



**Shenzhen Global Test Service Co.,Ltd.**

No.7-101 and 8A-104, Building 7 and 8, DCC Cultural and Creative Garden, No.98, Pingxin North Road, Shangmugu Community, Pinghu Street, Longgang District, Shenzhen, Guangdong

### FCC TEST REPORT

#### FCC Part 22/Part 24/Part 27/Part 90

**Report Reference No.....: GTS20200903006-1-2**

**FCC ID..... : 2AON8-R708**

Compiled by

( position+printed name+signature)..: File administrators Peter Xiao

Supervised by

( position+printed name+signature)..: Test Engineer Moon Tan

Approved by

( position+printed name+signature)..: Manager Simon Hu



Date of issue.....: Dec.04, 2020

**Representative Laboratory Name ..: Shenzhen Global Test Service Co.,Ltd.**

Address .....: No.7-101 and 8A-104, Building 7 and 8, DCC Cultural and Creative Garden, No.98, Pingxin North Road, Shangmugu Community, Pinghu Street, Longgang District, Shenzhen, Guangdong

**Applicant's name .....: Shanghai BroadMobi Communication Technology Co., Ltd.**

Address .....: 15F, Building 9, No.99 Tianzhou Rd., Xuhui District, Shanghai, P.R. China

**Test specification .....**

**FCC CFR Title 47 Part 2, Part 22H, Part 24E,Part 27, Part 90  
EIA/TIA 603-D: 2010  
FCC KDB971168 D01 Power Meas License Digital Systems  
v03r01**

TRF Originator.....: Shenzhen Global Test Service Co.,Ltd..

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**Test item description .....** **Pocket Router**

Trade Mark .....: Broadmobi

Manufacturer .....: Shanghai BroadMobi Communication Technology Co., Ltd.

Model/Type reference.....: R708

Listed Models .....: R708A, R708C

Modulation Type .....: QPSK, 16QAM

Rating .....: DC 3.7V by Battery

Recharged by DC 5V/1A Adapter

Result.....: **PASS**

# TEST REPORT

<b>Test Report No. :</b> GTS20200903006-1-2	Dec.04, 2020
	Date of issue

Equipment under Test : Pocket Router

Model /Type : R708

Listed model : R708A, R708C

**Applicant** : **Shanghai BroadMobi Communication Technology Co., Ltd.**

Address : 15F, Building 9, No.99 Tianzhou Rd., Xuhui District, Shanghai, P.R. China

**Manufacturer** : **Shanghai BroadMobi Communication Technology Co., Ltd.**

Address : 15F, Building 9, No.99 Tianzhou Rd., Xuhui District, Shanghai, P.R. China

<b>Test result</b>	<b>Pass *</b>
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\* In the configuration tested, the EUT complied with the standards specified page 4.

The test report merely corresponds to the test sample.  
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

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# **1 SUMMARY**

## **1.1 TEST STANDARDS**

The tests were performed according to following standards:

[FCC Part 22](#) : PUBLIC MOBILE SERVICES

[FCC Part 24](#) : PERSONAL COMMUNICATIONS SERVICES

[FCC Part 27](#) : MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES

[FCC Part 90](#): Private Land Mobile Radio Services.

[TIA-603-E March 2016](#): Land Mobile FM or PM Communications Equipment Measurement and Performance Standards.

[47 CFR FCC Part 15 Subpart B](#): - Unintentional Radiators

[FCC Part 2](#): FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS

[FCC KDB971168 D01](#) Power Meas License Digital Systems v03r01

[ANSI C63.4:2014](#): Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

## 2 GENERAL INFORMATION

### 2.1 General Remarks

Date of receipt of test sample	:	Sep. 27, 2020
Testing commenced on	:	Sep. 27, 2020
Testing concluded on	:	Dec.04, 2020

### 2.2 Product Description

Product Name	Pocket Router
Trade Mark	Broadmobi
Model/Type reference	R708
List Model	R708A, R708C
Model Declaration	PCB board, structure and internal of these model(s) are the same, So no additional models were tested.
Hardware version	V1.00
Software version	V2.0
Power supply:	DC 3.7V by Battery Recharged by DC 5V/1A Adapter
Sample ID	GTS20200903006-1-1#
<b>3G</b>	
UMTS Operation Frequency Band	UMTS FDD Band 2(1850 MHz -1910MHz) UMTS FDD Band 4(1710 MHz -1755MHz) UMTS FDD Band 5(824 MHz -849MHz)
WCDMA Release Version	R6
HSDPA Release Version	Release 6
Modulation Type	QPSK for UMTS
Antenna Description	Internal Antenna; -1.5dBi (max.) For WCDMA Band 2, 4,5;
<b>LTE</b>	
LTE Operation Frequency Band	E-UTRA Band 2(1850 MHz -1910MHz) E-UTRA Band 4(1710 MHz -1755MHz) E-UTRA Band 5(824 MHz -849MHz) E-UTRA Band 12(699 MHz -716MHz) E-UTRA Band 13(777 MHz -787MHz) E-UTRA Band 17(704 MHz -716MHz) E-UTRA Band 25(1850 MHz -1915MHz) E-UTRA Band 26(814 MHz -824MHz) E-UTRA Band 26(824 MHz -849MHz) E-UTRA Band 27(807 MHz -824MHz) E-UTRA Band 41(2496 MHz -2690MHz) E-UTRA Band 66(1710 MHz -1780MHz) E-UTRA Band 71(663 MHz -698MHz)
LTE Release Version	R9
Type Of Modulation	QPSK/16QAM
Antenna Description	Internal Antenna; -1.5dBi (max.) For LTE Band 2, 4, 5, 12, 13, 17, 25, 26, 27, 41, 66, 71;
<b>WIFI(2.4G Band)</b>	

Frequency Range	2412MHz ~ 2462MHz
Channel Spacing	5MHz
Channel Number	11 Channel for 20MHz bandwidth(2412~2462MHz) 7 channels for 40MHz bandwidth(2422~2452MHz)
Modulation Type	802.11b: DSSS; 802.11g/n: OFDM
Antenna Description	Two Internal Antenna, but WLAN support MIMO technology ANT0 used for WIFI TX/RX, 0dBi(Max.) for 2.4G Band ANT1 used for WIFI TX/RX, 0dBi(Max.) for 2.4G Band

## 2.3 Equipment Under Test

### Power supply system utilised

Power supply voltage	:	<input type="radio"/> 230V / 50 Hz	<input type="radio"/> 120V / 60Hz
		<input type="radio"/> 12 V DC	<input type="radio"/> 24 V DC
		<input checked="" type="radio"/> Other (specified in blank below)	

## 2.4 Short description of the Equipment under Test (EUT)

This is a WCDMA+LTE Control and Navigation System. For more details, refer to the user's manual of the EUT.

## 2.5 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Normal Temperature:	25°C
Relative Humidity:	55 %
Air Pressure:	101 kPa

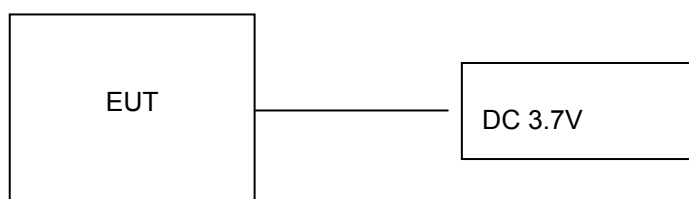
## 2.6 Description of Test Modes

The EUT has been tested under typical operating condition. The CMW500 used to control the EUT staying in continuous transmitting and receiving mode for testing. Regards to the frequency band operation: the lowest, middle and highest frequency of channel were selected to perform the test, then shown on this report.

Note:

1. For the ERP/EIRP and radiated emission test, every axis (X, Y, Z) was verified, and show the worst result on this report.
2. Test method and refer to 3GPP TS136521.

## 2.7 Block Diagram of Test Setup



## 2.8 Special Accessories

Manufacturer	Description	Model	Serial Number	Certificate
Dong Guan City GangQi ELECTRONIC Co.,Ltd	Adapter	GQ05-050100-ZU	/	SDOC
Dong Guan City GangQi ELECTRONIC Co.,Ltd	Adapter	LH05001Ub	/	SDOC

## 2.9 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is filing to comply with of the FCC Part 22,Part 24,Part 27 ,Part 90 Rules.

## 2.10 Modifications

No modifications were implemented to meet testing criteria.

### 3 TEST ENVIRONMENT

#### 3.1 Address of the test laboratory

##### Shenzhen Global Test Service Co.,Ltd.

No.7-101 and 8A-104, Building 7 and 8, DCC Cultural and Creative Garden, No.98, Pingxin North Road, Shangmugu Community, Pinghu Street, Longgang District, Shenzhen, Guangdong,China.

#### 3.2 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS (No. CNAS L8169)

Shenzhen Global Test Service Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025: 2019 General Requirements) for the Competence of Testing and Calibration Laboratories.

A2LA (Certificate No. 4758.01)

Shenzhen Global Test Service Co., Ltd. has been assessed by the American Association for Laboratory Accreditation (A2LA). Certificate No. 4758.01.

Industry Canada Registration Number. is 24189.

FCC Designation Number is CN1234.

FCC Registered Test Site Number is165725.

#### 3.3 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15-35 ° C
Humidity:	30-60 %
Atmospheric pressure:	950-1050mbar

#### 3.4 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 „Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements“ and is documented in the Shenzhen Global Test Service Co.,Ltd quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen GTS laboratory is reported:

Test	Range	Measurement Uncertainty	Notes
Radiated Emission	30~1000MHz	4.10 dB	(1)
Radiated Emission	1~18GHz	4.32 dB	(1)
Radiated Emission	18-40GHz	5.54 dB	(1)
Conducted Disturbance	0.15~30MHz	3.12 dB	(1)

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.



### 3.5 Test Description

Test Item	Section in CFR 47	Test Sample	Result
RF Output Power	Part 2.1046 Part 22.913(a) Part 24.232(c) Part 27.50 Part 90.635	GTS20200903006-1-1#	Pass
Peak-to-Average Ratio	Part 2.1046 Part 24.232 Part 27.50(d)	GTS20200903006-1-1#	Pass
99% & -26 dB Occupied Bandwidth	Part 2.1049	GTS20200903006-1-1#	Pass
Spurious Emissions at Antenna Terminal	Part 2.1051 Part 22.917 Part 24.238 Part 27.53 Part 90.691	GTS20200903006-1-1#	Pass
Field Strength of Spurious Radiation	Part 2.1053 Part 22.917(b) Part 24.238 Part 27.53 Part 90.691	GTS20200903006-1-1#	Pass
Out of band emission, Band Edge	Part 2.1051 Part 22.917(b) Part 22.917(b) Part 24.238 Part 27.53 Part 90.691	GTS20200903006-1-1#	Pass
Frequency stability	Part 2.1055 Part 22.355 Part 24.235 Part 27.54 Part 90.213	GTS20200903006-1-1#	Pass

Remark:

1. The measurement uncertainty is not included in the test result.
2. NA = Not Applicable; NP = Not Performed
3. Note 1 – Test results inside test report;
4. Note 2 – Test results in other test report (SAR Report).
5. We tested all test mode and recorded worst case in report

### 3.6 Equipments Used during the Test

Test Equipment	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Due Date
LISN	R&S	ENV216	3560.6550.08	2020/09/19	2021/09/18
LISN	R&S	ESH2-Z5	893606/008	2020/09/19	2021/09/18
EMI Test Receiver	R&S	ESPI3	101841-cd	2020/09/19	2021/09/18
EMI Test Receiver	R&S	ESCI7	101102	2020/09/19	2021/09/18
Spectrum Analyzer	Agilent	N9020A	MY48010425	2020/09/19	2021/09/18
Radio Communication Tester	Rohde&Schwarz	CMW500	107519	2020/09/19	2021/09/18
Spectrum Analyzer	R&S	FSV40	100019	2020/09/19	2021/09/18
Vector Signal generator	Agilent	N5181A	MY49060502	2020/09/19	2021/09/18
Signal generator	Agilent	E4421B	3610AO1069	2020/09/19	2021/09/18
Climate Chamber	ESPEC	EL-10KA	A20120523	2020/09/19	2021/09/18
Controller	EM Electronics	Controller EM 1000	N/A	N/A	N/A
Horn Antenna	Schwarzbeck	BBHA 9120D	01622	2020/09/19	2021/09/18
Active Loop Antenna	Beijing Da Ze Technology Co.,Ltd.	ZN30900C	15006	2020/10/11	2021/10/10
Bilog Antenna	Schwarzbeck	VULB9163	000976	2020/05/26	2021/05/25
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	791	2020/09/19	2021/09/18
Amplifier	Schwarzbeck	BBV 9743	#202	2020/09/19	2021/09/18
Amplifier	Schwarzbeck	BBV9179	9719-025	2020/09/19	2021/09/18
Amplifier	EMCI	EMC051845B	980355	2020/09/19	2021/09/18
Temperature/Humidity Meter	Gangxing	CTH-608	02	2020/09/19	2021/09/18
High-Pass Filter	K&L	9SH10-2700/X12750-O/O	KL142031	2020/09/19	2021/09/18
High-Pass Filter	K&L	41H10-1375/U12750-O/O	KL142032	2020/09/19	2021/09/18
RF Cable(below 1GHz)	HUBER+SUHNER	RG214	RE01	2020/09/19	2021/09/18
RF Cable(above 1GHz)	HUBER+SUHNER	RG214	RE02	2020/09/19	2021/09/18
Data acquisition card	Agilent	U2531A	TW53323507	2020/09/19	2021/09/18
Power Sensor	Agilent	U2021XA	MY5365004	2020/09/19	2021/09/18
Test Control Unit	Tonscend	JS0806-1	178060067	2020/06/20	2021/06/19
Automated filter bank	Tonscend	JS0806-F	19F8060177	2020/06/20	2021/06/19
EMI Test Software	Tonscend	JS1120-1	Ver 2.6.8.0518	/	/
EMI Test Software	Tonscend	JS1120-3	Ver 2.5.77.0418	/	/
EMI Test Software	Tonscend	JS32-CE	Ver 2.5	/	/
EMI Test Software	Tonscend	JS32-RE	Ver 2.5.1.8	/	/

Note: The Cal.Interval was one year.

## 4 TEST CONDITIONS AND RESULTS

### 4.1 Output Power

#### LIMIT

The ERP of mobile transmitters must not exceed 50 Watts for LTE Band 26 and Band 27.

The ERP of mobile transmitters must not exceed 7 Watts for WCDMA/LTE Band 5, LTE Band 26 and Band 27.

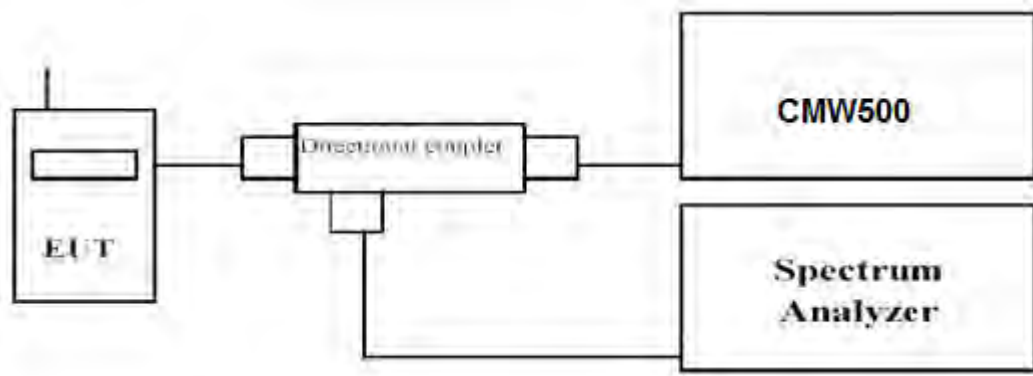
The ERP of mobile transmitters must not exceed 3 Watts for LTE Band 12, LTE Band 13, LTE Band 17 and Band 71.

The EIRP of mobile transmitters must not exceed 2 Watts for WCDMA/LTE Band 2, LTE Band 25 and Band 41.

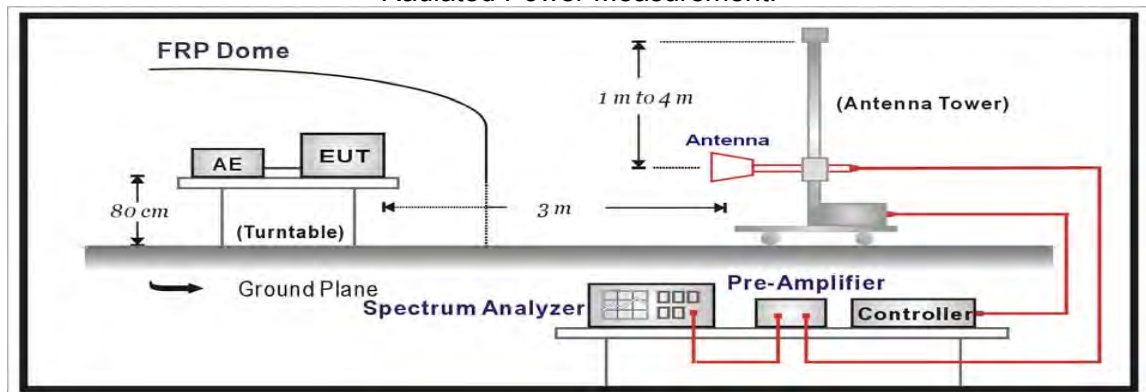
The EIRP of mobile transmitters must not exceed 1 Watts for WCDMA/LTE Band 4 and Band 66.

#### TEST CONFIGURATION

##### Conducted Power Measurement



##### Radiated Power Measurement:



#### TEST PROCEDURE

The EUT was setup according to EIA/TIA 603D

##### **Conducted Power Measurement:**

- Place the EUT on a bench and set it in transmitting mode.
- Connect a low loss RF cable from the antenna port to a spectrum analyzer and CMW500 by a Directional Couple.
- EUT Communicate with CMW500, then select a channel for testing.
- Add a correction factor to the display of spectrum, and then test.

##### **Radiated Power Measurement:**

- The EUT shall be placed at the specified height on a support, and in the position closest to normal use as declared by provider.

- b. The test antenna shall be oriented initially for vertical polarization and shall be chosen to correspond to the frequency of the transmitter
- c. The output of the test antenna shall be connected to the measuring receiver.
- d. The transmitter shall be switched on and the measuring receiver shall be tuned to the frequency of the transmitter under test.
- e. The test antenna shall be raised and lowered through the specified range of height until a maximum signal level is detected by the measuring receiver.
- f. The transmitter shall then be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
- g. The test antenna shall be raised and lowered again through the specified range of height until a maximum signal level is detected by the measuring receiver.
- h. The maximum signal level detected by the measuring receiver shall be noted.
- i. The transmitter shall be replaced by a substitution antenna.
- j. The substitution antenna shall be orientated for vertical polarization and the length of the substitution antenna shall be adjusted to correspond to the frequency of the transmitter.
- k. The substitution antenna shall be connected to a calibrated signal generator.
- l. If necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
- m. The test antenna shall be raised and lowered through the specified range of height to ensure that the maximum signal is received.
- n. The input signal to the substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuator setting of the measuring receiver.
- o. The measurement shall be repeated with the test antenna and the substitution antenna orientated for horizontal polarization.
- p. The measure of the effective radiated power is the larger of the two levels recorded at the input to the substitution antenna, corrected for gain of the substitution antenna if necessary.
- q. Test site anechoic chamber refer to ANSI C63.26.

**TEST RESULTS**

Temperature	24.5°C	Humidity	53.7%
Test Engineer	Moon Tan	Configurations	WCDMA/LTE

**Conducted Measurement:**

**WCDMA Band II**

Mode	3GPP Sub Test	Low Channel	Middle Channel	High Channel
		Ave.Power (dBm)	Ave.Power (dBm)	Ave. Power (dBm)
Rel 99	1	23.57	23.63	23.53
HSDPA	1	23.47	23.40	23.51
	2	23.49	23.27	23.56
	3	23.53	23.45	23.32
	4	22.68	22.52	22.42
HSUPA	1	21.56	22.12	21.40
	2	21.03	20.80	21.16
	3	23.36	23.37	23.58
	4	22.18	22.40	22.42
	5	21.54	21.64	21.90
HSPA+	1	21.69	20.98	21.72

**WCDMA Band IV**

Mode	3GPP Sub Test	Low Channel	Middle Channel	High Channel
		Ave.Power (dBm)	Ave.Power (dBm)	Ave. Power (dBm)
Rel 99	1	23.55	23.43	23.37
HSDPA	1	22.65	22.00	22.48
	2	21.43	21.45	21.47
	3	21.37	21.45	21.70
	4	22.17	22.18	22.47
HSUPA	1	20.97	20.96	21.00
	2	21.65	21.45	21.56
	3	20.39	20.49	20.68
	4	20.90	21.46	21.14
	5	20.93	21.36	20.98
HSPA+	1	20.85	21.48	20.96

**WCDMA Band V**

Mode	3GPP Sub Test	Low Channel	Middle Channel	High Channel
		Ave.Power (dBm)	Ave.Power (dBm)	Ave. Power (dBm)
Rel 99	1	21.45	21.28	21.05
HSDPA	1	21.65	21.71	21.49
	2	20.67	20.27	20.69
	3	21.24	21.09	21.17
	4	22.16	22.03	22.51
HSUPA	1	21.42	21.02	21.37
	2	22.07	21.69	21.71
	3	22.14	21.61	21.61
	4	22.19	21.65	21.77
	5	20.62	20.96	20.79
HSPA+	1	21.21	21.39	20.74

LTE FDD Band 2				
TX Channel Bandwidth	RB Size/Offset	Frequency (MHz)	Average Power [dBm]	
			QPSK	16QAM
1.4 MHz	1 RB low	1850.70	22.84	23.29
		1880.00	23.16	22.34
		1909.30	23.39	22.50
	1 RB high	1850.70	23.14	22.68
		1880.00	22.76	23.10
		1909.30	22.51	22.82
	50% RB mid	1850.70	22.54	23.03
		1880.00	22.54	22.82
		1909.30	23.05	23.15
	100% RB	1850.70	22.68	22.57
		1880.00	22.97	22.87
		1909.30	22.87	22.36
3 MHz	1 RB low	1851.50	23.38	22.66
		1880.00	22.53	22.37
		1908.50	23.19	23.17
	1 RB high	1851.50	23.36	22.42
		1880.00	22.81	22.54
		1908.50	22.72	22.75
	50% RB mid	1851.50	22.70	22.89
		1880.00	23.40	22.69
		1908.50	22.63	22.78
	100% RB	1851.50	22.43	21.65
		1880.00	21.54	21.46
		1908.50	22.20	22.00
5 MHz	1 RB low	1852.50	22.33	22.20
		1880.00	21.87	21.33
		1907.50	22.00	21.31
	1 RB high	1852.50	21.94	21.76
		1880.00	22.50	21.54
		1907.50	21.64	21.85
	50% RB mid	1852.50	22.34	21.98
		1880.00	21.62	21.70
		1907.50	22.34	21.76
	100% RB	1852.50	21.92	21.99
		1880.00	21.51	21.68
		1907.50	22.01	21.59
10 MHz	1 RB low	1855.00	21.56	22.01
		1880.00	22.34	22.20
		1905.00	22.05	21.42
	1 RB high	1855.00	21.52	21.39
		1880.00	21.62	22.06
		1905.00	21.97	21.61
	50% RB mid	1855.00	22.24	21.55
		1880.00	22.00	22.16
		1905.00	21.52	22.00
	100% RB	1855.00	22.13	21.96
		1880.00	22.00	22.21
		1905.00	22.45	21.91
15 MHz	1 RB low	1857.50	21.95	22.08
		1880.00	21.93	21.55
		1902.50	22.35	22.13
	1 RB high	1857.50	21.77	21.71
		1880.00	22.09	21.51
		1902.50	22.33	21.93
	50% RB mid	1857.50	22.13	21.60
		1880.00	22.39	22.15

	100% RB	1902.50	21.58	21.41
		1857.50	21.78	21.42
		1880.00	22.34	21.81
		1902.50	21.89	22.26
20 MHz	1 RB low	1860.00	22.42	21.94
		1880.00	22.44	21.62
		1900.00	21.94	21.86
	1 RB high	1860.00	21.99	21.99
		1880.00	22.22	21.30
		1900.00	21.56	21.63
	50% RB mid	1860.00	22.38	21.88
		1880.00	22.21	22.23
		1900.00	22.02	21.54
	100% RB	1860.00	21.95	22.06
		1880.00	21.57	22.03
		1900.00	22.07	21.94

LTE FDD Band 4				
TX Channel Bandwidth	RB Size/Offset	Frequency (MHz)	Average Power [dBm]	
			QPSK	16QAM
1.4 MHz	1 RB low	1710.70	23.36	22.97
		1732.50	22.83	22.44
		1754.30	22.96	22.99
	1 RB high	1710.70	23.11	22.36
		1732.50	22.51	23.25
		1754.30	22.82	23.08
	50% RB mid	1710.70	23.35	23.21
		1732.50	23.04	22.70
		1754.30	23.12	23.05
	100% RB	1710.70	22.62	22.96
		1732.50	23.02	22.73
		1754.30	23.20	22.32
3 MHz	1 RB low	1711.50	23.30	22.78
		1732.50	22.75	22.43
		1753.50	22.64	22.86
	1 RB high	1711.50	22.87	23.22
		1732.50	22.94	22.84
		1753.50	23.17	22.73
	50% RB mid	1711.50	23.29	22.97
		1732.50	22.73	23.29
		1753.50	22.67	22.53
	100% RB	1711.50	22.17	21.79
		1732.50	22.44	21.75
		1753.50	21.58	22.05
5 MHz	1 RB low	1712.50	21.92	21.78
		1732.50	21.69	22.01
		1752.50	22.28	21.91
	1 RB high	1712.50	22.10	21.58
		1732.50	21.86	21.62
		1752.50	21.53	21.68
	50% RB mid	1712.50	22.29	21.82
		1732.50	21.62	21.47
		1752.50	22.35	22.16
	100% RB	1712.50	22.36	22.23
		1732.50	22.38	21.56
		1752.50	21.69	21.48
10 MHz	1 RB low	1715.00	21.89	22.05
		1732.50	21.99	21.67
		1750.00	22.07	21.63
	1 RB high	1715.00	21.62	22.27
		1732.50	22.39	22.22
		1750.00	21.86	21.32

	50% RB mid	1715.00	21.57	21.46
		1732.50	21.56	21.80
		1750.00	22.42	21.86
	100% RB	1715.00	22.39	21.48
		1732.50	21.78	21.78
		1750.00	22.05	21.98
15 MHz	1 RB low	1707.50	22.05	21.74
		1732.50	22.11	22.15
		1747.50	22.26	21.79
	1 RB high	1707.50	22.15	22.02
		1732.50	22.17	21.70
		1747.50	21.66	21.86
	50% RB mid	1707.50	22.05	22.06
		1732.50	21.80	21.59
		1747.50	21.95	21.78
	100% RB	1707.50	21.65	21.61
		1732.50	22.19	21.93
		1747.50	21.50	22.27
20 MHz	1 RB low	1720.00	22.31	21.96
		1732.50	21.97	21.77
		1745.00	21.58	21.44
	1 RB high	1720.00	21.88	21.83
		1732.50	21.52	21.47
		1745.00	22.48	21.43
	50% RB mid	1720.00	22.13	22.26
		1732.50	22.25	22.13
		1745.00	22.40	22.08
	100% RB	1720.00	22.06	21.49
		1732.50	22.26	21.44
		1745.00	22.34	21.80

LTE FDD Band 5				
TX Channel Bandwidth	RB Size/Offset	Frequency (MHz)	Average Power [dBm]	
			QPSK	16QAM
1.4 MHz	1 RB low	824.70	23.15	22.72
		836.50	22.49	22.73
		848.30	22.47	22.73
	1 RB high	824.70	22.45	22.12
		836.50	23.00	22.63
		848.30	22.45	22.38
	50% RB mid	824.70	22.77	22.12
		836.50	23.11	22.12
		848.30	22.80	22.50
	100% RB	824.70	22.67	22.46
		836.50	22.45	23.04
		848.30	23.25	22.38
3 MHz	1 RB low	825.50	22.79	22.42
		836.50	22.65	23.04
		847.50	22.89	22.14
	1 RB high	825.50	23.27	22.21
		836.50	22.79	22.78
		847.50	22.56	22.80
	50% RB mid	825.50	22.35	22.71
		836.50	22.81	22.64
		847.50	22.48	23.07
	100% RB	825.50	21.89	21.75
		836.50	21.30	21.95
		847.50	21.28	21.64
5 MHz	1 RB low	826.50	22.13	21.88
		836.50	21.80	21.27



	1 RB high	846.50	21.86	21.62
		826.50	21.45	21.94
		836.50	21.84	21.45
	50% RB mid	846.50	21.68	21.46
		826.50	21.74	21.19
		836.50	21.24	21.71
	100% RB	846.50	21.45	21.30
		826.50	22.11	21.71
		836.50	21.20	21.78
10 MHz	1 RB low	846.50	21.95	21.10
		829.00	21.48	21.65
		836.50	21.90	21.36
	1 RB high	844.00	21.80	21.17
		829.00	21.45	21.69
		836.50	21.48	21.95
	50% RB mid	844.00	21.86	21.70
		829.00	21.53	21.73
		836.50	21.49	21.74
	100% RB	844.00	22.14	21.99
		829.00	22.03	21.13
		836.50	21.93	21.24
		844.00	22.23	22.13

LTE FDD Band 12				
TX Channel Bandwidth	RB Size/Offset	Frequency (MHz)	Average Power [dBm]	
			QPSK	16QAM
1.4 MHz	1 RB low	699.70	22.32	22.44
		707.50	22.72	22.94
		715.30	23.04	22.32
	1 RB high	699.70	22.55	22.13
		707.50	22.58	22.24
		715.30	22.38	22.31
	50% RB mid	699.70	22.72	22.26
		707.50	22.49	22.64
		715.30	22.93	22.97
100% RB	699.70	23.10	22.82	
	707.50	23.12	22.52	
	715.30	22.67	22.44	
3 MHz	1 RB low	700.50	22.95	22.85
		707.50	23.26	22.22
		715.30	22.57	22.64
	1 RB high	700.50	22.61	22.13
		707.50	22.49	22.97
		715.30	22.99	23.03
	50% RB mid	700.50	23.12	22.39
		707.50	23.14	22.61
		715.30	22.59	22.30
100% RB	700.50	21.47	21.69	
	707.50	21.99	21.05	
	715.30	21.43	21.09	
5 MHz	1 RB low	701.50	21.39	21.20
		707.50	21.42	21.80
		713.50	21.88	21.66
	1 RB high	701.50	21.54	21.37
		707.50	21.96	21.19
		713.50	21.65	21.76
	50% RB mid	701.50	21.89	21.61
		707.50	21.46	21.31
		713.50	21.48	21.68
100% RB	701.50	21.82	21.03	

10 MHz	1 RB low	707.50	22.02	21.14
		713.50	21.77	21.57
		704.00	21.44	21.78
	1 RB high	707.50	21.34	21.12
		711.00	22.02	21.35
		704.00	22.17	21.82
	50% RB mid	707.50	21.64	21.48
		711.00	21.27	21.07
		704.00	21.92	21.78
	100% RB	707.50	21.55	21.33
		711.00	21.46	21.54
		704.00	21.53	21.56
		707.50	21.74	21.27
		711.00	22.38	22.33

LTE FDD Band 13				
TX Channel Bandwidth	RB Size/Offset	Frequency (MHz)	Average Power [dBm]	
			QPSK	16QAM
5 MHz	1 RB low	779.50	22.84	22.74
		782.00	23.12	22.75
		784.50	23.02	22.80
	1 RB high	779.50	23.38	22.58
		782.00	22.69	23.26
		784.50	22.70	22.65
	50% RB mid	779.50	23.11	22.84
		782.00	23.25	23.25
		784.50	22.67	22.56
	100% RB	779.50	22.90	23.26
		782.00	23.02	22.48
		784.50	23.42	22.89
10 MHz	1 RB low	782.00	22.66	22.31
	1 RB high	782.00	23.24	23.03
	50% RB mid	782.00	22.68	22.74
	100% RB	782.00	22.53	23.00

LTE FDD Band 17				
TX Channel Bandwidth	RB Size/Offset	Frequency (MHz)	Average Power [dBm]	
			QPSK	16QAM
5 MHz	1 RB low	706.50	22.74	23.00
		710.00	22.95	22.35
		713.50	23.30	23.18
	1 RB high	706.50	22.92	22.86
		710.00	23.49	22.68
		713.50	22.75	22.77
	50% RB mid	706.50	22.68	22.34
		710.00	23.28	22.93
		713.50	23.21	22.76
	100% RB	706.50	22.61	23.14
		710.00	22.87	23.17
		713.50	22.98	22.66
10 MHz	1 RB low	709.00	23.01	22.46
		710.00	23.42	22.92
		711.00	23.01	22.94
	1 RB high	709.00	23.47	22.35
		710.00	22.89	22.68
		711.00	23.41	22.47
	50% RB mid	709.00	23.16	23.21
		710.00	23.13	22.99

		711.00	22.53	22.46
	100% RB	709.00	21.66	21.84
		710.00	21.62	21.95
		711.00	22.43	21.73

LTE FDD Band 25				
TX Channel Bandwidth	RB Size/Offset	Frequency (MHz)	Average Power [dBm]	
			QPSK	16QAM
1.4 MHz	1 RB low	1850.70	23.36	23.28
		1882.50	23.32	23.22
		1914.30	23.27	22.32
	1 RB high	1850.70	23.18	23.04
		1882.50	22.79	23.23
		1914.30	23.27	23.20
	50% RB mid	1850.70	23.43	22.50
		1882.50	22.84	23.29
		1914.30	23.43	23.27
	100% RB	1850.70	22.59	22.58
		1882.50	22.52	22.33
		1914.30	23.02	23.14
3 MHz	1 RB low	1851.50	23.04	22.40
		1882.50	22.71	22.35
		1913.50	23.49	22.67
	1 RB high	1851.50	23.37	23.11
		1882.50	22.89	22.47
		1913.50	22.51	22.72
	50% RB mid	1851.50	23.32	23.05
		1882.50	23.42	22.38
		1913.50	22.53	22.40
	100% RB	1851.50	22.30	22.10
		1882.50	22.18	22.27
		1913.50	22.10	21.47
5 MHz	1 RB low	1852.50	22.23	21.82
		1882.50	22.17	22.26
		1912.50	21.97	22.17
	1 RB high	1852.50	21.92	21.86
		1882.50	21.53	21.99
		1912.50	22.49	21.38
	50% RB mid	1852.50	21.87	22.17
		1882.50	21.69	21.37
		1912.50	21.53	21.69
	100% RB	1852.50	21.66	22.07
		1882.50	21.90	21.81
		1912.50	22.47	21.36
10 MHz	1 RB low	1855.00	22.26	21.91
		1882.50	22.50	21.57
		1910.00	22.31	21.54
	1 RB high	1855.00	22.42	21.61
		1882.50	22.21	21.97
		1910.00	21.82	21.58
	50% RB mid	1855.00	22.30	21.49
		1882.50	22.03	21.30
		1910.00	21.87	22.13
	100% RB	1855.00	22.33	21.81
		1882.50	21.59	21.76
		1910.00	21.78	21.54
15 MHz	1 RB low	1857.50	21.63	22.25
		1882.50	21.58	21.34
		1907.50	21.93	22.17
	1 RB high	1857.50	21.75	22.03

	50% RB mid	1882.50	21.71	22.12	
		1907.50	21.71	22.00	
		1857.50	21.56	21.72	
	100% RB	1882.50	21.93	21.50	
		1907.50	22.10	22.13	
		1857.50	21.62	21.71	
	20 MHz	1 RB low	1860.00	22.03	21.65
			1882.50	21.77	22.17
			1905.00	22.32	21.39
1 RB high		1860.00	21.70	21.57	
		1882.50	21.61	22.17	
		1905.00	22.10	21.43	
50% RB mid		1860.00	22.26	21.49	
		1882.50	21.92	21.72	
		1905.00	21.93	22.17	
100% RB		1860.00	22.29	21.49	
		1882.50	21.57	21.32	
		1905.00	21.83	21.89	

LTE FDD Band 26(814-824MHz)				
TX Channel Bandwidth	RB Size/Offset	Frequency (MHz)	Average Power [dBm]	
			QPSK	16QAM
1.4 MHz	1 RB low	814.70	22.91	22.64
		819.00	22.44	22.62
		823.30	22.79	22.52
	1 RB high	814.70	22.55	22.67
		819.00	22.62	22.42
		823.30	22.87	22.23
	50% RB mid	814.70	22.84	22.21
		819.00	22.45	22.83
		823.30	22.59	22.55
	100% RB	814.70	22.78	22.43
		819.00	22.80	22.77
		823.30	22.47	22.87
3 MHz	1 RB low	815.50	22.50	22.74
		819.00	22.89	23.07
		822.50	22.41	23.00
	1 RB high	815.50	22.65	22.64
		819.00	23.06	22.31
		822.50	22.64	22.92
	50% RB mid	815.50	22.54	22.31
		819.00	23.04	22.20
		822.50	22.97	23.10
	100% RB	815.50	22.20	21.72
		819.00	21.26	21.76
		822.50	22.03	21.62
5 MHz	1 RB low	816.50	22.13	21.80
		819.00	21.32	21.20
		821.50	21.41	21.06
	1 RB high	816.50	21.68	21.87
		819.00	21.94	21.67
		821.50	22.17	21.61
	50% RB mid	816.50	21.63	21.30
		819.00	21.75	21.69
		821.50	21.60	21.15
	100% RB	816.50	21.41	21.36
		819.00	21.20	21.64
		821.50	21.70	21.22

10 MHz	1 RB low	819.00	21.80	21.67
	1 RB high	819.00	22.09	21.88
	50% RB mid	819.00	21.64	21.05
	100% RB	819.00	21.33	21.94

LTE FDD Band 26(824-849MHz)				
TX Channel Bandwidth	RB Size/Offset	Frequency (MHz)	Average Power [dBm]	
			QPSK	16QAM
1.4 MHz	1 RB low	824.70	22.29	22.09
		836.50	22.02	22.19
		848.30	22.89	22.18
	1 RB high	824.70	22.72	22.51
		836.50	22.03	21.93
		848.30	22.88	22.33
	50% RB mid	824.70	22.81	22.55
		836.50	22.62	22.66
		848.30	22.51	22.45
	100% RB	824.70	22.44	22.16
		836.50	22.78	22.06
		848.30	22.74	22.60
3 MHz	1 RB low	825.50	22.46	22.31
		836.50	22.83	22.08
		847.50	22.02	22.57
	1 RB high	825.50	22.75	22.44
		836.50	22.06	22.39
		847.50	22.37	22.03
	50% RB mid	825.50	22.54	21.91
		836.50	22.28	22.65
		847.50	22.23	21.81
	100% RB	825.50	21.17	20.71
		836.50	21.82	20.96
		847.50	21.42	21.19
5 MHz	1 RB low	826.50	21.52	21.52
		836.50	21.15	21.14
		846.50	21.02	21.32
	1 RB high	826.50	21.11	21.67
		836.50	21.63	21.45
		846.50	20.98	20.79
	50% RB mid	826.50	21.71	21.32
		836.50	21.82	20.77
		846.50	21.28	21.61
	100% RB	826.50	20.96	21.34
		836.50	21.39	20.80
		846.50	21.62	20.91
10 MHz	1 RB low	829.00	21.01	21.27
		836.50	21.71	21.41
		844.00	21.71	21.31
	1 RB high	829.00	21.30	21.52
		836.50	21.26	20.83
		844.00	20.94	21.50
	50% RB mid	829.00	21.64	21.45
		836.50	21.74	20.98
		844.00	21.70	21.35
	100% RB	829.00	21.47	21.35
		836.50	21.65	21.25
		844.00	21.44	21.02
15 MHz	1 RB low	831.50	21.38	21.31
		836.50	20.98	21.10
		841.50	20.94	21.32
	1 RB high	831.50	21.85	21.50

	50% RB mid	836.50	21.71	20.91
		841.50	21.37	20.83
		831.50	21.53	20.87
	100% RB	836.50	21.03	21.06
		841.50	21.45	21.03
		831.50	21.53	21.59
		836.50	21.11	21.63
		841.50	21.47	21.09

LTE FDD Band 27				
TX Channel Bandwidth	RB Size/Offset	Frequency (MHz)	Average Power [dBm]	
			QPSK	16QAM
1.4 MHz	1 RB low	807.70	22.51	22.19
		815.00	22.77	22.42
		823.30	23.22	22.94
	1 RB high	807.70	23.27	23.02
		815.00	22.65	22.75
		823.30	22.88	22.48
	50% RB mid	807.70	22.99	22.17
		815.00	22.76	22.82
		823.30	23.10	23.01
	100% RB	807.70	22.92	22.76
		815.00	22.36	22.51
		823.30	22.97	22.82
3 MHz	1 RB low	808.50	22.48	23.06
		815.00	23.03	23.03
		822.50	23.24	23.05
	1 RB high	808.50	22.47	22.63
		815.00	22.61	22.72
		822.50	22.32	22.75
	50% RB mid	808.50	23.09	22.28
		815.00	22.45	22.74
		822.50	22.60	22.96
	100% RB	808.50	21.69	21.97
		815.00	22.15	21.50
		822.50	22.06	21.46
5 MHz	1 RB low	809.50	21.66	21.41
		815.00	21.62	21.68
		821.50	21.93	21.21
	1 RB high	809.50	21.65	21.64
		815.00	21.27	21.20
		821.50	21.39	21.13
	50% RB mid	809.50	21.57	21.81
		815.00	21.79	21.19
		821.50	21.28	21.97
	100% RB	809.50	21.80	21.60
		815.00	21.48	21.18
		821.50	22.10	21.19
10 MHz	1 RB low	812.00	21.91	21.87
		815.00	21.69	21.63
		819.00	22.12	21.93
	1 RB high	812.00	22.05	21.69
		815.00	21.96	21.28
		819.00	21.85	21.54
	50% RB mid	812.00	21.30	21.14
		815.00	21.22	21.97
		819.00	21.67	21.74
	100% RB	812.00	21.94	21.67
		815.00	21.60	21.01
		819.00	22.42	22.04

LTE FDD Band 41				
TX Channel Bandwidth	RB Size/Offset	Frequency (MHz)	Average Power [dBm]	
			QPSK	16QAM
5 MHz	1 RB low	2498.50	22.51	22.56
		2593.00	22.54	22.42
		2687.50	22.35	22.85
	1 RB high	2498.50	22.87	22.87
		2593.00	22.91	22.89
		2687.50	22.73	22.62
	50% RB mid	2498.50	23.06	22.84
		2593.00	22.62	22.85
		2687.50	22.41	22.44
	100% RB	2498.50	22.33	22.17
		2593.00	22.34	23.08
		2687.50	22.49	22.57
10 MHz	1 RB low	2501.00	22.33	22.24
		2593.00	23.27	22.34
		2685.00	23.12	22.55
	1 RB high	2501.00	22.65	22.43
		2593.00	23.29	22.90
		2685.00	23.20	22.17
	50% RB mid	2501.00	23.19	22.38
		2593.00	23.17	22.50
		2685.00	23.17	22.95
	100% RB	2501.00	21.82	21.11
		2593.00	21.23	21.81
		2685.00	21.78	21.05
15 MHz	1 RB low	2503.50	21.90	21.60
		2593.00	21.72	21.02
		2682.50	22.11	21.81
	1 RB high	2503.50	21.24	21.18
		2593.00	21.43	21.06
		2682.50	21.26	21.04
	50% RB mid	2503.50	21.96	21.43
		2593.00	21.81	21.25
		2682.50	21.73	21.89
	100% RB	2503.50	21.37	21.28
		2593.00	22.12	21.14
		2682.50	21.52	21.53
20 MHz	1 RB low	2506.00	21.58	21.90
		2593.00	21.83	21.15
		2680.00	21.61	21.70
	1 RB high	2506.00	22.20	21.37
		2593.00	21.77	21.99
		2680.00	22.04	21.93
	50% RB mid	2506.00	21.84	21.93
		2593.00	21.83	21.39
		2680.00	21.90	21.88
	100% RB	2506.00	21.67	21.29
		2593.00	21.91	21.48
		2680.00	23.08	22.55

LTE FDD Band 66				
TX Channel Bandwidth	RB Size/Offset	Frequency (MHz)	Average Power [dBm]	
			QPSK	16QAM
1.4 MHz	1 RB low	1710.70	23.07	22.52
		1745.00	23.04	23.11
		1779.30	23.49	23.28
	1 RB high	1710.70	23.08	22.99

	50% RB mid	1745.00	22.64	22.44	
		1779.30	22.87	23.18	
		1710.70	22.78	23.12	
	100% RB	1745.00	23.38	22.63	
		1779.30	23.19	22.83	
		1710.70	23.21	23.03	
	3 MHz	1 RB low	1711.50	23.26	22.85
			1745.00	22.70	22.87
			1778.50	22.98	22.33
1 RB high		1711.50	22.80	22.92	
		1745.00	23.04	23.25	
		1778.50	23.49	22.64	
50% RB mid		1711.50	23.45	22.63	
		1745.00	22.78	22.35	
		1778.50	22.91	22.50	
100% RB		1711.50	21.88	21.59	
		1745.00	22.45	21.84	
		1778.50	21.53	21.41	
5 MHz	1 RB low	1712.50	21.66	21.47	
		1745.00	21.53	22.18	
		1777.50	22.37	21.60	
	1 RB high	1712.50	21.71	22.25	
		1745.00	22.22	21.40	
		1777.50	21.73	21.68	
	50% RB mid	1712.50	22.46	21.65	
		1745.00	21.57	22.13	
		1777.50	22.00	21.35	
	100% RB	1712.50	21.76	21.44	
		1745.00	22.32	21.59	
		1777.50	21.67	22.08	
10 MHz	1 RB low	1715.00	21.73	22.17	
		1745.00	21.78	21.54	
		1775.00	22.14	22.05	
	1 RB high	1715.00	21.80	21.88	
		1745.00	22.01	21.64	
		1775.00	21.96	22.13	
	50% RB mid	1715.00	21.57	21.85	
		1745.00	21.84	22.06	
		1775.00	21.82	22.24	
	100% RB	1715.00	22.14	21.74	
		1745.00	22.20	21.36	
		1775.00	21.72	22.07	
15 MHz	1 RB low	1717.50	22.47	21.97	
		1745.00	22.43	21.96	
		1772.50	22.49	21.41	
	1 RB high	1717.50	22.00	21.55	
		1745.00	22.12	21.55	
		1772.50	21.67	21.48	
	50% RB mid	1717.50	21.51	21.64	
		1745.00	21.90	22.18	
		1772.50	21.96	22.13	
	100% RB	1717.50	22.04	21.74	
		1745.00	21.59	21.87	
		1772.50	21.62	22.06	
20 MHz	1 RB low	1720.00	22.36	22.23	
		1745.00	22.47	22.08	
		1770.00	21.59	21.40	
	1 RB high	1720.00	22.19	21.44	
		1745.00	22.04	22.03	
		1770.00	22.26	21.75	



	50% RB mid	1720.00	22.38	22.24
		1745.00	21.59	21.51
		1770.00	22.11	22.10
	100% RB	1720.00	21.55	21.58
		1745.00	22.04	22.05
		1770.00	22.30	21.34

LTE FDD Band 71				
TX Channel Bandwidth	RB Size/Offset	Frequency (MHz)	Average Power [dBm]	
			QPSK	16QAM
5 MHz	1 RB low	665.50	22.94	22.39
		680.50	22.90	22.66
		695.50	22.36	22.25
	1 RB high	665.50	23.11	22.95
		680.50	22.64	22.42
		695.50	22.83	22.53
	50% RB mid	665.50	23.17	22.99
		680.50	22.85	22.73
		695.50	23.26	22.63
	100% RB	665.50	23.07	22.94
		680.50	22.78	22.63
		695.50	22.83	22.30
10 MHz	1 RB low	668.00	22.59	22.74
		680.50	22.62	22.37
		693.00	23.12	22.46
	1 RB high	668.00	23.13	22.11
		680.50	22.99	22.78
		693.00	22.47	22.89
	50% RB mid	668.00	22.45	23.02
		680.50	22.53	22.99
		693.00	22.33	22.11
	100% RB	668.00	21.59	21.66
		680.50	22.15	21.71
		693.00	21.92	21.59
15 MHz	1 RB low	670.50	21.65	21.82
		680.50	21.32	21.51
		690.50	21.53	21.27
	1 RB high	670.50	21.45	21.57
		680.50	21.65	21.04
		690.50	22.16	21.73
	50% RB mid	670.50	22.07	21.75
		680.50	21.54	21.57
		690.50	22.12	21.89
	100% RB	670.50	21.99	21.33
		680.50	21.57	21.83
		690.50	21.52	21.74
20 MHz	1 RB low	673.00	21.40	21.61
		680.50	21.69	21.69
		688.00	22.01	21.16
	1 RB high	673.00	22.04	21.28
		680.50	21.65	21.91
		688.00	21.49	21.14
	50% RB mid	673.00	21.31	21.56
		680.50	21.79	21.59
		688.00	21.62	21.94
	100% RB	673.00	21.85	21.71
		680.50	21.64	21.88
		688.00	22.59	22.59

**Radiated Measurement:**

Remark:

1. We were tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of WCDMA Band II , WCDMA Band IV ,WCDMA Band V , LTE FDD Band 2, LTE FDD Band 4, LTE FDD Band 5, LTE FDD Band 12, LTE FDD Band 13, LTE FDD Band 17, LTE FDD Band 25, LTE FDD Band 26, LTE FDD Band 27, LTE TDD Band 41,LTE FDD Band 66, LTE FDD Band 71; recorded worst case for each Channel Bandwidth of WCDMA Band II , WCDMA Band IV ,WCDMA Band V , LTE FDD Band 2, LTE FDD Band 4, LTE FDD Band 5, LTE FDD Band 12, LTE FDD Band 13, LTE FDD Band 17, LTE FDD Band 25, LTE FDD Band 26, LTE FDD Band 27, LTE TDD Band 41,LTE FDD Band 66, LTE FDD Band 71.
2. ERP = EIRP – 2.15dBi as EIRP by subtracting the gain of the dipole.
3. The unit of Antenna Gain is dBd for frequency below 1GHz, and the unit of Antenna Gain is dBi for frequency above 1GHz.
4. Absolute Level = Substituted Level - Cable loss + Antenna Gain
5. Margin = Limit-Absolute Level

Temperature	24.5°C	Humidity	53.7%
Test Engineer	Moon Tan	Configurations	WCDMA/LTE

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level EIRP/ERP (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss(dB)			
<b>WCDMA Band II Low Channel</b>								
1852.4	H	86.68	12.63	11.59	2.11	22.11	33.00	10.89
1852.4	V	84.92	12.03	11.59	2.11	21.51	33.00	10.49
<b>WCDMA Band II Middle Channel</b>								
1880.00	H	86.56	12.93	11.56	2.14	22.35	33.00	10.65
1880.00	V	85.82	12.88	11.56	2.14	22.30	33.00	10.70
<b>WCDMA Band II High Channel</b>								
1907.6	H	86.09	12.33	11.52	2.18	21.67	33.00	10.33
1907.6	V	84.35	12.34	11.52	2.18	21.68	33.00	11.32
<b>WCDMA Band IV Low Channel</b>								
1712.4	H	85.04	11.91	11.58	2.10	21.39	30.00	8.61
1712.4	V	87.66	14.13	11.58	2.10	23.61	30.00	6.39
<b>WCDMA Band IV Middle Channel</b>								
1732.60	H	85.52	12.93	11.56	2.14	22.35	30.00	7.65
1732.60	V	85.74	14.30	11.56	2.14	23.72	30.00	6.28
<b>WCDMA Band IV High Channel</b>								
1752.6	H	85.96	12.13	11.53	2.16	21.50	30.00	8.50
1752.6	V	86.21	13.23	11.53	2.16	22.60	30.00	7.40
<b>WCDMA Band V Low Channel</b>								
826.4	H	86.99	19.35	1.65	0.58	20.42	38.45	16.03
826.4	V	84.63	19.35	1.65	0.58	20.42	38.45	17.03
<b>WCDMA Band V Middle Channel</b>								
836.60	H	85.42	19.71	1.59	0.65	20.64	38.45	17.81
836.60	V	84.39	19.45	1.59	0.65	20.39	38.45	18.06
<b>WCDMA Band V High Channel</b>								
846.6	H	86.80	19.53	1.53	0.71	20.35	38.45	18.10
846.6	V	84.89	19.61	1.53	0.71	20.43	38.45	18.02

LTE Band 2

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level EIRP (dBm)	Limit (dBm)	Margin (dB)	
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)				
1850.70	1.4	QPSK	H	85.11	13.06	11.59	2.35	22.30	33.00	10.70	
1850.70			V	84.56	12.40	11.59	2.35	21.64	33.00	11.36	
1850.70	3		H	85.85	13.59	11.59	2.35	22.83	33.00	10.17	
1850.70			V	84.34	12.36	11.59	2.35	21.60	33.00	11.40	
1850.70	5		H	85.83	12.71	11.59	2.35	21.95	33.00	10.05	
1850.70			V	86.35	12.84	11.59	2.35	22.08	33.00	10.92	
1850.70	10		H	85.32	12.52	11.59	2.35	21.76	33.00	11.24	
1850.70			V	84.96	12.98	11.59	2.35	22.22	33.00	10.78	
1850.70	15		H	86.23	11.53	11.59	2.35	20.77	33.00	12.23	
1850.70			V	85.35	13.32	11.59	2.35	22.57	33.00	10.43	
1850.70	20		H	86.47	11.42	11.59	2.35	20.66	33.00	11.34	
1850.70			V	85.50	12.26	11.59	2.35	21.51	33.00	9.49	
1850.70	1.4		16QAM	H	85.36	13.02	11.59	2.35	22.26	33.00	10.74
1850.70				V	85.90	12.79	11.59	2.35	22.04	33.00	9.96
1850.70	3			H	85.40	12.99	11.59	2.35	22.23	33.00	10.77
1850.70				V	85.72	13.38	11.59	2.35	22.63	33.00	10.37
1850.70	5	H		86.53	11.91	11.59	2.35	21.16	33.00	11.84	
1850.70		V		87.51	12.52	11.59	2.35	21.76	33.00	10.24	
1850.70	10	H		86.61	11.51	11.59	2.35	20.76	33.00	12.24	
1850.70		V		87.17	13.34	11.59	2.35	22.58	33.00	9.42	
1850.70	15	H		85.76	13.04	11.59	2.35	22.28	33.00	10.72	
1850.70		V		87.71	13.33	11.59	2.35	22.58	33.00	10.42	
1850.70	20	H		87.57	12.98	11.59	2.35	22.23	33.00	9.77	
1850.70		V		87.04	12.58	11.59	2.35	21.82	33.00	11.18	

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level EIRP (dBm)	Limit (dBm)	Margin (dB)	
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)				
1880.000	1.4	QPSK	H	85.96	13.69	11.37	2.41	22.65	33.00	10.35	
1880.000			V	85.40	12.01	11.37	2.41	20.97	33.00	12.03	
1880.000	3		H	86.44	13.54	11.37	2.41	22.50	33.00	10.50	
1880.000			V	85.70	13.23	11.37	2.41	22.19	33.00	10.81	
1880.000	5		H	87.34	12.99	11.37	2.41	21.94	33.00	11.06	
1880.000			V	86.52	12.75	11.37	2.41	21.71	33.00	11.29	
1880.000	10		H	85.68	13.14	11.37	2.41	22.09	33.00	10.91	
1880.000			V	84.24	12.14	11.37	2.41	21.09	33.00	11.91	
1880.000	15		H	85.07	11.65	11.37	2.41	20.61	33.00	12.39	
1880.000			V	86.19	13.49	11.37	2.41	22.45	33.00	10.55	
1880.000	20		H	86.02	11.97	11.37	2.41	20.93	33.00	12.07	
1880.000			V	86.35	12.64	11.37	2.41	21.59	33.00	11.41	
1880.000	1.4		16QAM	H	86.75	12.66	11.37	2.41	21.62	33.00	11.38
1880.000				V	87.21	13.41	11.37	2.41	22.36	33.00	10.64
1880.000	3	H		85.87	11.96	11.37	2.41	20.92	33.00	12.08	
1880.000		V		86.85	12.38	11.37	2.41	21.33	33.00	11.67	
1880.000	5	H		86.91	11.29	11.37	2.41	20.25	33.00	12.75	
1880.000		V		85.89	13.70	11.37	2.41	22.65	33.00	10.35	
1880.000	10	H		87.39	12.40	11.37	2.41	21.36	33.00	11.64	
1880.000		V		86.67	13.71	11.37	2.41	22.66	33.00	10.34	
1880.000	15	H		87.06	11.96	11.37	2.41	20.91	33.00	12.09	
1880.000		V		86.61	13.01	11.37	2.41	21.96	33.00	11.04	
1880.000	20	H		86.09	13.49	11.37	2.41	22.44	33.00	10.56	
1880.000		V		87.31	12.33	11.37	2.41	21.29	33.00	11.71	

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level EIRP (dBm)	Limit (dBm)	Margin (dB)	
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)				
1909.30	1.4	QPSK	H	86.51	13.37	11.00	2.11	22.26	33.00	10.74	
1909.30			V	85.04	11.91	11.00	2.11	20.81	33.00	12.19	
1909.30	3		H	85.32	12.90	11.00	2.11	21.80	33.00	11.20	
1909.30			V	84.48	11.93	11.00	2.11	20.82	33.00	12.18	
1909.30	5		H	86.91	12.08	11.00	2.11	20.97	33.00	10.03	
1909.30			V	86.28	12.81	11.00	2.11	21.71	33.00	11.29	
1909.30	10		H	86.58	12.33	11.00	2.11	21.23	33.00	11.77	
1909.30			V	84.28	12.97	11.00	2.11	21.86	33.00	11.14	
1909.30	15		H	86.39	12.67	11.00	2.11	21.56	33.00	11.44	
1909.30			V	86.82	12.56	11.00	2.11	21.45	33.00	11.55	
1909.30	20		H	85.81	12.27	11.00	2.11	21.17	33.00	11.83	
1909.30			V	86.67	12.56	11.00	2.11	21.46	33.00	11.54	
1909.30	1.4		16QAM	H	86.53	11.73	11.00	2.11	20.62	33.00	12.38
1909.30				V	87.07	13.56	11.00	2.11	22.46	33.00	9.54
1909.30	3			H	85.68	13.62	11.00	2.11	22.52	33.00	10.48
1909.30				V	85.76	13.16	11.00	2.11	22.05	33.00	9.95
1909.30	5	H		86.50	11.47	11.00	2.11	20.36	33.00	12.64	
1909.30		V		87.53	13.55	11.00	2.11	22.45	33.00	10.55	
1909.30	10	H		86.15	12.52	11.00	2.11	21.42	33.00	11.58	
1909.30		V		85.97	12.85	11.00	2.11	21.75	33.00	11.25	
1909.30	15	H		87.47	12.82	11.00	2.11	21.71	33.00	11.29	
1909.30		V		87.49	13.62	11.00	2.11	22.51	33.00	10.49	
1909.30	20	H		87.75	12.57	11.00	2.11	21.47	33.00	11.53	
1909.30		V		87.53	11.82	11.00	2.11	20.72	33.00	12.28	

LTE Band 4

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level EIRP (dBm)	Limit (dBm)	Margin (dB)	
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)				
1710.70	1.4	QPSK	H	85.27	12.24	11.66	1.84	22.06	30.00	7.94	
1710.70			V	84.37	11.44	11.66	1.84	21.26	30.00	8.74	
1710.70	3		H	85.94	12.51	11.66	1.84	22.33	30.00	7.67	
1710.70			V	85.46	12.44	11.66	1.84	22.26	30.00	7.74	
1710.70	5		H	86.76	13.67	11.66	1.84	23.49	30.00	6.51	
1710.70			V	87.23	12.57	11.66	1.84	22.38	30.00	7.62	
1710.70	10		H	86.16	12.63	11.66	1.84	22.45	30.00	7.55	
1710.70			V	84.40	12.50	11.66	1.84	22.31	30.00	7.69	
1710.70	15		H	85.40	12.09	11.66	1.84	21.90	30.00	8.10	
1710.70			V	85.20	13.70	11.66	1.84	23.51	30.00	6.49	
1710.70	20		H	86.28	11.51	11.66	1.84	21.32	30.00	8.68	
1710.70			V	85.70	12.63	11.66	1.84	22.44	30.00	7.56	
1710.70	1.4		16QAM	H	85.68	12.30	11.66	1.84	22.12	30.00	7.88
1710.70				V	87.30	13.43	11.66	1.84	23.24	30.00	6.76
1710.70	3	H		87.10	12.92	11.66	1.84	22.73	30.00	7.27	
1710.70		V		87.14	13.24	11.66	1.84	23.05	30.00	6.95	
1710.70	5	H		87.19	11.48	11.66	1.84	21.29	30.00	8.71	
1710.70		V		85.56	13.51	11.66	1.84	23.32	30.00	6.68	
1710.70	10	H		86.33	12.72	11.66	1.84	22.53	30.00	7.47	
1710.70		V		86.91	13.08	11.66	1.84	22.90	30.00	7.10	
1710.70	15	H		86.17	12.57	11.66	1.84	22.39	30.00	7.61	
1710.70		V		86.39	13.72	11.66	1.84	23.54	30.00	6.46	
1710.70	20	H		86.61	13.45	11.66	1.84	23.26	30.00	6.74	
1710.70		V		87.70	12.96	11.66	1.84	22.77	30.00	7.23	

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level EIRP (dBm)	Limit (dBm)	Margin (dB)	
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)				
1732.500	1.4	QPSK	H	86.51	12.62	11.77	1.73	22.66	30.00	7.34	
1732.500			V	85.24	12.30	11.77	1.73	22.34	30.00	7.66	
1732.500	3		H	86.82	13.13	11.77	1.73	23.17	30.00	6.83	
1732.500			V	84.20	12.06	11.77	1.73	22.10	30.00	7.90	
1732.500	5		H	87.55	13.97	11.77	1.73	24.01	30.00	5.99	
1732.500			V	86.93	13.25	11.77	1.73	23.29	30.00	6.71	
1732.500	10		H	86.22	11.99	11.77	1.73	22.03	30.00	7.97	
1732.500			V	86.10	12.81	11.77	1.73	22.85	30.00	7.15	
1732.500	15		H	85.50	11.33	11.77	1.73	21.37	30.00	8.63	
1732.500			V	85.90	13.82	11.77	1.73	23.86	30.00	6.14	
1732.500	20		H	86.41	13.00	11.77	1.73	23.04	30.00	6.96	
1732.500			V	85.34	14.03	11.77	1.73	24.07	30.00	5.93	
1732.500	1.4		16QAM	H	87.17	11.72	11.77	1.73	21.76	30.00	8.24
1732.500				V	86.51	12.88	11.77	1.73	22.92	30.00	7.08
1732.500	3	H		86.45	13.42	11.77	1.73	23.46	30.00	6.54	
1732.500		V		86.25	13.53	11.77	1.73	23.57	30.00	6.43	
1732.500	5	H		85.81	12.73	11.77	1.73	22.77	30.00	7.23	
1732.500		V		86.36	12.72	11.77	1.73	22.75	30.00	7.25	
1732.500	10	H		87.28	13.25	11.77	1.73	23.29	30.00	6.71	
1732.500		V		86.11	12.98	11.77	1.73	23.02	30.00	6.98	
1732.500	15	H		87.61	12.43	11.77	1.73	22.47	30.00	7.53	
1732.500		V		86.81	12.20	11.77	1.73	22.24	30.00	7.76	
1732.500	20	H		86.22	13.51	11.77	1.73	23.54	30.00	6.46	
1732.500		V		87.03	11.70	11.77	1.73	21.74	30.00	8.26	

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level EIRP (dBm)	Limit (dBm)	Margin (dB)	
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)				
1754.30	1.4	QPSK	H	85.32	12.88	11.17	1.83	22.22	30.00	7.78	
1754.30			V	86.00	11.64	11.17	1.83	20.98	30.00	9.02	
1754.30	3		H	86.46	13.21	11.17	1.83	22.55	30.00	7.45	
1754.30			V	84.59	11.91	11.17	1.83	21.25	30.00	8.75	
1754.30	5		H	87.54	13.17	11.17	1.83	22.51	30.00	7.49	
1754.30			V	85.58	11.69	11.17	1.83	21.03	30.00	8.97	
1754.30	10		H	85.57	13.33	11.17	1.83	22.67	30.00	7.33	
1754.30			V	84.73	13.76	11.17	1.83	23.10	30.00	6.90	
1754.30	15		H	85.47	12.42	11.17	1.83	21.76	30.00	8.24	
1754.30			V	86.70	12.78	11.17	1.83	22.12	30.00	7.88	
1754.30	20		H	86.49	12.10	11.17	1.83	21.44	30.00	8.56	
1754.30			V	86.12	13.78	11.17	1.83	23.12	30.00	6.88	
1754.30	1.4		16QAM	H	86.46	12.67	11.17	1.83	22.01	30.00	7.99
1754.30				V	86.41	12.80	11.17	1.83	22.14	30.00	7.86
1754.30	3	H		87.01	13.46	11.17	1.83	22.79	30.00	7.21	
1754.30		V		86.35	14.18	11.17	1.83	23.52	30.00	6.48	
1754.30	5	H		85.88	12.75	11.17	1.83	22.09	30.00	7.91	
1754.30		V		87.12	13.01	11.17	1.83	22.35	30.00	7.65	
1754.30	10	H		85.59	13.10	11.17	1.83	22.44	30.00	7.56	
1754.30		V		87.48	13.65	11.17	1.83	22.99	30.00	7.01	
1754.30	15	H		87.61	12.90	11.17	1.83	22.24	30.00	7.76	
1754.30		V		86.12	13.23	11.17	1.83	22.57	30.00	7.43	
1754.30	20	H		86.81	13.23	11.17	1.83	22.57	30.00	7.43	
1754.30		V		86.57	13.01	11.17	1.83	22.35	30.00	7.65	



LTE Band 5

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level ERP (dBm)	Limit (dBm)	Margin (dB)	
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)				
824.70	1.4	QPSK	H	84.95	19.04	0.97	0.59	19.41	38.45	19.04	
824.70			V	84.34	20.15	0.97	0.59	20.52	38.45	17.93	
824.70	3		H	86.55	20.55	0.97	0.59	20.92	38.45	17.53	
824.70			V	84.21	19.21	0.97	0.59	19.59	38.45	18.86	
824.70	5		H	85.96	20.04	0.97	0.59	20.41	38.45	18.04	
824.70			V	86.91	19.56	0.97	0.59	19.93	38.45	18.52	
824.70	10		H	86.20	20.17	0.97	0.59	20.55	38.45	17.90	
824.70			V	85.54	20.43	0.97	0.59	20.80	38.45	17.65	
824.70	1.4		16QAM	H	86.15	19.82	0.97	0.59	20.19	38.45	18.26
824.70				V	87.03	19.23	0.97	0.59	19.60	38.45	18.85
824.70	3	H		86.16	20.12	0.97	0.59	20.50	38.45	17.95	
824.70		V		85.43	19.04	0.97	0.59	19.42	38.45	19.03	
824.70	5	H		85.46	20.95	0.97	0.59	21.32	38.45	17.13	
824.70		V		87.01	20.08	0.97	0.59	20.46	38.45	17.99	
824.70	10	H		85.92	20.61	0.97	0.59	20.98	38.45	17.47	
824.70		V		85.55	19.64	0.97	0.59	20.01	38.45	18.44	

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level ERP (dBm)	Limit (dBm)	Margin (dB)	
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)				
836.50	1.4	QPSK	H	84.80	19.26	1.60	0.37	20.48	38.45	17.97	
836.50			V	85.99	19.16	1.60	0.37	20.39	38.45	18.06	
836.50	3		H	86.32	19.42	1.60	0.37	20.64	38.45	17.81	
836.50			V	84.39	19.46	1.60	0.37	20.69	38.45	17.76	
836.50	5		H	85.77	20.14	1.60	0.37	21.37	38.45	17.08	
836.50			V	86.31	19.34	1.60	0.37	20.56	38.45	17.89	
836.50	10		H	86.79	19.46	1.60	0.37	20.68	38.45	17.77	
836.50			V	85.43	20.95	1.60	0.37	22.17	38.45	16.28	
836.50	1.4		16QAM	H	85.82	19.13	1.60	0.37	20.35	38.45	18.10
836.50				V	85.62	20.26	1.60	0.37	21.49	38.45	16.96
836.50	3	H		86.10	20.45	1.60	0.37	21.68	38.45	16.77	
836.50		V		86.50	19.79	1.60	0.37	21.01	38.45	17.44	
836.50	5	H		85.52	19.94	1.60	0.37	21.16	38.45	17.29	
836.50		V		86.26	20.73	1.60	0.37	21.96	38.45	16.49	
836.50	10	H		86.77	19.24	1.60	0.37	20.46	38.45	17.99	
836.50		V		87.10	19.82	1.60	0.37	21.04	38.45	17.41	

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level ERP (dBm)	Limit (dBm)	Margin (dB)	
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)				
848.30	1.4	QPSK	H	85.31	20.38	1.27	0.47	21.18	38.45	17.27	
848.30			V	84.55	19.85	1.27	0.47	20.65	38.45	17.80	
848.30	3		H	85.71	19.35	1.27	0.47	20.15	38.45	18.30	
848.30			V	86.00	20.96	1.27	0.47	21.76	38.45	16.69	
848.30	5		H	86.19	20.39	1.27	0.47	21.19	38.45	17.26	
848.30			V	85.77	20.29	1.27	0.47	21.09	38.45	17.36	
848.30	10		H	86.46	21.00	1.27	0.47	21.80	38.45	16.65	
848.30			V	86.04	19.45	1.27	0.47	20.25	38.45	18.20	
848.30	1.4		16QAM	H	85.33	20.88	1.27	0.47	21.69	38.45	16.76
848.30				V	85.82	20.63	1.27	0.47	21.43	38.45	17.02
848.30	3	H		86.87	20.35	1.27	0.47	21.15	38.45	17.30	
848.30		V		85.33	19.18	1.27	0.47	19.98	38.45	18.47	
848.30	5	H		85.70	19.48	1.27	0.47	20.28	38.45	18.17	
848.30		V		87.10	20.25	1.27	0.47	21.05	38.45	17.40	
848.30	10	H		87.37	19.67	1.27	0.47	20.47	38.45	17.98	
848.30		V		85.88	19.55	1.27	0.47	20.35	38.45	18.10	

LTE Band 12

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level ERP (dBm)	Limit (dBm)	Margin (dB)	
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)				
699.70	1.4	QPSK	H	85.16	21.00	1.48	0.47	22.00	34.77	12.77	
699.70			V	84.69	19.69	1.48	0.47	20.69	34.77	14.08	
699.70	3		H	85.10	19.84	1.48	0.47	20.85	34.77	13.92	
699.70			V	85.36	19.40	1.48	0.47	20.40	34.77	14.37	
699.70	5		H	87.40	20.50	1.48	0.47	21.50	34.77	13.27	
699.70			V	86.32	20.39	1.48	0.47	21.39	34.77	13.38	
699.70	10		H	86.57	20.00	1.48	0.47	21.01	34.77	12.76	
699.70			V	85.83	19.35	1.48	0.47	20.35	34.77	13.42	
699.70	1.4		16QAM	H	86.09	19.83	1.48	0.47	20.84	34.77	13.93
699.70				V	85.65	21.14	1.48	0.47	22.14	34.77	12.63
699.70	3	H		86.88	20.37	1.48	0.47	21.37	34.77	13.40	
699.70		V		86.80	20.08	1.48	0.47	21.08	34.77	13.69	
699.70	5	H		86.78	20.75	1.48	0.47	21.76	34.77	13.01	
699.70		V		87.17	20.49	1.48	0.47	21.50	34.77	13.27	
699.70	10	H		87.29	20.06	1.48	0.47	21.06	34.77	13.71	
699.70		V		87.30	20.61	1.48	0.47	21.61	34.77	13.16	

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level ERP (dBm)	Limit (dBm)	Margin (dB)	
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)				
707.50	1.4	QPSK	H	86.53	20.97	1.89	0.54	22.32	34.77	12.45	
707.50			V	86.02	20.70	1.89	0.54	22.05	34.77	12.72	
707.50	3		H	85.49	19.62	1.89	0.54	20.97	34.77	13.80	
707.50			V	85.04	20.64	1.89	0.54	21.98	34.77	12.79	
707.50	5		H	87.66	19.75	1.89	0.54	21.09	34.77	13.68	
707.50			V	86.07	19.17	1.89	0.54	20.52	34.77	14.25	
707.50	10		H	85.34	19.56	1.89	0.54	20.91	34.77	13.86	
707.50			V	85.98	19.98	1.89	0.54	21.32	34.77	13.45	
707.50	1.4		16QAM	H	85.93	19.55	1.89	0.54	20.89	34.77	13.88
707.50				V	85.53	19.26	1.89	0.54	20.61	34.77	14.16
707.50	3	H		86.66	20.30	1.89	0.54	21.65	34.77	13.12	
707.50		V		85.32	20.67	1.89	0.54	22.02	34.77	12.75	
707.50	5	H		85.47	20.21	1.89	0.54	21.56	34.77	13.21	
707.50		V		87.11	20.25	1.89	0.54	21.59	34.77	13.18	
707.50	10	H		87.10	19.61	1.89	0.54	20.96	34.77	13.81	
707.50		V		86.83	20.80	1.89	0.54	22.15	34.77	12.62	

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level ERP (dBm)	Limit (dBm)	Margin (dB)	
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)				
715.30	1.4	QPSK	H	85.63	20.44	1.91	0.66	21.68	34.77	13.09	
715.30			V	85.88	20.28	1.91	0.66	21.53	34.77	13.24	
715.30	3		H	85.79	20.05	1.91	0.66	21.29	34.77	13.48	
715.30			V	84.85	19.98	1.91	0.66	21.22	34.77	13.55	
715.30	5		H	87.68	19.95	1.91	0.66	21.19	34.77	13.58	
715.30			V	87.02	19.70	1.91	0.66	20.94	34.77	13.83	
715.30	10		H	86.16	19.12	1.91	0.66	20.36	34.77	13.41	
715.30			V	85.85	19.36	1.91	0.66	20.61	34.77	14.16	
715.30	1.4		16QAM	H	86.39	19.68	1.91	0.66	20.92	34.77	13.85
715.30				V	86.13	19.55	1.91	0.66	20.79	34.77	13.98
715.30	3	H		86.97	20.27	1.91	0.66	21.51	34.77	13.26	
715.30		V		87.19	20.39	1.91	0.66	21.63	34.77	13.14	
715.30	5	H		87.24	19.55	1.91	0.66	20.79	34.77	13.98	
715.30		V		86.45	20.65	1.91	0.66	21.89	34.77	12.88	
715.30	10	H		86.70	20.75	1.91	0.66	21.99	34.77	12.78	
715.30		V		86.25	20.56	1.91	0.66	21.80	34.77	12.97	

## LTE Band 13

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level ERP (dBm)	Limit (dBm)	Margin (dB)
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
779.50	5	QPSK	H	85.37	19.95	1.61	0.44	21.12	34.77	13.65
779.50			V	85.81	19.75	1.61	0.44	20.92	34.77	13.85
779.50	10		H	85.44	18.86	1.61	0.44	20.03	34.77	13.74
779.50			V	85.49	18.86	1.61	0.44	20.04	34.77	13.73
779.50	5	16QAM	H	87.15	20.01	1.61	0.44	21.18	34.77	13.59
779.50			V	86.62	20.07	1.61	0.44	21.24	34.77	12.53
779.50	10		H	87.02	19.98	1.61	0.44	21.16	34.77	13.61
779.50			V	86.10	19.84	1.61	0.44	21.01	34.77	13.76

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level ERP (dBm)	Limit (dBm)	Margin (dB)
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
782.00	5	QPSK	H	86.17	21.04	1.82	0.65	22.22	34.77	12.55
782.00			V	85.75	20.33	1.82	0.65	21.50	34.77	13.27
782.00	10		H	86.86	19.39	1.82	0.65	20.57	34.77	14.20
782.00			V	85.72	19.60	1.82	0.65	20.78	34.77	13.99
782.00	5	16QAM	H	87.42	20.82	1.82	0.65	21.99	34.77	12.78
782.00			V	86.55	20.74	1.82	0.65	21.92	34.77	12.85
782.00	10		H	85.98	20.63	1.82	0.65	21.80	34.77	12.97
782.00			V	86.08	20.87	1.82	0.65	22.04	34.77	12.73

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level ERP (dBm)	Limit (dBm)	Margin (dB)
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
784.50	5	QPSK	H	85.27	19.80	1.70	0.43	21.07	34.77	13.70
784.50			V	86.01	20.68	1.70	0.43	21.95	34.77	12.82
784.50	10		H	86.11	19.99	1.70	0.43	21.27	34.77	13.50
784.50			V	86.04	18.89	1.70	0.43	20.17	34.77	13.60
784.50	5	16QAM	H	87.59	19.03	1.70	0.43	20.31	34.77	13.46
784.50			V	86.79	20.58	1.70	0.43	21.85	34.77	12.92
784.50	10		H	86.94	20.12	1.70	0.43	21.40	34.77	12.37
784.50			V	84.36	19.83	1.70	0.43	21.11	34.77	13.66

## LTE Band 17

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dB $\mu$ V)	Substituted Method			Absolute Level ERP (dBm)	Limit (dBm)	Margin (dB)
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
706.50	5	QPSK	H	85.69	20.91	0.95	0.64	21.23	34.77	13.54
706.50			V	85.97	21.11	0.95	0.64	21.43	34.77	13.34
706.50	10		H	86.94	20.36	0.95	0.64	20.68	34.77	14.09
706.50			V	85.20	19.15	0.95	0.64	19.46	34.77	15.31
706.50	5	16QAM	H	87.58	21.00	0.95	0.64	21.32	34.77	13.45
706.50			V	86.39	19.83	0.95	0.64	20.15	34.77	14.62
706.50	10		H	85.82	20.38	0.95	0.64	20.69	34.77	14.08
706.50			V	85.21	20.45	0.95	0.64	20.77	34.77	14.00

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dB $\mu$ V)	Substituted Method			Absolute Level ERP (dBm)	Limit (dBm)	Margin (dB)
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
710.00	5	QPSK	H	86.31	20.81	1.83	0.43	22.20	34.77	12.57
710.00			V	85.06	20.40	1.83	0.43	21.79	34.77	12.98
710.00	10		H	86.76	19.41	1.83	0.43	20.81	34.77	13.96
710.00			V	85.18	20.67	1.83	0.43	22.07	34.77	12.70
710.00	5	16QAM	H	86.00	20.07	1.83	0.43	21.47	34.77	13.30
710.00			V	85.54	20.93	1.83	0.43	22.32	34.77	12.45
710.00	10		H	85.59	19.35	1.83	0.43	20.75	34.77	14.02
710.00			V	84.93	19.17	1.83	0.43	20.57	34.77	14.20

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dB $\mu$ V)	Substituted Method			Absolute Level ERP (dBm)	Limit (dBm)	Margin (dB)
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
713.50	5	QPSK	H	86.68	19.27	1.89	0.62	20.54	34.77	14.23
713.50			V	85.17	19.57	1.89	0.62	20.83	34.77	13.94
713.50	10		H	86.33	19.53	1.89	0.62	20.80	34.77	13.97
713.50			V	85.26	19.81	1.89	0.62	21.07	34.77	13.70
713.50	5	16QAM	H	85.90	19.94	1.89	0.62	21.20	34.77	13.57
713.50			V	86.55	20.63	1.89	0.62	21.90	34.77	12.87
713.50	10		H	85.52	20.34	1.89	0.62	21.61	34.77	13.16
713.50			V	84.90	20.73	1.89	0.62	22.00	34.77	12.77

LTE Band 25

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level EIRP (dBm)	Limit (dBm)	Margin (dB)	
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)				
1850.70	1.4	QPSK	H	85.89	12.40	11.41	1.84	21.97	33.00	11.03	
1850.70			V	86.17	11.84	11.41	1.84	21.41	33.00	11.59	
1850.70	3		H	86.33	13.26	11.41	1.84	22.83	33.00	9.17	
1850.70			V	85.96	13.04	11.41	1.84	22.61	33.00	10.39	
1850.70	5		H	86.48	13.59	11.41	1.84	23.16	33.00	9.84	
1850.70			V	85.89	12.53	11.41	1.84	22.10	33.00	10.90	
1850.70	10		H	86.66	13.84	11.41	1.84	23.41	33.00	9.59	
1850.70			V	85.71	13.51	11.41	1.84	23.08	33.00	9.92	
1850.70	15		H	85.34	11.68	11.41	1.84	21.25	33.00	11.75	
1850.70			V	86.97	12.94	11.41	1.84	22.51	33.00	10.49	
1850.70	20		H	85.54	12.04	11.41	1.84	21.61	33.00	10.39	
1850.70			V	86.89	12.69	11.41	1.84	22.26	33.00	10.74	
1850.70	1.4		16QAM	H	85.70	11.53	11.41	1.84	21.10	33.00	11.90
1850.70				V	85.84	13.47	11.41	1.84	23.04	33.00	8.96
1850.70	3	H		86.19	12.36	11.41	1.84	21.93	33.00	11.07	
1850.70		V		85.76	12.27	11.41	1.84	21.84	33.00	11.16	
1850.70	5	H		86.00	12.48	11.41	1.84	22.05	33.00	10.95	
1850.70		V		86.90	12.98	11.41	1.84	22.55	33.00	10.45	
1850.70	10	H		85.95	12.30	11.41	1.84	21.87	33.00	11.13	
1850.70		V		85.69	13.72	11.41	1.84	23.29	33.00	8.71	
1850.70	15	H		87.48	12.65	11.41	1.84	22.22	33.00	10.78	
1850.70		V		86.05	13.44	11.41	1.84	23.01	33.00	9.99	
1850.70	20	H		87.61	12.08	11.41	1.84	21.65	33.00	11.35	
1850.70		V		87.63	11.51	11.41	1.84	21.08	33.00	11.92	

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level EIRP (dBm)	Limit (dBm)	Margin (dB)	
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)				
1882.50	1.4	QPSK	H	84.93	13.17	11.90	2.29	22.78	33.00	10.22	
1882.50			V	85.19	13.04	11.90	2.29	22.66	33.00	10.34	
1882.50	3		H	85.73	13.77	11.90	2.29	23.39	33.00	9.61	
1882.50			V	85.86	12.82	11.90	2.29	22.44	33.00	10.56	
1882.50	5		H	86.03	14.08	11.90	2.29	23.69	33.00	9.31	
1882.50			V	86.21	13.61	11.90	2.29	23.22	33.00	9.78	
1882.50	10		H	86.98	13.61	11.90	2.29	23.22	33.00	9.78	
1882.50			V	84.45	13.54	11.90	2.29	23.15	33.00	9.85	
1882.50	15		H	85.84	12.62	11.90	2.29	22.23	33.00	10.77	
1882.50			V	85.57	13.80	11.90	2.29	23.41	33.00	9.59	
1882.50	20		H	86.80	11.92	11.90	2.29	21.53	33.00	11.47	
1882.50			V	85.64	12.67	11.90	2.29	22.28	33.00	10.72	
1882.50	1.4		16QAM	H	86.40	13.09	11.90	2.29	22.70	33.00	10.30
1882.50				V	87.15	12.83	11.90	2.29	22.45	33.00	10.55
1882.50	3			H	85.60	12.43	11.90	2.29	22.04	33.00	10.96
1882.50				V	87.17	14.20	11.90	2.29	23.81	33.00	9.19
1882.50	5	H		86.93	12.62	11.90	2.29	22.23	33.00	10.77	
1882.50		V		86.75	13.89	11.90	2.29	23.50	33.00	9.50	
1882.50	10	H		87.41	12.98	11.90	2.29	22.59	33.00	10.41	
1882.50		V		86.56	13.31	11.90	2.29	22.92	33.00	10.08	
1882.50	15	H		86.85	13.16	11.90	2.29	22.77	33.00	10.23	
1882.50		V		86.03	12.49	11.90	2.29	22.11	33.00	10.89	
1882.50	20	H		87.43	12.22	11.90	2.29	21.83	33.00	11.17	
1882.50		V		86.26	12.80	11.90	2.29	22.41	33.00	10.59	

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level EIRP (dBm)	Limit (dBm)	Margin (dB)	
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)				
1914.30	1.4	QPSK	H	86.20	12.93	11.27	1.99	22.20	33.00	10.80	
1914.30			V	85.71	11.45	11.27	1.99	20.73	33.00	12.27	
1914.30	3		H	85.38	12.48	11.27	1.99	21.76	33.00	11.24	
1914.30			V	84.30	11.49	11.27	1.99	20.77	33.00	12.23	
1914.30	5		H	87.09	14.28	11.27	1.99	23.56	33.00	9.44	
1914.30			V	86.27	12.79	11.27	1.99	22.07	33.00	10.93	
1914.30	10		H	85.26	12.74	11.27	1.99	22.02	33.00	10.98	
1914.30			V	84.71	12.22	11.27	1.99	21.50	33.00	11.50	
1914.30	15		H	86.25	12.53	11.27	1.99	21.81	33.00	11.19	
1914.30			V	85.44	14.06	11.27	1.99	23.34	33.00	9.66	
1914.30	20		H	87.05	11.57	11.27	1.99	20.84	33.00	12.16	
1914.30			V	86.43	12.86	11.27	1.99	22.14	33.00	9.86	
1914.30	1.4		16QAM	H	86.46	12.30	11.27	1.99	21.58	33.00	11.42
1914.30				V	85.88	12.79	11.27	1.99	22.07	33.00	10.93
1914.30	3	H		85.60	13.01	11.27	1.99	22.29	33.00	10.71	
1914.30		V		87.22	13.87	11.27	1.99	23.14	33.00	9.86	
1914.30	5	H		86.28	12.54	11.27	1.99	21.82	33.00	11.18	
1914.30		V		86.60	12.90	11.27	1.99	22.17	33.00	10.83	
1914.30	10	H		85.83	11.92	11.27	1.99	21.20	33.00	11.80	
1914.30		V		87.13	13.32	11.27	1.99	22.60	33.00	10.40	
1914.30	15	H		86.98	11.68	11.27	1.99	20.95	33.00	12.05	
1914.30		V		86.39	13.54	11.27	1.99	22.81	33.00	10.19	
1914.30	20	H		87.13	12.91	11.27	1.99	22.19	33.00	10.81	
1914.30		V		87.02	11.84	11.27	1.99	21.12	33.00	11.88	

**LTE Band 26(814-824MHz)**

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level ERP (dBm)	Limit (dBm)	Margin (dB)	
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)				
814.70	1.4	QPSK	H	84.84	20.43	1.20	0.33	21.31	50.00	28.69	
814.70			V	85.18	19.44	1.20	0.33	20.32	50.00	29.68	
814.70	3		H	86.81	20.74	1.20	0.33	21.61	50.00	28.39	
814.70			V	84.40	20.71	1.20	0.33	21.59	50.00	28.41	
814.70	5		H	86.39	20.07	1.20	0.33	20.94	50.00	29.06	
814.70			V	86.94	20.84	1.20	0.33	21.72	50.00	28.28	
814.70	10		H	85.97	19.80	1.20	0.33	20.68	50.00	29.32	
814.70			V	85.63	19.52	1.20	0.33	20.40	50.00	29.6	
814.70	1.4		16QAM	H	85.72	19.69	1.20	0.33	20.56	50.00	29.44
814.70				V	86.91	20.05	1.20	0.33	20.93	50.00	29.07
814.70	3			H	86.45	19.56	1.20	0.33	20.43	50.00	29.57
814.70				V	85.67	19.22	1.20	0.33	20.09	50.00	29.91
814.70	5			H	85.63	21.08	1.20	0.33	21.96	50.00	28.04
814.70				V	86.83	20.15	1.20	0.33	21.02	50.00	28.98
814.70	10	H		86.31	19.48	1.20	0.33	20.35	50.00	29.65	
814.70		V		87.33	19.25	1.20	0.33	20.13	50.00	29.87	



Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level ERP (dBm)	Limit (dBm)	Margin (dB)
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
819.00	1.4	QPSK	H	86.31	20.81	1.83	0.43	22.20	50.00	27.80
819.00			V	85.06	20.40	1.83	0.43	21.79	50.00	28.21
819.00	3		H	86.76	19.41	1.83	0.43	20.81	50.00	29.19
819.00			V	85.18	20.67	1.83	0.43	22.07	50.00	27.93
819.00	5		H	86.00	20.07	1.83	0.43	21.47	50.00	28.53
819.00			V	85.54	20.93	1.83	0.43	22.32	50.00	27.68
819.00	10		H	85.59	19.35	1.83	0.43	20.75	50.00	29.25
819.00			V	84.93	19.17	1.83	0.43	20.57	50.00	29.43
819.00	1.4	16QAM	H	86.62	19.35	1.83	0.43	20.74	50.00	29.26
819.00			V	85.85	19.95	1.83	0.43	21.34	50.00	28.66
819.00	3		H	86.04	19.29	1.83	0.43	20.69	50.00	29.31
819.00			V	86.18	21.14	1.83	0.43	22.53	50.00	27.47
819.00	5		H	87.02	19.84	1.83	0.43	21.23	50.00	28.77
819.00			V	86.22	20.81	1.83	0.43	22.21	50.00	27.79
819.00	10		H	85.94	19.26	1.83	0.43	20.65	50.00	29.35
819.00			V	87.40	19.63	1.83	0.43	21.02	50.00	28.98

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level ERP (dBm)	Limit (dBm)	Margin (dB)
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
823.30	1.4	QPSK	H	86.32	20.64	1.67	0.26	22.05	50.00	27.95
823.30			V	84.52	20.52	1.67	0.26	21.93	50.00	28.07
823.30	3		H	85.30	20.35	1.67	0.26	21.75	50.00	28.25
823.30			V	85.56	19.90	1.67	0.26	21.30	50.00	28.70
823.30	5		H	86.25	20.26	1.67	0.26	21.67	50.00	28.33
823.30			V	86.14	20.69	1.67	0.26	22.09	50.00	27.91
823.30	10		H	86.01	19.27	1.67	0.26	20.68	50.00	29.32
823.30			V	84.34	19.34	1.67	0.26	20.74	50.00	29.26
823.30	1.4	16QAM	H	85.38	21.07	1.67	0.26	22.48	50.00	27.52
823.30			V	85.25	20.30	1.67	0.26	21.71	50.00	28.29
823.30	3		H	86.90	19.92	1.67	0.26	21.33	50.00	28.67
823.30			V	85.74	19.78	1.67	0.26	21.18	50.00	28.82
823.30	5		H	87.04	20.11	1.67	0.26	21.52	50.00	28.48
823.30			V	86.64	20.13	1.67	0.26	21.54	50.00	28.46
823.30	10		H	87.32	19.27	1.67	0.26	20.68	50.00	29.32
823.30			V	87.35	18.80	1.67	0.26	20.21	50.00	29.79

LTE Band 26(824-849MHz)

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level ERP (dBm)	Limit (dBm)	Margin (dB)
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
824.70	1.4	QPSK	H	85.61	20.59	1.67	0.26	22.00	38.45	16.45
824.70			V	85.84	21.34	1.67	0.26	22.75	38.45	15.70
824.70	3		H	86.20	20.12	1.67	0.26	21.53	38.45	16.92
824.70			V	84.67	20.42	1.67	0.26	21.83	38.45	16.62
824.70	5		H	87.22	21.28	1.67	0.26	22.69	38.45	15.76
824.70			V	86.58	20.50	1.67	0.26	21.91	38.45	16.54
824.70	10		H	86.18	19.62	1.67	0.26	21.03	38.45	17.42
824.70			V	85.46	21.23	1.67	0.26	22.64	38.45	15.81
836.50	15		H	85.94	19.95	1.67	0.26	21.35	38.45	16.10
824.70			V	85.40	20.05	1.67	0.26	21.46	38.45	16.99
824.70	1.4	16QAM	H	86.20	21.35	1.67	0.26	22.75	38.45	15.70
824.70			V	86.79	20.60	1.67	0.26	22.01	38.45	16.44
824.70	3		H	85.77	19.97	1.67	0.26	21.38	38.45	17.07
824.70			V	85.77	20.79	1.67	0.26	22.20	38.45	16.25
824.70	5		H	86.42	20.41	1.67	0.26	21.82	38.45	16.63
824.70			V	87.23	20.92	1.67	0.26	22.33	38.45	16.12
824.70	10		H	86.24	20.89	1.67	0.26	22.30	38.45	16.15
824.70			V	86.91	20.80	1.67	0.26	22.20	38.45	16.25
824.70	15		H	86.61	20.02	1.67	0.26	21.43	38.45	17.02
824.70			V	86.16	20.13	1.67	0.26	21.54	38.45	16.91

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level ERP (dBm)	Limit (dBm)	Margin (dB)	
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)				
836.50	1.4	QPSK	H	84.83	20.08	1.90	0.35	21.63	38.45	16.82	
836.50			V	85.52	20.43	1.90	0.35	21.98	38.45	16.47	
836.50	3		H	85.87	20.20	1.90	0.35	21.75	38.45	16.70	
836.50			V	85.72	19.92	1.90	0.35	21.47	38.45	16.98	
836.50	5		H	87.62	19.62	1.90	0.35	21.16	38.45	17.29	
836.50			V	86.29	21.51	1.90	0.35	23.06	38.45	15.39	
836.50	10		H	86.00	19.80	1.90	0.35	21.35	38.45	17.10	
836.50			V	85.91	20.26	1.90	0.35	21.81	38.45	16.64	
836.50	15		H	86.54	20.44	1.90	0.35	21.98	38.45	16.47	
1882.50			V	85.17	19.58	1.90	0.35	21.13	38.45	17.32	
836.50	1.4		16QAM	H	85.79	21.12	1.90	0.35	22.66	38.45	15.79
836.50				V	86.29	20.31	1.90	0.35	21.85	38.45	16.60
836.50	3			H	87.11	19.63	1.90	0.35	21.18	38.45	17.27
836.50				V	85.43	20.80	1.90	0.35	22.35	38.45	16.10
836.50	5			H	85.87	20.18	1.90	0.35	21.73	38.45	16.72
836.50				V	86.72	20.34	1.90	0.35	21.88	38.45	16.57
836.50	10	H		87.39	21.25	1.90	0.35	22.79	38.45	15.66	
836.50		V		86.69	20.34	1.90	0.35	21.89	38.45	16.56	
836.50	15	H		87.48	20.78	1.90	0.35	22.32	38.45	16.13	
836.50		V		85.97	19.56	1.90	0.35	21.11	38.45	17.34	

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level ERP (dBm)	Limit (dBm)	Margin (dB)
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
848.30	1.4	QPSK	H	85.68	19.90	1.23	0.41	20.73	38.45	17.72
848.30			V	85.46	21.07	1.23	0.41	21.89	38.45	16.56
848.30	3		H	85.66	20.55	1.23	0.41	21.38	38.45	17.07
848.30			V	84.77	19.87	1.23	0.41	20.69	38.45	17.76
848.30	5		H	85.81	21.16	1.23	0.41	21.98	38.45	16.47
848.30			V	85.62	19.68	1.23	0.41	20.50	38.45	17.95
848.30	10		H	85.89	19.82	1.23	0.41	20.65	38.45	17.80
848.30			V	84.33	20.48	1.23	0.41	21.31	38.45	17.14
848.30	15		H	85.87	19.98	1.23	0.41	20.81	38.45	16.64
848.30			V	86.60	20.10	1.23	0.41	20.92	38.45	16.53
848.30	1.4	16QAM	H	86.45	21.34	1.23	0.41	22.16	38.45	16.29
848.30			V	85.42	21.00	1.23	0.41	21.82	38.45	16.63
848.30	3		H	86.41	20.55	1.23	0.41	21.38	38.45	17.07
848.30			V	86.38	20.89	1.23	0.41	21.72	38.45	16.73
848.30	5		H	86.55	19.82	1.23	0.41	20.64	38.45	17.81
848.30			V	85.72	21.01	1.23	0.41	21.84	38.45	16.61
848.30	10		H	87.45	21.11	1.23	0.41	21.93	38.45	16.52
848.30			V	86.14	19.54	1.23	0.41	20.37	38.45	18.08
848.30	15		H	86.73	21.00	1.23	0.41	21.83	38.45	16.62
848.30			V	87.33	20.09	1.23	0.41	20.92	38.45	17.53

LTE Band 27

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level ERP (dBm)	Limit (dBm)	Margin (dB)	
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)				
807.70	1.4	QPSK	H	85.09	20.39	1.23	0.41	21.21	50.00	28.79	
807.70			V	84.32	20.27	1.23	0.41	21.10	50.00	28.90	
807.70	3		H	85.30	20.71	1.23	0.41	21.54	50.00	28.46	
807.70			V	85.06	19.59	1.23	0.41	20.41	50.00	29.59	
807.70	5		H	87.49	19.16	1.23	0.41	19.99	50.00	30.01	
807.70			V	87.12	19.67	1.23	0.41	20.49	50.00	29.51	
807.70	10		H	86.38	19.27	1.23	0.41	20.09	50.00	29.91	
807.70			V	85.80	19.00	1.23	0.41	19.83	50.00	30.17	
807.70	1.4		16QAM	H	85.84	19.38	1.23	0.41	20.20	50.00	29.80
807.70				V	86.88	19.68	1.23	0.41	20.50	50.00	29.50
807.70	3	H		86.12	20.13	1.23	0.41	20.95	50.00	29.05	
807.70		V		87.07	20.07	1.23	0.41	20.89	50.00	29.11	
807.70	5	H		85.95	20.04	1.23	0.41	20.87	50.00	29.13	
807.70		V		85.35	19.20	1.23	0.41	20.02	50.00	29.98	
807.70	10	H		86.61	20.09	1.23	0.41	20.91	50.00	29.09	
807.70		V		87.03	20.54	1.23	0.41	21.36	50.00	28.64	

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level ERP (dBm)	Limit (dBm)	Margin (dB)
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
815.00	1.4	QPSK	H	86.30	21.12	0.97	0.61	21.47	50.00	28.53
815.00			V	85.39	20.41	0.97	0.61	20.77	50.00	29.23
815.00	3		H	85.40	21.12	0.97	0.61	21.48	50.00	28.52
815.00			V	84.83	20.10	0.97	0.61	20.46	50.00	29.54
815.00	5		H	87.60	19.62	0.97	0.61	19.98	50.00	30.02
815.00			V	86.42	20.30	0.97	0.61	20.66	50.00	29.34
815.00	10		H	86.45	19.45	0.97	0.61	19.81	50.00	30.19
815.00			V	86.18	20.36	0.97	0.61	20.72	50.00	29.28
815.00	1.4	16QAM	H	85.27	19.70	0.97	0.61	20.06	50.00	29.94
815.00			V	85.94	20.96	0.97	0.61	21.32	50.00	28.68
815.00	3		H	86.71	19.92	0.97	0.61	20.28	50.00	29.72
815.00			V	87.10	20.11	0.97	0.61	20.47	50.00	29.53
815.00	5		H	86.65	20.89	0.97	0.61	21.25	50.00	28.75
815.00			V	85.39	19.30	0.97	0.61	19.66	50.00	30.34
815.00	10		H	86.74	20.45	0.97	0.61	20.81	50.00	29.19
815.00			V	86.83	21.10	0.97	0.61	21.46	50.00	28.54

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level ERP (dBm)	Limit (dBm)	Margin (dB)
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
823.30	1.4	QPSK	H	85.64	20.25	1.48	0.58	21.15	50.00	28.85
823.30			V	85.85	19.40	1.48	0.58	20.29	50.00	29.71
823.30	3		H	86.15	19.18	1.48	0.58	20.08	50.00	29.92
823.30			V	84.49	20.13	1.48	0.58	21.02	50.00	28.98
823.30	5		H	87.00	20.78	1.48	0.58	21.67	50.00	28.33
823.30			V	86.43	20.86	1.48	0.58	21.76	50.00	28.24
823.30	10		H	85.80	19.46	1.48	0.58	20.35	50.00	29.65
823.30			V	85.92	19.13	1.48	0.58	20.02	50.00	29.98
823.30	1.4	16QAM	H	86.21	19.32	1.48	0.58	20.21	50.00	29.79
823.30			V	86.16	19.44	1.48	0.58	20.34	50.00	29.66
823.30	3		H	85.37	20.30	1.48	0.58	21.19	50.00	28.81
823.30			V	85.31	19.97	1.48	0.58	20.86	50.00	29.14
823.30	5		H	85.63	19.76	1.48	0.58	20.66	50.00	29.34
823.30			V	87.22	19.73	1.48	0.58	20.63	50.00	29.37
823.30	10		H	85.48	19.95	1.48	0.58	20.85	50.00	29.15
823.30			V	86.76	20.45	1.48	0.58	21.34	50.00	28.66

LTE Band 41

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level EIRP (dBm)	Limit (dBm)	Margin (dB)	
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)				
2498.50	5	QPSK	H	85.06	13.49	11.01	2.24	22.25	33.00	10.75	
2498.50			V	85.34	12.68	11.01	2.24	21.45	33.00	11.55	
2498.50	10		H	85.75	12.69	11.01	2.24	21.46	33.00	11.54	
2498.50			V	84.96	12.14	11.01	2.24	20.90	33.00	12.10	
2498.50	15		H	86.23	13.70	11.01	2.24	22.46	33.00	10.54	
2498.50			V	87.28	12.25	11.01	2.24	21.02	33.00	11.98	
2498.50	20		H	85.87	11.34	11.01	2.24	20.10	33.00	10.90	
2498.50			V	84.30	11.21	11.01	2.24	19.97	33.00	12.03	
2498.50	5		16QAM	H	86.77	13.20	11.01	2.24	21.97	33.00	11.03
2498.50				V	87.05	12.41	11.01	2.24	21.17	33.00	11.83
2498.50	10	H		86.27	13.19	11.01	2.24	21.95	33.00	11.05	
2498.50		V		86.21	13.50	11.01	2.24	22.27	33.00	10.73	
2498.50	15	H		86.74	12.56	11.01	2.24	21.32	33.00	11.68	
2498.50		V		85.54	13.51	11.01	2.24	22.28	33.00	9.72	
2498.50	20	H		86.95	12.13	11.01	2.24	20.90	33.00	12.10	
2498.50		V		85.48	13.11	11.01	2.24	21.87	33.00	11.13	

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level EIRP (dBm)	Limit (dBm)	Margin (dB)	
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)				
2593.00	5	QPSK	H	86.56	13.53	11.14	2.66	22.00	33.00	11.00	
2593.00			V	86.13	12.34	11.14	2.66	20.81	33.00	12.19	
2593.00	10		H	86.68	12.43	11.14	2.66	20.90	33.00	12.10	
2593.00			V	85.45	12.00	11.14	2.66	20.47	33.00	12.53	
2593.00	15		H	87.08	12.98	11.14	2.66	21.45	33.00	11.55	
2593.00			V	86.72	12.55	11.14	2.66	21.02	33.00	11.98	
2593.00	20		H	85.93	12.42	11.14	2.66	20.89	33.00	12.11	
2593.00			V	84.88	12.17	11.14	2.66	20.64	33.00	12.36	
2593.00	5		16QAM	H	85.58	11.82	11.14	2.66	20.30	33.00	12.70
2593.00				V	85.31	12.60	11.14	2.66	21.08	33.00	11.92
2593.00	10	H		85.58	11.60	11.14	2.66	20.08	33.00	12.92	
2593.00		V		87.05	14.10	11.14	2.66	22.57	33.00	10.43	
2593.00	15	H		85.51	12.20	11.14	2.66	20.68	33.00	12.32	
2593.00		V		86.19	14.45	11.14	2.66	22.92	33.00	10.08	
2593.00	20	H		86.67	13.47	11.14	2.66	21.94	33.00	11.06	
2593.00		V		86.46	13.80	11.14	2.66	22.28	33.00	10.72	

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level EIRP (dBm)	Limit (dBm)	Margin (dB)	
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)				
2687.50	5	QPSK	H	85.01	12.96	11.78	1.86	22.88	33.00	10.12	
2687.50			V	85.01	11.45	11.78	1.86	21.37	33.00	11.63	
2687.50	10		H	85.49	12.79	11.78	1.86	22.71	33.00	10.29	
2687.50			V	84.48	13.25	11.78	1.86	23.17	33.00	9.83	
2687.50	15		H	86.73	13.20	11.78	1.86	23.12	33.00	9.88	
2687.50			V	86.67	11.98	11.78	1.86	21.90	33.00	11.10	
2687.50	20		H	85.91	10.80	11.78	1.86	20.72	33.00	10.28	
2687.50			V	85.59	10.32	11.78	1.86	20.24	33.00	10.76	
2687.50	5		16QAM	H	86.77	12.30	11.78	1.86	22.22	33.00	10.78
2687.50				V	86.96	12.46	11.78	1.86	22.37	33.00	10.63
2687.50	10	H		85.62	12.34	11.78	1.86	22.26	33.00	10.74	
2687.50		V		86.87	12.76	11.78	1.86	22.68	33.00	9.32	
2687.50	15	H		86.09	11.81	11.78	1.86	21.73	33.00	11.27	
2687.50		V		87.08	12.74	11.78	1.86	22.66	33.00	9.34	
2687.50	20	H		86.11	12.29	11.78	1.86	22.21	33.00	10.79	
2687.50		V		87.00	12.09	11.78	1.86	22.01	33.00	9.49	

**LTE Band 66**

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level EIRP (dBm)	Limit (dBm)	Margin (dB)	
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)				
1710.70	1.4	QPSK	H	85.02	13.38	11.18	1.74	22.82	33.00	10.18	
1710.70			V	85.56	11.49	11.18	1.74	20.93	33.00	12.07	
1710.70	3		H	85.95	12.75	11.18	1.74	22.19	33.00	10.81	
1710.70			V	85.20	12.29	11.18	1.74	21.73	33.00	11.27	
1710.70	5		H	87.49	14.46	11.18	1.74	23.90	33.00	9.10	
1710.70			V	86.65	12.91	11.18	1.74	22.35	33.00	10.65	
1710.70	10		H	86.14	12.26	11.18	1.74	21.70	33.00	11.30	
1710.70			V	85.91	13.91	11.18	1.74	23.35	33.00	9.65	
1710.70	15		H	86.91	11.61	11.18	1.74	21.05	33.00	11.95	
1710.70			V	86.10	13.84	11.18	1.74	23.28	33.00	9.72	
1710.70	20		H	85.42	12.68	11.18	1.74	22.12	33.00	10.88	
1710.70			V	85.90	14.20	11.18	1.74	23.64	33.00	9.36	
1710.70	1.4		16QAM	H	86.56	11.38	11.18	1.74	20.82	33.00	12.18
1710.70				V	87.12	13.67	11.18	1.74	23.11	33.00	9.89
1710.70	3			H	87.24	12.91	11.18	1.74	22.35	33.00	10.65
1710.70				V	87.43	13.25	11.18	1.74	22.69	33.00	10.31
1710.70	5	H		86.71	12.38	11.18	1.74	21.82	33.00	11.18	
1710.70		V		86.95	13.83	11.18	1.74	23.27	33.00	9.73	
1710.70	10	H		87.11	13.25	11.18	1.74	22.69	33.00	10.31	
1710.70		V		86.24	14.36	11.18	1.74	23.80	33.00	9.20	
1710.70	15	H		86.09	12.95	11.18	1.74	22.39	33.00	10.61	
1710.70		V		86.57	12.11	11.18	1.74	21.55	33.00	11.45	
1710.70	20	H		86.34	12.97	11.18	1.74	22.41	33.00	10.59	
1710.70		V		86.54	11.78	11.18	1.74	21.22	33.00	11.78	

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level EIRP (dBm)	Limit (dBm)	Margin (dB)	
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)				
1745.00	1.4	QPSK	H	86.29	13.39	11.36	2.60	22.15	33.00	10.85	
1745.00			V	85.11	12.81	11.36	2.60	21.57	33.00	11.43	
1745.00	3		H	86.53	12.52	11.36	2.60	21.27	33.00	11.73	
1745.00			V	85.67	13.08	11.36	2.60	21.83	33.00	11.17	
1745.00	5		H	86.24	13.33	11.36	2.60	22.08	33.00	10.92	
1745.00			V	87.02	12.99	11.36	2.60	21.74	33.00	11.26	
1745.00	10		H	87.10	13.94	11.36	2.60	22.69	33.00	10.31	
1745.00			V	85.75	13.52	11.36	2.60	22.27	33.00	10.73	
1745.00	15		H	86.16	12.79	11.36	2.60	21.54	33.00	11.46	
1745.00			V	86.23	12.91	11.36	2.60	21.67	33.00	11.33	
1745.00	20		H	87.12	11.49	11.36	2.60	20.24	33.00	12.76	
1745.00			V	86.28	13.52	11.36	2.60	22.27	33.00	10.73	
1745.00	1.4		16QAM	H	86.74	13.05	11.36	2.60	21.80	33.00	11.20
1745.00				V	85.42	14.17	11.36	2.60	22.92	33.00	10.08
1745.00	3			H	86.61	13.61	11.36	2.60	22.36	33.00	10.64
1745.00				V	86.17	13.34	11.36	2.60	22.09	33.00	10.91
1745.00	5	H		85.81	12.69	11.36	2.60	21.44	33.00	11.56	
1745.00		V		85.89	13.52	11.36	2.60	22.27	33.00	10.73	
1745.00	10	H		87.30	12.38	11.36	2.60	21.13	33.00	11.87	
1745.00		V		86.11	14.58	11.36	2.60	23.33	33.00	9.67	
1745.00	15	H		86.35	13.26	11.36	2.60	22.01	33.00	10.99	
1745.00		V		86.05	13.91	11.36	2.60	22.67	33.00	10.33	
1745.00	20	H		86.79	12.53	11.36	2.60	21.28	33.00	11.72	
1745.00		V		86.41	13.25	11.36	2.60	22.00	33.00	11.00	

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level EIRP (dBm)	Limit (dBm)	Margin (dB)
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
1779.30	1.4	QPSK	H	86.20	12.45	11.24	1.93	21.75	33.00	11.25
1779.30			V	85.24	11.62	11.24	1.93	20.93	33.00	12.07
1779.30	3		H	86.99	13.33	11.24	1.93	22.63	33.00	10.37
1779.30			V	84.73	12.72	11.24	1.93	22.03	33.00	10.97
1779.30	5		H	86.79	14.41	11.24	1.93	23.72	33.00	9.28
1779.30			V	86.52	12.24	11.24	1.93	21.54	33.00	11.46
1779.30	10		H	86.99	12.13	11.24	1.93	21.44	33.00	11.56
1779.30			V	85.14	13.16	11.24	1.93	22.46	33.00	10.54
1779.30	15		H	85.33	13.09	11.24	1.93	22.40	33.00	10.60
1779.30			V	86.14	13.27	11.24	1.93	22.58	33.00	10.42
1779.30	20		H	87.03	12.16	11.24	1.93	21.47	33.00	11.53
1779.30			V	85.38	12.77	11.24	1.93	22.08	33.00	10.92
1779.30	1.4	16QAM	H	87.08	12.54	11.24	1.93	21.85	33.00	11.15
1779.30			V	86.10	14.04	11.24	1.93	23.35	33.00	9.65
1779.30	3		H	86.44	12.99	11.24	1.93	22.30	33.00	10.70
1779.30			V	85.66	14.20	11.24	1.93	23.51	33.00	9.49
1779.30	5		H	86.41	11.79	11.24	1.93	21.10	33.00	11.90
1779.30			V	85.76	12.79	11.24	1.93	22.10	33.00	10.90
1779.30	10		H	86.08	12.95	11.24	1.93	22.26	33.00	10.74
1779.30			V	85.87	14.59	11.24	1.93	23.90	33.00	9.10
1779.30	15		H	86.51	13.06	11.24	1.93	22.37	33.00	10.63
1779.30			V	86.57	12.31	11.24	1.93	21.61	33.00	11.39
1779.30	20		H	87.71	12.28	11.24	1.93	21.59	33.00	11.41
1779.30			V	87.19	13.06	11.24	1.93	22.36	33.00	10.64

LTE Band 71

Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBµV)	Substituted Method			Absolute Level ERP (dBm)	Limit (dBm)	Margin (dB)	
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)				
665.50	5	QPSK	H	85.98	19.43	1.02	0.44	20.02	34.77	14.75	
665.50			V	85.32	19.38	1.02	0.44	19.96	34.77	14.81	
665.50	10		H	86.26	19.28	1.02	0.44	19.86	34.77	14.91	
665.50			V	84.28	19.76	1.02	0.44	20.34	34.77	14.43	
665.50	15		H	87.49	19.86	1.02	0.44	20.44	34.77	14.33	
665.50			V	85.90	20.22	1.02	0.44	20.80	34.77	13.97	
665.50	20		H	87.19	20.42	1.02	0.44	21.00	34.77	13.77	
665.50			V	84.93	19.86	1.02	0.44	20.44	34.77	14.33	
665.50	5		16QAM	H	86.84	20.67	1.02	0.44	21.25	34.77	13.52
665.50				V	87.00	20.85	1.02	0.44	21.43	34.77	13.34
665.50	10			H	85.70	20.90	1.02	0.44	21.48	34.77	13.29
665.50				V	85.91	20.85	1.02	0.44	21.43	34.77	13.34
665.50	15	H		87.02	21.06	1.02	0.44	21.64	34.77	13.13	
665.50		V		86.13	20.64	1.02	0.44	21.22	34.77	13.55	
665.50	20	H		86.25	19.57	1.02	0.44	20.15	34.77	14.62	
665.50		V		85.51	19.26	1.02	0.44	19.85	34.77	14.92	



Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level ERP (dBm)	Limit (dBm)	Margin (dB)
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
680.50	5	QPSK	H	86.17	20.22	1.21	0.62	20.81	34.77	13.96
680.50			V	85.21	21.13	1.21	0.62	21.72	34.77	13.05
680.50	10		H	86.31	19.77	1.21	0.62	20.36	34.77	14.41
680.50			V	84.81	19.31	1.21	0.62	19.90	34.77	14.87
680.50	15		H	86.79	20.03	1.21	0.62	20.62	34.77	14.15
680.50			V	87.07	19.46	1.21	0.62	20.05	34.77	14.72
680.50	20		H	86.92	20.78	1.21	0.62	21.37	34.77	13.40
680.50			V	84.84	21.05	1.21	0.62	21.64	34.77	13.13
680.50	5	16QAM	H	86.83	19.21	1.21	0.62	19.80	34.77	14.97
680.50			V	85.21	19.91	1.21	0.62	20.50	34.77	14.27
680.50	10		H	86.87	19.42	1.21	0.62	20.01	34.77	14.76
680.50			V	85.91	20.78	1.21	0.62	21.37	34.77	13.40
680.50	15		H	85.67	20.30	1.21	0.62	20.89	34.77	13.88
680.50			V	85.42	21.10	1.21	0.62	21.69	34.77	13.08
680.50	20		H	87.31	19.80	1.21	0.62	20.39	34.77	14.38
680.50			V	85.49	20.54	1.21	0.62	21.13	34.77	13.64

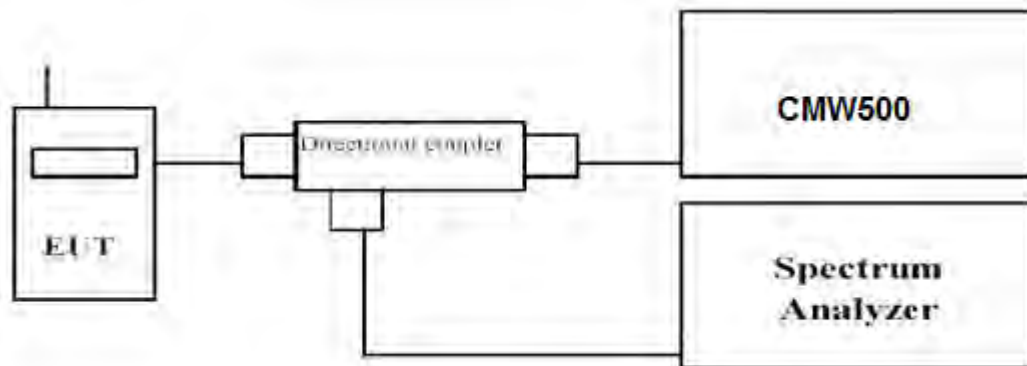
Frequency (MHz)	BW (MHz)	Modulation	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level ERP (dBm)	Limit (dBm)	Margin (dB)
					Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
695.50	5	QPSK	H	85.94	19.61	1.85	0.39	21.07	34.77	13.70
695.50			V	85.10	19.85	1.85	0.39	21.31	34.77	13.46
695.50	10		H	85.51	20.33	1.85	0.39	21.79	34.77	12.98
695.50			V	85.17	20.41	1.85	0.39	21.87	34.77	12.90
695.50	15		H	87.18	20.88	1.85	0.39	22.34	34.77	12.43
695.50			V	86.13	19.61	1.85	0.39	21.07	34.77	13.70
695.50	20		H	85.62	20.10	1.85	0.39	21.56	34.77	13.21
695.50			V	85.74	19.79	1.85	0.39	21.24	34.77	13.53
695.50	5	16QAM	H	86.86	20.29	1.85	0.39	21.75	34.77	13.02
695.50			V	85.69	20.56	1.85	0.39	22.02	34.77	12.75
695.50	10		H	86.10	19.51	1.85	0.39	20.97	34.77	13.80
695.50			V	85.78	20.36	1.85	0.39	21.82	34.77	12.95
695.50	15		H	86.50	19.47	1.85	0.39	20.93	34.77	13.84
695.50			V	87.24	20.12	1.85	0.39	21.58	34.77	13.19
695.50	20		H	86.90	19.35	1.85	0.39	20.81	34.77	13.96
695.50			V	86.54	19.45	1.85	0.39	20.91	34.77	12.86

## 4.2 Peak-to-Average Ratio (PAR)

### LIMIT

The Peak-to-Average Ratio (PAR) of the transmission may not exceed 13 dB.

### TEST CONFIGURATION



### TEST PROCEDURE

1. Refer to instrument's analyzer instruction manual for details on how to use the power statistics/CCDF function;
2. Set resolution/measurement bandwidth  $\geq$  signal's occupied bandwidth;
3. Set the number of counts to a value that stabilizes the measured CCDF curve;
4. Set the measurement interval as follows:
  - 1). for continuous transmissions, set to 1 ms,
  - 2). for burst transmissions, employ an external trigger that is synchronized with the EUT burst timing sequence, or use the internal burst trigger with a trigger level that allows the burst to stabilize and set the measurement interval to a time that is less than or equal to the burst duration.
5. Record the maximum PAPR level associated with a probability of 0.1%.

### TEST RESULTS

Temperature	24.5°C	Humidity	53.7%
Test Engineer	Moon Tan	Configurations	WCDMA/LTE

Remark:

We were tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of WCDMA Band II , WCDMA Band IV ,WCDMA Band V , LTE FDD Band 2, LTE FDD Band 4, LTE FDD Band 5, LTE FDD Band 12, LTE FDD Band 13, LTE FDD Band 17, LTE FDD Band 25, LTE FDD Band 26, LTE FDD Band 27, LTE TDD Band 41,LTE FDD Band 66, LTE FDD Band 71; recorded worst case for each Channel Bandwidth of WCDMA Band II , WCDMA Band IV ,WCDMA Band V , LTE FDD Band 2, LTE FDD Band 4, LTE FDD Band 5, LTE FDD Band 12, LTE FDD Band 13, LTE FDD Band 17, LTE FDD Band 25, LTE FDD Band 26, LTE FDD Band 27, LTE TDD Band 41,LTE FDD Band 66, LTE FDD Band 71.

1. For E-UTRA Band 2, please refer to Appendix Band 2: Section A;
2. For E-UTRA Band 4, please refer to Appendix Band 4: Section A;
3. For E-UTRA Band 5, please refer to Appendix Band 5: Section A;
4. For E-UTRA Band 12, please refer to Appendix Band 12: Section A;
5. For E-UTRA Band 13, please refer to Appendix Band 13: Section A;
6. For E-UTRA Band 17, please refer to Appendix Band 17: Section A;
7. For E-UTRA Band 25, please refer to Appendix Band 25: Section A;
8. For E-UTRA Band 26(814MHz~824MHz), please refer to Appendix Band 26(814MHz~824MHz): Section A;
9. For E-UTRA Band 26(824MHz~849MHz), please refer to Appendix Band 26(824MHz~849MHz): Section A;
10. For E-UTRA Band 27, please refer to Appendix Band 27: Section A;
11. For E-UTRA Band 41, please refer to Appendix Band 41: Section A;
12. For E-UTRA Band 66, please refer to Appendix Band 66: Section A;
13. For E-UTRA Band 71, please refer to Appendix Band 71: Section A;

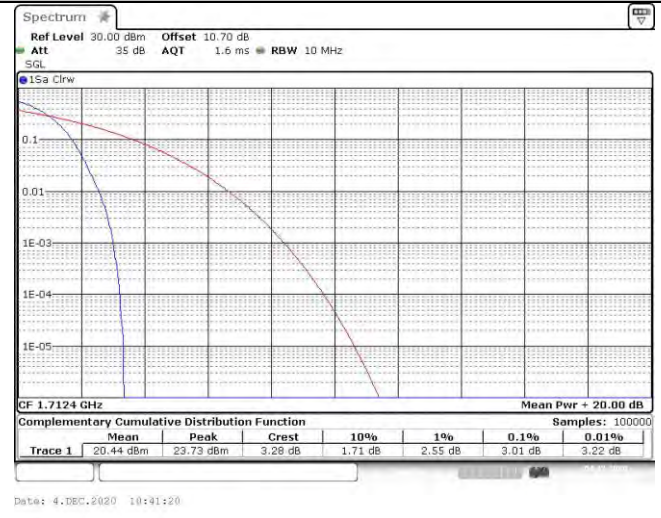
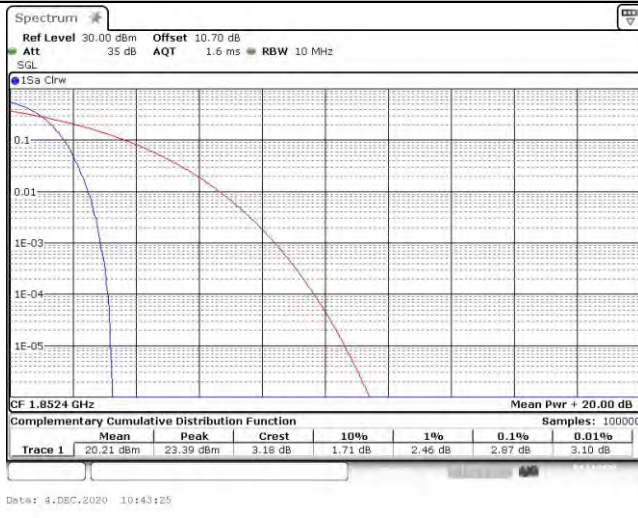
**WCDMA :**

Test Mode	Channel	Frequency (MHz)	PAPR Value (dB)	Limits (dB)	Verdict
UMTS/TM1/ WCDMA Band II	9262	1852.4	2.87	13.0	PASS
	9400	1880.0	3.05	13.0	PASS
	9538	1907.6	2.72	13.0	PASS
UMTS/TM1/ WCDMA Band IV	1312	1712.40	3.01	13.0	PASS
	1413	1732.60	2.97	13.0	PASS
	1513	1752.60	3.13	13.0	PASS
UMTS/TM1/ WCDMA Band V	4132	826.4	3.16	13.0	PASS
	4182	836.4	3.06	13.0	PASS
	4233	846.6	3.25	13.0	PASS

Peak-to-Average Ratio (PAR)

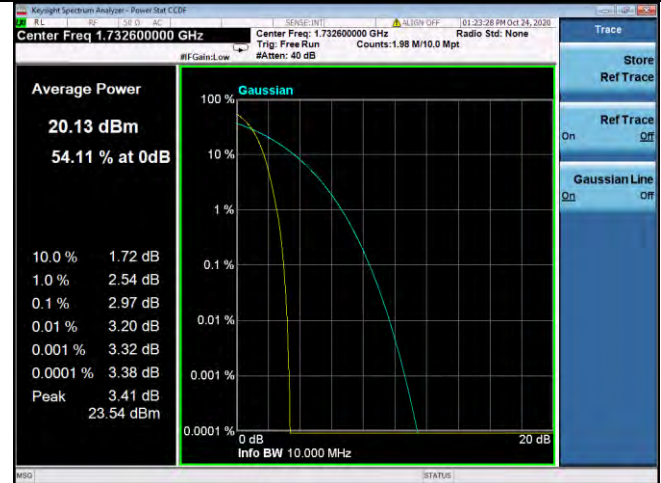
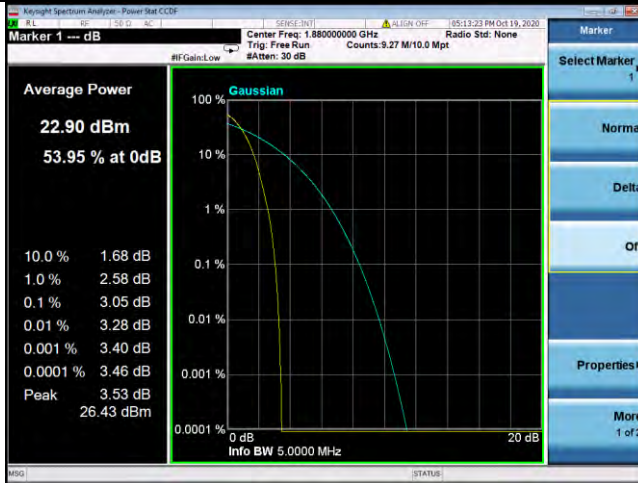
UMTS/TM1/ WCDMA Band II

UMTS/TM1/ WCDMA Band IV



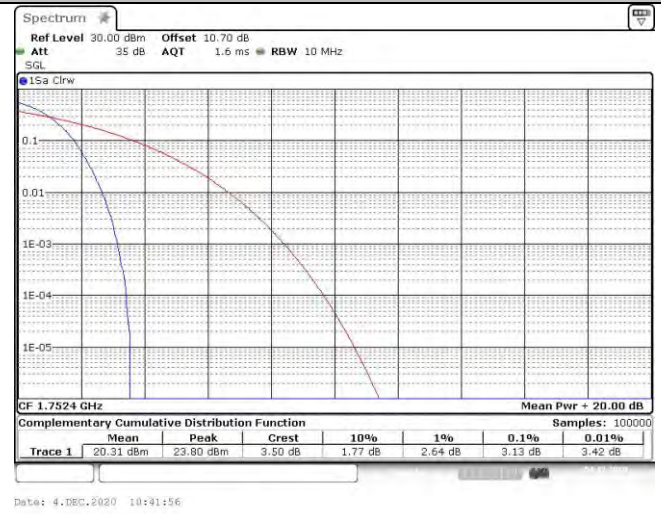
Channel 9262 / 1852.4 MHz

Channel 1312 / 1712.4 MHz



Channel 9400 / 1880.0 MHz

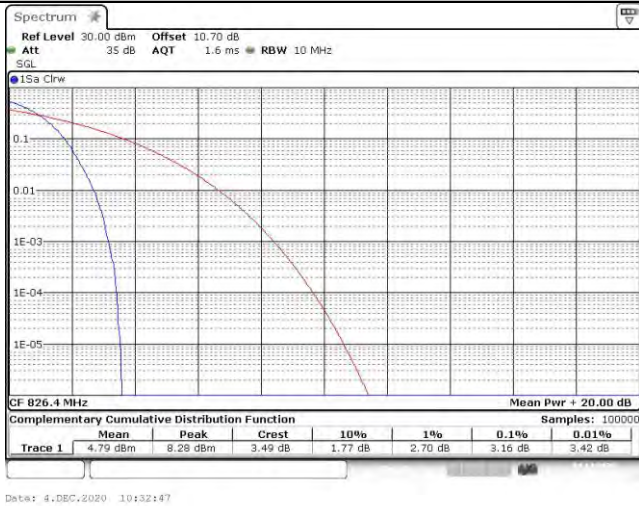
Channel 1413 / 1732.6 MHz



Channel 9538 / 1907.6 MHz

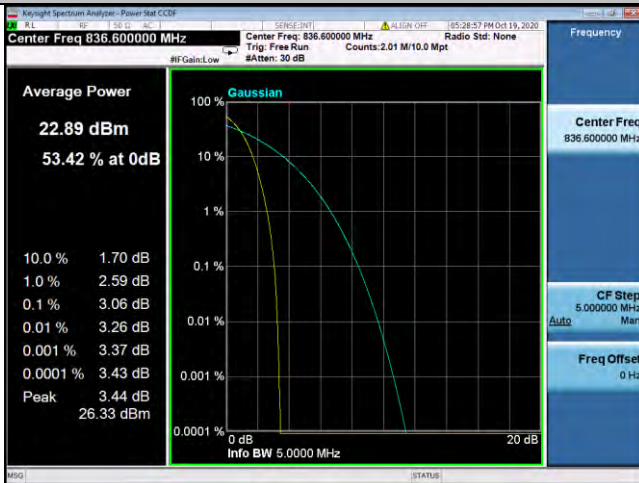
Channel 1513 / 1752.6 MHz

UMTS/TM1/ WCDMA Band V

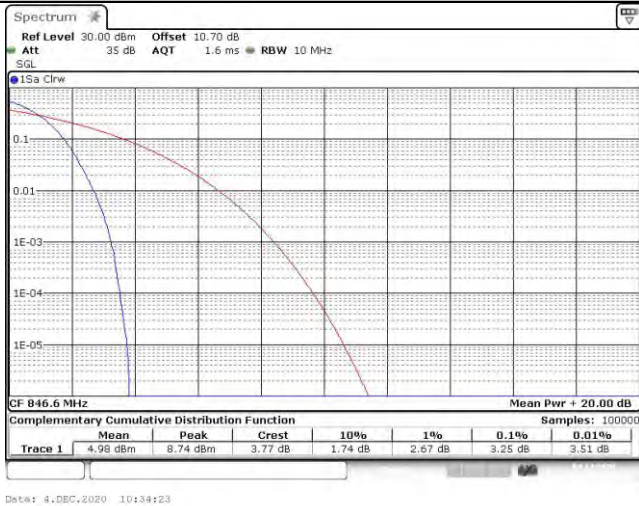


Date: 4.DEC.2020 10:32:47

Channel 4132/ 826.4 MHz



Channel 4182/ 836.4 MHz



Date: 4.DEC.2020 10:34:23

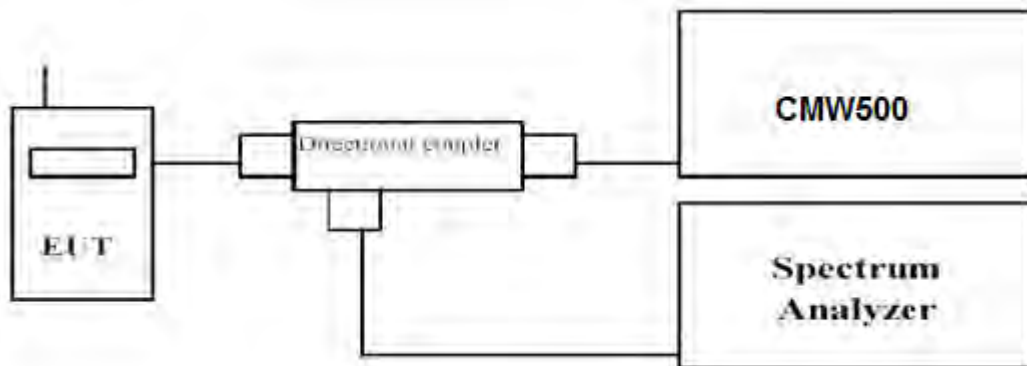
Channel 4233/ 846.6 MHz

### 4.3 Occupied Bandwidth and Emission Bandwidth

#### LIMIT

FCC §2.1049, §22.917, §22.905, §24.238, §27.53 and §90.209

#### TEST CONFIGURATION



#### TEST PROCEDURE

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at low, middle and high channel in each band. The -26dBc Emission bandwidth was also measured and recorded. Set RBW was set to about 1% of emission BW, VBW≥3 times RBW. -26dBc display line was placed on the screen (or 99% bandwidth), the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace.

#### TEST RESULTS

Temperature	24.5°C	Humidity	53.7%
Test Engineer	Moon Tan	Configurations	WCDMA/LTE

Remark:

We were tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of WCDMA Band II , WCDMA Band IV ,WCDMA Band V , LTE FDD Band 2, LTE FDD Band 4, LTE FDD Band 5, LTE FDD Band 12, LTE FDD Band 13, LTE FDD Band 17, LTE FDD Band 25, LTE FDD Band 26, LTE FDD Band 27, LTE TDD Band 41,LTE FDD Band 66, LTE FDD Band 71; recorded worst case for each Channel Bandwidth of WCDMA Band II , WCDMA Band IV ,WCDMA Band V , LTE FDD Band 2, LTE FDD Band 4, LTE FDD Band 5, LTE FDD Band 12, LTE FDD Band 13, LTE FDD Band 17, LTE FDD Band 25, LTE FDD Band 26, LTE FDD Band 27, LTE TDD Band 41,LTE FDD Band 66, LTE FDD Band 71.

1. For E-UTRA Band 2, please refer to Appendix Band 2: Section B;
2. For E-UTRA Band 4, please refer to Appendix Band 4: Section B;
3. For E-UTRA Band 5, please refer to Appendix Band 5: Section B;
4. For E-UTRA Band 12, please refer to Appendix Band 12: Section B;
5. For E-UTRA Band 13, please refer to Appendix Band 13: Section B;
6. For E-UTRA Band 17, please refer to Appendix Band 17: Section B;
7. For E-UTRA Band 25, please refer to Appendix Band 25: Section B;
8. For E-UTRA Band 26(814MHz~824MHz), please refer to Appendix Band 26(814MHz~824MHz): Section B;
9. For E-UTRA Band 26(824MHz~849MHz), please refer to Appendix Band 26(824MHz~849MHz): Section B;
10. For E-UTRA Band 27, please refer to Appendix Band 27: Section B;
11. For E-UTRA Band 41, please refer to Appendix Band 41: Section B;
12. For E-UTRA Band 66, please refer to Appendix Band 66: Section B;
13. For E-UTRA Band 71, please refer to Appendix Band 71: Section B;

Test Mode	Channel	Frequency (MHz)	Occupied Bandwidth (99% BW) ( MHz)	Emission Bandwidth (-26 dBc BW) ( MHz)	Verdict
UMTS/TM1/ WCDMA Band II	9262	1852.4	4.2005	4.711	PASS
	9400	1880.0	4.1424	4.688	PASS
	9538	1907.6	4.1833	4.701	PASS
UMTS/TM1/ WCDMA Band IV	1312	1712.40	4.1830	4.710	PASS
	1413	1732.60	4.1785	4.715	PASS
	1513	1752.60	4.1768	4.728	PASS
UMTS/TM1/ WCDMA Band V	4132	826.4	4.1992	4.741	PASS
	4182	836.4	4.1517	4.665	PASS
	4233	846.6	4.2094	4.772	PASS

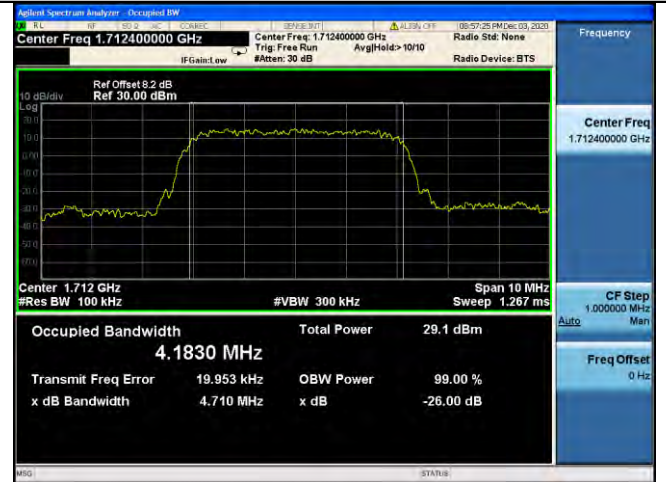
## Remark:

1. Test results including cable loss;
2. Please refer to following plots;

Occupied Bandwidth and Emission Bandwidth

UMTS/TM1/ WCDMA Band II

UMTS/TM1/ WCDMA Band IV



Channel 9262 / 1852.4 MHz

Channel 1312 / 1712.4 MHz



Channel 9400 / 1880.0 MHz

Channel 1413 / 1732.6 MHz

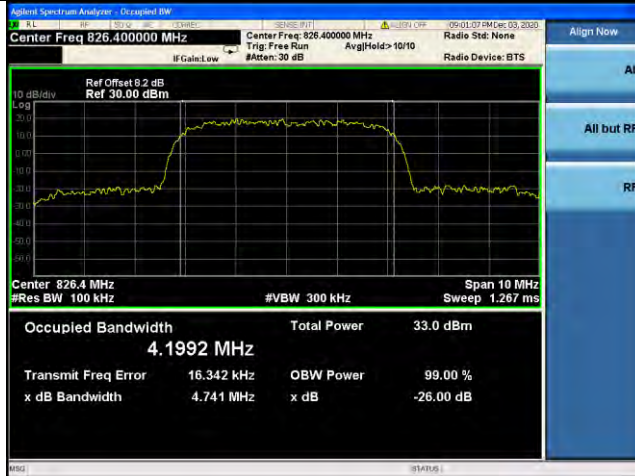


Channel 9538 / 1907.6 MHz

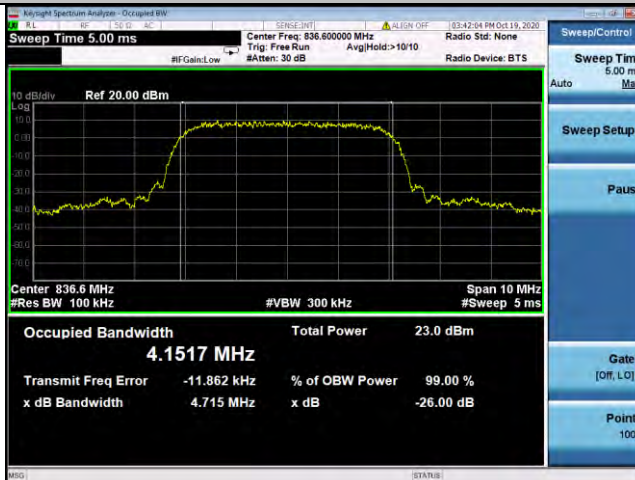
Channel 1513 / 1752.6 MHz



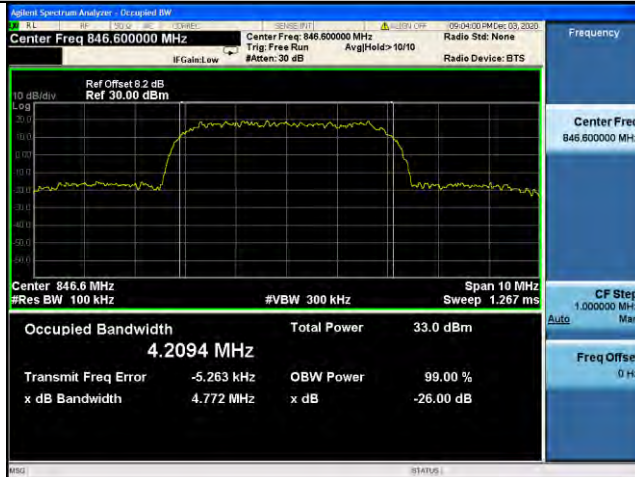
UMTS/TM1/ WCDMA Band V



Channel 4132/ 826.4 MHz



Channel 4182/ 836.4 MHz



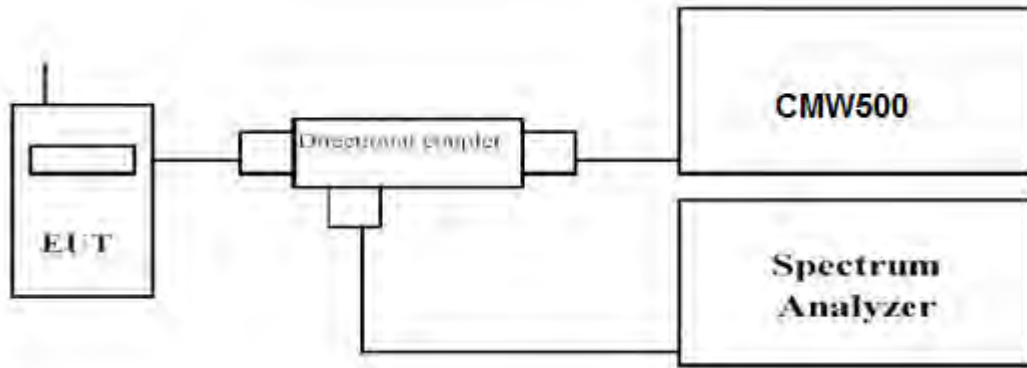
Channel 4233/ 846.6 MHz

### 4.4 Band Edge compliance

#### LIMIT

FCC § 2.1053, §22.917, § 24.238 and § 27.53& §90.691.

#### TEST CONFIGURATION



#### TEST PROCEDURE

1. The transmitter output port was connected to base station.
2. The RF output of EUT was connected to the power meter by RF cable and attenuator, the path loss was compensated to the results for each measurement.
3. Set EUT at maximum power through base station.
4. Select lowest and highest channels for each band and different modulation.
5. Measure Band edge using RMS (Average) detector by spectrum

#### TEST RESULTS

Temperature	24.5°C	Humidity	53.7%
Test Engineer	Moon Tan	Configurations	WCDMA/LTE

Remark:

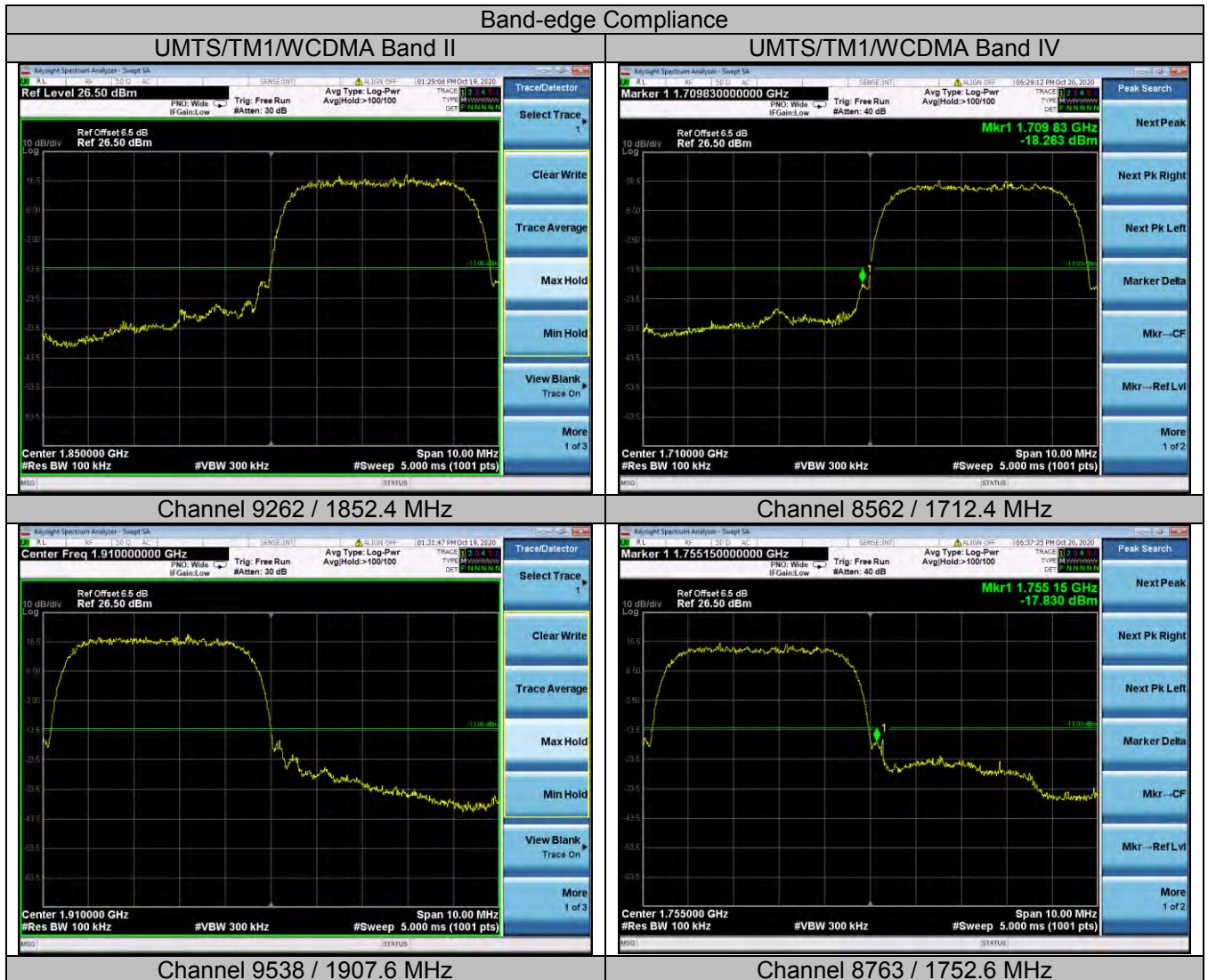
We were tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of WCDMA Band II , WCDMA Band IV ,WCDMA Band V , LTE FDD Band 2, LTE FDD Band 4, LTE FDD Band 5, LTE FDD Band 12, LTE FDD Band 13, LTE FDD Band 17, LTE FDD Band 25, LTE FDD Band 26, LTE FDD Band 27, LTE TDD Band 41,LTE FDD Band 66, LTE FDD Band 71; recorded worst case for each Channel Bandwidth of WCDMA Band II , WCDMA Band IV ,WCDMA Band V , LTE FDD Band 2, LTE FDD Band 4, LTE FDD Band 5, LTE FDD Band 12, LTE FDD Band 13, LTE FDD Band 17, LTE FDD Band 25, LTE FDD Band 26, LTE FDD Band 27, LTE TDD Band 41,LTE FDD Band 66, LTE FDD Band 71.

1. For E-UTRA Band 2, please refer to Appendix Band 2: Section C;
2. For E-UTRA Band 4, please refer to Appendix Band 4: Section C;
3. For E-UTRA Band 5, please refer to Appendix Band 5: Section C;
4. For E-UTRA Band 12, please refer to Appendix Band 12: Section C;
5. For E-UTRA Band 13, please refer to Appendix Band 13: Section C;
6. For E-UTRA Band 17, please refer to Appendix Band 17: Section C;
7. For E-UTRA Band 25, please refer to Appendix Band 25: Section C;
8. For E-UTRA Band 26(814MHz~824MHz), please refer to Appendix Band 26(814MHz~824MHz): Section C;
9. For E-UTRA Band 26(824MHz~849MHz), please refer to Appendix Band 26(824MHz~849MHz): Section C;
10. For E-UTRA Band 27, please refer to Appendix Band 27: Section C;
11. For E-UTRA Band 41, please refer to Appendix Band 41: Section C;
12. For E-UTRA Band 66, please refer to Appendix Band 66: Section C;
13. For E-UTRA Band 71, please refer to Appendix Band 71: Section C;

Test Mode	Channel	Frequency (MHz)	Band Edge Compliance (dBm)	Limits (dBm)	Verdict
UMTS/TM1/WCDMA Band II	9262	1852.40	<-13dBm	-13dBm	PASS
	9538	1907.60	<-13dBm	-13dBm	
UMTS/TM1/WCDMA Band IV	8562	1712.4	<-13dBm	-13dBm	PASS
	8763	1752.6	<-13dBm	-13dBm	
UMTS/TM1/WCDMA Band V	4132	826.40	<-13dBm	-13dBm	PASS
	4233	846.60	<-13dBm	-13dBm	

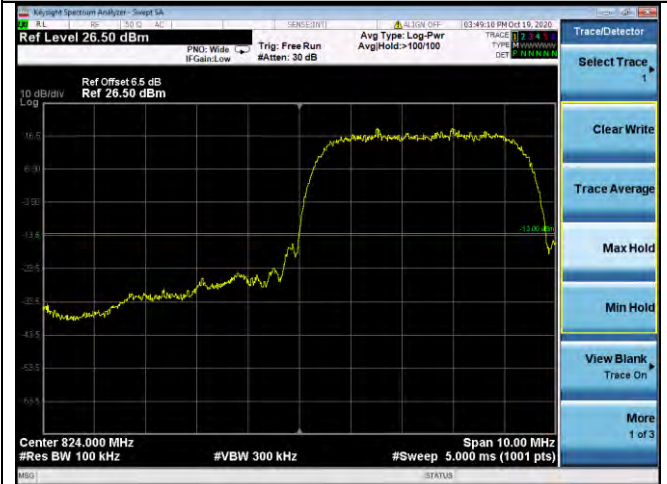
Remark:

1. Test results including cable loss;
2. Please refer to following plots;



Band-edge Compliance

UMTS/TM1/WCDMA Band V



Trace/Detector

Select Trace

Clear Write

Trace Average

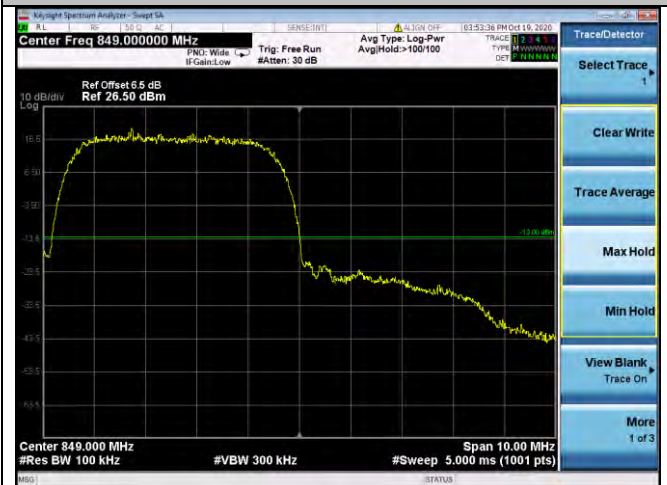
Max Hold

Min Hold

View Blank Trace On

More 1 of 3

Channel 4132 / 826.4 MHz



Trace/Detector

Select Trace

Clear Write

Trace Average

Max Hold

Min Hold

View Blank Trace On

More 1 of 3

Channel 4233 / 846.6 MHz

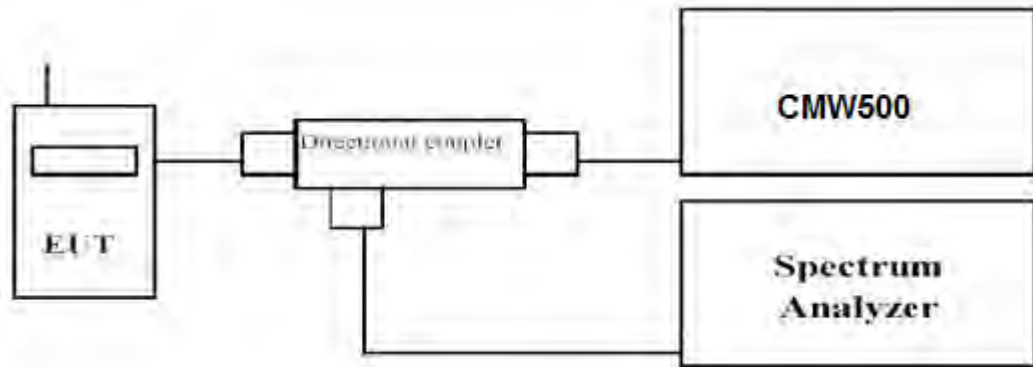
## 4.5 Spurious Emission

### LIMIT

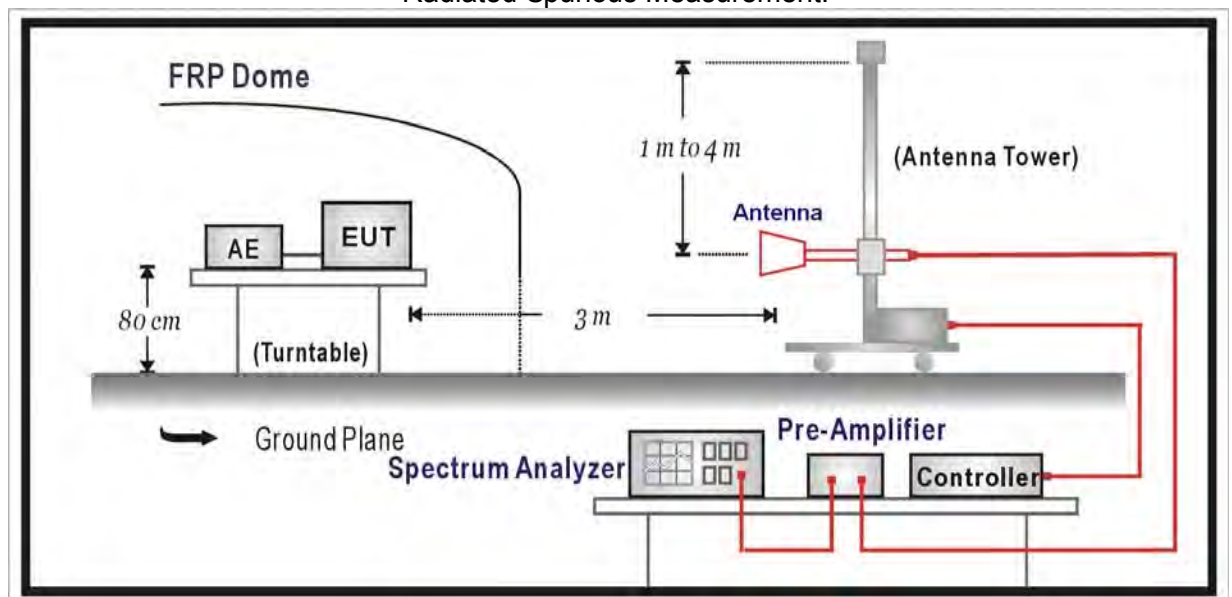
FCC § 2.1053, §22.917, § 24.238 and § 27.53&§90.691.

### TEST CONFIGURATION

Conducted Spurious Measurement:



Radiated Spurious Measurement:



### TEST PROCEDURE

The EUT was setup according to EIA/TIA 603D

#### **Conducted Spurious Measurement:**

- Place the EUT on a bench and set it in transmitting mode.
- Connect a low loss RF cable from the antenna port to a spectrum analyzer and CMW500 by a Directional Coupler.
- EUT Communicate with CMW500, then select a channel for testing.
- Add a correction factor to the display of spectrum, and then test.
- The resolution bandwidth of the spectrum analyzer was set sufficient scans were taken to show the out of band Emission if any up to 10<sup>th</sup> harmonic.
- Please refer to following tables for test antenna conducted emissions.

Test Mode	Channel	Frequency (MHz)	Spurious RF Conducted Emission (dBm)	Limits (dBm)	Verdict
UMTS/TM1/WCDMA Band II	9262	1852.4	<-13dBm	-13dBm	PASS
	9400	1880.0	<-13dBm	-13dBm	
	9538	1907.6	<-13dBm	-13dBm	
UMTS/TM1/WCDMA Band IV	1312	1712.40	<-13dBm	-13dBm	PASS
	1413	1732.60	<-13dBm	-13dBm	
	1513	1752.60	<-13dBm	-13dBm	
UMTS/TM1/WCDMA Band V	4132	826.4	<-13dBm	-13dBm	PASS
	4182	836.4	<-13dBm	-13dBm	
	4233	846.6	<-13dBm	-13dBm	

Working Frequency	Sub range (GHz)	RBW	VBW	Sweep time (s)
LTE FDD Band 2	0.000009~0.000015	1KHz	3KHz	Auto
	0.000015~0.03	10KHz	30KHz	Auto
	0.03~26	1 MHz	3 MHz	Auto
LTE FDD Band 4	0.000009~0.000015	1KHz	3KHz	Auto
	0.000015~0.03	10KHz	30KHz	Auto
	0.03~26	1 MHz	3 MHz	Auto
LTE FDD Band 5	0.000009~0.000015	1KHz	3KHz	Auto
	0.000015~0.03	10KHz	30KHz	Auto
	0.03~26	1 MHz	3 MHz	Auto
LTE FDD Band 12	0.000009~0.000015	1KHz	3KHz	Auto
	0.000015~0.03	10KHz	30KHz	Auto
	0.03~26	1 MHz	3 MHz	Auto
LTE FDD Band 13	0.000009~0.000015	1KHz	3KHz	Auto
	0.000015~0.03	10KHz	30KHz	Auto
	0.03~26	1 MHz	3 MHz	Auto
LTE FDD Band 17	0.000009~0.000015	1KHz	3KHz	Auto
	0.000015~0.03	10KHz	30KHz	Auto
	0.03~26	1 MHz	3 MHz	Auto
LTE FDD Band 25	0.000009~0.000015	1KHz	3KHz	Auto
	0.000015~0.03	10KHz	30KHz	Auto
	0.03~26	1 MHz	3 MHz	Auto
LTE FDD Band 26	0.000009~0.000015	1KHz	3KHz	Auto
	0.000015~0.03	10KHz	30KHz	Auto
	0.03~26	1 MHz	3 MHz	Auto
LTE FDD Band 27	0.000009~0.000015	1KHz	3KHz	Auto
	0.000015~0.03	10KHz	30KHz	Auto
	0.03~26	1 MHz	3 MHz	Auto
LTE FDD Band 41	0.000009~0.000015	1KHz	3KHz	Auto
	0.000015~0.03	10KHz	30KHz	Auto
	0.03~26	1 MHz	3 MHz	Auto
LTE FDD Band 66	0.000009~0.000015	1KHz	3KHz	Auto
	0.000015~0.03	10KHz	30KHz	Auto
	0.03~26	1 MHz	3 MHz	Auto
LTE FDD Band 71	0.000009~0.000015	1KHz	3KHz	Auto
	0.000015~0.03	10KHz	30KHz	Auto
	0.03~26	1 MHz	3 MHz	Auto

## Remark:

1. Test results including cable loss;
2. Please refer to following plots;
3. Not reorded test plots from 9 KHz to 30 MHz as emission levels 20dB lower than emission limit;

**Radiated Spurious Measurement:**

- a. The EUT shall be placed at the specified height on a support, and in the position closest to normal use as declared by provider.
- b. The test antenna shall be oriented initially for vertical polarization and shall be chosen to correspond to the frequency of the transmitter
- c. The output of the test antenna shall be connected to the measuring receiver.
- d. The transmitter shall be switched on and the measuring receiver shall be tuned to the frequency of the transmitter under test.
- e. The test antenna shall be raised and lowered through the specified range of height until a maximum signal level is detected by the measuring receiver.
- f. The transmitter shall then be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
- g. The test antenna shall be raised and lowered again through the specified range of height until a maximum signal level is detected by the measuring receiver.
- h. The maximum signal level detected by the measuring receiver shall be noted.
- i. The transmitter shall be replaced by a substitution antenna.
- j. The substitution antenna shall be orientated for vertical polarization and the length of the substitution antenna shall be adjusted to correspond to the frequency of the transmitter.
- k. The substitution antenna shall be connected to a calibrated signal generator.
- l. If necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
- m. The test antenna shall be raised and lowered through the specified range of height to ensure that the maximum signal is received.
- n. The input signal to the substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuator setting of the measuring receiver.
- o. The measurement shall be repeated with the test antenna and the substitution antenna orientated for horizontal polarization.
- p. The measure of the effective radiated power is the larger of the two levels recorded at the input to the substitution antenna, corrected for gain of the substitution antenna if necessary.
- q. The resolution bandwidth of the spectrum analyzer was set at 100 kHz for Part 22 and 1MHz for Part 24. The frequency range was checked up to 10th harmonic.
- r. Test site anechoic chamber refer to ANSI C63.4:2014.

**TEST RESULTS**

Temperature	24.5°C	Humidity	53.7%
Test Engineer	Moon Tan	Configurations	WCDMA/LTE

**Conducted Measurement:**

Remark:

We were tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of WCDMA Band II , WCDMA Band IV ,WCDMA Band V , LTE FDD Band 2, LTE FDD Band 4, LTE FDD Band 5, LTE FDD Band 12, LTE FDD Band 13, LTE FDD Band 17, LTE FDD Band 25, LTE FDD Band 26, LTE FDD Band 27, LTE TDD Band 41,LTE FDD Band 66, LTE FDD Band 71; recorded worst case for each Channel Bandwidth of WCDMA Band II , WCDMA Band IV ,WCDMA Band V , LTE FDD Band 2, LTE FDD Band 4, LTE FDD Band 5, LTE FDD Band 12, LTE FDD Band 13, LTE FDD Band 17, LTE FDD Band 25, LTE FDD Band 26, LTE FDD Band 27, LTE TDD Band 41,LTE FDD Band 66, LTE FDD Band 71.

1. For E-UTRA Band 2, please refer to Appendix Band 2: Section D;
2. For E-UTRA Band 4, please refer to Appendix Band 4: Section D;
3. For E-UTRA Band 5, please refer to Appendix Band 5: Section D;
4. For E-UTRA Band 12, please refer to Appendix Band 12: Section D;
5. For E-UTRA Band 13, please refer to Appendix Band 13: Section D;
6. For E-UTRA Band 17, please refer to Appendix Band 17: Section D;
7. For E-UTRA Band 25, please refer to Appendix Band 25: Section D;
8. For E-UTRA Band 26(814MHz~824MHz), please refer to Appendix Band 26(814MHz~824MHz): Section D;
9. For E-UTRA Band 26(824MHz~849MHz), please refer to Appendix Band 26(824MHz~849MHz): Section D;
10. For E-UTRA Band 27, please refer to Appendix Band 27: Section D;
11. For E-UTRA Band 41, please refer to Appendix Band 41: Section D;

12. For E-UTRA Band 66, please refer to Appendix Band 66: Section D;

13. For E-UTRA Band 71, please refer to Appendix Band 71: Section D;

**WCDMA:**

Test Mode	Channel	Frequency (MHz)	Spurious RF Conducted Emission (dBm)	Limits (dBm)	Verdict
UMTS/TM1/WCDMA Band II	9262	1852.4	<-13dBm	-13dBm	PASS
	9400	1880.0	<-13dBm	-13dBm	
	9538	1907.6	<-13dBm	-13dBm	
UMTS/TM1/WCDMA Band IV	1312	1712.40	<-13dBm	-13dBm	PASS
	1413	1732.60	<-13dBm	-13dBm	
	1513	1752.60	<-13dBm	-13dBm	
UMTS/TM1/WCDMA Band V	4132	826.4	<-13dBm	-13dBm	PASS
	4182	836.4	<-13dBm	-13dBm	
	4233	846.6	<-13dBm	-13dBm	

Remark:

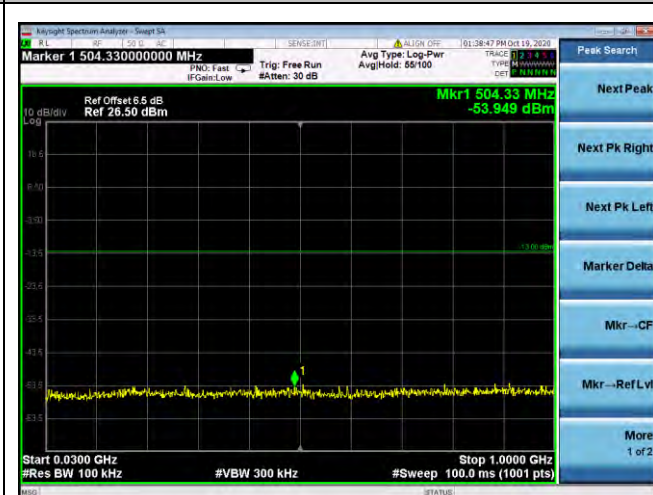
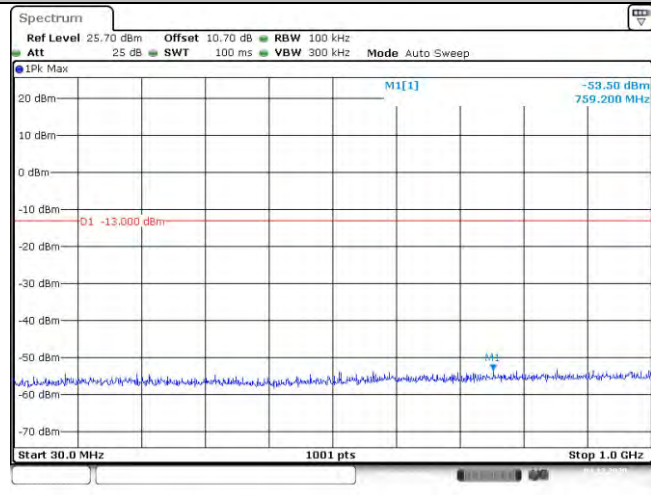
1. Test results including cable loss;
2. Please refer to following plots;



### Spurious Emission on Antenna Port UMTS/TM1/WCDMA Band II

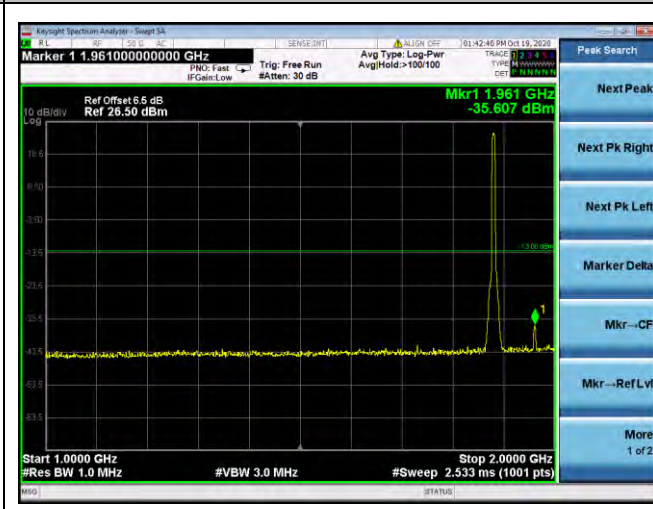
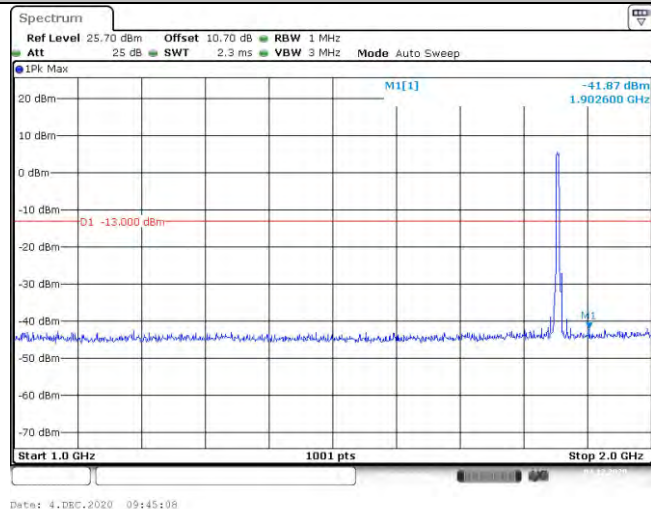
Channel 9262 / 1852.4 MHz

Channel 9400 / 1880 MHz



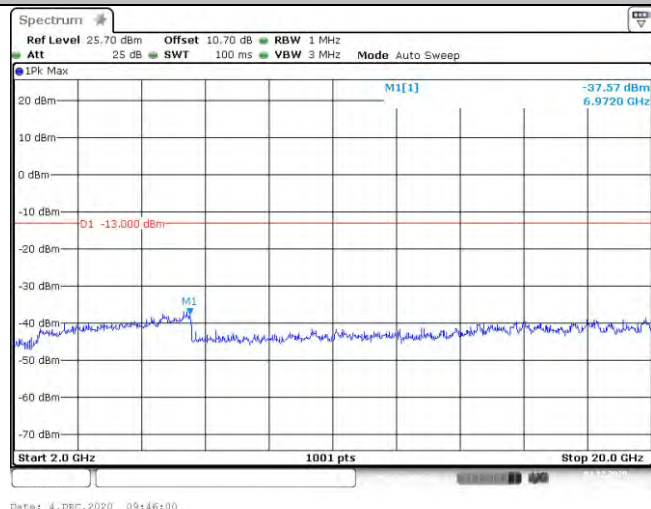
30 MHz – 1000 MHz

30 MHz – 1000 MHz



1 GHz – 2 GHz

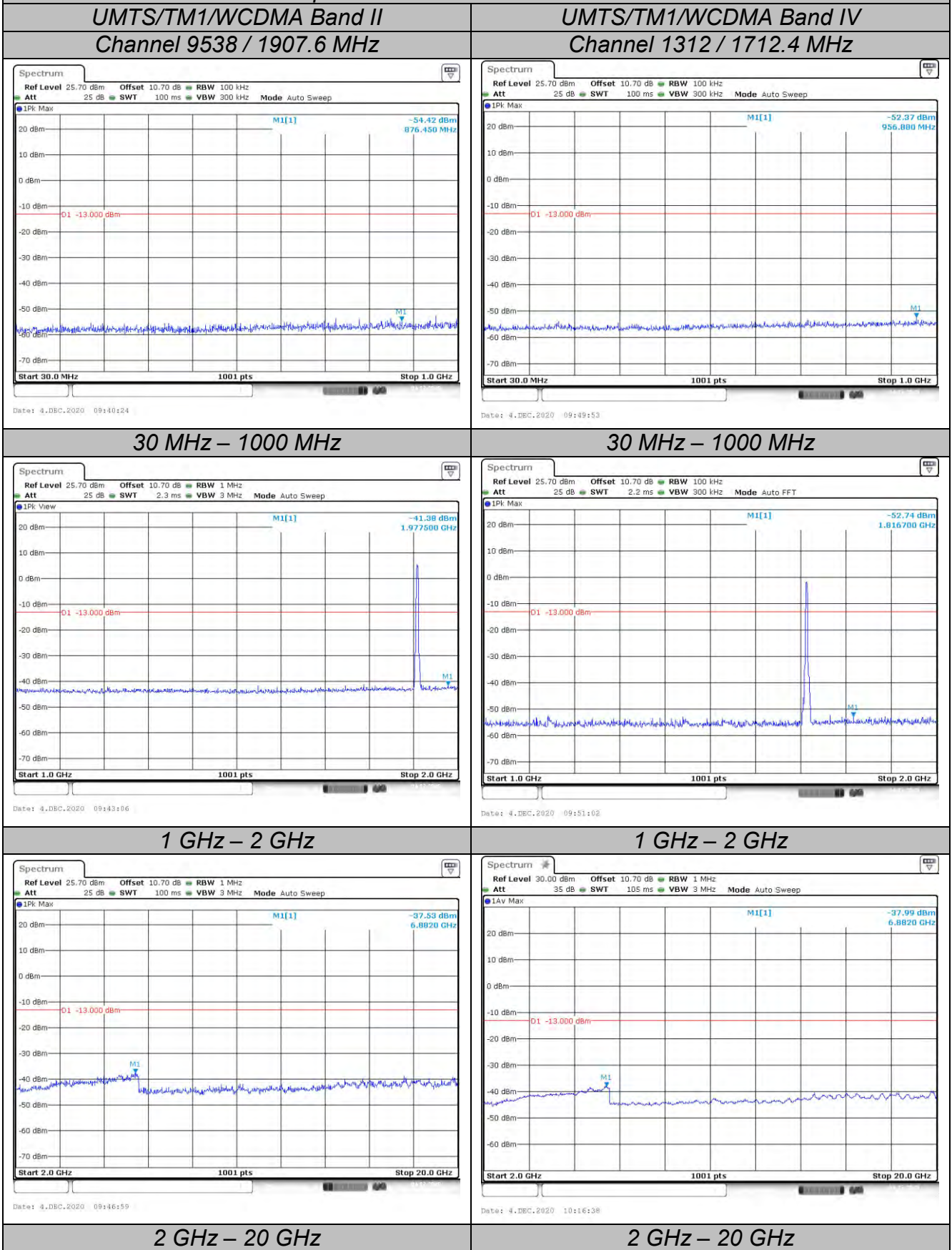
1 GHz – 2 GHz



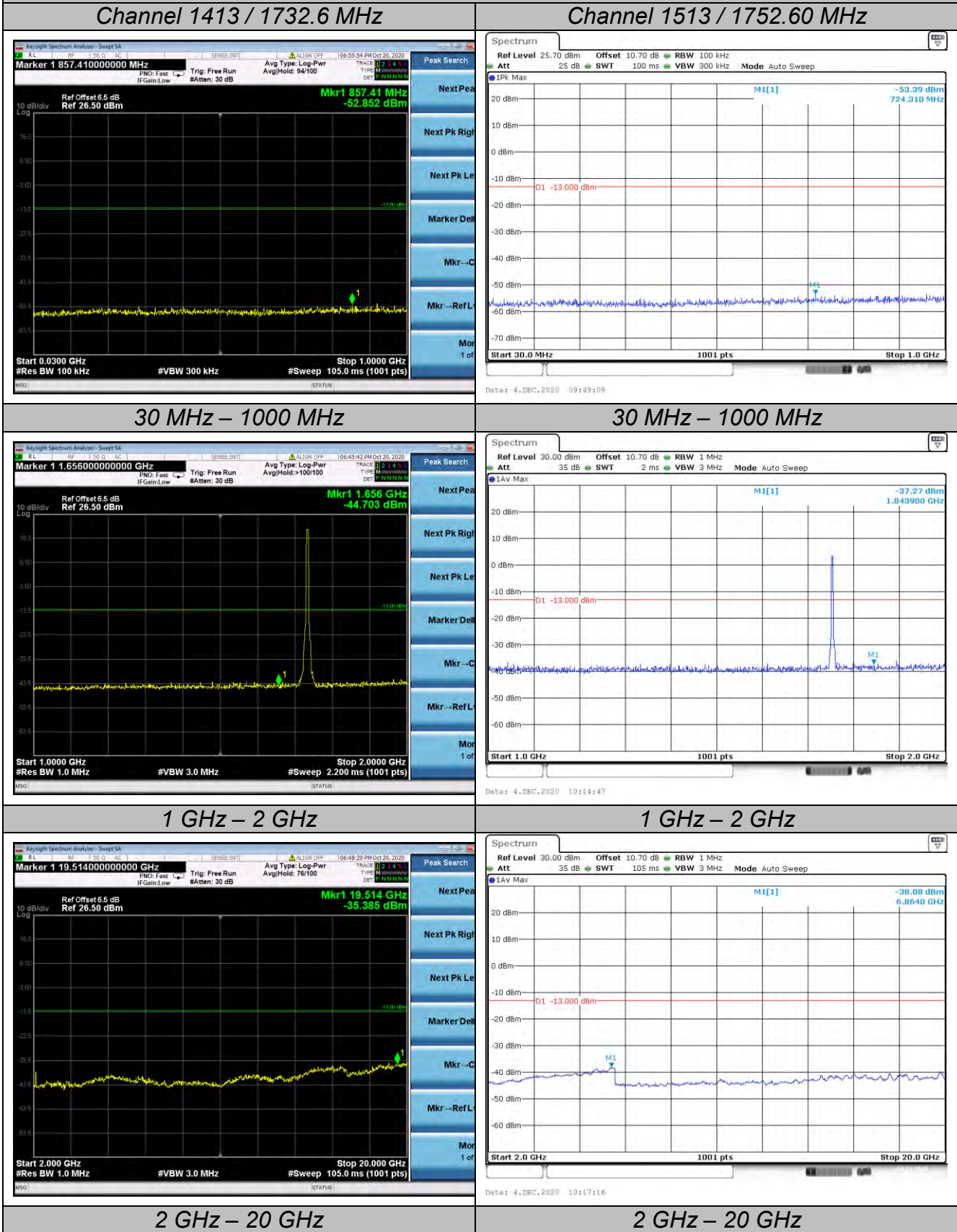
2 GHz – 20 GHz

2 GHz – 20 GHz

Spurious Emission on Antenna Port

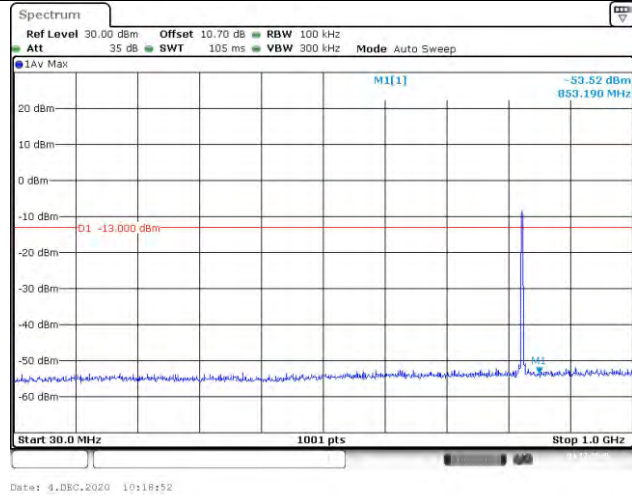


**Spurious Emission on Antenna Port**  
**UMTS/TM1/WCDMA Band IV**

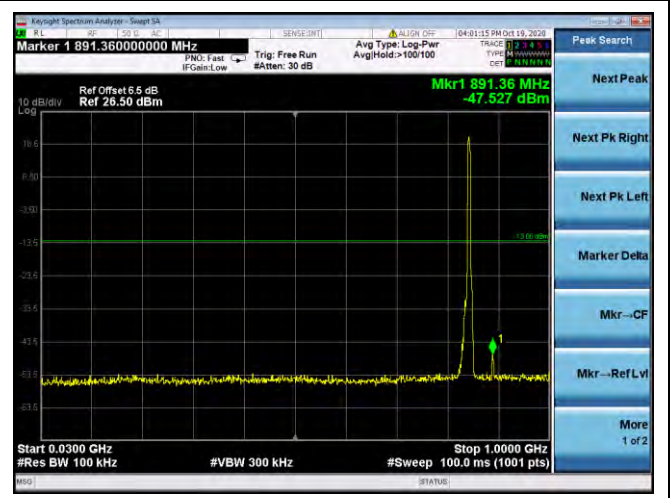


### Spurious Emission on Antenna Port UMTS/TM1/WCDMA Band V

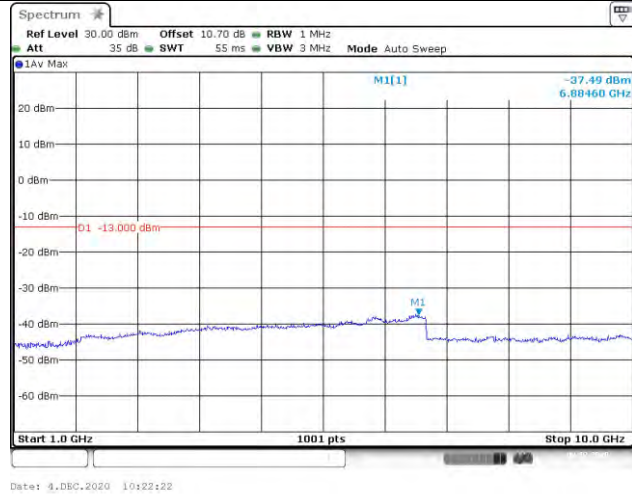
Channel 4132 / 826.4 MHz



Channel 4182 / 836.4 MHz



30 MHz – 1000 MHz



30 MHz – 1000 MHz

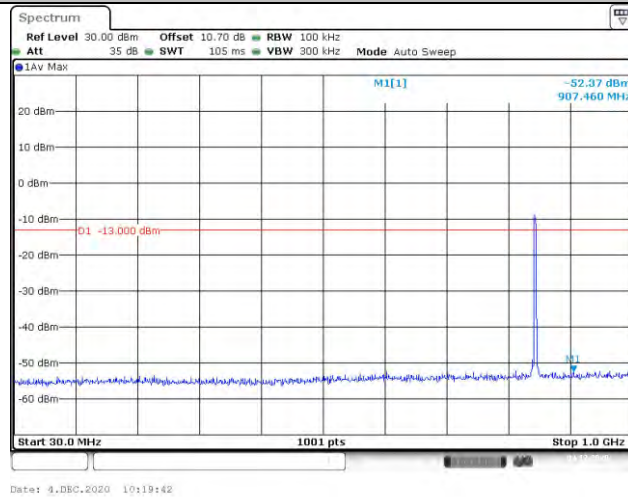


1 GHz – 10 GHz

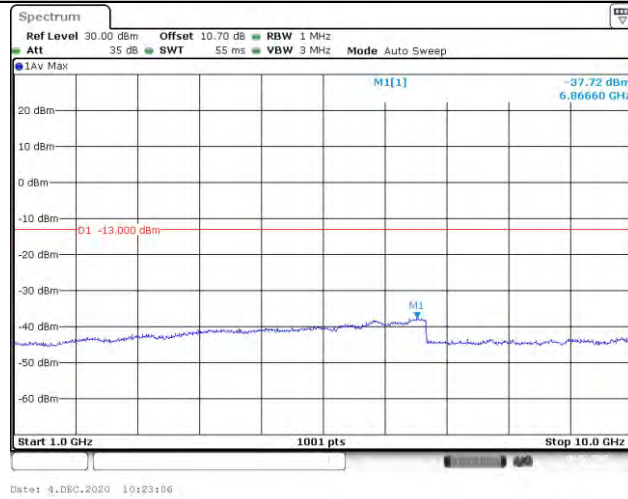
1 GHz – 10 GHz

Spurious Emission on Antenna Port  
UMTS/TM1/WCDMA Band V

Channel 4233 / 846.6 MHz



30 MHz – 1000 MHz



1 GHz – 10 GHz

**Radiated Measurement:**

Remark:

We were tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of WCDMA Band II , WCDMA Band IV ,WCDMA Band V , LTE FDD Band 2, LTE FDD Band 4, LTE FDD Band 5, LTE FDD Band 12, LTE FDD Band 13, LTE FDD Band 17, LTE FDD Band 25, LTE FDD Band 26, LTE FDD Band 27, LTE TDD Band 41,LTE FDD Band 66, LTE FDD Band 71; recorded worst case for each Channel Bandwidth of WCDMA Band II , WCDMA Band IV ,WCDMA Band V , LTE FDD Band 2, LTE FDD Band 4, LTE FDD Band 5, LTE FDD Band 12, LTE FDD Band 13, LTE FDD Band 17, LTE FDD Band 25, LTE FDD Band 26, LTE FDD Band 27, LTE TDD Band 41,LTE FDD Band 66, LTE FDD Band 71.

Temperature	24.5°C	Humidity	53.7%
Test Engineer	Moon Tan	Configurations	WCDMA/LTE

*UMTS/TM1/ WCDMA Band II \_ Low Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3704.8	-43.84	5.26	3.00	9.88	-39.22	-13.00	-26.22	H
5557.2	-47.72	6.11	3.00	11.36	-42.47	-13.00	-29.47	H
3704.8	-47.21	5.26	3.00	9.88	-42.59	-13.00	-29.59	V
5557.2	-51.04	6.11	3.00	11.36	-45.79	-13.00	-32.79	V

*UMTS/TM1/ WCDMA Band II \_ Middle Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3760.0	-42.96	5.32	3.00	10.03	-38.25	-13.00	-25.25	H
5640.0	-46.17	6.19	3.00	11.41	-40.95	-13.00	-27.95	H
3760.0	-46.82	5.32	3.00	10.03	-42.11	-13.00	-29.11	V
5640.0	-51.43	6.19	3.00	11.41	-46.21	-13.00	-33.21	V

*UMTS/TM1/ WCDMA Band II \_ High Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3815.2	-41.69	5.36	3.00	9.62	-37.43	-13.00	-24.43	H
5722.8	-44.29	6.24	3.00	11.46	-39.07	-13.00	-26.07	H
3815.2	-45.51	5.36	3.00	9.62	-41.25	-13.00	-28.25	V
5722.8	-47.35	6.24	3.00	11.46	-42.13	-13.00	-29.13	V

*UMTS/TM1/ WCDMA Band IV \_ Low Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3424.8	-50.30	4.62	3.00	9.81	-45.11	-13.00	-32.11	H
5137.2	-50.92	5.94	3.00	10.86	-46.00	-13.00	-33.00	H
3424.8	-52.38	4.62	3.00	9.81	-47.19	-13.00	-34.19	V
5137.2	-54.23	5.94	3.00	10.86	-49.31	-13.00	-36.31	V

*UMTS/TM1/ WCDMA Band IV \_ Middle Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3465.2	-49.16	4.63	3.00	9.84	-43.95	-13.00	-30.95	H
5197.8	-51.34	5.94	3.00	10.86	-46.42	-13.00	-33.42	H
3465.2	-52.97	4.63	3.00	9.84	-47.76	-13.00	-34.76	V
5197.8	-54.66	5.94	3.00	10.86	-49.74	-13.00	-36.74	V

*UMTS/TM1/ WCDMA Band IV \_ High Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3505.2	-51.85	4.65	3.00	9.90	-46.60	-13.00	-33.60	H
5257.8	-53.06	5.95	3.00	10.91	-48.10	-13.00	-35.10	H
3505.2	-53.79	4.65	3.00	9.90	-48.54	-13.00	-35.54	V
5257.8	-54.87	5.95	3.00	10.91	-49.91	-13.00	-36.91	V

*UMTS/TM1/ WCDMA Band V \_ Low Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1652.8	-46.37	3.86	3.00	8.56	-41.67	-13.00	-28.67	H
2479.2	-47.05	4.29	3.00	6.98	-44.36	-13.00	-31.36	H
1652.8	-45.57	3.86	3.00	8.56	-40.87	-13.00	-27.87	V
2479.2	-48.49	4.29	3.00	6.98	-45.80	-13.00	-32.80	V

*UMTS/TM1/ WCDMA Band V \_ Middle Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1672.8	-46.26	3.90	3.00	8.58	-41.58	-13.00	-28.58	H
2509.2	-46.58	4.32	3.00	6.80	-44.10	-13.00	-31.10	H
1672.8	-46.29	3.90	3.00	8.58	-41.61	-13.00	-28.61	V
2509.2	-49.51	4.32	3.00	6.80	-47.03	-13.00	-34.03	V

*UMTS/TM1/ WCDMA Band V \_ High Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1693.2	-44.20	3.91	3.00	9.06	-39.05	-13.00	-26.05	H
2539.8	-45.50	4.32	3.00	6.65	-43.17	-13.00	-30.17	H
1693.2	-46.22	3.91	3.00	9.06	-41.07	-13.00	-28.07	V
2539.8	-48.06	4.32	3.00	6.65	-45.73	-13.00	-32.73	V

*LTE FDD Band 2\_Channel Bandwidth 20MHz\_QPSK\_ Low Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3715.0	-43.00	5.26	3.00	9.88	-38.38	-13.00	-25.38	H
5572.5	-49.25	6.11	3.00	11.36	-44.00	-13.00	-31.00	H
3715.0	-46.55	5.26	3.00	9.88	-41.93	-13.00	-28.93	V
5572.5	-51.66	6.11	3.00	11.36	-46.41	-13.00	-33.41	V

*LTE FDD Band 2\_Channel Bandwidth 20MHz\_QPSK\_ Middle Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3720.0	-43.64	5.32	3.00	10.03	-38.93	-13.00	-25.93	H
5580.0	-47.91	6.19	3.00	11.41	-42.69	-13.00	-29.69	H
3720.0	-47.21	5.32	3.00	10.03	-42.50	-13.00	-29.50	V
5580.0	-50.80	6.19	3.00	11.41	-45.58	-13.00	-32.58	V

*LTE FDD Band 2\_Channel Bandwidth 20MHz\_QPSK\_High Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3800.0	-42.82	5.36	3.00	9.62	-38.56	-13.00	-25.56	H
5700.0	-46.13	6.24	3.00	11.46	-40.91	-13.00	-27.91	H
3800.0	-46.66	5.36	3.00	9.62	-42.40	-13.00	-29.40	V
5700.0	-51.51	6.24	3.00	11.46	-46.29	-13.00	-33.29	V

*LTE FDD Band 2\_Channel Bandwidth 20MHz\_16QAM\_Low Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3715.0	-43.00	5.26	3.00	9.88	-38.38	-13.00	-25.38	H
5572.5	-49.03	6.11	3.00	11.36	-43.78	-13.00	-30.78	H
3715.0	-46.77	5.26	3.00	9.88	-42.15	-13.00	-29.15	V
5572.5	-51.48	6.11	3.00	11.36	-46.23	-13.00	-33.23	V

*LTE FDD Band 2\_Channel Bandwidth 20MHz\_16QAM\_Middle Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3720.0	-43.47	5.32	3.00	10.03	-38.76	-13.00	-25.76	H
5580.0	-47.97	6.19	3.00	11.41	-42.75	-13.00	-29.75	H
3720.0	-47.12	5.32	3.00	10.03	-42.41	-13.00	-29.41	V
5580.0	-51.10	6.19	3.00	11.41	-45.88	-13.00	-32.88	V

*LTE FDD Band 2\_Channel Bandwidth 20MHz\_16QAM\_High Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3800.0	-42.98	5.36	3.00	9.62	-38.72	-13.00	-25.72	H
5700.0	-46.29	6.24	3.00	11.46	-41.07	-13.00	-28.07	H
3800.0	-46.62	5.36	3.00	9.62	-42.36	-13.00	-29.36	V
5700.0	-51.16	6.24	3.00	11.46	-45.94	-13.00	-32.94	V

*LTE FDD Band 4\_Channel Bandwidth 20MHz\_QPSK\_Low Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3440.0	-48.28	4.62	3.00	9.81	-43.09	-13.00	-30.09	H
5160.0	-52.03	5.94	3.00	10.86	-47.11	-13.00	-34.11	H
3440.0	-52.71	4.62	3.00	9.81	-47.52	-13.00	-34.52	V
5160.0	-54.94	5.94	3.00	10.86	-50.02	-13.00	-37.02	V

*LTE FDD Band 4\_Channel Bandwidth 20MHz\_QPSK\_Middle Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3465.0	-48.95	4.63	3.00	9.84	-43.74	-13.00	-30.74	H
5197.5	-52.48	5.94	3.00	10.86	-47.56	-13.00	-34.56	H
3465.0	-52.94	4.63	3.00	9.84	-47.73	-13.00	-34.73	V
5197.5	-55.47	5.94	3.00	10.86	-50.55	-13.00	-37.55	V



*LTE FDD Band 4\_Channel Bandwidth 20MHz\_QPSK\_High Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3490.0	-52.12	4.65	3.00	9.9	-46.87	-13.00	-33.87	H
5235.0	-53.35	5.95	3.00	10.91	-48.39	-13.00	-35.39	H
3490.0	-55.01	4.65	3.00	9.9	-49.76	-13.00	-36.76	V
5235.0	-55.89	5.95	3.00	10.91	-50.93	-13.00	-37.93	V

*LTE FDD Band 4\_Channel Bandwidth 20MHz\_16QAM\_Low Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3440.0	-48.56	4.62	3.00	9.81	-43.37	-13.00	-30.37	H
5160.0	-51.89	5.94	3.00	10.86	-46.97	-13.00	-33.97	H
3440.0	-52.40	4.62	3.00	9.81	-47.21	-13.00	-34.21	V
5160.0	-54.61	5.94	3.00	10.86	-49.69	-13.00	-36.69	V

*LTE FDD Band 4\_Channel Bandwidth 20MHz\_16QAM\_Middle Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3465.0	-48.74	4.63	3.00	9.84	-43.53	-13.00	-30.53	H
5197.5	-52.22	5.94	3.00	10.86	-47.30	-13.00	-34.30	H
3465.0	-52.78	4.63	3.00	9.84	-47.57	-13.00	-34.57	V
5197.5	-55.37	5.94	3.00	10.86	-50.45	-13.00	-37.45	V

*LTE FDD Band 4\_Channel Bandwidth 20MHz\_16QAM\_High Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3490.0	-52.33	4.65	3.00	9.9	-47.08	-13.00	-34.08	H
5235.0	-53.29	5.95	3.00	10.91	-48.33	-13.00	-35.33	H
3490.0	-55.08	4.65	3.00	9.9	-49.83	-13.00	-36.83	V
5235.0	-56.05	5.95	3.00	10.91	-51.09	-13.00	-38.09	V

*LTE FDD Band 5\_Channel Bandwidth 10MHz\_QPSK\_Low Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1658.00	-40.82	4.74	3.00	10.45	-35.11	-13.00	-22.11	H
2487.00	-46.55	5.65	3.00	12.32	-39.88	-13.00	-26.88	H
1658.00	-44.44	4.74	3.00	10.45	-38.73	-13.00	-25.73	V
2487.00	-49.76	5.65	3.00	12.32	-43.09	-13.00	-30.09	V

*LTE FDD Band 5\_Channel Bandwidth 10MHz\_QPSK\_Middle Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1673.00	-39.55	5.98	3.00	11.12	-34.41	-13.00	-21.41	H
2509.50	-47.10	6.45	3.00	12.02	-41.53	-13.00	-28.53	H
1673.00	-42.99	5.98	3.00	11.12	-37.85	-13.00	-24.85	V
2509.50	-47.59	6.45	3.00	12.02	-42.02	-13.00	-29.02	V

*LTE FDD Band 5\_Channel Bandwidth 10MHz\_QPSK\_High Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1688.00	-41.13	5.95	3.00	9.98	-37.10	-13.00	-24.10	H
2532.00	-46.91	6.63	3.00	11.66	-41.88	-13.00	-28.88	H
1688.00	-43.90	5.95	3.00	9.98	-39.87	-13.00	-26.87	V
2532.00	-49.33	6.63	3.00	11.66	-44.30	-13.00	-31.30	V

*LTE FDD Band 5\_Channel Bandwidth 10MHz\_16QAM\_Low Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1658.00	-40.87	4.74	3.00	10.45	-35.16	-13.00	-22.16	H
2487.00	-46.46	5.65	3.00	12.32	-39.79	-13.00	-26.79	H
1658.00	-44.24	4.74	3.00	10.45	-38.53	-13.00	-25.53	V
2487.00	-49.94	5.65	3.00	12.32	-43.27	-13.00	-30.27	V

*LTE FDD Band 5\_Channel Bandwidth 10MHz\_16QAM\_Middle Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1673.00	-39.62	5.98	3.00	11.12	-34.48	-13.00	-21.48	H
2509.50	-47.02	6.45	3.00	12.02	-41.45	-13.00	-28.45	H
1673.00	-43.03	5.98	3.00	11.12	-37.89	-13.00	-24.89	V
2509.50	-47.72	6.45	3.00	12.02	-42.15	-13.00	-29.15	V

*LTE FDD Band 5\_Channel Bandwidth 10MHz\_16QAM\_High Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1688.00	-40.92	5.95	3.00	9.98	-36.89	-13.00	-23.89	H
2532.00	-46.96	6.63	3.00	11.66	-41.93	-13.00	-28.93	H
1688.00	-43.66	5.95	3.00	9.98	-39.63	-13.00	-26.63	V
2532.00	-49.33	6.63	3.00	11.66	-44.30	-13.00	-31.30	V

*LTE FDD Band 12\_Channel Bandwidth 10MHz\_QPSK\_Low Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1408.00	-40.91	4.73	3.00	10.42	-35.22	-13.00	-22.22	H
2112.00	-47.69	5.64	3.00	12.30	-41.03	-13.00	-28.03	H
1408.00	-43.81	4.73	3.00	10.42	-38.12	-13.00	-25.12	V
2112.00	-50.40	5.64	3.00	12.30	-43.74	-13.00	-30.74	V

*LTE FDD Band 12\_Channel Bandwidth 10MHz\_QPSK\_Middle Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1415.00	-39.74	4.75	3.00	10.44	-34.05	-13.00	-21.05	H
2122.50	-44.31	5.66	3.00	12.33	-37.64	-13.00	-24.64	H
1415.00	-44.00	4.75	3.00	10.44	-38.31	-13.00	-25.31	V
2122.50	-47.82	5.66	3.00	12.33	-41.15	-13.00	-28.15	V

*LTE FDD Band 12\_Channel Bandwidth 10MHz\_QPSK\_High Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1422.00	-39.58	4.77	3.00	10.45	-33.90	-13.00	-20.90	H
2133.00	-44.50	5.69	3.00	12.36	-37.83	-13.00	-24.83	H
1422.00	-44.63	4.77	3.00	10.45	-38.95	-13.00	-25.95	V
2133.00	-50.31	5.69	3.00	12.36	-43.64	-13.00	-30.64	V

*LTE FDD Band 12\_Channel Bandwidth 10MHz\_16QAM\_Low Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1408.00	-40.99	4.73	3.00	10.42	-35.30	-13.00	-22.30	H
2112.00	-47.77	5.64	3.00	12.30	-41.11	-13.00	-28.11	H
1408.00	-43.91	4.73	3.00	10.42	-38.22	-13.00	-25.22	V
2112.00	-50.22	5.64	3.00	12.30	-43.56	-13.00	-30.56	V

*LTE FDD Band 12\_Channel Bandwidth 10MHz\_16QAM\_Middle Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1415.00	-39.85	4.75	3.00	10.44	-34.16	-13.00	-21.16	H
2122.50	-44.10	5.66	3.00	12.33	-37.43	-13.00	-24.43	H
1415.00	-43.84	4.75	3.00	10.44	-38.15	-13.00	-25.15	V
2122.50	-47.75	5.66	3.00	12.33	-41.08	-13.00	-28.08	V

*LTE FDD Band 12\_Channel Bandwidth 10MHz\_16QAM\_High Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1422.00	-39.51	4.77	3.00	10.45	-33.83	-13.00	-20.83	H
2133.00	-44.50	5.69	3.00	12.36	-37.83	-13.00	-24.83	H
1422.00	-44.85	4.77	3.00	10.45	-39.17	-13.00	-26.17	V
2133.00	-50.07	5.69	3.00	12.36	-43.40	-13.00	-30.40	V

*LTE FDD Band 13\_Channel Bandwidth 10MHz\_QPSK\_Middle Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1564.0	-50.07	4.92	3.00	10.45	-44.54	-40.00	-4.54	H
2346.0	-47.19	5.78	3.00	12.32	-40.65	-13.00	-27.65	H
1564.0	-51.30	4.92	3.00	10.45	-45.77	-40.00	-5.77	V
2346.0	-50.02	5.78	3.00	12.32	-43.48	-13.00	-30.48	V

*LTE FDD Band 13\_Channel Bandwidth 10MHz\_16QAM\_Middle Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1564.0	-50.72	4.99	3.00	11.12	-44.59	-40.00	-4.59	H
2346.0	-44.94	5.85	3.00	12.02	-38.77	-13.00	-25.77	H
1564.0	-52.29	4.99	3.00	11.12	-46.16	-40.00	-6.16	V
2346.0	-48.75	5.85	3.00	12.02	-42.58	-13.00	-29.58	V

*LTE FDD Band 17\_Channel Bandwidth 10MHz\_QPSK\_Low Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1418.0	-54.90	3.72	3.00	9.04	-49.58	-13.00	-36.58	H
2127.0	-60.58	4.23	3.00	8.60	-56.21	-13.00	-43.21	H
1418.0	-50.08	3.72	3.00	9.04	-44.76	-13.00	-31.76	V
2127.0	-55.91	4.23	3.00	8.60	-51.54	-13.00	-38.54	V

*LTE FDD Band 17\_Channel Bandwidth 10MHz\_QPSK\_Middle Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1420.0	-53.85	4.78	3.00	8.91	-49.72	-13.00	-36.72	H
2130.0	-59.40	4.25	3.00	8.26	-55.39	-13.00	-42.39	H
1420.0	-49.32	4.78	3.00	8.91	-45.19	-13.00	-32.19	V
2130.0	-54.61	4.25	3.00	8.26	-50.60	-13.00	-37.60	V

*LTE FDD Band 17\_Channel Bandwidth 10MHz\_QPSK\_High Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1422.0	-55.30	4.78	3.00	8.91	-51.17	-13.00	-38.17	H
2133.0	-58.98	4.25	3.00	8.26	-54.97	-13.00	-41.97	H
1422.0	-51.66	4.78	3.00	8.91	-47.53	-13.00	-34.53	V
2133.0	-53.83	4.25	3.00	8.26	-49.82	-13.00	-36.82	V

*LTE FDD Band 17\_Channel Bandwidth 10MHz\_16QAM\_Low Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1418.0	-55.05	3.72	3.00	9.04	-49.73	-13.00	-36.73	H
2127.0	-60.73	4.23	3.00	8.60	-56.36	-13.00	-43.36	H
1418.0	-50.15	3.72	3.00	9.04	-44.83	-13.00	-31.83	V
2127.0	-55.74	4.23	3.00	8.60	-51.37	-13.00	-38.37	V

*LTE FDD Band 17\_Channel Bandwidth 10MHz\_16QAM\_Middle Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1420.0	-54.16	4.78	3.00	8.91	-50.03	-13.00	-37.03	H
2130.0	-59.04	4.25	3.00	8.26	-55.03	-13.00	-42.03	H
1420.0	-49.16	4.78	3.00	8.91	-45.03	-13.00	-32.03	V
2130.0	-54.59	4.25	3.00	8.26	-50.58	-13.00	-37.58	V

*LTE FDD Band 17\_Channel Bandwidth 10MHz\_16QAM\_High Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1422.0	-55.40	4.78	3.00	8.91	-51.27	-13.00	-38.27	H
2133.0	-58.87	4.25	3.00	8.26	-54.86	-13.00	-41.86	H
1422.0	-51.82	4.78	3.00	8.91	-47.69	-13.00	-34.69	V
2133.0	-53.93	4.25	3.00	8.26	-49.92	-13.00	-36.92	V

*LTE FDD Band 25\_Channel Bandwidth 20MHz\_QPSK\_Low Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3715.00	-42.83	5.26	3.00	9.88	-38.21	-13.00	-25.21	H
5572.50	-49.20	6.11	3.00	11.36	-43.95	-13.00	-30.95	H
3715.00	-46.66	5.26	3.00	9.88	-42.04	-13.00	-29.04	V
5572.50	-51.82	6.11	3.00	11.36	-46.57	-13.00	-33.57	V

*LTE FDD Band 25\_Channel Bandwidth 20MHz\_QPSK\_Middle Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3765.00	-43.83	5.32	3.00	10.03	-39.12	-13.00	-26.12	H
5647.50	-48.04	6.19	3.00	11.41	-42.82	-13.00	-29.82	H
3765.00	-47.13	5.32	3.00	10.03	-42.42	-13.00	-29.42	V
5647.50	-51.17	6.19	3.00	11.41	-45.95	-13.00	-32.95	V

*LTE FDD Band 25\_Channel Bandwidth 20MHz\_QPSK\_High Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3810.00	-42.73	5.36	3.00	9.62	-38.47	-13.00	-25.47	H
5715.00	-46.00	6.24	3.00	11.46	-40.78	-13.00	-27.78	H
3810.00	-46.77	5.36	3.00	9.62	-42.51	-13.00	-29.51	V
5715.00	-51.52	6.24	3.00	11.46	-46.30	-13.00	-33.30	V

*LTE FDD Band 25\_Channel Bandwidth 20MHz\_16QAM\_Low Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3715.00	-42.94	5.26	3.00	9.88	-38.32	-13.00	-25.32	H
5572.50	-49.11	6.11	3.00	11.36	-43.86	-13.00	-30.86	H
3715.00	-46.63	5.26	3.00	9.88	-42.01	-13.00	-29.01	V
5572.50	-51.63	6.11	3.00	11.36	-46.38	-13.00	-33.38	V

*LTE FDD Band 25\_Channel Bandwidth 20MHz\_16QAM\_Middle Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3765.00	-43.60	5.32	3.00	10.03	-38.89	-13.00	-25.89	H
5647.50	-48.05	6.19	3.00	11.41	-42.83	-13.00	-29.83	H
3765.00	-46.93	5.32	3.00	10.03	-42.22	-13.00	-29.22	V
5647.50	-51.04	6.19	3.00	11.41	-45.82	-13.00	-32.82	V

*LTE FDD Band 25\_Channel Bandwidth 20MHz\_16QAM\_High Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3810.00	-42.70	5.36	3.00	9.62	-38.44	-13.00	-25.44	H
5715.00	-45.93	6.24	3.00	11.46	-40.71	-13.00	-27.71	H
3810.00	-46.70	5.36	3.00	9.62	-42.44	-13.00	-29.44	V
5715.00	-51.46	6.24	3.00	11.46	-46.24	-13.00	-33.24	V

*LTE FDD Band 26(814-824MHz)\_ Channel Bandwidth 5MHz\_QPSK\_ Low Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1633.00	-41.17	4.62	3.00	9.81	-35.98	-13.00	-22.98	H
2449.50	-47.27	5.94	3.00	10.86	-42.35	-13.00	-29.35	H
1633.00	-43.73	4.62	3.00	9.81	-38.54	-13.00	-25.54	V
2449.50	-50.35	5.94	3.00	10.86	-45.43	-13.00	-32.43	V

*LTE FDD Band 26(814-824MHz)\_ Channel Bandwidth 5MHz\_QPSK\_ Middle Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1638.00	-41.01	4.62	3.00	9.81	-35.82	-13.00	-22.82	H
2457.00	-47.46	5.94	3.00	10.86	-42.54	-13.00	-29.54	H
1638.00	-43.83	4.62	3.00	9.81	-38.64	-13.00	-25.64	V
2457.00	-50.12	5.94	3.00	10.86	-45.20	-13.00	-32.20	V

*LTE FDD Band 26(814-824MHz)\_ Channel Bandwidth 5MHz\_QPSK\_ High Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1643.00	-39.78	4.63	3.00	9.84	-34.57	-13.00	-21.57	H
2464.50	-47.24	5.94	3.00	10.86	-42.32	-13.00	-29.32	H
1643.00	-43.22	4.63	3.00	9.84	-38.01	-13.00	-25.01	V
2464.50	-47.29	5.94	3.00	10.86	-42.37	-13.00	-29.37	V

*LTE FDD Band 26(814-824MHz)\_ Channel Bandwidth 5MHz\_16QAM\_ Low Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1633.00	-41.11	4.65	3.00	9.90	-35.86	-13.00	-22.86	H
2449.50	-46.92	5.95	3.00	10.91	-41.96	-13.00	-28.96	H
1633.00	-43.84	4.65	3.00	9.90	-38.59	-13.00	-25.59	V
2449.50	-49.52	5.95	3.00	10.91	-44.56	-13.00	-31.56	V

*LTE FDD Band 26(814-824MHz)\_ Channel Bandwidth 5MHz\_16QAM\_ Middle Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1638.00	-41.14	4.62	3.00	9.81	-35.95	-13.00	-22.95	H
2457.00	-47.43	5.94	3.00	10.86	-42.51	-13.00	-29.51	H
1638.00	-43.85	4.62	3.00	9.81	-38.66	-13.00	-25.66	V
2457.00	-50.16	5.94	3.00	10.86	-45.24	-13.00	-32.24	V

*LTE FDD Band 26(814-824MHz)\_ Channel Bandwidth 5MHz\_16QAM\_ High Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1643.00	-39.87	4.63	3.00	9.84	-34.66	-13.00	-21.66	H
2464.50	-46.92	5.94	3.00	10.86	-42.00	-13.00	-29.00	H
1643.00	-43.22	4.63	3.00	9.84	-38.01	-13.00	-25.01	V
2464.50	-47.29	5.94	3.00	10.86	-42.37	-13.00	-29.37	V

*LTE FDD Band 26(824-849MHz)\_ Channel Bandwidth 15MHz\_ QPSK\_ Low Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1663.00	-40.98	4.62	3.00	9.81	-35.79	-13.00	-22.79	H
2494.50	-47.53	5.94	3.00	10.86	-42.61	-13.00	-29.61	H
1663.00	-43.68	4.62	3.00	9.81	-38.49	-13.00	-25.49	V
2494.50	-50.39	5.94	3.00	10.86	-45.47	-13.00	-32.47	V

*LTE FDD Band 26(824-849MHz)\_ Channel Bandwidth 15MHz\_ QPSK\_ Middle Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1673.00	-39.89	4.63	3.00	9.84	-34.68	-13.00	-21.68	H
2509.50	-46.98	5.94	3.00	10.86	-42.06	-13.00	-29.06	H
1673.00	-42.95	4.63	3.00	9.84	-37.74	-13.00	-24.74	V
2509.50	-47.61	5.94	3.00	10.86	-42.69	-13.00	-29.69	V

*LTE FDD Band 26(824-849MHz)\_ Channel Bandwidth 15MHz\_ QPSK\_ High Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1683.00	-40.95	4.65	3.00	9.90	-35.70	-13.00	-22.70	H
2524.50	-46.91	5.95	3.00	10.91	-41.95	-13.00	-28.95	H
1683.00	-43.80	4.65	3.00	9.90	-38.55	-13.00	-25.55	V
2524.50	-49.38	5.95	3.00	10.91	-44.42	-13.00	-31.42	V

*LTE FDD Band 26(824-849MHz)\_ Channel Bandwidth 15MHz\_ 16QAM\_ Low Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1663.00	-41.12	4.62	3.00	9.81	-35.93	-13.00	-22.93	H
2494.50	-47.38	5.94	3.00	10.86	-42.46	-13.00	-29.46	H
1663.00	-43.79	4.62	3.00	9.81	-38.60	-13.00	-25.60	V
2494.50	-50.22	5.94	3.00	10.86	-45.30	-13.00	-32.30	V

*LTE FDD Band 26(824-849MHz)\_ Channel Bandwidth 15MHz\_ 16QAM\_ Middle Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1673.00	-40.00	4.63	3.00	9.84	-34.79	-13.00	-21.79	H
2509.50	-47.24	5.94	3.00	10.86	-42.32	-13.00	-29.32	H
1673.00	-43.06	4.63	3.00	9.84	-37.85	-13.00	-24.85	V
2509.50	-47.43	5.94	3.00	10.86	-42.51	-13.00	-29.51	V

*LTE FDD Band 26(824-849MHz)\_ Channel Bandwidth 15MHz\_ 16QAM\_ High Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1683.00	-41.00	4.65	3.00	9.90	-35.75	-13.00	-22.75	H
2524.50	-46.82	5.95	3.00	10.91	-41.86	-13.00	-28.86	H
1683.00	-43.62	4.65	3.00	9.90	-38.37	-13.00	-25.37	V
2524.50	-49.50	5.95	3.00	10.91	-44.54	-13.00	-31.54	V

*LTE FDD Band 27\_Channel Bandwidth 5MHz\_QPSK\_Low Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1619.0	-41.28	4.62	3.00	9.81	-36.09	-13.00	-23.09	H
2428.5	-47.55	5.94	3.00	10.86	-42.63	-13.00	-29.63	H
1619.0	-43.93	4.62	3.00	9.81	-38.74	-13.00	-25.74	V
2428.5	-50.29	5.94	3.00	10.86	-45.37	-13.00	-32.37	V

*LTE FDD Band 27\_Channel Bandwidth 5MHz\_QPSK\_Middle Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1630.0	-39.99	4.63	3.00	9.84	-34.78	-13.00	-21.78	H
2445.0	-47.26	5.94	3.00	10.86	-42.34	-13.00	-29.34	H
1630.0	-43.27	4.63	3.00	9.84	-38.06	-13.00	-25.06	V
2445.0	-47.63	5.94	3.00	10.86	-42.71	-13.00	-29.71	V

*LTE FDD Band 27\_Channel Bandwidth 5MHz\_QPSK\_High Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1643.0	-41.22	4.65	3.00	9.90	-35.97	-13.00	-22.97	H
2464.5	-46.94	5.95	3.00	10.91	-41.98	-13.00	-28.98	H
1643.0	-43.70	4.65	3.00	9.90	-38.45	-13.00	-25.45	V
2464.5	-49.24	5.95	3.00	10.91	-44.28	-13.00	-31.28	V

*LTE FDD Band 27\_Channel Bandwidth 5MHz\_16QAM\_Low Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1619.0	-40.97	4.62	3.00	9.81	-35.78	-13.00	-22.78	H
2428.5	-47.28	5.94	3.00	10.86	-42.36	-13.00	-29.36	H
1619.0	-43.99	4.62	3.00	9.81	-38.80	-13.00	-25.80	V
2428.5	-50.17	5.94	3.00	10.86	-45.25	-13.00	-32.25	V

*LTE FDD Band 27\_Channel Bandwidth 5MHz\_16QAM\_Middle Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1630.0	-39.87	4.63	3.00	9.84	-34.66	-13.00	-21.66	H
2445.0	-47.07	5.94	3.00	10.86	-42.15	-13.00	-29.15	H
1630.0	-43.02	4.63	3.00	9.84	-37.81	-13.00	-24.81	V
2445.0	-47.33	5.94	3.00	10.86	-42.41	-13.00	-29.41	V

*LTE FDD Band 27\_Channel Bandwidth 5MHz\_16QAM\_High Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1643.0	-41.11	4.65	3.00	9.90	-35.86	-13.00	-22.86	H
2464.5	-47.05	5.95	3.00	10.91	-42.09	-13.00	-29.09	H
1643.0	-43.53	4.65	3.00	9.90	-38.28	-13.00	-25.28	V
2464.5	-49.51	5.95	3.00	10.91	-44.55	-13.00	-31.55	V



*LTE TDD Band 41\_Channel Bandwidth 20MHz\_QPSK\_Low Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5012.00	-40.07	7.15	3.00	9.88	-37.34	-25.00	-12.34	H
7518.00	-45.52	8.36	3.00	11.36	-42.52	-25.00	-17.52	H
5012.00	-42.31	7.15	3.00	9.88	-39.58	-25.00	-14.58	V
7518.00	-47.39	8.36	3.00	11.36	-44.39	-25.00	-19.39	V

*LTE TDD Band 41\_Channel Bandwidth 20MHz\_QPSK\_Middle Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5186.00	-40.45	7.26	3.00	10.03	-37.68	-25.00	-12.68	H
7779.00	-44.97	8.48	3.00	11.41	-42.04	-25.00	-17.04	H
5186.00	-43.78	7.26	3.00	10.03	-41.01	-25.00	-16.01	V
7779.00	-47.60	8.48	3.00	11.41	-44.67	-25.00	-19.67	V

*LTE TDD Band 41\_Channel Bandwidth 20MHz\_QPSK\_High Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5360.00	-42.06	7.17	3.00	9.62	-39.61	-25.00	-14.61	H
8040.00	-45.65	8.39	3.00	11.46	-42.58	-25.00	-17.58	H
5360.00	-43.02	7.17	3.00	9.62	-40.57	-25.00	-15.57	V
8040.00	-47.73	8.39	3.00	11.46	-44.66	-25.00	-19.66	V

*LTE TDD Band 41\_Channel Bandwidth 20MHz\_16QAM\_Low Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5012.00	-40.29	7.15	3.00	9.88	-37.56	-25.00	-12.56	H
7518.00	-45.26	8.36	3.00	11.36	-42.26	-25.00	-17.26	H
5012.00	-42.44	7.15	3.00	9.88	-39.71	-25.00	-14.71	V
7518.00	-47.59	8.36	3.00	11.36	-44.59	-25.00	-19.59	V

*LTE TDD Band 41\_Channel Bandwidth 20MHz\_16QAM\_Middle Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5186.00	-40.30	7.26	3.00	10.03	-37.53	-25.00	-12.53	H
7779.00	-45.35	8.48	3.00	11.41	-42.42	-25.00	-17.42	H
5186.00	-43.98	7.26	3.00	10.03	-41.21	-25.00	-16.21	V
7779.00	-47.55	8.48	3.00	11.41	-44.62	-25.00	-19.62	V

*LTE TDD Band 41\_Channel Bandwidth 20MHz\_16QAM\_High Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5360.00	-42.19	7.17	3.00	9.62	-39.74	-25.00	-14.74	H
8040.00	-45.51	8.39	3.00	11.46	-42.44	-25.00	-17.44	H
5360.00	-42.94	7.17	3.00	9.62	-40.49	-25.00	-15.49	V
8040.00	-47.73	8.39	3.00	11.46	-44.66	-25.00	-19.66	V

*LTE FDD Band 66\_Channel Bandwidth 20MHz\_QPSK\_Low Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3440.0	-40.19	6.23	3.00	9.35	-37.07	-13.00	-24.07	H
5160.0	-45.21	7.48	3.00	10.72	-41.97	-13.00	-28.97	H
3440.0	-42.36	6.23	3.00	9.35	-39.24	-13.00	-26.24	V
5160.0	-47.43	7.48	3.00	10.72	-44.19	-13.00	-31.19	V

*LTE FDD Band 66\_Channel Bandwidth 20MHz\_QPSK\_Middle Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3490.0	-40.13	6.37	3.00	9.45	-37.05	-13.00	-24.05	H
5235.0	-45.17	7.54	3.00	10.81	-41.90	-13.00	-28.90	H
3490.0	-43.94	6.37	3.00	9.45	-40.86	-13.00	-27.86	V
5235.0	-47.66	7.54	3.00	10.81	-44.39	-13.00	-31.39	V

*LTE FDD Band 66\_Channel Bandwidth 20MHz\_QPSK\_High Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3540.0	-42.21	6.55	3.00	9.51	-39.25	-13.00	-26.25	H
5310.0	-45.60	7.63	3.00	10.93	-42.30	-13.00	-29.30	H
3540.0	-42.80	6.55	3.00	9.51	-39.84	-13.00	-26.84	V
5310.0	-47.74	7.63	3.00	10.93	-44.44	-13.00	-31.44	V

*LTE FDD Band 66\_Channel Bandwidth 20MHz\_16QAM\_Low Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3440.0	-39.96	6.23	3.00	9.35	-36.84	-13.00	-23.84	H
5160.0	-45.25	7.48	3.00	10.72	-42.01	-13.00	-29.01	H
3440.0	-42.64	6.23	3.00	9.35	-39.52	-13.00	-26.52	V
5160.0	-47.49	7.48	3.00	10.72	-44.25	-13.00	-31.25	V

*LTE FDD Band 66\_Channel Bandwidth 20MHz\_16QAM\_Middle Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3490.0	-40.22	6.37	3.00	9.45	-37.14	-13.00	-24.14	H
5235.0	-45.31	7.54	3.00	10.81	-42.04	-13.00	-29.04	H
3490.0	-44.06	6.37	3.00	9.45	-40.98	-13.00	-27.98	V
5235.0	-47.70	7.54	3.00	10.81	-44.43	-13.00	-31.43	V

*LTE FDD Band 66\_Channel Bandwidth 20MHz\_16QAM\_High Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3540.0	-42.16	6.55	3.00	9.51	-39.20	-13.00	-26.20	H
5310.0	-45.60	7.63	3.00	10.93	-42.30	-13.00	-29.30	H
3540.0	-43.05	6.55	3.00	9.51	-40.09	-13.00	-27.09	V
5310.0	-47.60	7.63	3.00	10.93	-44.30	-13.00	-31.30	V

*LTE FDD Band 71\_Channel Bandwidth 20MHz\_QPSK\_Low Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1346.0	-54.87	3.57	3.00	9.11	-49.33	-13.00	-36.33	H
2019.0	-60.71	4.12	3.00	8.76	-56.07	-13.00	-43.07	H
1346.0	-50.20	3.57	3.00	9.11	-44.66	-13.00	-31.66	V
2019.0	-55.81	4.12	3.00	8.76	-51.17	-13.00	-38.17	V

*LTE FDD Band 71\_Channel Bandwidth 20MHz\_QPSK\_Middle Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1361.0	-54.19	3.64	3.00	9.35	-48.48	-13.00	-35.48	H
2041.5	-59.02	4.22	3.00	8.79	-54.45	-13.00	-41.45	H
1361.0	-49.19	3.64	3.00	9.35	-43.48	-13.00	-30.48	V
2041.5	-54.58	4.22	3.00	8.79	-50.01	-13.00	-37.01	V

*LTE FDD Band 71\_Channel Bandwidth 20MHz\_QPSK\_High Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1376.0	-55.28	3.78	3.00	9.45	-49.61	-13.00	-36.61	H
2064.0	-58.61	4.30	3.00	8.87	-54.04	-13.00	-41.04	H
1376.0	-51.63	3.78	3.00	9.45	-45.96	-13.00	-32.96	V
2064.0	-53.99	4.30	3.00	8.87	-49.42	-13.00	-36.42	V

*LTE FDD Band 71\_Channel Bandwidth 20MHz\_16QAM\_Low Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1346.0	-54.80	3.57	3.00	9.11	-49.26	-13.00	-36.26	H
2019.0	-60.49	4.12	3.00	8.76	-55.85	-13.00	-42.85	H
1346.0	-49.91	3.57	3.00	9.11	-44.37	-13.00	-31.37	V
2019.0	-55.64	4.12	3.00	8.76	-51.00	-13.00	-38.00	V

*LTE FDD Band 71\_Channel Bandwidth 20MHz\_16QAM\_Middle Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1361.0	-53.87	3.64	3.00	9.35	-48.16	-13.00	-35.16	H
2041.5	-59.11	4.22	3.00	8.79	-54.54	-13.00	-41.54	H
1361.0	-49.02	3.64	3.00	9.35	-43.31	-13.00	-30.31	V
2041.5	-54.39	4.22	3.00	8.79	-49.82	-13.00	-36.82	V

*LTE FDD Band 71\_Channel Bandwidth 20MHz\_16QAM\_High Channel*

Frequency (MHz)	P <sub>Mea</sub> (dBm)	P <sub>cl</sub> (dB)	Diatance	G <sub>a</sub> Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1376.0	-55.37	3.78	3.00	9.45	-49.70	-13.00	-36.70	H
2064.0	-58.62	4.30	3.00	8.87	-54.05	-13.00	-41.05	H
1376.0	-51.93	3.78	3.00	9.45	-46.26	-13.00	-33.26	V
2064.0	-54.00	4.30	3.00	8.87	-49.43	-13.00	-36.43	V

## Notes:

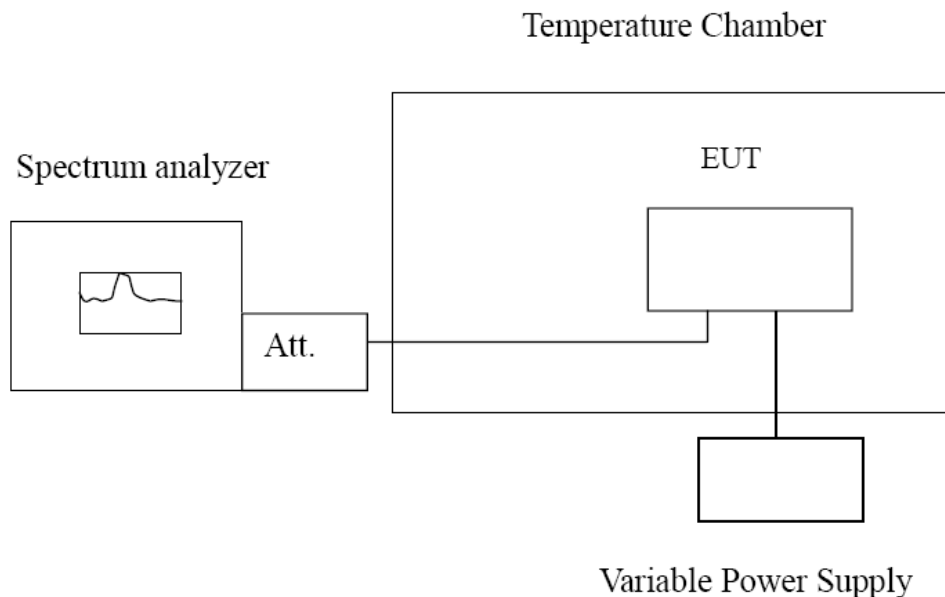
- 1.All channel bandwidth were tested, the report recorded the worst data.
2.  $EIRP = P_{Mea}(dBm) - P_{cl}(dB) + P_{Ag}(dB) + G_a(dBi)$
3.  $ERP = EIRP - 2.15dBi$  as EIRP by subtracting the gain of the dipole.
4.  $Margin = EIRP - Limit$

## 4.6 Frequency Stability under Temperature & Voltage Variations

### LIMIT

FCC § 2.1055 (a), § 2.1055 (d), §22.355, §24.235,§27.54 &§90.213

### TEST CONFIGURATION



### TEST PROCEDURE

The EUT was setup according to EIA/TIA 603D

#### **Frequency Stability Under Temperature Variations:**

In order to measure the carrier frequency under the condition of AFC lock, it is necessary to make measurements with the EUT in a "call mode". This is accomplished with the use of R&S CMW500 DIGITAL RADIO COMMUNICATION TESTER.

1. Measure the carrier frequency at room temperature.
2. Subject the EUT to overnight soak at -30°C.
3. With the EUT, powered via nominal voltage, connected to the CMW500 and in a simulated call on middle channel for LTE band 5, measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.
4. Repeat the above measurements at 10°C increments from -30°C to +50°C. Allow at least 1.5 hours at each temperature, unpowered, before making measurements.
5. Re-measure carrier frequency at room temperature with nominal voltage. Vary supply voltage from minimum voltage to maximum voltage, in 0.1Volt increments re-measuring carrier frequency at each voltage. Pause at nominal voltage for 1.5 hours unpowered, to allow any self-heating to stabilize, before continuing.
6. Subject the EUT to overnight soak at +50°C.
7. With the EUT, powered via nominal voltage, connected to the CMW500 and in a simulated call on the centre channel, measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.
8. Repeat the above measurements at 10 °C increments from +50°C to -30°C. Allow at least 1.5 hours at each temperature, unpowered, before making measurements
9. At all temperature levels hold the temperature to +/- 0.5°C during the measurement procedure.

#### **Frequency Stability Under Voltage Variations:**

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation ( $\pm 15\%$ ) and endpoint, record the maximum frequency change.

**TEST RESULTS**

Remark:

We were tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of WCDMA Band II , WCDMA Band IV ,WCDMA Band V , LTE FDD Band 2, LTE FDD Band 4, LTE FDD Band 5, LTE FDD Band 12, LTE FDD Band 13, LTE FDD Band 17, LTE FDD Band 25, LTE FDD Band 26, LTE FDD Band 27, LTE TDD Band 41,LTE FDD Band 66, LTE FDD Band 71; recorded worst case for each Channel Bandwidth of WCDMA Band II , WCDMA Band IV ,WCDMA Band V , LTE FDD Band 2, LTE FDD Band 4, LTE FDD Band 5, LTE FDD Band 12, LTE FDD Band 13, LTE FDD Band 17, LTE FDD Band 25, LTE FDD Band 26, LTE FDD Band 27, LTE TDD Band 41,LTE FDD Band 66, LTE FDD Band 71.

Temperature	24.5°C	Humidity	53.7%
Test Engineer	Moon Tan	Configurations	WCDMA/LTE

UMTS/TM1/WCDMA Band II					
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict
3.30	25	-2	-0.001	±2.50	PASS
3.70	25	3	0.002	±2.50	PASS
4.20	25	-16	-0.009	±2.50	PASS
3.70	-30	8	0.004	±2.50	PASS
3.70	-20	17	0.009	±2.50	PASS
3.70	-10	0	0.000	±2.50	PASS
3.70	0	18	0.010	±2.50	PASS
3.70	10	6	0.003	±2.50	PASS
3.70	20	18	0.010	±2.50	PASS
3.70	30	3	0.002	±2.50	PASS
3.70	40	-8	-0.004	±2.50	PASS
3.70	50	-10	-0.005	±2.50	PASS

UMTS/TM1/WCDMA Band IV					
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict
3.30	25	8	0.005	±2.50	PASS
3.70	25	12	0.007	±2.50	PASS
4.20	25	3	0.002	±2.50	PASS
3.70	-30	7	0.004	±2.50	PASS
3.70	-20	19	0.011	±2.50	PASS
3.70	-10	-16	-0.009	±2.50	PASS
3.70	0	16	0.009	±2.50	PASS
3.70	10	-8	-0.005	±2.50	PASS
3.70	20	2	0.001	±2.50	PASS
3.70	30	6	0.003	±2.50	PASS
3.70	40	8	0.005	±2.50	PASS
3.70	50	6	0.003	±2.50	PASS

UMTS/TM1/WCDMA Band V					
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict
3.30	25	1	0.001	±2.50	PASS
3.70	25	-20	-0.024	±2.50	PASS
4.20	25	-14	-0.017	±2.50	PASS
3.70	-30	-7	-0.008	±2.50	PASS
3.70	-20	-19	-0.023	±2.50	PASS
3.70	-10	5	0.006	±2.50	PASS
3.70	0	0	0.000	±2.50	PASS
3.70	10	1	0.001	±2.50	PASS
3.70	20	-10	-0.012	±2.50	PASS
3.70	30	5	0.006	±2.50	PASS
3.70	40	-15	-0.018	±2.50	PASS
3.70	50	18	0.022	±2.50	PASS

*LTE Band 2, QPSK, 1.4MHz bandwidth (worst case of all bandwidths)*

<i>LTE FDD Band 2</i>					
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict
3.30	20	93	0.049	±2.50	PASS
3.70	20	23	0.012	±2.50	PASS
4.20	20	67	0.036	±2.50	PASS
3.70	-30	87	0.046	±2.50	PASS
3.70	-20	17	0.009	±2.50	PASS
3.70	-10	59	0.031	±2.50	PASS
3.70	0	11	0.006	±2.50	PASS
3.70	10	41	0.022	±2.50	PASS
3.70	20	3	0.002	±2.50	PASS
3.70	30	39	0.021	±2.50	PASS
3.70	40	51	0.027	±2.50	PASS
3.70	50	72	0.038	±2.50	PASS

*LTE Band 2, 16QAM, 1.4MHz bandwidth (worst case of all bandwidths)*

<i>LTE FDD Band 2</i>					
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict
3.30	20	75	0.040	±2.50	PASS
3.70	20	97	0.052	±2.50	PASS
4.20	20	36	0.019	±2.50	PASS
3.70	-30	52	0.028	±2.50	PASS
3.70	-20	81	0.043	±2.50	PASS
3.70	-10	63	0.034	±2.50	PASS
3.70	0	92	0.049	±2.50	PASS
3.70	10	32	0.017	±2.50	PASS
3.70	20	4	0.002	±2.50	PASS
3.70	30	12	0.006	±2.50	PASS
3.70	40	1	0.001	±2.50	PASS
3.70	50	51	0.027	±2.50	PASS

*LTE Band 4, QPSK, 1.4MHz bandwidth (worst case of all bandwidths)*

<i>LTE FDD Band 4</i>					
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict
3.30	20	57	0.033	±2.50	PASS
3.70	20	89	0.051	±2.50	PASS
4.20	20	99	0.057	±2.50	PASS
3.70	-30	63	0.036	±2.50	PASS
3.70	-20	61	0.035	±2.50	PASS
3.70	-10	52	0.030	±2.50	PASS
3.70	0	7	0.004	±2.50	PASS
3.70	10	5	0.003	±2.50	PASS
3.70	20	20	0.011	±2.50	PASS
3.70	30	37	0.021	±2.50	PASS
3.70	40	61	0.035	±2.50	PASS
3.70	50	76	0.043	±2.50	PASS

*LTE Band 4, 16QAM, 1.4MHz bandwidth (worst case of all bandwidths)*

<i>LTE FDD Band 4</i>					
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict
3.30	20	91	0.052	±2.50	PASS
3.70	20	98	0.056	±2.50	PASS
4.20	20	78	0.045	±2.50	PASS
3.70	-30	76	0.043	±2.50	PASS
3.70	-20	70	0.040	±2.50	PASS
3.70	-10	54	0.031	±2.50	PASS
3.70	0	58	0.033	±2.50	PASS
3.70	10	11	0.006	±2.50	PASS
3.70	20	42	0.024	±2.50	PASS
3.70	30	95	0.054	±2.50	PASS
3.70	40	4	0.002	±2.50	PASS
3.70	50	84	0.048	±2.50	PASS

*LTE Band 5, QPSK, 1.4MHz bandwidth(worst case of all bandwidths)*

<i>LTE FDD Band 5</i>					
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict
3.30	20	52	0.063	±2.50	PASS
3.70	20	75	0.091	±2.50	PASS
4.20	20	1	0.001	±2.50	PASS
3.70	-30	93	0.113	±2.50	PASS
3.70	-20	70	0.085	±2.50	PASS
3.70	-10	46	0.056	±2.50	PASS
3.70	0	99	0.120	±2.50	PASS
3.70	10	30	0.036	±2.50	PASS
3.70	20	46	0.056	±2.50	PASS
3.70	30	83	0.101	±2.50	PASS
3.70	40	2	0.002	±2.50	PASS
3.70	50	7	0.008	±2.50	PASS

*LTE Band 5, 16QAM, 1.4MHz bandwidth(worst case of all bandwidths)*

<i>LTE FDD Band 5</i>					
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict
3.30	20	26	0.032	±2.50	PASS
3.70	20	42	0.051	±2.50	PASS
4.20	20	36	0.044	±2.50	PASS
3.70	-30	79	0.096	±2.50	PASS
3.70	-20	98	0.119	±2.50	PASS
3.70	-10	53	0.064	±2.50	PASS
3.70	0	19	0.023	±2.50	PASS
3.70	10	19	0.023	±2.50	PASS
3.70	20	74	0.090	±2.50	PASS
3.70	30	86	0.104	±2.50	PASS
3.70	40	33	0.040	±2.50	PASS
3.70	50	7	0.008	±2.50	PASS

*LTE Band 12, QPSK, 1.4MHz bandwidth (worst case of all bandwidths and modulation type)*

<i>LTE FDD Band 12</i>					
<i>DC Power</i>	<i>Temperature (°C)</i>	<i>Frequency error(Hz)</i>	<i>Frequency error(ppm)</i>	<i>Limit (ppm)</i>	<i>Verdict</i>
3.30	20	69	0.098	±2.50	PASS
3.70	20	57	0.081	±2.50	PASS
4.20	20	35	0.049	±2.50	PASS
3.70	-30	89	0.126	±2.50	PASS
3.70	-20	77	0.109	±2.50	PASS
3.70	-10	52	0.073	±2.50	PASS
3.70	0	66	0.093	±2.50	PASS
3.70	10	53	0.075	±2.50	PASS
3.70	20	38	0.054	±2.50	PASS
3.70	30	81	0.114	±2.50	PASS
3.70	40	88	0.124	±2.50	PASS
3.70	50	16	0.023	±2.50	PASS

*LTE Band 12, 16QAM, 1.4MHz bandwidth (worst case of all bandwidths and modulation type)*

<i>LTE FDD Band 12</i>					
<i>DC Power</i>	<i>Temperature (°C)</i>	<i>Frequency error(Hz)</i>	<i>Frequency error(ppm)</i>	<i>Limit (ppm)</i>	<i>Verdict</i>
3.30	20	21	0.030	±2.50	PASS
3.70	20	26	0.037	±2.50	PASS
4.20	20	49	0.069	±2.50	PASS
3.70	-30	23	0.033	±2.50	PASS
3.70	-20	11	0.016	±2.50	PASS
3.70	-10	24	0.034	±2.50	PASS
3.70	0	54	0.076	±2.50	PASS
3.70	10	91	0.129	±2.50	PASS
3.70	20	12	0.017	±2.50	PASS
3.70	30	48	0.068	±2.50	PASS
3.70	40	90	0.127	±2.50	PASS
3.70	50	96	0.136	±2.50	PASS

*LTE Band 13, 5MHz bandwidth, QPSK (worst case of all bandwidths)*

<i>LTE FDD Band 13</i>					
<i>DC Power</i>	<i>Temperature (°C)</i>	<i>Frequency error(Hz)</i>	<i>Frequency error(ppm)</i>	<i>Limit (ppm)</i>	<i>Verdict</i>
3.30	20	3	0.004	2.50	PASS
3.70	20	56	0.072	2.50	PASS
4.20	20	68	0.087	2.50	PASS
3.70	-30	23	0.029	2.50	PASS
3.70	-20	86	0.110	2.50	PASS
3.70	-10	0	0.000	2.50	PASS
3.70	0	78	0.100	2.50	PASS
3.70	10	12	0.015	2.50	PASS
3.70	20	99	0.127	2.50	PASS
3.70	30	63	0.081	2.50	PASS
3.70	40	18	0.023	2.50	PASS
3.70	50	3	0.004	2.50	PASS



*LTE Band 13, 5MHz bandwidth, 16QAM (worst case of all bandwidths)*

<i>LTE FDD Band 13</i>					
<i>DC Power</i>	<i>Temperature (°C)</i>	<i>Frequency error(Hz)</i>	<i>Frequency error(ppm)</i>	<i>Limit (ppm)</i>	<i>Verdict</i>
3.30	20	79	0.101	2.50	PASS
3.70	20	71	0.091	2.50	PASS
4.20	20	38	0.049	2.50	PASS
3.70	-30	34	0.043	2.50	PASS
3.70	-20	62	0.079	2.50	PASS
3.70	-10	64	0.082	2.50	PASS
3.70	0	44	0.056	2.50	PASS
3.70	10	61	0.078	2.50	PASS
3.70	20	76	0.097	2.50	PASS
3.70	30	94	0.120	2.50	PASS
3.70	40	77	0.098	2.50	PASS
3.70	50	30	0.038	2.50	PASS

*LTE Band 17, QPSK, 5MHz bandwidth (worst case of all bandwidths and modulation type)*

<i>LTE FDD Band 17</i>					
<i>DC Power</i>	<i>Temperature (°C)</i>	<i>Frequency error(Hz)</i>	<i>Frequency error(ppm)</i>	<i>Limit (ppm)</i>	<i>Verdict</i>
3.30	20	45	0.063	±2.50	PASS
3.70	20	27	0.038	±2.50	PASS
4.20	20	-23	-0.032	±2.50	PASS
3.70	-30	-17	-0.024	±2.50	PASS
3.70	-20	46	0.065	±2.50	PASS
3.70	-10	-2	-0.003	±2.50	PASS
3.70	0	9	0.013	±2.50	PASS
3.70	10	-38	-0.054	±2.50	PASS
3.70	20	-19	-0.027	±2.50	PASS
3.70	30	-13	-0.018	±2.50	PASS
3.70	40	37	0.052	±2.50	PASS
3.70	50	44	0.062	±2.50	PASS

*LTE Band 17, 16QAM, 5MHz bandwidth (worst case of all bandwidths and modulation type)*

<i>LTE FDD Band 17</i>					
<i>DC Power</i>	<i>Temperature (°C)</i>	<i>Frequency error(Hz)</i>	<i>Frequency error(ppm)</i>	<i>Limit (ppm)</i>	<i>Verdict</i>
3.30	20	-31	-0.044	±2.50	PASS
3.70	20	34	0.048	±2.50	PASS
4.20	20	49	0.069	±2.50	PASS
3.70	-30	-18	-0.025	±2.50	PASS
3.70	-20	-31	-0.044	±2.50	PASS
3.70	-10	-6	-0.008	±2.50	PASS
3.70	0	-8	-0.011	±2.50	PASS
3.70	10	-9	-0.013	±2.50	PASS
3.70	20	17	0.024	±2.50	PASS
3.70	30	-37	-0.052	±2.50	PASS
3.70	40	38	0.054	±2.50	PASS
3.70	50	-10	-0.014	±2.50	PASS

*LTE Band 25, QPSK, 1.4MHz bandwidth (worst case of all bandwidths and modulation type)*

<i>LTE FDD Band 25</i>					
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict
3.30	20	4	0.002	±2.50	PASS
3.70	20	42	0.022	±2.50	PASS
4.20	20	89	0.047	±2.50	PASS
3.70	-30	77	0.041	±2.50	PASS
3.70	-20	78	0.041	±2.50	PASS
3.70	-10	76	0.040	±2.50	PASS
3.70	0	39	0.021	±2.50	PASS
3.70	10	15	0.008	±2.50	PASS
3.70	20	41	0.022	±2.50	PASS
3.70	30	34	0.018	±2.50	PASS
3.70	40	51	0.027	±2.50	PASS
3.70	50	81	0.043	±2.50	PASS

*LTE Band 25, 16QAM, 1.4MHz bandwidth (worst case of all bandwidths and modulation type)*

<i>LTE FDD Band 25</i>					
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict
3.30	20	65	0.035	±2.50	PASS
3.70	20	69	0.037	±2.50	PASS
4.20	20	62	0.033	±2.50	PASS
3.70	-30	79	0.042	±2.50	PASS
3.70	-20	16	0.008	±2.50	PASS
3.70	-10	96	0.051	±2.50	PASS
3.70	0	49	0.026	±2.50	PASS
3.70	10	31	0.016	±2.50	PASS
3.70	20	84	0.045	±2.50	PASS
3.70	30	31	0.016	±2.50	PASS
3.70	40	58	0.031	±2.50	PASS
3.70	50	89	0.047	±2.50	PASS

*LTE Band 26<814 – 824 MHz>, QPSK, 1.4MHz bandwidth (worst case of all bandwidths and modulation type)*

<i>LTE FDD Band 26</i>					
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict
3.30	20	31	0.038	±2.50	PASS
3.70	20	61	0.074	±2.50	PASS
4.20	20	97	0.118	±2.50	PASS
3.70	-30	86	0.105	±2.50	PASS
3.70	-20	56	0.068	±2.50	PASS
3.70	-10	81	0.099	±2.50	PASS
3.70	0	75	0.092	±2.50	PASS
3.70	10	92	0.112	±2.50	PASS
3.70	20	57	0.070	±2.50	PASS
3.70	30	80	0.098	±2.50	PASS
3.70	40	60	0.073	±2.50	PASS
3.70	50	65	0.079	±2.50	PASS

LTE Band 26<814 – 824 MHz>, 16QAM, 1.4MHz bandwidth (worst case of all bandwidths and modulation type)

LTE FDD Band 26					
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict
3.30	20	80	0.098	±2.50	PASS
3.70	20	25	0.031	±2.50	PASS
4.20	20	90	0.110	±2.50	PASS
3.70	-30	49	0.060	±2.50	PASS
3.70	-20	58	0.071	±2.50	PASS
3.70	-10	91	0.111	±2.50	PASS
3.70	0	21	0.026	±2.50	PASS
3.70	10	50	0.061	±2.50	PASS
3.70	20	16	0.020	±2.50	PASS
3.70	30	46	0.056	±2.50	PASS
3.70	40	32	0.039	±2.50	PASS
3.70	50	12	0.015	±2.50	PASS

LTE Band 26<824 – 849 MHz >, QPSK, 1.4MHz bandwidth (worst case of all bandwidths and modulation type)

LTE FDD Band 26					
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict
3.30	20	50	0.060	±2.50	PASS
3.70	20	66	0.079	±2.50	PASS
4.20	20	72	0.086	±2.50	PASS
3.70	-30	15	0.018	±2.50	PASS
3.70	-20	94	0.112	±2.50	PASS
3.70	-10	19	0.023	±2.50	PASS
3.70	0	62	0.074	±2.50	PASS
3.70	10	25	0.030	±2.50	PASS
3.70	20	37	0.044	±2.50	PASS
3.70	30	16	0.019	±2.50	PASS
3.70	40	80	0.096	±2.50	PASS
3.70	50	49	0.059	±2.50	PASS

LTE Band 26<824 – 849 MHz >, 16QAM, 1.4MHz bandwidth (worst case of all bandwidths and modulation type)

LTE FDD Band 26					
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict
3.30	20	51	0.061	±2.50	PASS
3.70	20	51	0.061	±2.50	PASS
4.20	20	74	0.088	±2.50	PASS
3.70	-30	10	0.012	±2.50	PASS
3.70	-20	17	0.020	±2.50	PASS
3.70	-10	33	0.039	±2.50	PASS
3.70	0	14	0.017	±2.50	PASS
3.70	10	95	0.114	±2.50	PASS
3.70	20	7	0.008	±2.50	PASS
3.70	30	20	0.024	±2.50	PASS
3.70	40	42	0.050	±2.50	PASS
3.70	50	32	0.038	±2.50	PASS

*LTE Band 27, QPSK, 1.4MHz bandwidth (worst case of all bandwidths and modulation type)*

<i>LTE FDD Band 26</i>					
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict
3.30	20	15	0.018	±2.50	PASS
3.70	20	61	0.075	±2.50	PASS
4.20	20	61	0.075	±2.50	PASS
3.70	-30	13	0.016	±2.50	PASS
3.70	-20	79	0.097	±2.50	PASS
3.70	-10	23	0.028	±2.50	PASS
3.70	0	46	0.056	±2.50	PASS
3.70	10	90	0.110	±2.50	PASS
3.70	20	91	0.112	±2.50	PASS
3.70	30	21	0.026	±2.50	PASS
3.70	40	42	0.052	±2.50	PASS
3.70	50	77	0.094	±2.50	PASS

*LTE Band 27, 16QAM, 1.4MHz bandwidth (worst case of all bandwidths and modulation type)*

<i>LTE FDD Band 26</i>					
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict
3.30	20	44	0.054	±2.50	PASS
3.70	20	6	0.007	±2.50	PASS
4.20	20	11	0.013	±2.50	PASS
3.70	-30	23	0.028	±2.50	PASS
3.70	-20	15	0.018	±2.50	PASS
3.70	-10	83	0.102	±2.50	PASS
3.70	0	57	0.070	±2.50	PASS
3.70	10	5	0.006	±2.50	PASS
3.70	20	77	0.094	±2.50	PASS
3.70	30	79	0.097	±2.50	PASS
3.70	40	69	0.085	±2.50	PASS
3.70	50	74	0.091	±2.50	PASS

*LTE Band 41, 5MHz bandwidth, QPSK (worst case of all bandwidths)*

<i>LTE TDD Band 41</i>					
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict
3.30	20	32	0.015	±2.50	PASS
3.70	20	97	0.046	±2.50	PASS
4.20	20	32	0.015	±2.50	PASS
3.70	-30	97	0.046	±2.50	PASS
3.70	-20	30	0.014	±2.50	PASS
3.70	-10	52	0.025	±2.50	PASS
3.70	0	3	0.001	±2.50	PASS
3.70	10	59	0.028	±2.50	PASS
3.70	20	21	0.010	±2.50	PASS
3.70	30	68	0.032	±2.50	PASS
3.70	40	71	0.034	±2.50	PASS
3.70	50	43	0.021	±2.50	PASS

*LTE Band 41, 5MHz bandwidth, 16QAM (worst case of all bandwidths)*

LTE TDD Band 41					
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict
3.30	20	14	0.007	±2.50	PASS
3.70	20	95	0.045	±2.50	PASS
4.20	20	52	0.025	±2.50	PASS
3.70	-30	6	0.003	±2.50	PASS
3.70	-20	99	0.047	±2.50	PASS
3.70	-10	55	0.026	±2.50	PASS
3.70	0	54	0.026	±2.50	PASS
3.70	10	6	0.003	±2.50	PASS
3.70	20	65	0.031	±2.50	PASS
3.70	30	28	0.013	±2.50	PASS
3.70	40	80	0.038	±2.50	PASS
3.70	50	72	0.034	±2.50	PASS

*LTE Band 66, 1.4MHz bandwidth, QPSK (worst case of all bandwidths)*

LTE FDD Band 66					
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict
3.30	20	72	0.041	2.50	PASS
3.70	20	41	0.023	2.50	PASS
4.20	20	37	0.021	2.50	PASS
3.70	-30	14	0.008	2.50	PASS
3.70	-20	55	0.032	2.50	PASS
3.70	-10	43	0.025	2.50	PASS
3.70	0	96	0.055	2.50	PASS
3.70	10	92	0.053	2.50	PASS
3.70	20	46	0.026	2.50	PASS
3.70	30	3	0.002	2.50	PASS
3.70	40	95	0.054	2.50	PASS
3.70	50	85	0.049	2.50	PASS

*LTE Band 66, 1.4MHz bandwidth, 16QAM (worst case of all bandwidths)*

LTE FDD Band 66					
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict
3.30	20	66	0.038	2.50	PASS
3.70	20	99	0.057	2.50	PASS
4.20	20	96	0.055	2.50	PASS
3.70	-30	70	0.040	2.50	PASS
3.70	-20	43	0.025	2.50	PASS
3.70	-10	44	0.025	2.50	PASS
3.70	0	65	0.037	2.50	PASS
3.70	10	87	0.050	2.50	PASS
3.70	20	8	0.005	2.50	PASS
3.70	30	46	0.026	2.50	PASS
3.70	40	7	0.004	2.50	PASS
3.70	50	20	0.011	2.50	PASS

*LTE Band 71, 5MHz bandwidth, QPSK (worst case of all bandwidths)*

LTE FDD Band 71					
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict
3.30	20	13	0.019	2.50	PASS
3.70	20	76	0.112	2.50	PASS
4.20	20	45	0.066	2.50	PASS
3.70	-30	39	0.057	2.50	PASS
3.70	-20	62	0.091	2.50	PASS
3.70	-10	29	0.043	2.50	PASS
3.70	0	68	0.100	2.50	PASS
3.70	10	45	0.066	2.50	PASS
3.70	20	40	0.059	2.50	PASS
3.70	30	29	0.043	2.50	PASS
3.70	40	0	0.000	2.50	PASS
3.70	50	13	0.019	2.50	PASS

*LTE Band 71, 5MHz bandwidth, 16QAM (worst case of all bandwidths)*

LTE FDD Band 71					
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Limit (ppm)	Verdict
3.30	20	90	0.132	2.50	PASS
3.70	20	21	0.031	2.50	PASS
4.20	20	6	0.009	2.50	PASS
3.70	-30	15	0.022	2.50	PASS
3.70	-20	21	0.031	2.50	PASS
3.70	-10	48	0.071	2.50	PASS
3.70	0	27	0.040	2.50	PASS
3.70	10	36	0.053	2.50	PASS
3.70	20	88	0.129	2.50	PASS
3.70	30	9	0.013	2.50	PASS
3.70	40	41	0.060	2.50	PASS
3.70	50	8	0.012	2.50	PASS

## 5 TEST SETUP PHOTOS OF THE EUT



**6 EXTERNAL AND INTERNAL PHOTOS OF THE EUT**

Reference to the Test Report: GTS20200903006-1-1.

.....**End of Report**.....