 m
3.	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



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

LTE Band 25 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	26140	26340	26590
	Frequency	1860	1880	1905
15	Channel	26115	26340	26615
	Frequency	1857.5	1880	1907.5
10	Channel	26090	26340	26640
	Frequency	1855	1880	1910
5	Channel	26065	26340	26665
	Frequency	1852.5	1880	1912.5
3	Channel	26055	26340	26675
	Frequency	1851.5	1880	1913.5
1.4	Channel	26047	26340	26683
	Frequency	1850.7	1880	1914.3



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

LTE Band 38 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
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

LTE Band 41 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
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

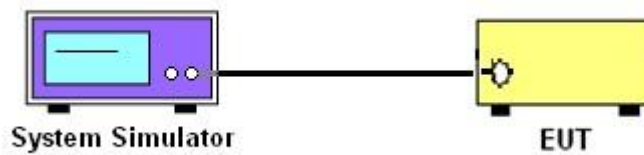
3 Conducted Test Items

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.

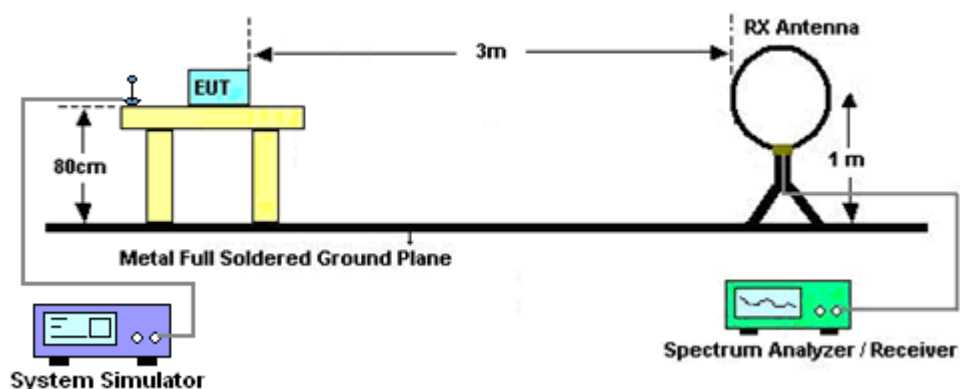
4 Radiated Test Items

4.1 Measuring Instruments

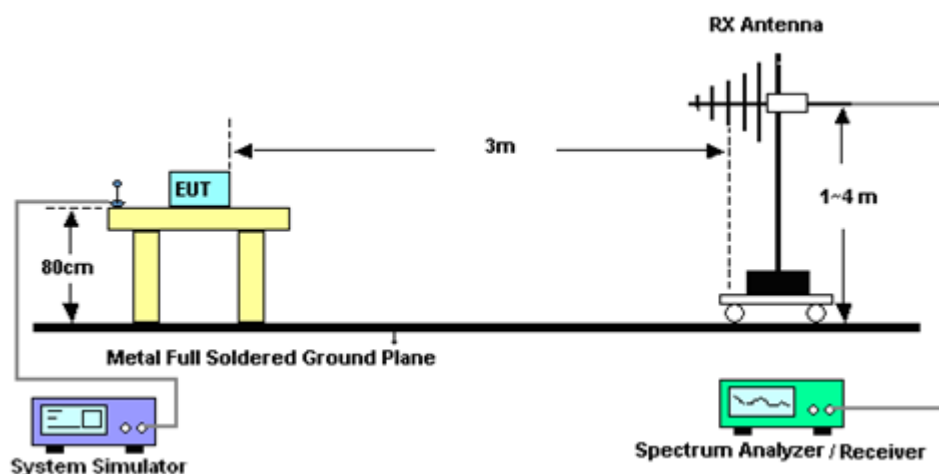
See list of measuring instruments of this test report.

4.1.1 Test Setup

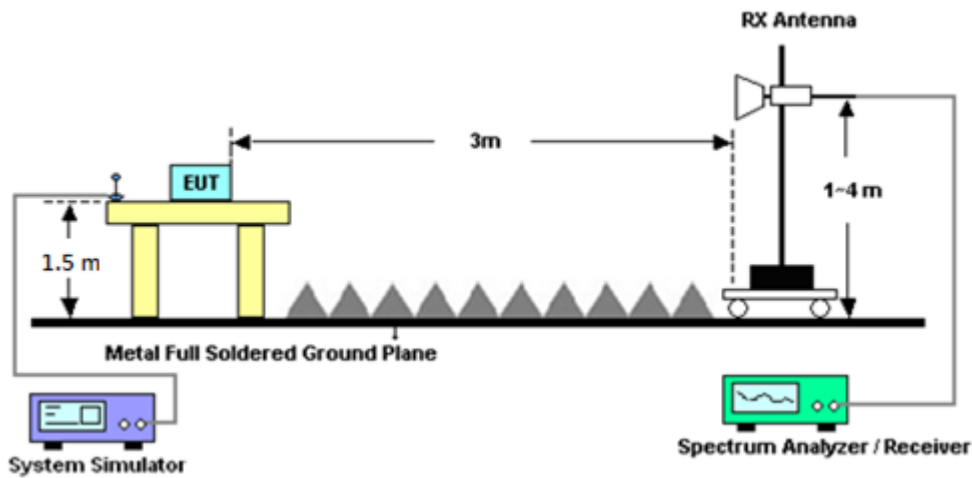
For radiated test below 30MHz



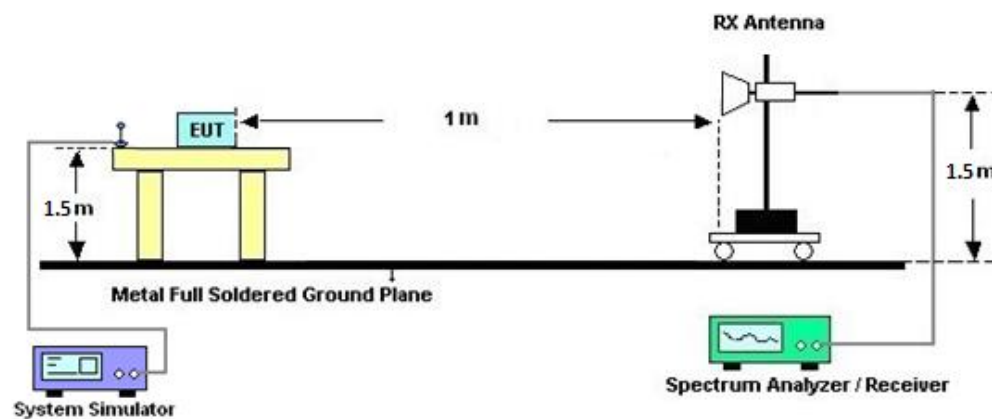
For radiated test from 30MHz to 1GHz



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	100315	9 kHz~30 MHz	Jan. 04, 2021	Nov. 13, 2021~ Dec. 05, 2021	Jan. 03, 2022	Radiation (03CH15-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N-06	37059 & 01	30MHz~1GHz	Oct. 09, 2021	Nov. 13, 2021~ Dec. 05, 2021	Oct. 08, 2022	Radiation (03CH15-HY)
Bilog Antenna	TESEQ	CBL6111D&0080 0N1D01N-06	41912 & 05	30MHz to 1GHz	Feb. 08, 2021	Nov. 13, 2021~ Dec. 05, 2021	Feb. 07, 2022	Radiation (03CH15-HY)
Amplifier	SONOMA	310N	363440	9kHz~1GHz	Dec. 28, 2020	Nov. 13, 2021~ Dec. 05, 2021	Dec. 27, 2021	Radiation (03CH15-HY)
Horn Antenna	SCHWARZB ECK	BBHA 9120 D	9120D-01620	1-18GHz	Oct. 25, 2021	Nov. 13, 2021~ Dec. 05, 2021	Oct. 24, 2022	Radiation (03CH15-HY)
Horn Antenna	SCHWARZB ECK	BBHA 9120 D	9120D-1326	1GHz~18GHz	Oct. 25, 2021	Nov. 13, 2021~ Dec. 05, 2021	Oct. 24, 2022	Radiation (03CH15-HY)
SHF-EHF Horn Antenna	SCHWARZB ECK	BBHA 9170	00991	1GHz~18GH	May 06, 2021	Nov. 13, 2021~ Dec. 05, 2021	May 05, 2022	Radiation (03CH15-HY)
Preamplifier	Jet-Power	JPA0118-55-303	17100018000 55006	1GHz~18GHz	May 06, 2021	Nov. 13, 2021~ Dec. 05, 2021	May 05, 2022	Radiation (03CH15-HY)
Preamplifier	Keysight	83017A	MY53270195	1GHz~26.5GHz	Aug. 19, 2021	Nov. 13, 2021~ Dec. 05, 2021	Aug. 18, 2022	Radiation (03CH15-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz~40GHz	Dec. 11, 2020	Nov. 13, 2021~ Dec. 05, 2021	Dec. 10, 2021	Radiation (03CH15-HY)
Spectrum Analyzer	Keysight	N9038A	MY54130085	20MHz~8.4GHz	Oct. 21, 2021	Nov. 13, 2021~ Dec. 05, 2021	Oct. 20, 2022	Radiation (03CH15-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200485	10Hz~44GHz	Mar. 05, 2021	Nov. 13, 2021~ Dec. 05, 2021	Mar. 04, 2022	Radiation (03CH15-HY)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Nov. 13, 2021~ Dec. 05, 2021	N/A	Radiation (03CH15-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Nov. 13, 2021~ Dec. 05, 2021	N/A	Radiation (03CH15-HY)
Software	Audix	E3 6.2009-8-24(k5)	RK-000451	N/A	N/A	Nov. 13, 2021~ Dec. 05, 2021	N/A	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104, 102E	MY36980/4,M Y9838/4PE,5 08405/2E	30MHz~18G	Nov. 16, 2020	Nov. 13, 2021~ Nov. 14, 2021	Nov. 15, 2021	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104, 102E	MY36980/4,M Y9838/4PE,5 08405/2E	30MHz~18G	Nov. 15, 2021	Nov. 15, 2021~ Dec. 05, 2021	Nov. 14, 2022	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30MHz-40GHz	Feb. 22, 2021	Nov. 13, 2021~ Dec. 05, 2021	Feb. 21, 2022	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	800740/2	30MHz-40GHz	Feb. 22, 2021	Nov. 13, 2021~ Dec. 05, 2021	Feb. 21, 2022	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4PE	9kHz~30MHz	Mar. 11, 2021	Nov. 13, 2021~ Dec. 05, 2021	Mar. 10, 2022	Radiation (03CH15-HY)
Filter	Wainwright	WLK4-1000-1530 -8000-40SS	SN12	1.53GHz Low Pass Filter	Sep. 14, 2021	Nov. 13, 2021~ Dec. 05, 2021	Sep. 13, 2022	Radiation (03CH15-HY)
Filter	Wainwright	WHKX12-935-100 0-15000-40ST	SN1	1GHz High Pass Filter	Apr. 29, 2021	Nov. 13, 2021~ Dec. 05, 2021	Apr. 28, 2022	Radiation (03CH15-HY)
Filter	Wainwright	WHKX12-2700-30 00-18000-60ST	SN4	3GHz High Pass Filter	Sep. 15, 2021	Nov. 13, 2021~ Dec. 05, 2021	Sep. 14, 2022	Radiation (03CH15-HY)
Signal Generator	Anritsu	MG3694C	163401	0.1Hz~40GHz	Jan. 31, 2021	Nov. 13, 2021~ Dec. 05, 2021	Jan. 30, 2022	Radiation (03CH15-HY)
Base Station (Measure)	Anritsu	MT8821C	6262025341	N/A	Oct. 05, 2021	Oct. 27, 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% ($U = 2Uc(y)$)	2.92 dB
---	---------

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

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

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.94 dB
---	---------



Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power & ERP/EIRP)

LTE Band 2 Maximum Average Power [dBm] (GT - LC = -0.17 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	24.29	24.06	24.30	24.13	0.2588
20	1	49		24.10	24.01	24.23		
20	1	99		23.90	24.05	24.22		
20	50	0		23.11	23.02	23.22		
20	50	24		23.01	23.01	23.16		
20	50	50		22.92	22.96	23.16		
20	100	0		23.16	22.98	23.14		
20	1	0	16-QAM	23.12	22.93	23.07	22.95	0.1972
20	1	49		22.97	22.96	23.09		
20	1	99		22.71	22.90	23.11		
20	50	0		22.15	22.13	22.20		
20	50	24		22.03	21.97	22.18		
20	50	50		22.03	21.97	22.17		
20	100	0		22.13	22.01	22.17		
Limit	EIRP < 2W			Result			Pass	

LTE Band 2 Maximum Average Power [dBm] (GT - LC = -0.17 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	24.19	24.14	24.20	24.08	0.2559
15	1	37		24.00	23.93	24.24		
15	1	74		23.82	24.09	24.25		
15	36	0		23.18	23.07	23.17		
15	36	20		22.96	22.98	23.07		
15	36	39		22.85	23.00	23.09		
15	75	0		23.16	23.01	23.24		
15	1	0	16-QAM	23.15	22.89	23.09	22.98	0.1986
15	1	37		22.99	22.95	23.14		
15	1	74		22.65	22.84	23.14		
15	36	0		22.18	22.07	22.28		
15	36	20		22.10	21.95	22.12		
15	36	39		22.13	22.05	22.13		
15	75	0		22.17	21.93	22.16		
Limit	EIRP < 2W			Result			Pass	



LTE Band 2 Maximum Average Power [dBm] (GT - LC = -0.17 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	24.27	24.04	24.29	24.12	0.2582
10	1	25		24.11	24.07	24.17		
10	1	49		23.81	24.01	24.13		
10	25	0		23.12	23.06	23.22		
10	25	12		22.97	23.01	23.09		
10	25	25		22.87	22.96	23.10		
10	50	0		23.23	22.93	23.12		
10	1	0	16-QAM	23.06	22.95	23.09	22.92	0.1959
10	1	25		22.88	23.02	23.09		
10	1	49		22.74	22.94	23.08		
10	25	0		22.16	22.10	22.30		
10	25	12		22.08	21.93	22.28		
10	25	25		21.97	22.06	22.09		
10	50	0		22.08	22.08	22.24		
Limit	EIRP < 2W			Result			Pass	

LTE Band 2 Maximum Average Power [dBm] (GT - LC = -0.17 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	24.26	23.96	24.23	24.09	0.2564
5	1	12		24.17	23.91	24.21		
5	1	24		23.97	24.02	24.17		
5	12	0		23.10	23.00	23.31		
5	12	7		23.03	23.01	23.22		
5	12	13		23.02	22.99	23.07		
5	25	0		23.18	22.89	23.10		
5	1	0	16-QAM	23.17	22.87	23.01	23	0.1995
5	1	12		23.00	23.03	23.14		
5	1	24		22.79	22.98	23.07		
5	12	0		22.05	22.21	22.13		
5	12	7		21.93	22.01	22.13		
5	12	13		22.10	22.05	22.22		
5	25	0		22.13	21.95	22.25		
Limit	EIRP < 2W			Result			Pass	



LTE Band 2 Maximum Average Power [dBm] (GT - LC = -0.17 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
3	1	0	QPSK	24.25	24.03	24.29	24.12	0.2582
3	1	8		24.08	23.96	24.22		
3	1	14		23.86	24.12	24.22		
3	8	0		23.21	23.11	23.32		
3	8	4		23.01	23.02	23.15		
3	8	7		22.97	22.86	23.08		
3	15	0		23.06	22.99	23.08		
3	1	0	16-QAM	23.08	22.97	23.14	23.04	0.2014
3	1	8		22.89	23.01	23.03		
3	1	14		22.71	22.84	23.21		
3	8	0		22.18	22.09	22.25		
3	8	4		22.10	21.99	22.25		
3	8	7		21.94	21.98	22.27		
3	15	0		22.08	22.07	22.10		
Limit	EIRP < 2W			Result			Pass	

LTE Band 2 Maximum Average Power [dBm] (GT - LC = -0.17 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
1.4	1	0	QPSK	24.29	24.14	24.28	24.12	0.2582
1.4	1	3		24.28	24.16	24.29		
1.4	1	5		24.21	24.09	24.27		
1.4	3	0		24.19	24.06	24.22		
1.4	3	1		24.20	24.07	24.24		
1.4	3	3		24.24	24.05	24.24		
1.4	6	0		23.32	23.10	23.20		
1.4	1	0	16-QAM	23.31	23.13	23.31	23.22	0.2099
1.4	1	3		23.23	23.13	23.34		
1.4	1	5		23.20	23.04	23.23		
1.4	3	0		23.39	23.09	23.22		
1.4	3	1		23.39	23.13	23.32		
1.4	3	3		23.35	23.01	23.25		
1.4	6	0		22.19	22.04	22.36		
Limit	EIRP < 2W			Result			Pass	



LTE Band 25 Maximum Average Power [dBm] (GT - LC = -0.17 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	23.90	24.02	24.01	23.85	0.2427
20	1	49		23.89	23.76	24.00		
20	1	99		23.51	23.64	23.52		
20	50	0		22.79	23.08	22.91		
20	50	24		22.72	22.67	22.88		
20	50	50		22.66	22.69	22.90		
20	100	0		22.70	22.86	22.85		
20	1	0	16-QAM	22.74	22.56	22.59	22.78	0.1897
20	1	49		22.95	22.56	22.77		
20	1	99		22.60	22.52	22.72		
20	50	0		21.88	21.68	21.85		
20	50	24		21.86	21.63	22.10		
20	50	50		21.70	21.67	21.79		
20	100	0		21.71	21.79	21.79		
Limit	EIRP < 2W			Result			Pass	

LTE Band 25 Maximum Average Power [dBm] (GT - LC = -0.17 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	23.83	23.92	24.01	23.84	0.2421
15	1	37		23.99	23.67	24.00		
15	1	74		23.52	23.54	23.52		
15	36	0		22.85	23.06	22.99		
15	36	20		22.75	22.65	22.95		
15	36	39		22.69	22.66	22.82		
15	75	0		22.65	22.84	22.86		
15	1	0	16-QAM	22.79	22.61	22.51	22.80	0.1905
15	1	37		22.97	22.52	22.70		
15	1	74		22.57	22.56	22.79		
15	36	0		21.85	21.68	21.92		
15	36	20		21.84	21.57	22.00		
15	36	39		21.62	21.59	21.89		
15	75	0		21.81	21.77	21.72		
Limit	EIRP < 2W			Result			Pass	



LTE Band 25 Maximum Average Power [dBm] (GT - LC = -0.17 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	23.88	24.01	23.98	23.84	0.2421
10	1	25		23.99	23.85	23.95		
10	1	49		23.57	23.67	23.53		
10	25	0		22.86	23.03	23.01		
10	25	12		22.80	22.66	22.84		
10	25	25		22.70	22.79	22.93		
10	50	0		22.80	22.93	22.76		
10	1	0	16-QAM	22.67	22.55	22.51	22.79	0.1901
10	1	25		22.96	22.60	22.76		
10	1	49		22.66	22.54	22.81		
10	25	0		21.87	21.59	21.92		
10	25	12		21.76	21.54	22.18		
10	25	25		21.75	21.69	21.81		
10	50	0		21.69	21.69	21.89		
Limit	EIRP < 2W			Result			Pass	

LTE Band 25 Maximum Average Power [dBm] (GT - LC = -0.17 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	23.96	23.97	23.94	23.81	0.2404
5	1	12		23.84	23.80	23.98		
5	1	24		23.54	23.65	23.52		
5	12	0		22.86	23.05	22.98		
5	12	7		22.76	22.58	22.89		
5	12	13		22.76	22.63	22.97		
5	25	0		22.67	22.76	22.89		
5	1	0	16-QAM	22.72	22.66	22.53	22.74	0.1879
5	1	12		22.91	22.62	22.82		
5	1	24		22.53	22.52	22.74		
5	12	0		21.84	21.64	21.86		
5	12	7		21.86	21.65	22.11		
5	12	13		21.60	21.77	21.81		
5	25	0		21.65	21.76	21.70		
Limit	EIRP < 2W			Result			Pass	



LTE Band 25 Maximum Average Power [dBm] (GT - LC = -0.17 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
3	1	0	QPSK	23.94	23.95	23.97	23.81	0.2404
3	1	8		23.83	23.81	23.98		
3	1	14		23.52	23.54	23.53		
3	8	0		22.89	23.14	22.81		
3	8	4		22.77	22.75	22.89		
3	8	7		22.71	22.79	22.87		
3	15	0		22.64	22.91	22.86		
3	1	0	16-QAM	22.73	22.56	22.55	23.37	0.2173
3	1	8		22.85	22.60	22.86		
3	1	14		22.68	23.54	22.72		
3	8	0		21.81	21.63	21.87		
3	8	4		21.91	21.63	22.10		
3	8	7		21.61	21.76	21.89		
3	15	0		21.70	21.84	21.78		
Limit	EIRP < 2W			Result			Pass	

LTE Band 25 Maximum Average Power [dBm] (GT - LC = -0.17 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
1.4	1	0	QPSK	23.83	24.00	23.94	23.84	0.2421
1.4	1	3		23.92	23.93	23.93		
1.4	1	5		23.92	23.99	24.01		
1.4	3	0		23.80	23.97	23.91		
1.4	3	1		23.94	23.99	23.92		
1.4	3	3		23.96	23.98	23.91		
1.4	6	0		22.88	23.00	23.02		
1.4	1	0	16-QAM	22.83	23.00	23.07	22.93	0.1963
1.4	1	3		22.92	23.09	23.10		
1.4	1	5		22.96	22.99	23.01		
1.4	3	0		22.92	22.98	23.02		
1.4	3	1		22.89	23.04	23.06		
1.4	3	3		22.94	23.01	23.07		
1.4	6	0		21.91	22.05	21.94		
Limit	EIRP < 2W			Result			Pass	



LTE Band 4 Maximum Average Power [dBm] (GT - LC = 0.49 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	24.21	24.32	24.46	24.95	0.3126
20	1	49		24.14	24.31	24.43		
20	1	99		24.13	24.14	24.30		
20	50	0		23.01	23.20	23.28		
20	50	24		22.85	23.19	23.17		
20	50	50		22.96	23.15	23.15		
20	100	0		23.00	23.15	23.26		
20	1	0	16-QAM	22.95	23.01	23.33	23.82	0.2410
20	1	49		22.99	23.18	23.29		
20	1	99		22.90	22.95	23.14		
20	50	0		22.00	22.13	22.24		
20	50	24		21.86	22.11	22.11		
20	50	50		22.06	22.09	22.08		
20	100	0		22.09	22.15	22.22		
Limit	EIRP < 1W			Result			Pass	

LTE Band 4 Maximum Average Power [dBm] (GT - LC = 0.49 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	24.28	24.29	24.45	24.94	0.3119
15	1	37		24.22	24.35	24.43		
15	1	74		24.09	24.11	24.32		
15	36	0		23.03	23.24	23.20		
15	36	20		22.80	23.20	23.24		
15	36	39		23.02	23.19	23.24		
15	75	0		22.95	23.20	23.28		
15	1	0	16-QAM	23.03	22.92	23.42	23.91	0.2460
15	1	37		23.07	23.13	23.37		
15	1	74		22.83	22.90	23.17		
15	36	0		21.99	22.08	22.33		
15	36	20		21.88	22.09	22.06		
15	36	39		22.04	22.02	21.99		
15	75	0		22.02	22.05	22.15		
Limit	EIRP < 1W			Result			Pass	



LTE Band 4 Maximum Average Power [dBm] (GT - LC = 0.49 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	24.27	24.35	24.44	24.93	0.3112
10	1	25		24.09	24.36	24.41		
10	1	49		24.17	24.20	24.34		
10	25	0		22.94	23.13	23.31		
10	25	12		22.75	23.12	23.17		
10	25	25		22.99	23.08	23.20		
10	50	0		22.94	23.11	23.36		
10	1	0	16-QAM	23.05	22.94	23.29	23.81	0.2404
10	1	25		23.06	23.18	23.32		
10	1	49		22.81	23.05	23.16		
10	25	0		21.99	22.07	22.14		
10	25	12		21.85	22.10	22.20		
10	25	25		22.16	22.01	22.18		
10	50	0		22.03	22.11	22.24		
Limit	EIRP < 1W			Result			Pass	

LTE Band 4 Maximum Average Power [dBm] (GT - LC = 0.49 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	24.29	24.40	24.45	24.94	0.3119
5	1	12		24.22	24.25	24.36		
5	1	24		24.07	24.11	24.20		
5	12	0		23.04	23.12	23.22		
5	12	7		22.83	23.20	23.23		
5	12	13		22.97	23.12	23.20		
5	25	0		22.93	23.05	23.33		
5	1	0	16-QAM	22.94	23.03	23.36	23.85	0.2427
5	1	12		22.94	23.27	23.33		
5	1	24		22.82	23.04	23.12		
5	12	0		22.08	22.18	22.25		
5	12	7		21.84	22.21	22.15		
5	12	13		21.98	22.19	22.08		
5	25	0		22.12	22.19	22.23		
Limit	EIRP < 1W			Result			Pass	



LTE Band 4 Maximum Average Power [dBm] (GT - LC = 0.49 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
3	1	0	QPSK	24.16	24.38	24.44	24.93	0.3112
3	1	8		24.04	24.36	24.41		
3	1	14		24.16	24.11	24.33		
3	8	0		23.03	23.10	23.26		
3	8	4		22.93	23.09	23.12		
3	8	7		22.96	23.20	23.20		
3	15	0		22.93	23.14	23.24		
3	1	0	16-QAM	23.00	22.96	23.34	23.83	0.2415
3	1	8		22.93	23.21	23.27		
3	1	14		22.80	23.00	23.17		
3	8	0		22.04	22.11	22.29		
3	8	4		21.92	22.05	22.17		
3	8	7		22.14	22.14	22.16		
3	15	0		22.07	22.17	22.30		
Limit	EIRP < 1W			Result			Pass	

LTE Band 4 Maximum Average Power [dBm] (GT - LC = 0.49 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
1.4	1	0	QPSK	24.11	24.39	24.40	24.91	0.3097
1.4	1	3		24.26	24.38	24.38		
1.4	1	5		24.25	24.37	24.42		
1.4	3	0		24.31	24.27	24.41		
1.4	3	1		24.19	24.27	24.42		
1.4	3	3		24.28	24.27	24.37		
1.4	6	0		23.11	23.29	23.51		
1.4	1	0	16-QAM	23.28	23.39	23.51	24.00	0.2512
1.4	1	3		23.24	23.40	23.42		
1.4	1	5		23.14	23.29	23.41		
1.4	3	0		23.16	23.25	23.49		
1.4	3	1		23.26	23.24	23.48		
1.4	3	3		23.24	23.31	23.46		
1.4	6	0		22.29	22.31	22.44		
Limit	EIRP < 1W			Result			Pass	



LTE Band 5 Maximum Average Power [dBm] (GT - LC = -2.1 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	23.96	24.10	23.92	19.85	0.0966
10	1	25		23.92	24.04	23.83		
10	1	49		23.94	23.85	23.90		
10	25	0		22.83	23.01	22.92		
10	25	12		22.73	22.99	22.87		
10	25	25		22.82	22.90	22.80		
10	50	0		22.80	23.02	22.87		
10	1	0	16-QAM	22.51	22.93	22.86	18.8	0.0759
10	1	25		22.88	22.96	23.05		
10	1	49		22.77	22.70	22.68		
10	25	0		21.85	22.18	22.01		
10	25	12		22.04	22.07	21.97		
10	25	25		21.99	22.06	22.16		
10	50	0		21.95	21.98	21.96		
Limit	ERP < 7W			Result			Pass	

LTE Band 5 Maximum Average Power [dBm] (GT - LC = -2.1 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0	QPSK	23.94	24.09	24.02	19.84	0.0964
5	1	12		23.83	24.04	23.89		
5	1	24		24.03	23.81	23.93		
5	12	0		22.80	22.94	22.94		
5	12	7		22.81	23.07	22.92		
5	12	13		22.84	23.00	22.81		
5	25	0		22.80	22.98	22.87		
5	1	0	16-QAM	22.50	22.84	22.77	18.79	0.0757
5	1	12		22.89	22.90	23.04		
5	1	24		22.86	22.60	22.60		
5	12	0		21.78	22.28	21.97		
5	12	7		22.01	21.97	21.88		
5	12	13		22.01	22.14	22.24		
5	25	0		22.03	22.05	21.92		
Limit	ERP < 7W			Result			Pass	



LTE Band 5 Maximum Average Power [dBm] (GT - LC = -2.1 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
3	1	0	QPSK	24.05	24.05	23.95	19.8	0.0955
3	1	8		23.94	24.01	23.76		
3	1	14		23.89	23.93	23.84		
3	8	0		22.88	22.94	22.90		
3	8	4		22.74	22.96	22.86		
3	8	7		22.80	22.82	22.85		
3	15	0		22.83	22.94	22.83		
3	1	0	16-QAM	22.50	22.98	22.84	18.79	0.0757
3	1	8		22.95	22.91	23.04		
3	1	14		22.68	22.71	22.71		
3	8	0		21.83	22.20	22.10		
3	8	4		21.97	21.98	21.94		
3	8	7		21.96	22.06	22.19		
3	15	0		21.90	22.06	21.91		
Limit	ERP < 7W			Result			Pass	

LTE Band 5 Maximum Average Power [dBm] (GT - LC = -2.1 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
1.4	1	0	QPSK	23.94	24.08	23.97	19.84	0.0964
1.4	1	3		23.93	24.09	23.88		
1.4	1	5		24.06	24.06	23.99		
1.4	3	0		23.89	24.00	24.02		
1.4	3	1		23.86	24.07	23.96		
1.4	3	3		23.89	24.00	23.87		
1.4	6	0		22.87	23.03	22.95		
1.4	1	0	16-QAM	23.03	23.14	22.84	18.93	0.0782
1.4	1	3		22.87	23.14	22.94		
1.4	1	5		23.06	23.17	22.91		
1.4	3	0		22.87	23.18	22.84		
1.4	3	1		23.01	23.04	22.93		
1.4	3	3		23.00	23.15	22.94		
1.4	6	0		21.95	22.04	21.83		
Limit	ERP < 7W			Result			Pass	



LTE Band 7 Maximum Average Power [dBm] (GT - LC = 1.41 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	24.12	23.96	24.13	25.54	0.3581
20	1	49		24.10	23.91	24.05		
20	1	99		23.94	23.94	23.94		
20	50	0		22.92	22.91	23.11		
20	50	24		22.88	22.85	23.10		
20	50	50		22.91	22.90	22.94		
20	100	0		22.96	22.85	22.99		
20	1	0	16-QAM	22.67	22.56	22.66	24.34	0.2716
20	1	49		22.89	22.92	22.93		
20	1	99		22.73	22.86	22.82		
20	50	0		21.94	21.80	22.00		
20	50	24		22.00	21.81	22.06		
20	50	50		22.00	21.89	21.94		
20	100	0		21.92	21.84	22.04		
Limit	EIRP < 2W			Result			Pass	

LTE Band 7 Maximum Average Power [dBm] (GT - LC = 1.41 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	24.10	23.99	24.12	25.53	0.3573
15	1	37		24.07	24.01	24.07		
15	1	74		23.94	23.99	23.95		
15	36	0		22.94	22.86	23.15		
15	36	20		22.86	22.93	23.11		
15	36	39		22.92	22.90	22.90		
15	75	0		22.87	22.91	23.04		
15	1	0	16-QAM	22.70	22.51	22.64	24.42	0.2767
15	1	37		22.85	22.92	23.01		
15	1	74		22.77	22.82	22.87		
15	36	0		21.90	21.70	22.08		
15	36	20		22.10	21.83	22.16		
15	36	39		22.05	21.84	21.89		
15	75	0		21.87	21.74	22.12		
Limit	EIRP < 2W			Result			Pass	



LTE Band 7 Maximum Average Power [dBm] (GT - LC = 1.41 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	24.05	24.03	24.12	25.53	0.3573
10	1	25		24.10	23.99	24.06		
10	1	49		23.91	23.87	23.88		
10	25	0		22.98	22.93	23.04		
10	25	12		22.78	22.90	23.07		
10	25	25		22.84	22.90	22.95		
10	50	0		22.99	22.90	23.04		
10	1	0	16-QAM	22.76	22.66	22.68	24.42	0.2767
10	1	25		22.81	22.89	23.01		
10	1	49		22.68	22.79	22.74		
10	25	0		21.84	21.76	21.97		
10	25	12		22.02	21.90	22.06		
10	25	25		21.91	21.91	21.89		
10	50	0		21.91	21.86	22.12		
Limit	EIRP < 2W			Result			Pass	

LTE Band 7 Maximum Average Power [dBm] (GT - LC = 1.41 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	24.07	23.89	24.10	25.51	0.3556
5	1	12		24.01	23.97	24.04		
5	1	24		23.97	23.93	23.89		
5	12	0		22.95	22.86	23.16		
5	12	7		22.89	22.87	23.13		
5	12	13		22.86	22.89	23.03		
5	25	0		22.89	22.78	23.01		
5	1	0	16-QAM	22.66	22.51	22.56	24.43	0.2773
5	1	12		22.88	23.02	22.88		
5	1	24		22.70	22.80	22.77		
5	12	0		21.97	21.89	21.93		
5	12	7		22.10	21.91	22.05		
5	12	13		22.09	21.91	21.97		
5	25	0		22.00	21.93	22.03		
Limit	EIRP < 2W			Result			Pass	



LTE Band 12 Maximum Average Power [dBm] (GT - LC = -2.11 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	24.00	24.08	24.01	19.82	0.0959
10	1	25		23.82	23.73	23.73		
10	1	49		23.85	23.80	23.80		
10	25	0		22.95	22.96	22.94		
10	25	12		22.91	22.86	22.92		
10	25	25		22.94	22.82	22.93		
10	50	0		22.91	22.92	22.89		
10	1	0	16-QAM	22.65	22.57	22.67	18.68	0.0738
10	1	25		22.91	22.93	22.94		
10	1	49		22.66	22.60	22.57		
10	25	0		21.82	21.94	22.00		
10	25	12		22.01	21.90	22.07		
10	25	25		22.13	21.96	22.01		
10	50	0		21.85	21.91	21.79		
Limit	ERP < 3W			Result			Pass	

LTE Band 12 Maximum Average Power [dBm] (GT - LC = -2.11 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0	QPSK	23.91	24.07	23.95	19.81	0.0957
5	1	12		23.76	23.64	23.65		
5	1	24		23.80	23.78	23.80		
5	12	0		22.90	22.92	22.85		
5	12	7		22.97	22.76	22.84		
5	12	13		23.04	22.88	22.87		
5	25	0		22.95	22.88	22.99		
5	1	0	16-QAM	22.61	22.61	22.66	18.74	0.0748
5	1	12		22.92	22.89	23.00		
5	1	24		22.56	22.64	22.61		
5	12	0		21.92	22.04	22.08		
5	12	7		22.05	21.93	22.01		
5	12	13		22.15	22.06	22.03		
5	25	0		21.83	22.00	21.75		
Limit	ERP < 3W			Result			Pass	



LTE Band 12 Maximum Average Power [dBm] (GT - LC = -2.11 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
3	1	0	QPSK	24.02	24.00	24.00	19.76	0.0946
3	1	8		23.88	23.65	23.75		
3	1	14		23.90	23.87	23.88		
3	8	0		22.99	22.88	22.95		
3	8	4		22.96	22.82	22.88		
3	8	7		22.95	22.81	22.91		
3	15	0		22.81	23.02	22.80		
3	1	0	16-QAM	22.75	22.57	22.58	18.76	0.0752
3	1	8		22.97	23.02	23.02		
3	1	14		22.69	22.64	22.65		
3	8	0		21.81	22.00	22.04		
3	8	4		22.02	21.87	22.12		
3	8	7		22.17	22.05	22.01		
3	15	0		21.91	21.87	21.81		
Limit	ERP < 3W			Result			Pass	

LTE Band 12 Maximum Average Power [dBm] (GT - LC = -2.11 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
1.4	1	0	QPSK	23.93	24.02	24.07	19.81	0.0957
1.4	1	3		23.90	24.07	24.01		
1.4	1	5		23.96	24.07	23.98		
1.4	3	0		24.03	24.02	23.99		
1.4	3	1		24.03	24.04	23.94		
1.4	3	3		24.06	24.07	24.00		
1.4	6	0		22.96	23.16	23.01		
1.4	1	0	16-QAM	22.99	23.04	23.06	18.87	0.0771
1.4	1	3		22.96	23.10	23.01		
1.4	1	5		23.09	23.06	23.00		
1.4	3	0		22.90	23.10	23.08		
1.4	3	1		22.97	23.13	23.07		
1.4	3	3		23.10	23.07	23.08		
1.4	6	0		22.10	22.01	21.94		
Limit	ERP < 3W			Result			Pass	



LTE Band 13 Maximum Average Power [dBm] (GT - LC = 0.7 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	-	23.78	-	22.33	0.1710
10	1	25			23.76			
10	1	49			23.77			
10	25	0			22.82			
10	25	12			22.79			
10	25	25			22.81			
10	50	0			22.77			
10	1	0	16-QAM	-	22.72	-	21.47	0.1403
10	1	25			22.92			
10	1	49			22.77			
10	25	0			21.82			
10	25	12			21.87			
10	25	25			21.93			
10	50	0			21.93			
Limit	ERP < 3W			Result			Pass	

LTE Band 13 Maximum Average Power [dBm] (GT - LC = 0.7 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0	QPSK	23.70	23.76	23.75	22.32	0.1706
5	1	12		23.75	23.72	23.76		
5	1	24		23.77	23.71	23.77		
5	12	0		22.74	22.83	22.90		
5	12	7		22.85	22.78	22.86		
5	12	13		22.90	22.84	22.83		
5	25	0		22.80	22.74	22.84		
5	1	0	16-QAM	22.80	22.75	22.65	21.54	0.1426
5	1	12		22.99	22.93	22.92		
5	1	24		22.74	22.68	22.78		
5	12	0		21.86	21.73	21.84		
5	12	7		21.92	21.93	21.87		
5	12	13		22.03	21.88	21.89		
5	25	0		22.03	21.91	21.87		
Limit	ERP < 3W			Result			Pass	



LTE Band 26 Maximum Average Power [dBm] (GT - LC = -1.56 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
15	1	0	QPSK	23.70	23.77	23.75	20.06	0.1014
15	1	37		23.68	23.75	23.67		
15	1	74		23.60	23.75	23.72		
15	36	0		22.71	22.86	22.82		
15	36	20		22.69	22.67	22.80		
15	36	39		22.62	22.82	22.81		
15	75	0		22.60	22.80	22.79		
15	1	0	16-QAM	22.52	22.50	22.52	19.06	0.0805
15	1	37		22.52	22.71	22.69		
15	1	74		22.53	22.50	22.77		
15	36	0		22.53	21.58	21.72		
15	36	20		21.68	21.72	21.74		
15	36	39		21.59	21.77	21.92		
15	75	0		21.71	21.80	21.83		
Limit	ERP < 7W			Result			Pass	

LTE Band 26 Maximum Average Power [dBm] (GT - LC = -1.56 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	23.66	23.69	23.74	20.04	0.1009
10	1	25		23.71	23.75	23.69		
10	1	49		23.58	23.74	23.68		
10	25	0		22.78	22.87	22.86		
10	25	12		22.65	22.60	22.79		
10	25	25		22.66	22.79	22.83		
10	50	0		22.52	22.89	22.85		
10	1	0	16-QAM	22.50	22.52	22.56	18.99	0.0793
10	1	25		22.51	22.61	22.70		
10	1	49		22.53	22.55	22.67		
10	25	0		22.50	21.53	21.82		
10	25	12		21.74	21.67	21.83		
10	25	25		21.65	21.82	22.01		
10	50	0		21.70	21.75	21.80		
Limit	ERP < 7W			Result			Pass	



FCC RADIO TEST REPORT

Report No. : FG101802B

LTE Band 26 Maximum Average Power [dBm] (GT - LC = -1.56 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0	QPSK	23.68	23.74	23.70	20.03	0.1007
5	1	12		23.73	23.68	23.70		
5	1	24		23.58	23.70	23.71		
5	12	0		22.78	22.93	22.74		
5	12	7		22.65	22.63	22.84		
5	12	13		22.53	22.74	22.75		
5	25	0		22.55	22.71	22.72		
5	1	0	16-QAM	22.57	22.50	22.52	19.12	0.0817
5	1	12		22.60	22.62	22.61		
5	1	24		22.59	22.51	22.83		
5	12	0		22.43	21.51	21.75		
5	12	7		21.66	21.76	21.69		
5	12	13		21.69	21.68	21.86		
5	25	0		21.81	21.90	21.92		
Limit	ERP < 7W			Result			Pass	

LTE Band 26 Maximum Average Power [dBm] (GT - LC = -1.56 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
3	1	0	QPSK	23.73	23.75	23.70	20.04	0.1009
3	1	8		23.58	23.67	23.75		
3	1	14		23.52	23.74	23.66		
3	8	0		22.61	22.78	22.75		
3	8	4		22.79	22.67	22.84		
3	8	7		22.52	22.91	22.73		
3	15	0		22.50	22.90	22.73		
3	1	0	16-QAM	22.57	22.59	22.52	18.96	0.0787
3	1	8		22.57	22.66	22.59		
3	1	14		22.51	22.54	22.67		
3	8	0		22.55	21.51	21.78		
3	8	4		21.61	21.68	21.81		
3	8	7		21.52	21.74	22.01		
3	15	0		21.75	21.86	21.91		
Limit	ERP < 7W			Result			Pass	



FCC RADIO TEST REPORT

Report No. : FG101802B

LTE Band 26 Maximum Average Power [dBm] (GT - LC = -1.56 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
1.4	1	0	QPSK	23.67	23.69	23.71	20.05	0.1012
1.4	1	3		23.67	23.71	23.65		
1.4	1	5		23.64	23.75	23.69		
1.4	3	0		23.63	23.69	23.76		
1.4	3	1		23.68	23.70	23.68		
1.4	3	3		23.67	23.75	23.74		
1.4	6	0		22.64	22.77	22.82		
1.4	1	0	16-QAM	22.64	22.77	22.83	19.14	0.0820
1.4	1	3		22.73	22.76	22.78		
1.4	1	5		22.65	22.83	22.85		
1.4	3	0		22.80	22.85	22.82		
1.4	3	1		22.79	22.68	22.68		
1.4	3	3		22.67	22.78	22.67		
1.4	6	0		21.71	21.73	21.70		
Limit	ERP < 7W			Result			Pass	



LTE Band 38 Maximum Average Power [dBm] (GT - LC = 1.81 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	24.29	24.45	23.96	26.26	0.4227
20	1	49		24.14	24.35	23.86		
20	1	99		23.81	23.91	23.77		
20	50	0		23.22	23.23	22.88		
20	50	24		23.20	22.96	22.76		
20	50	50		23.09	22.98	22.84		
20	100	0		23.01	23.05	22.93		
20	1	0	16-QAM	22.52	22.78	22.50	24.88	0.3076
20	1	49		22.83	23.07	22.92		
20	1	99		22.57	22.71	22.55		
20	50	0		21.90	22.19	21.97		
20	50	24		22.24	22.03	21.95		
20	50	50		22.17	22.19	21.79		
20	100	0		22.04	21.95	21.76		
Limit	EIRP < 2W			Result			Pass	

LTE Band 38 Maximum Average Power [dBm] (GT - LC = 1.81 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	24.27	24.40	23.97	26.21	0.4178
15	1	37		24.21	24.32	23.86		
15	1	74		23.71	23.96	23.84		
15	36	0		23.15	23.28	22.87		
15	36	20		23.30	22.96	22.72		
15	36	39		23.16	22.98	22.92		
15	75	0		23.00	22.98	22.90		
15	1	0	16-QAM	22.54	22.82	22.54	24.94	0.3119
15	1	37		22.89	23.13	23.01		
15	1	74		22.55	22.81	22.58		
15	36	0		21.84	22.19	21.96		
15	36	20		22.33	22.11	21.94		
15	36	39		22.12	22.26	21.82		
15	75	0		21.95	22.01	21.82		
Limit	EIRP < 2W			Result			Pass	



LTE Band 38 Maximum Average Power [dBm] (GT - LC = 1.81 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	24.36	24.43	23.96	26.24	0.4207
10	1	25		24.06	24.35	23.81		
10	1	49		23.90	23.81	23.83		
10	25	0		23.18	23.28	22.95		
10	25	12		23.25	22.89	22.79		
10	25	25		23.06	23.06	22.93		
10	50	0		22.91	23.01	22.88		
10	1	0	16-QAM	22.51	22.76	22.53	24.91	0.3097
10	1	25		22.89	23.10	22.95		
10	1	49		22.65	22.75	22.62		
10	25	0		21.81	22.12	22.05		
10	25	12		22.25	21.97	21.92		
10	25	25		22.13	22.23	21.73		
10	50	0		22.05	21.91	21.84		
Limit	EIRP < 2W			Result			Pass	

LTE Band 38 Maximum Average Power [dBm] (GT - LC = 1.81 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	24.35	24.40	23.98	26.21	0.4178
5	1	12		24.10	24.31	23.81		
5	1	24		23.87	23.88	23.84		
5	12	0		23.15	23.17	22.78		
5	12	7		23.27	23.01	22.81		
5	12	13		23.10	22.92	22.91		
5	25	0		22.97	23.07	23.01		
5	1	0	16-QAM	22.53	22.84	22.50	24.79	0.3013
5	1	12		22.90	22.98	22.84		
5	1	24		22.50	22.62	22.60		
5	12	0		21.91	22.26	21.93		
5	12	7		22.22	22.11	21.85		
5	12	13		22.20	22.11	21.84		
5	25	0		22.10	21.85	21.70		
Limit	EIRP < 2W			Result			Pass	



LTE Band 41 Maximum Average Power [dBm] (GT - LC = 1.77 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	24.05	24.20	24.06	25.97	0.3954
20	1	49		24.04	24.19	24.03		
20	1	99		23.95	23.95	23.82		
20	50	0		23.14	23.32	22.94		
20	50	24		23.06	23.12	22.79		
20	50	50		23.09	23.26	22.85		
20	100	0		22.94	23.22	22.76		
20	1	0	16-QAM	22.59	22.58	22.55	24.59	0.2877
20	1	49		22.77	22.82	22.51		
20	1	99		22.56	22.58	22.56		
20	50	0		22.16	22.10	21.84		
20	50	24		22.17	22.14	21.76		
20	50	50		22.21	22.01	21.98		
20	100	0		21.96	22.07	21.71		
Limit	EIRP < 2W			Result			Pass	

LTE Band 41 Maximum Average Power [dBm] (GT - LC = 1.77 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	23.98	24.17	24.00	25.94	0.3926
15	1	37		24.10	24.11	24.12		
15	1	74		23.95	24.03	23.81		
15	36	0		23.12	23.28	22.99		
15	36	20		22.98	23.05	22.75		
15	36	39		23.01	23.17	22.80		
15	75	0		22.85	23.25	22.75		
15	1	0	16-QAM	22.55	22.58	22.50	24.66	0.2924
15	1	37		22.85	22.89	22.51		
15	1	74		22.61	22.52	22.51		
15	36	0		22.19	22.05	21.78		
15	36	20		22.22	22.17	21.79		
15	36	39		22.15	22.07	21.96		
15	75	0		21.97	22.10	21.76		
Limit	EIRP < 2W			Result			Pass	



LTE Band 41 Maximum Average Power [dBm] (GT - LC = 1.77 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	24.06	24.14	24.07	25.91	0.3899
10	1	25		24.13	24.12	24.02		
10	1	49		23.97	23.89	23.73		
10	25	0		23.04	23.28	23.00		
10	25	12		23.02	23.07	22.74		
10	25	25		23.00	23.26	22.93		
10	50	0		22.95	23.15	22.81		
10	1	0	16-QAM	22.69	22.50	22.54	24.68	0.2938
10	1	25		22.79	22.91	22.52		
10	1	49		22.56	22.62	22.66		
10	25	0		22.21	22.06	21.89		
10	25	12		22.13	22.11	21.73		
10	25	25		22.17	22.06	21.96		
10	50	0		21.99	21.97	21.79		
Limit	EIRP < 2W			Result			Pass	

LTE Band 41 Maximum Average Power [dBm] (GT - LC = 1.77 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	24.02	24.17	23.98	25.95	0.3936
5	1	12		23.99	24.18	24.05		
5	1	24		24.04	23.94	23.82		
5	12	0		23.23	23.25	22.90		
5	12	7		23.16	23.02	22.70		
5	12	13		23.05	23.23	22.90		
5	25	0		22.86	23.31	22.85		
5	1	0	16-QAM	22.60	22.50	22.59	24.62	0.2897
5	1	12		22.82	22.85	22.54		
5	1	24		22.57	22.67	22.63		
5	12	0		22.18	22.19	21.78		
5	12	7		22.10	22.11	21.78		
5	12	13		22.13	22.07	21.91		
5	25	0		21.98	22.01	21.70		
Limit	EIRP < 2W			Result			Pass	



LTE Band 66 Maximum Average Power [dBm] (GT - LC = 0.4 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	23.77	24.20	24.19	24.60	0.2884
20	1	49		23.76	24.11	24.18		
20	1	99		23.67	24.15	23.62		
20	50	0		22.97	23.20	22.99		
20	50	24		22.96	23.08	22.97		
20	50	50		22.86	22.99	22.78		
20	100	0		22.94	23.01	22.96		
20	1	0	16-QAM	22.57	22.90	23.29	23.69	0.2339
20	1	49		22.71	22.87	22.79		
20	1	99		23.02	22.95	22.69		
20	50	0		21.97	22.21	22.00		
20	50	24		21.93	22.06	21.99		
20	50	50		21.87	22.04	21.93		
20	100	0		21.93	22.00	21.88		
Limit	EIRP < 1W			Result			Pass	

LTE Band 66 Maximum Average Power [dBm] (GT - LC = 0.4 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	23.80	24.15	24.19	24.59	0.2877
15	1	37		23.67	24.04	24.11		
15	1	74		23.63	24.09	23.60		
15	36	0		22.89	23.18	23.02		
15	36	20		23.03	23.00	22.88		
15	36	39		22.95	22.98	22.73		
15	75	0		22.90	23.03	23.01		
15	1	0	16-QAM	22.63	22.80	23.39	23.79	0.2393
15	1	37		22.66	22.89	22.77		
15	1	74		23.06	22.86	22.62		
15	36	0		21.96	22.18	21.97		
15	36	20		21.91	22.10	22.01		
15	36	39		21.92	22.13	21.84		
15	75	0		22.02	21.99	21.81		
Limit	EIRP < 1W			Result			Pass	



LTE Band 66 Maximum Average Power [dBm] (GT - LC = 0.4 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	23.72	24.12	24.16	24.56	0.2858
10	1	25		23.82	24.03	24.15		
10	1	49		23.71	24.14	23.59		
10	25	0		22.98	23.16	22.99		
10	25	12		23.05	22.98	22.97		
10	25	25		22.77	23.03	22.75		
10	50	0		22.96	23.00	22.92		
10	1	0	16-QAM	22.57	22.90	23.26	23.66	0.2323
10	1	25		22.81	22.81	22.85		
10	1	49		23.09	22.93	22.78		
10	25	0		21.94	22.29	22.10		
10	25	12		21.84	22.01	22.03		
10	25	25		21.77	21.96	21.97		
10	50	0		21.94	22.08	21.94		
Limit	EIRP < 1W			Result			Pass	

LTE Band 66 Maximum Average Power [dBm] (GT - LC = 0.4 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	23.81	24.16	24.19	24.59	0.2877
5	1	12		23.79	24.19	24.12		
5	1	24		23.61	24.17	23.52		
5	12	0		22.97	23.27	22.95		
5	12	7		22.93	23.13	23.02		
5	12	13		22.86	23.08	22.77		
5	25	0		22.89	22.94	23.06		
5	1	0	16-QAM	22.52	22.85	23.35	23.75	0.2371
5	1	12		22.61	22.79	22.81		
5	1	24		22.97	22.90	22.60		
5	12	0		21.95	22.13	22.01		
5	12	7		21.88	22.04	22.06		
5	12	13		21.95	22.04	22.02		
5	25	0		21.95	21.91	21.86		
Limit	EIRP < 1W			Result			Pass	



LTE Band 66 Maximum Average Power [dBm] (GT - LC = 0.4 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
3	1	0	QPSK	23.85	24.10	24.15	24.59	0.2877
3	1	8		23.74	24.03	24.19		
3	1	14		23.58	24.13	23.56		
3	8	0		22.97	23.14	22.98		
3	8	4		22.96	22.99	22.89		
3	8	7		22.87	22.94	22.83		
3	15	0		22.85	22.98	22.92		
3	1	0	16-QAM	22.51	22.97	23.30	23.70	0.2344
3	1	8		22.81	22.78	22.84		
3	1	14		23.04	22.89	22.72		
3	8	0		22.03	22.26	21.90		
3	8	4		21.91	22.03	21.91		
3	8	7		21.77	21.94	21.92		
3	15	0		21.97	21.96	21.82		
Limit	EIRP < 1W			Result			Pass	

LTE Band 66 Maximum Average Power [dBm] (GT - LC = 0.4 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
1.4	1	0	QPSK	23.87	24.14	24.10	24.59	0.2877
1.4	1	3		23.78	24.19	24.15		
1.4	1	5		23.69	24.10	24.15		
1.4	3	0		23.72	24.19	24.18		
1.4	3	1		23.69	24.13	24.11		
1.4	3	3		23.81	24.16	24.15		
1.4	6	0		22.87	23.15	23.21		
1.4	1	0	16-QAM	22.70	23.12	23.11	23.70	0.2344
1.4	1	3		22.75	23.15	23.26		
1.4	1	5		22.86	23.26	23.24		
1.4	3	0		22.79	23.28	23.11		
1.4	3	1		22.72	23.18	23.25		
1.4	3	3		22.78	23.30	23.12		
1.4	6	0		21.82	22.11	22.20		
Limit	EIRP < 1W			Result			Pass	



LTE Band 71 Maximum Average Power [dBm] (GT - LC = -2.27 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
20	1	0	QPSK	23.60	23.83	23.71	19.41	0.0873
20	1	49		23.50	23.80	23.60		
20	1	99		23.53	23.81	23.57		
20	50	0		22.70	22.83	22.81		
20	50	24		22.65	22.71	22.76		
20	50	50		22.59	22.82	22.80		
20	100	0		22.67	22.78	22.76		
20	1	0	16-QAM	22.63	22.73	22.75	18.45	0.0700
20	1	49		22.86	22.87	22.60		
20	1	99		22.71	22.63	22.64		
20	50	0		21.65	21.57	21.65		
20	50	24		21.59	21.59	21.72		
20	50	50		21.62	21.83	21.83		
20	100	0		21.69	21.76	21.70		
Limit	ERP < 3W			Result			Pass	

LTE Band 71 Maximum Average Power [dBm] (GT - LC = -2.27 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
15	1	0	QPSK	23.70	23.81	23.69	19.4	0.0871
15	1	37		23.60	23.81	23.63		
15	1	74		23.52	23.82	23.51		
15	36	0		22.74	22.81	22.87		
15	36	20		22.75	22.76	22.67		
15	36	39		22.53	22.80	22.90		
15	75	0		22.69	22.88	22.84		
15	1	0	16-QAM	22.71	22.71	22.76	18.54	0.0714
15	1	37		22.96	22.93	22.61		
15	1	74		22.67	22.61	22.65		
15	36	0		21.59	21.59	21.63		
15	36	20		21.55	21.52	21.62		
15	36	39		21.60	21.79	21.90		
15	75	0		21.71	21.71	21.61		
Limit	ERP < 3W			Result			Pass	



LTE Band 71 Maximum Average Power [dBm] (GT - LC = -2.27 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	23.63	23.81	23.71	19.39	0.0869
10	1	25		23.52	23.77	23.67		
10	1	49		23.62	23.77	23.56		
10	25	0		22.75	22.85	22.87		
10	25	12		22.70	22.61	22.73		
10	25	25		22.59	22.91	22.82		
10	50	0		22.72	22.69	22.84		
10	1	0	16-QAM	22.66	22.72	22.66	18.49	0.0706
10	1	25		22.91	22.80	22.64		
10	1	49		22.65	22.59	22.73		
10	25	0		21.57	21.57	21.56		
10	25	12		21.64	21.68	21.76		
10	25	25		21.55	21.90	21.93		
10	50	0		21.67	21.78	21.69		
Limit	ERP < 3W			Result			Pass	

LTE Band 71 Maximum Average Power [dBm] (GT - LC = -2.27 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0	QPSK	23.51	23.74	23.79	19.38	0.0867
5	1	12		23.53	23.80	23.56		
5	1	24		23.63	23.72	23.58		
5	12	0		22.63	22.90	22.90		
5	12	7		22.72	22.79	22.69		
5	12	13		22.68	22.74	22.71		
5	25	0		22.60	22.70	22.67		
5	1	0	16-QAM	22.68	22.68	22.73	18.45	0.0700
5	1	12		22.77	22.87	22.66		
5	1	24		22.66	22.53	22.66		
5	12	0		21.65	21.67	21.67		
5	12	7		21.55	21.62	21.74		
5	12	13		21.72	21.83	21.78		
5	25	0		21.61	21.66	21.70		
Limit	ERP < 3W			Result			Pass	



Appendix B. Test Results of Radiated Test

LTE Band 2

LTE Band 2 / 20MHz / 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	3700	-46.49	-13	-33.49	-56.94	-56.12	2.77	12.40	H
	5555	-55.25	-13	-42.25	-72.38	-65.18	3.46	13.39	H
	7404	-54.90	-13	-41.90	-74.08	-62.10	3.98	11.18	H
									H
									H
									H
									H
	3700	-49.58	-13	-36.58	-60.44	-59.21	2.77	12.40	V
	5555	-54.39	-13	-41.39	-71.6	-64.32	3.46	13.39	V
	7404	-54.40	-13	-41.40	-73.91	-61.60	3.98	11.18	V
									V
									V
									V
									V
Middle	3742	-47.91	-13	-34.91	-58.54	-57.62	2.78	12.48	H
	5611	-53.32	-13	-40.32	-70.35	-63.19	3.48	13.34	H
	7484	-54.93	-13	-41.93	-73.86	-62.10	4.00	11.17	H
									H
									H
									H
	3742	-49.63	-13	-36.63	-60.66	-59.34	2.78	12.48	V
	5611	-54.61	-13	-41.61	-71.86	-64.48	3.48	13.34	V
	7484	-54.48	-13	-41.48	-73.77	-61.65	4.00	11.17	V
									V
									V
									V



Highest	3784	-54.80	-13	-41.80	-65.6	-64.44	2.79	12.43	H
	5674	-54.44	-13	-41.44	-71.86	-64.40	3.49	13.45	H
	7564	-54.95	-13	-41.95	-73.39	-62.18	4.02	11.26	H
									H
									H
									H
									H
	3784	-53.45	-13	-40.45	-64.63	-63.09	2.79	12.43	V
	5674	-55.21	-13	-42.21	-72.86	-65.17	3.49	13.45	V
	7564	-54.31	-13	-41.31	-73.23	-61.54	4.02	11.26	V
									V
									V
									V
									V

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

**LTE Band 25**

LTE Band 25 / 20MHz / 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	3700	-48.25	-13	-35.25	-58.7	-57.88	2.77	12.40	H
	5555	-55.82	-13	-42.82	-72.95	-65.75	3.46	13.39	H
	7404	-54.88	-13	-41.88	-74.06	-62.08	3.98	11.18	H
									H
									H
									H
									H
	3700	-49.65	-13	-36.65	-60.51	-59.28	2.77	12.40	V
	5555	-55.16	-13	-42.16	-72.37	-65.09	3.46	13.39	V
	7404	-54.51	-13	-41.51	-74.18	-61.71	3.98	11.18	V
									V
									V
									V
									V
Middle	3742	-47.91	-13	-34.91	-58.54	-57.62	2.78	12.48	H
	5611	-52.30	-13	-39.30	-69.33	-62.17	3.48	13.34	H
	7484	-55.36	-13	-42.36	-74.29	-62.53	4.00	11.17	H
									H
									H
									H
									H
	3742	-50.38	-13	-37.38	-61.41	-60.09	2.78	12.48	V
	5611	-56.25	-13	-43.25	-73.5	-66.12	3.48	13.34	V
	7484	-54.94	-13	-41.94	-74.23	-62.11	4.00	11.17	V
									V
									V
									V
									V



Highest	3791	-52.45	-13	-39.45	-63.13	-62.08	2.79	12.42	H
	5688	-52.21	-13	-39.21	-69.9	-62.14	3.50	13.42	H
	7584	-54.68	-13	-41.68	-74.24	-61.99	4.03	11.34	H
									H
									H
									H
									H
	3791	-51.88	-13	-38.88	-62.94	-61.51	2.79	12.42	V
	5688	-46.91	-13	-33.91	-64.83	-56.84	3.50	13.42	V
	7584	-54.06	-13	-41.06	-74.14	-61.37	4.03	11.34	V
									V
									V
									V
									V

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

**LTE Band 4**

LTE Band 4 / 20MHz / 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	3420	-51.60	-13	-38.60	-60.73	-62.49	1.23	12.12	H
	5135	-53.68	-13	-40.68	-69.24	-64.58	1.97	12.86	H
	6843	-55.53	-13	-42.53	-74.85	-64.49	2.34	11.30	H
									H
									H
									H
									H
	3420	-50.23	-13	-37.23	-59.73	-61.12	1.23	12.12	V
	5135	-48.16	-13	-35.16	-64.28	-59.06	1.97	12.86	V
	6843	-55.15	-13	-42.15	-74.84	-64.11	2.34	11.30	V
									V
									V
									V
									V
Middle	3448	-55.39	-13	-42.39	-64.76	-65.29	2.70	12.60	H
	5170	-56.00	-13	-43.00	-71.78	-65.29	3.33	12.62	H
	6894	-55.59	-13	-42.59	-74.99	-63.76	3.88	12.05	H
									H
									H
									H
									H
	3448	-53.50	-13	-40.50	-63.24	-63.40	2.70	12.60	V
	5170	-47.97	-13	-34.97	-64.27	-57.26	3.33	12.62	V
	6894	-55.17	-13	-42.17	-74.78	-63.34	3.88	12.05	V
									V
									V
									V
									V



Highest	3469	-56.39	-13	-43.39	-65.93	-67.38	1.24	12.23	H
	5205	-50.03	-13	-37.03	-66	-61.00	1.97	12.95	H
	6941	-54.73	-13	-41.73	-74.21	-63.98	2.36	11.61	H
									H
									H
									H
									H
	3469	-55.77	-13	-42.77	-65.68	-66.76	1.24	12.23	V
	5205	-45.62	-13	-32.62	-62.07	-56.59	1.97	12.95	V
	6941	-54.88	-13	-41.88	-74.41	-64.13	2.36	11.61	V
									V
									V
									V
									V

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

**LTE Band 66**

LTE Band 66 / 20MHz / 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	3420	-51.00	-13	-38.00	-60.13	-60.92	2.68	12.60	H
	5135	-53.02	-13	-40.02	-68.58	-62.14	3.32	12.44	H
	6844	-55.00	-13	-42.00	-74.33	-63.54	3.86	12.40	H
									H
									H
									H
									H
	3420	-48.35	-13	-35.35	-57.85	-58.27	2.68	12.60	V
	5135	-45.82	-13	-32.82	-61.94	-54.94	3.32	12.44	V
	6844	-54.75	-13	-41.75	-74.44	-63.29	3.86	12.40	V
									V
									V
									V
									V
Middle	3469	-57.12	-13	-44.12	-66.66	-66.94	2.71	12.52	H
	5205	-50.26	-13	-37.26	-66.23	-59.76	3.34	12.84	H
	6944	-54.69	-13	-41.69	-74.17	-62.80	3.89	12.00	H
									H
									H
									H
									H
	3469	-56.51	-13	-43.51	-66.42	-66.33	2.71	12.52	V
	5205	-43.64	-13	-30.64	-60.09	-53.14	3.34	12.84	V
	6944	-54.71	-13	-41.71	-74.24	-62.82	3.89	12.00	V
									V
									V
									V
									V



Highest	3525	-56.52	-13	-43.52	-66.37	-66.09	2.73	12.30	H
	5282	-49.79	-13	-36.79	-65.93	-59.75	3.37	13.33	H
	7044	-54.79	-13	-41.79	-74.25	-62.51	3.92	11.64	H
									H
									H
									H
									H
	3525	-57.96	-13	-44.96	-68.2	-67.53	2.73	12.30	V
	5282	-48.37	-13	-35.37	-64.86	-58.33	3.37	13.33	V
	7044	-54.66	-13	-41.66	-74.1	-62.38	3.92	11.64	V
									V
									V
									V
									V

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

**LTE Band 5**

LTE Band 5 / 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	-59.55	-13	-46.55	-62.59	-64.85	1.83	9.28	H
	2472	-44.74	-13	-31.74	-51.04	-50.97	2.25	10.63	H
	3298	-63.81	-13	-50.81	-72.15	-71.33	2.62	12.29	H
									H
									H
									H
									H
	1648	-61.29	-13	-48.29	-64.79	-66.59	1.83	9.28	V
	2472	-47.52	-13	-34.52	-54.05	-53.75	2.25	10.63	V
	3298	-62.92	-13	-49.92	-71.66	-70.44	2.62	12.29	V
									V
									V
									V
									V
Middle	1664	-58.18	-13	-45.18	-61.29	-63.57	1.84	9.38	H
	2496	-45.42	-13	-32.42	-51.88	-51.79	2.26	10.78	H
	3328	-64.01	-13	-51.01	-72.27	-71.75	2.64	12.52	H
									H
									H
									H
									H
	1664	-60.43	-13	-47.43	-64.01	-65.82	1.84	9.38	V
	2496	-46.48	-13	-33.48	-53.01	-52.85	2.26	10.78	V
	3328	-62.36	-13	-49.36	-71.02	-70.10	2.64	12.52	V
									V
									V
									V
									V



Highest	1680	-56.42	-13	-43.42	-59.62	-61.90	1.85	9.48	H
	2520	-48.56	-13	-35.56	-54.96	-54.94	2.27	10.80	H
	3358	-63.57	-13	-50.57	-71.76	-71.45	2.65	12.68	H
									H
									H
									H
									H
	1680	-58.98	-13	-45.98	-62.65	-64.46	1.85	9.48	V
	2520	-49.65	-13	-36.65	-56.22	-56.03	2.27	10.80	V
	3358	-62.39	-13	-49.39	-70.96	-70.27	2.65	12.68	V
									V
									V
									V
									V

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

**LTE Band 26**

LTE Band 26 / 15MHz / 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	-58.72	-13	-45.72	-61.76	-64.02	1.83	9.28	H
	2472	-43.92	-13	-30.92	-50.22	-50.15	2.25	10.63	H
	3299	-63.08	-13	-50.08	-71.41	-70.60	2.62	12.30	H
									H
									H
									H
									H
	1648	-59.45	-13	-46.45	-62.95	-64.75	1.83	9.28	V
	2472	-45.00	-13	-32.00	-51.53	-51.23	2.25	10.63	V
	3299	-62.37	-13	-49.37	-71.11	-69.89	2.62	12.30	V
									V
									V
									V
									V
Middle	1656	-58.09	-13	-45.09	-61.17	-63.44	1.84	9.34	H
	2488	-46.18	-13	-33.18	-52.58	-52.50	2.25	10.73	H
	3319	-63.45	-13	-50.45	-71.73	-71.12	2.63	12.45	H
									H
									H
									H
									H
	1656	-60.21	-13	-47.21	-63.75	-65.56	1.84	9.34	V
	2488	-49.72	-13	-36.72	-56.24	-56.04	2.25	10.73	V
	3319	-62.70	-13	-49.70	-71.38	-70.37	2.63	12.45	V
									V
									V
									V
									V



Highest	1672	-59.23	-13	-46.23	-62.38	-64.67	1.85	9.43	H
	2504	-47.72	-13	-34.72	-54.18	-54.11	2.26	10.80	H
	3339	-63.46	-13	-50.46	-71.69	-71.28	2.64	12.61	H
									H
									H
									H
									H
	1672	-59.82	-13	-46.82	-63.44	-65.26	1.85	9.43	V
	2504	-47.19	-13	-34.19	-53.72	-53.58	2.26	10.80	V
	3339	-62.98	-13	-49.98	-71.6	-70.80	2.64	12.61	V
									V
									V
									V
									V

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

**LTE Band 7**

LTE Band 7 / 20MHz / 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	5002	-55.17	-25	-30.17	-69.96	-64.49	3.27	12.59	H
	7503	-50.14	-25	-25.14	-68.97	-57.34	4.00	11.20	H
	10004	-50.74	-25	-25.74	-72.04	-57.28	4.67	11.21	H
									H
									H
									H
									H
	5002	-53.73	-25	-28.73	-69.2	-63.05	3.27	12.59	V
	7503	-50.76	-25	-25.76	-69.96	-57.96	4.00	11.20	V
	10004	-50.95	-25	-25.95	-72.01	-57.49	4.67	11.21	V
									V
									V
									V
									V
Middle	5052	-54.45	-25	-29.45	-69.53	-63.56	3.29	12.40	H
	7578	-51.81	-25	-26.81	-70.16	-59.09	4.03	11.31	H
	10107	-50.21	-25	-25.21	-71.69	-56.90	4.70	11.39	H
									H
									H
									H
									H
	5052	-54.62	-25	-29.62	-70.33	-63.73	3.29	12.40	V
	7578	-51.00	-25	-26.00	-69.85	-58.28	4.03	11.31	V
	10107	-50.88	-25	-25.88	-71.93	-57.57	4.70	11.39	V
									V
									V
									V
									V



Highest	5102	-52.40	-25	-27.40	-67.76	-61.40	3.31	12.31	H
	7653	-52.69	-25	-27.69	-70.83	-60.14	4.06	11.51	H
	10204	-50.49	-25	-25.49	-72.14	-57.05	4.73	11.29	H
									H
									H
									H
									H
	5102	-50.78	-25	-25.78	-66.72	-59.78	3.31	12.31	V
	7653	-52.04	-25	-27.04	-70.72	-59.49	4.06	11.51	V
	10204	-50.89	-25	-25.89	-71.94	-57.45	4.73	11.29	V
									V
									V
									V
									V

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

**LTE Band 38**

LTE Band 38 / 20MHz / 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	5142	-51.14	-25	-26.14	-66.75	-60.29	3.32	12.47	H
	7713	-49.17	-25	-24.17	-67.26	-56.77	4.08	11.68	H
	10284	-49.56	-25	-24.56	-71.35	-55.94	4.76	11.13	H
									H
									H
									H
									H
	5142	-50.88	-25	-25.88	-67.04	-60.03	3.32	12.47	V
	7713	-52.31	-25	-27.31	-70.91	-59.91	4.08	11.68	V
	10284	-50.77	-25	-25.77	-71.82	-57.15	4.76	11.13	V
									V
									V
									V
									V
Middle	5172	-50.20	-25	-25.20	-65.99	-59.50	3.33	12.63	H
	7758	-50.92	-25	-25.92	-68.96	-58.68	4.09	11.85	H
	10341	-49.90	-25	-24.90	-71.79	-56.02	4.77	10.90	H
									H
									H
									H
									H
	5172	-48.46	-25	-23.46	-64.77	-57.76	3.33	12.63	V
	7758	-38.17	-25	-13.17	-56.72	-45.93	4.09	11.85	V
	10341	-50.88	-25	-25.88	-71.93	-57.00	4.77	10.90	V
									V
									V
									V
									V



Highest	5202	-50.83	-25	-25.83	-66.79	-60.30	3.34	12.82	H
	7803	-51.32	-25	-26.32	-69.32	-58.80	4.11	11.59	H
	10404	-49.79	-25	-24.79	-71.8	-55.61	4.79	10.61	H
									H
									H
									H
									H
	5202	-50.53	-25	-25.53	-66.98	-60.00	3.34	12.82	V
	7803	-49.66	-25	-24.66	-68.15	-57.14	4.11	11.59	V
	10404	-50.32	-25	-25.32	-71.37	-56.14	4.79	10.61	V
									V
									V
									V
									V

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

**LTE Band 41**

LTE Band 41 / 20MHz / 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	4994	-55.81	-25	-30.81	-70.56	-65.15	3.27	12.61	H
	7491	-54.67	-25	-29.67	-73.57	-61.85	4.00	11.18	H
	9988	-50.30	-25	-25.30	-71.59	-56.81	4.67	11.18	H
									H
									H
									H
									H
	4994	-53.16	-25	-28.16	-68.58	-62.50	3.27	12.61	V
	7491	-54.50	-25	-29.50	-73.78	-61.68	4.00	11.18	V
	9988	-50.64	-25	-25.64	-71.68	-57.15	4.67	11.18	V
									V
									V
									V
									V
Middle	5166	-47.55	-25	-22.55	-63.31	-56.82	3.33	12.60	H
	7752	-53.35	-25	-28.35	-71.4	-61.15	4.09	11.89	H
	10332	-49.72	-25	-24.72	-71.6	-55.89	4.77	10.94	H
									H
									H
									H
									H
	5166	-48.34	-25	-23.34	-64.62	-57.61	3.33	12.60	V
	7752	-51.41	-25	-26.41	-69.96	-59.21	4.09	11.89	V
	10332	-50.85	-25	-25.85	-71.9	-57.02	4.77	10.94	V
									V
									V
									V
									V



Highest	5342	-42.89	-25	-17.89	-59.14	-52.98	3.39	13.48	H
	8013	-51.17	-25	-26.17	-69.49	-57.84	4.18	10.85	H
	10684	-49.54	-25	-24.54	-71	-55.75	4.86	11.07	H
									H
									H
									H
									H
	5342	-43.96	-25	-18.96	-60.47	-54.05	3.39	13.48	V
	8013	-49.53	-25	-24.53	-67.97	-56.20	4.18	10.85	V
	10684	-50.37	-25	-25.37	-71	-56.58	4.86	11.07	V
									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	-59.92	-13	-46.92	-62.90	-62.98	1.69	6.90	H
	2096	-58.71	-13	-45.71	-63.27	-64.02	2.07	9.53	H
	2800	-60.15	-13	-47.15	-67.40	-66.81	2.39	11.20	H
	3496	-44.23	-13	-31.23	-53.28	-51.78	2.72	12.42	H
	4200	-48.25	-13	-35.25	-59.77	-55.86	2.94	12.70	H
									H
									H
	1400	-60.21	-13	-47.21	-63.38	-63.27	1.69	6.90	V
	2096	-56.83	-13	-43.83	-61.85	-62.14	2.07	9.53	V
	2800	-59.33	-13	-46.33	-66.84	-65.99	2.39	11.20	V
	3496	-42.97	-13	-29.97	-52.39	-50.52	2.72	12.42	V
	4200	-50.66	-13	-37.66	-62.77	-58.27	2.94	12.70	V
									V
									V
Middle	1408	-57.98	-13	-44.98	-61.04	-61.10	1.69	6.96	H
	2112	-61.74	-13	-48.74	-66.46	-66.89	2.08	9.38	H
	2816	-58.07	-13	-45.07	-65.32	-64.72	2.40	11.20	H
	3512	-40.36	-13	-27.36	-49.51	-47.84	2.72	12.35	H
	4216	-49.45	-13	-36.45	-61.02	-57.05	2.95	12.70	H
	4920	-56.86	-13	-43.86	-71.23	-64.17	3.24	12.70	H
									H
	1408	-62.04	-13	-49.04	-65.25	-65.16	1.69	6.96	V
	2109	-59.83	-13	-46.83	-65.01	-65.01	2.08	9.41	V
	2816	-55.99	-13	-42.99	-63.53	-62.64	2.40	11.20	V
	3512	-39.69	-13	-26.69	-49.22	-47.17	2.72	12.35	V
	4216	-52.08	-13	-39.08	-64.25	-59.68	2.95	12.70	V
	4920	-57.66	-13	-44.66	-72.65	-64.97	3.24	12.70	V
									V



Highest	1416	-61.78	-13	-48.78	-64.92	-64.96	1.70	7.03	H
	2120	-59.99	-13	-46.99	-64.80	-65.05	2.09	9.30	H
	2824	-57.10	-13	-44.10	-64.35	-63.75	2.40	11.20	H
	3536	-42.48	-13	-29.48	-51.74	-49.86	2.73	12.26	H
	4240	-49.83	-13	-36.83	-61.51	-57.42	2.96	12.70	H
	4944	-55.79	-13	-42.79	-70.21	-63.09	3.25	12.70	H
									H
	1416	-64.72	-13	-51.72	-67.97	-67.90	1.70	7.03	V
	2120	-58.08	-13	-45.08	-63.40	-63.14	2.09	9.30	V
	2824	-56.23	-13	-43.23	-63.79	-62.88	2.40	11.20	V
	3536	-42.01	-13	-29.01	-51.66	-49.39	2.73	12.26	V
	4240	-52.78	-13	-39.78	-65.06	-60.37	2.96	12.70	V
	4944	-56.75	-13	-43.75	-71.80	-64.05	3.25	12.70	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	1560	-66.06	-42.15	-23.91	-69.34	-70.79	1.78	8.66	H
	2344	-57.75	-13	-44.75	-63.49	-63.18	2.19	9.76	H
	3126	-63.58	-13	-50.58	-71.66	-70.24	2.54	11.35	H
									H
									H
									H
									H
	1563	-64.63	-42.15	-22.48	-68.04	-69.37	1.79	8.68	V
	2344	-58.98	-13	-45.98	-65.44	-64.41	2.19	9.76	V
	3128	-61.67	-13	-48.67	-70.29	-68.33	2.54	11.36	V
									V
									V
									V
									V
Middle	1568	-64.60	-42.15	-22.45	-67.79	-69.37	1.79	8.71	H
	2352	-57.27	-13	-44.27	-63.02	-62.75	2.19	9.82	H
	3136	-63.90	-13	-50.90	-72.05	-70.58	2.55	11.37	H
									H
									H
									H
									H
	1568	-62.61	-42.15	-20.46	-66.01	-67.38	1.79	8.71	V
	2352	-58.20	-13	-45.20	-64.66	-63.68	2.19	9.82	V
	3136	-62.99	-13	-49.99	-71.66	-69.67	2.55	11.37	V
									V
									V
									V
									V



Highest	1576	-60.79	-42.15	-18.64	-63.88	-65.60	1.79	8.76	H
	2360	-57.63	-13	-44.63	-63.39	-63.18	2.20	9.90	H
	3146	-63.75	-13	-50.75	-71.96	-70.44	2.55	11.39	H
									H
									H
									H
									H
	1576	-60.59	-42.15	-18.44	-63.95	-65.40	1.79	8.76	V
	2360	-57.34	-13	-44.34	-63.81	-62.89	2.20	9.90	V
	3146	-62.67	-13	-49.67	-71.39	-69.36	2.55	11.39	V
									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	1552	-63.69	-13	-50.69	-67.06	-68.37	1.78	8.61	H
	2336	-60.73	-13	-47.73	-66.47	-66.11	2.18	9.72	H
	3110	-63.91	-13	-50.91	-71.88	-70.55	2.53	11.32	H
									H
									H
									H
									H
	1552	-62.00	-13	-49.00	-65.45	-66.68	1.78	8.61	V
	2336	-59.36	-13	-46.36	-65.81	-64.74	2.18	9.72	V
	3112	-61.07	-13	-48.07	-69.6	-67.71	2.53	11.32	V
									V
									V
									V
									V

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

**LTE Band 71**

LTE Band 71 / 20MHz / 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	1330	-55.00	-13	-42.00	-63.51	-59.82	1.64	6.46	H
	1990	-42.82	-13	-29.82	-52.69	-50.70	2.02	9.90	H
	2656	-59.32	-13	-46.32	-72.3	-67.79	2.33	10.80	H
									H
									H
									H
									H
	1330	-50.05	-13	-37.05	-58.56	-54.87	1.64	6.46	V
	1990	-41.92	-13	-28.92	-52.05	-49.80	2.02	9.90	V
	2656	-56.51	-13	-43.51	-70.05	-64.98	2.33	10.80	V
									V
									V
									V
									V
Middle	1348	-58.39	-13	-45.39	-66.91	-63.23	1.65	6.50	H
	2020	-39.63	-13	-26.63	-49.72	-47.49	2.04	9.90	H
	2698	-60.35	-13	-47.35	-73.65	-68.80	2.35	10.80	H
									H
									H
									H
									H
	1348	-57.08	-13	-44.08	-65.65	-61.92	1.65	6.50	V
	2020	-41.88	-13	-28.88	-52.27	-49.74	2.04	9.90	V
	2696	-60.40	-13	-47.40	-74.16	-68.85	2.35	10.80	V
									V
									V
									V
									V



Highest	1360	-61.51	-13	-48.51	-70.03	-66.43	1.66	6.58	H
	2038	-43.27	-13	-30.27	-53.54	-51.12	2.05	9.90	H
	2716	-60.58	-13	-47.58	-74.02	-69.09	2.36	10.86	H
									H
									H
									H
									H
	1360	-60.93	-13	-47.93	-69.53	-65.85	1.66	6.58	V
	2038	-41.42	-13	-28.42	-52.02	-49.27	2.05	9.90	V
	2716	-60.31	-13	-47.31	-74.18	-68.82	2.36	10.86	V
									V
									V
									V
									V

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