

## FCC Test Report (Part 27)

**Report No.:** RF180919C04-2

**FCC ID:** 2AJOTTA1124

**Test Model:** TA1124

**Received Date:** Sep. 19, 2018

**Test Date:** Oct. 02 ~ Nov. 06, 2018

**Issued Date:** Nov. 06, 2018

**Applicant:** HMD Global Oy

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**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C.)

**Test Location (1):** No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)

**FCC Registration / Designation Number:** 788550 / TW0003



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## Table of Contents

<b>Release Control Record</b>	<b>4</b>
<b>1 Certificate of Conformity</b>	<b>5</b>
<b>2 Summary of Test Results</b>	<b>6</b>
2.1 Measurement Uncertainty	6
2.2 Test Site and Instruments	7
<b>3 General Information</b>	<b>8</b>
3.1 General Description of EUT	8
3.2 Configuration of System under Test	10
3.2.1 Description of Support Units	10
3.3 Test Mode Applicability and Tested Channel Detail	11
3.4 EUT Operating Conditions	18
3.5 General Description of Applied Standards	18
<b>4 Test Types and Results</b>	<b>19</b>
4.1 Output Power Measurement	19
4.1.1 Limits of Output Power Measurement	19
4.1.2 Test Procedures	19
4.1.3 Test Setup	20
4.1.4 Test Results	21
4.2 Modulation Characteristics Measurement	72
4.2.1 Limits of Modulation Characteristics	72
4.2.2 Test Procedure	72
4.2.3 Test Setup	72
4.2.4 Test Results	73
4.3 Frequency Stability Measurement	77
4.3.1 Limits of Frequency Stability Measurement	77
4.3.2 Test Procedure	77
4.3.3 Test Setup	77
4.3.4 Test Results	78
4.4 Emission Bandwidth Measurement	91
4.4.1 Limits of Emission Bandwidth Measurement	91
4.4.2 Test Procedure	91
4.4.3 Test Setup	91
4.4.4 Test Result	92
4.5 Channel Edge Measurement	100
4.5.1 Limits of Band Edge Measurement	100
4.5.2 Test Setup	100
4.5.3 Test Procedures	101
4.5.4 Test Results	102
4.6 Peak to Average Ratio	117
4.6.1 Limits of Peak to Average Ratio Measurement	117
4.6.2 Test Setup	117
4.6.3 Test Procedures	117
4.6.4 Test Results	118
4.7 Conducted Spurious Emissions	123
4.7.1 Limits of Conducted Spurious Emissions Measurement	123
4.7.2 Test Setup	123
4.7.3 Test Procedure	123
4.7.4 Test Results	124
4.8 Radiated Emission Measurement	161
4.8.1 Limits of Radiated Emission Measurement	161
4.8.2 Test Procedure	161
4.8.3 Deviation from Test Standard	161
4.8.4 Test Setup	162

4.8.5 Test Results .....	163
<b>5 Pictures of Test Arrangements.....</b>	<b>219</b>
<b>Appendix – Information on the Testing Laboratories .....</b>	<b>220</b>

### Release Control Record

Issue No.	Description	Date Issued
RF180919C04-2	Original release	Nov. 06, 2018

## 1 Certificate of Conformity

**Product:** SmartPhone

**Brand:** NOKIA

**Test Model:** TA1124

**Sample Status:** Engineering sample

**Applicant:** HMD Global Oy

**Test Date:** Oct. 02 ~ Nov. 06, 2018

**Standards:** FCC Part 27, Subpart C, D, L, H

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

**Prepared by :** Celine Chou , **Date:** Nov. 06, 2018  
Celine Chou / Senior Specialist

**Approved by :** Bruce Chen , **Date:** Nov. 06, 2018  
Bruce Chen / Project Engineer

## 2 Summary of Test Results

Applied Standard: FCC Part 27 & Part 2					
FCC Clause			Test Item	Result	Remarks
WCDMA Band 4 / LTE Band 4	LTE Band 12	LTE Band 30			
2.1046 27.50(d)(4)	2.1046 27.50 (c)(10)	2.1046 27.50(h)(2)	Equivalent Isotropically Radiated Power	Pass	Meet the requirement of limit.
----	----	----	Peak To Average Ratio	Pass	Meet the requirement of limit.
2.1055 27.54	2.1055 27.54	2.1055 27.54	Frequency Stability Stay with the authorized bands of operation	Pass	Meet the requirement of limit.
2.1049 27.53(m)(6)	2.1049 27.53(m)(6)	2.1049 27.53(m)(6)	Emission Bandwidth	Pass	Meet the requirement of limit.
2.1051 27.53(h)	2.1051 27.53(g)	2.1051 27.53(a)(1)	Band Edge Measurements	Pass	Meet the requirement of limit.
2.1051 27.53(h)	2.1051 27.53(g)	2.1051 27.53(a)(1)	Conducted Spurious Emissions	Pass	Meet the requirement of limit.
2.1051 27.53(h)	2.1051 27.53(g)	2.1053 27.53(a)(1)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -1.9dB at 30.00MHz.

### 2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Radiated Emissions up to 1 GHz	30MHz ~ 200MHz	3.59 dB
	200MHz ~1000MHz	3.60 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

## 2.2 Test Site and Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver KEYSIGHT	N9038A	MY55420137	Apr. 11, 2018	Apr. 10, 2019
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	May 29, 2018	May 28, 2019
BILOG Antenna SCHWARZBECK	VULB9168	9168-148	Dec. 11, 2017	Dec. 10, 2018
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-1169	Dec. 12, 2017	Dec. 11, 2018
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Dec. 01, 2017	Nov. 30, 2018
Preamplifier Agilent (Below 1GHz)	8447D	2944A10638	Aug. 08, 2018	Aug. 07, 2019
Preamplifier Agilent (Above 1GHz)	8449B	3008A01638	Feb. 22, 2018	Feb. 21, 2019
RF signal cable HUBER+SUHNER&EMCI	SUCOFLEX 104 & EMC104-SM-SM80 00	CABLE-CH9-02 (248780+171006)	Jan. 15, 2018	Jan. 14, 2019
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-(250795/4)	Aug. 08, 2018	Aug. 07, 2019
RF signal cable Woken	8D-FB	Cable-CH9-01	Jul. 31, 2018	Jul. 30, 2019
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA	NA
Turn Table EMCO	2087-2.03	NA	NA	NA
Antenna Tower & Turn BV ADT	AT100	AT93021705	NA	NA
Turn Table BV ADT	TT100	TT93021705	NA	NA
Turn Table Controller BV ADT	SC100	SC93021705	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 04, 2018	Jun. 03, 2019
Mini-Circuits Power Splitter	ZN2PD-9G	NA	Jun. 21, 2018	Jun. 20, 2019
JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.  
2. The test was performed in HwaYa Chamber 9.  
3. The FCC Designation Number is TW0003. The number will be varied with the Lab location and scope as attached.  
4. The IC Site Registration No. is IC 7450F-9.

### 3 General Information

#### 3.1 General Description of EUT

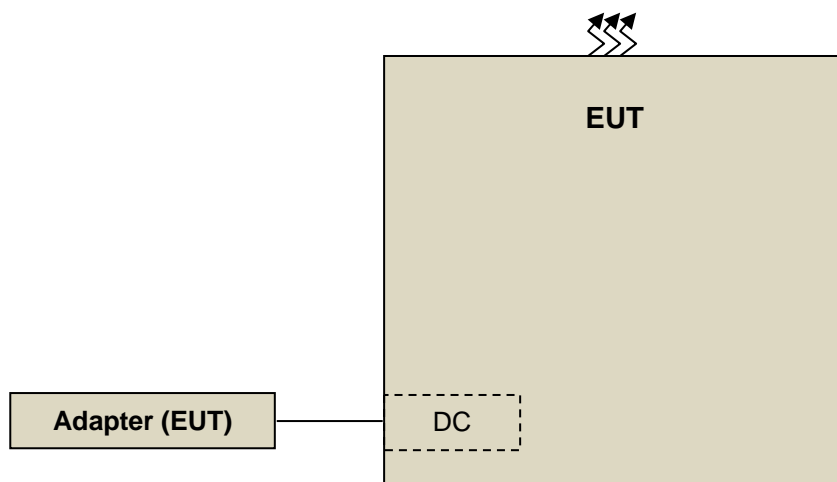
Product	SmartPhone				
Brand	NOKIA				
Test Model	TA1124				
Status of EUT	Engineering sample				
Power Supply Rating	5 Vdc / 9 Vdc (Adapter) 3.85 Vdc (Battery)				
Modulation Type	WCDMA: BPSK, QPSK HSDPA: BPSK HSUPA: QPSK LTE: QPSK, 16QAM, 64QAM				
Operating Frequency	WCDMA Band 4		1712.4MHz ~ 1752.6MHz		
	LTE Band 4	Channel Bandwidth 1.4MHz	1710.7MHz ~ 1754.3MHz		
		Channel Bandwidth 3MHz	1711.5MHz ~ 1753.5MHz		
		Channel Bandwidth 5MHz	1712.5MHz ~ 1752.5MHz		
		Channel Bandwidth 10MHz	1715.0MHz ~ 1750.0MHz		
		Channel Bandwidth 15MHz	1717.5MHz ~ 1747.5MHz		
		Channel Bandwidth 20MHz	1720.0MHz ~ 1745.0MHz		
	LTE Band 12	Channel Bandwidth 1.4MHz	699.7MHz ~ 715.3MHz		
		Channel Bandwidth 3MHz	700.5MHz ~ 714.5MHz		
		Channel Bandwidth 5MHz	701.5MHz ~ 713.5MHz		
		Channel Bandwidth 10MHz	704.0MHz ~ 711.0MHz		
	LTE Band 30	Channel Bandwidth 5MHz	2307.5MHz ~ 2312.5MHz		
		Channel Bandwidth 10MHz	2310MHz		
Max. EIRP Power	WCDMA Band 4		524.807mW (27.20dBm)		
			QPSK	16QAM	64QAM
	LTE Band 4	Channel Bandwidth 1.4MHz	416.869mW (26.20dBm)	323.594mW (25.10dBm)	281.838mW (24.50dBm)
		Channel Bandwidth 3MHz	380.189mW (25.80dBm)	301.995mW (24.80dBm)	263.027mW (24.20dBm)
		Channel Bandwidth 5MHz	398.107mW (26.00dBm)	331.131mW (25.20dBm)	288.403mW (24.60dBm)
		Channel Bandwidth 10MHz	416.869mW (26.20dBm)	331.131mW (25.20dBm)	275.423mW (24.40dBm)
		Channel Bandwidth 15MHz	407.380mW (26.10dBm)	323.594mW (25.10dBm)	288.403mW (24.60dBm)
		Channel Bandwidth 20MHz	398.107mW (26.00dBm)	316.228mW (25.00dBm)	275.423mW (24.40dBm)



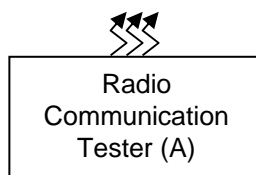
Max. ERP Power			QPSK	16QAM	64QAM
	LTE Band 12	Channel Bandwidth 1.4MHz	134.896mW (21.30dBm)	114.815mW (20.60dBm)	100.000mW (20.00dBm)
		Channel Bandwidth 3MHz	144.544mW (21.60dBm)	125.893mW (21.00dBm)	107.152mW (20.30dBm)
		Channel Bandwidth 5MHz	141.254mW (21.50dBm)	114.815mW (20.60dBm)	95.499mW (19.80dBm)
		Channel Bandwidth 10MHz	134.896mW (21.30dBm)	112.202mW (20.50dBm)	97.724mW (19.90dBm)
Max. EIRP Power	LTE Band 30	Channel Bandwidth 5MHz	218.776mW (23.40dBm)	194.984mW (22.90dBm)	169.824mW (22.30dBm)
		Channel Bandwidth 10MHz	208.930mW (23.20dBm)	177.828mW (22.50dBm)	162.181mW (22.10dBm)
Emission Designator	WCDMA Band 4		4M15F9W		
			QPSK	16QAM	64QAM
	LTE Band 4	Channel Bandwidth 1.4MHz	1M09G7D	1M09D7W	1M09D7W
		Channel Bandwidth 3MHz	2M70G7D	2M70D7W	2M70D7W
		Channel Bandwidth 5MHz	4M49G7D	4M50D7W	4M50D7W
		Channel Bandwidth 10MHz	8M95G7D	8M96D7W	8M96D7W
		Channel Bandwidth 15MHz	13M4G7D	13M4D7W	13M4D7W
		Channel Bandwidth 20MHz	17M9G7D	17M9D7W	17M9D7W
	LTE Band 12	Channel Bandwidth 1.4MHz	1M09G7D	1M09D7W	1M09D7W
		Channel Bandwidth 3MHz	2M70G7D	2M70D7W	2M70D7W
		Channel Bandwidth 5MHz	4M50G7D	4M49D7W	4M50D7W
		Channel Bandwidth 10MHz	8M97G7D	8M97D7W	8M97D7W
	LTE Band 30	Channel Bandwidth 5MHz	4M49G7D	4M49D7W	4M50D7W
		Channel Bandwidth 10MHz	8M96G7D	8M95D7W	8M97D7W
Antenna Type	WCDMA Band 4	Main Ant.: Monopole antenna with 1.5dBi gain			
	LTE Band 4	Main Ant.: Monopole antenna with 1.5dBi gain			
	LTE Band 12	Main Ant.: Monopole antenna with -2dBi gain			
	LTE Band 30	Main Ant.: Monopole antenna with 1.5dBi gain			
Antenna Connector	NA				
Accessory Device	Refer to Note as below				
Cable Supplied	Refer to Note as below				

Note: The EUT's accessories list refers to Ext. Pho.

### 3.2 Configuration of System under Test



Remote site



#### 3.2.1 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Radio Communication Tester	Anritsu	MT8820C	6201010284	NA	-

Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item A acted as a communication partner to transfer data.

### 3.3 Test Mode Applicability and Tested Channel Detail

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports. The worst case was found when positioned as the table below. Following channel(s) was (were) selected for the final test as listed below:

Band	ERP / EIRP	Radiated Emission
WCDMA Band 4	X-plane	X-plane
LTE Band 4	X-plane	X-plane
LTE Band 12	X-plane	X-plane
LTE Band 30	X-plane	X-plane

Test results are presented in the report as below.

Test Mode	Test Condition
A	Photo camera 1 + Video Camera 1 + eMMC 2(=ROM 2) + RAM 2 + Battery 1
B	Photo camera 2 + Video Camera 2 + eMMC 1(=ROM 1) + RAM 1 + Battery 2

#### WCDMA Band 4 Mode

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Mode
A	Conducted Output Power	1312 to 1513	1312(1712.4MHz), 1413(1732.6MHz), 1513(1752.6MHz)	WCDMA / HSDPA / HSUPA
A	EIRP	1312 to 1513	1312(1712.4MHz), 1413(1732.6MHz), 1513(1752.6MHz)	WCDMA
A	Modulation Characteristics	1312 to 1513	1413(1732.6MHz)	WCDMA
A	Frequency Stability	1312 to 1513	1312(1712.4MHz), 1513(1752.6MHz)	WCDMA
A	Emission Bandwidth	1312 to 1513	1312(1712.4MHz), 1413(1732.6MHz), 1513(1752.6MHz)	WCDMA
A	Band Edge	1312 to 1513	1312(1712.4MHz), 1513(1752.6MHz)	WCDMA
A	Peak To Average Ratio	1312 to 1513	1312(1712.4MHz), 1413(1732.6MHz), 1513(1752.6MHz)	WCDMA
A	Conducted Emission	1312 to 1513	1312(1712.4MHz), 1413(1732.6MHz), 1513(1752.6MHz)	WCDMA
A	Radiated Emission below 1GHz	1312 to 1513	1312(1712.4MHz)	WCDMA
A	Radiated Emission above 1GHz	1312 to 1513	1312(1712.4MHz), 1413(1732.6MHz), 1513(1752.6MHz)	WCDMA

Note: The output power for WCDMA, HSDPA and HSUPA, measured value of WCDMA is higher than HSDPA and HSUPA mode. all test items were performed under WCDMA mode only.

# LTE Band 4

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
A	Conducted Output Power	19957 to 20393	19957(1710.7MHz), 20175(1732.5MHz), 20393(1754.3MHz)	1.4MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		19965 to 20385	19965(1711.5MHz), 20175(1732.5MHz), 20385(1753.5MHz)	3MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		19975 to 20375	19975(1712.5MHz), 20175(1732.5MHz), 20375(1752.5MHz)	5MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		20000 to 20350	20000(1715.0MHz), 20175(1732.5MHz), 20350(1750.0MHz)	10MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		20025 to 20325	20025(1717.5MHz), 20175(1732.5MHz), 20325(1747.5MHz)	15MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		20050 to 20300	20050(1720.0MHz), 20175(1732.5MHz), 20300(1745.0MHz)	20MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
A	EIRP	19957 to 20393	19957(1710.7MHz), 20175(1732.5MHz), 20393(1754.3MHz)	1.4MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		19965 to 20385	19965(1711.5MHz), 20175(1732.5MHz), 20385(1753.5MHz)	3MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		19975 to 20375	19975(1712.5MHz), 20175(1732.5MHz), 20375(1752.5MHz)	5MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		20000 to 20350	20000(1715.0MHz), 20175(1732.5MHz), 20350(1750.0MHz)	10MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		20025 to 20325	20025(1717.5MHz), 20175(1732.5MHz), 20325(1747.5MHz)	15MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		20050 to 20300	20050(1720.0MHz), 20175(1732.5MHz), 20300(1745.0MHz)	20MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
B		20000 to 20350	20350(1750.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset
A	Modulation Characteristics	20050 to 20300	20050(1720.0MHz)	20MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
A	Frequency Stability	19957 to 20393	19957(1710.7MHz), 20393(1754.3MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
		19965 to 20385	19965(1711.5MHz), 20385(1753.5MHz)	3MHz	QPSK	1 RB / 0 RB Offset
		19975 to 20375	19975(1712.5MHz), 20375(1752.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		20000 to 20350	20000(1715.0MHz), 20350(1750.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset
		20025 to 20325	20025(1717.5MHz), 20325(1747.5MHz)	15MHz	QPSK	1 RB / 0 RB Offset
		20050 to 20300	20050(1720.0MHz), 20300(1745.0MHz)	20MHz	QPSK	1 RB / 0 RB Offset

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
A	Emission Bandwidth	19957 to 20393	19957(1710.7MHz), 20175(1732.5MHz), 20393(1754.3MHz)	1.4MHz	QPSK / 16QAM / 64QAM	6 RB / 0 RB Offset
		19965 to 20385	19965(1711.5MHz), 20175(1732.5MHz), 20385(1753.5MHz)	3MHz	QPSK / 16QAM / 64QAM	15 RB / 0 RB Offset
		19975 to 20375	19975(1712.5MHz), 20175(1732.5MHz), 20375(1752.5MHz)	5MHz	QPSK / 16QAM / 64QAM	25 RB / 0 RB Offset
		20000 to 20350	20000(1715.0MHz), 20175(1732.5MHz), 20350(1750.0MHz)	10MHz	QPSK / 16QAM / 64QAM	50 RB / 0 RB Offset
		20025 to 20325	20025(1717.5MHz), 20175(1732.5MHz), 20325(1747.5MHz)	15MHz	QPSK / 16QAM / 64QAM	75 RB / 0 RB Offset
		20050 to 20300	20050(1720.0MHz), 20175(1732.5MHz), 20300(1745.0MHz)	20MHz	QPSK / 16QAM / 64QAM	100 RB / 0 RB Offset
A	Band Edge	19957 to 20393	19957(1710.7MHz), 20393(1754.3MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset 1 RB / 5 RB Offset 6 RB / 0 RB Offset
		19965 to 20385	19965(1711.5MHz), 20385(1753.5MHz)	3MHz	QPSK	1 RB / 0 RB Offset 1 RB / 14 RB Offset 15 RB / 0 RB Offset
		19975 to 20375	19975(1712.5MHz), 20375(1752.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset 1 RB / 24 RB Offset 25 RB / 0 RB Offset
		20000 to 20350	20000(1715.0MHz), 20350(1750.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset 1 RB / 49 RB Offset 50 RB / 0 RB Offset
		20025 to 20325	20025(1717.5MHz), 20325(1747.5MHz)	15MHz	QPSK	1 RB / 0 RB Offset 1 RB / 74 RB Offset 75 RB / 0 RB Offset
		20050 to 20300	20050(1720.0MHz), 20300(1745.0MHz)	20MHz	QPSK	1 RB / 0 RB Offset 1 RB / 99 RB Offset 100 RB / 0 RB Offset
A	Peak To Average Ratio	19957 to 20393	19957(1710.7MHz), 20175(1732.5MHz), 20393(1754.3MHz)	1.4MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		19965 to 20385	19965(1711.5MHz), 20175(1732.5MHz), 20385(1753.5MHz)	3MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		19975 to 20375	19975(1712.5MHz), 20175(1732.5MHz), 20375(1752.5MHz)	5MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		20000 to 20350	20000(1715.0MHz), 20175(1732.5MHz), 20350(1750.0MHz)	10MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		20025 to 20325	20025(1717.5MHz), 20175(1732.5MHz), 20325(1747.5MHz)	15MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		20050 to 20300	20050(1720.0MHz), 20175(1732.5MHz), 20300(1745.0MHz)	20MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
A	Conducted Emission	19957 to 20393	19957(1710.7MHz), 20175(1732.5MHz), 20393(1754.3MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
		19965 to 20385	19965(1711.5MHz), 20175(1732.5MHz), 20385(1753.5MHz)	3MHz	QPSK	1 RB / 0 RB Offset
		19975 to 20375	19975(1712.5MHz), 20175(1732.5MHz), 20375(1752.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		20000 to 20350	20000(1715.0MHz), 20175(1732.5MHz), 20350(1750.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset
		20025 to 20325	20025(1717.5MHz), 20175(1732.5MHz), 20325(1747.5MHz)	15MHz	QPSK	1 RB / 0 RB Offset
		20050 to 20300	20050(1720.0MHz), 20175(1732.5MHz), 20300(1745.0MHz)	20MHz	QPSK	1 RB / 0 RB Offset
A	Radiated Emission below 1GHz	19957 to 20393	19957(1710.7MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
		19965 to 20385	19965(1711.5MHz)	3MHz	QPSK	1 RB / 0 RB Offset
		19975 to 20375	19975(1712.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		20000 to 20350	20000(1715.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset
		20025 to 20325	20025(1717.5MHz)	15MHz	QPSK	1 RB / 0 RB Offset
		20050 to 20300	20050(1720.0MHz)	20MHz	QPSK	1 RB / 0 RB Offset
B		20000 to 20350	20350(1750.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset
A	Radiated Emission above 1GHz	19957 to 20393	19957(1710.7MHz), 20175(1732.5MHz), 20393(1754.3MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
		19965 to 20385	19965(1711.5MHz), 20175(1732.5MHz), 20385(1753.5MHz)	3MHz	QPSK	1 RB / 0 RB Offset
		19975 to 20375	19975(1712.5MHz), 20175(1732.5MHz), 20375(1752.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		20000 to 20350	20000(1715.0MHz), 20175(1732.5MHz), 20350(1750.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset
		20025 to 20325	20025(1717.5MHz), 20175(1732.5MHz), 20325(1747.5MHz)	15MHz	QPSK	1 RB / 0 RB Offset
		20050 to 20300	20050(1720.0MHz), 20175(1732.5MHz), 20300(1745.0MHz)	20MHz	QPSK	1 RB / 0 RB Offset
B		20000 to 20350	20350(1750.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset

Note: The output power for QPSK, 16QAM and 64QAM, measured value of QPSK is higher than 16QAM and 64QAM mode. Therefore, only ERP, Modulation Characteristics, Emission Bandwidth and Peak to Average Ratio had been tested under QPSK, 16QAM and 64QAM modes, the other test items were performed under QPSK mode only.

# LTE Band 12

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
A	Conducted Output Power	23017 to 23173	23017(699.7MHz), 23095(707.5MHz), 23173(715.3MHz)	1.4MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		23025 to 23165	23025(700.5MHz), 23095(707.5MHz), 23165(714.5MHz)	3MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		23035 to 23155	23035(701.5MHz), 23095(707.5MHz), 23155(713.5MHz)	5MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		23060 to 23130	23060(704.0MHz), 23095(707.5 MHz), 23130(711.0 MHz)	10MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
A	ERP	23017 to 23173	23017(699.7MHz), 23095(707.5MHz), 23173(715.3MHz)	1.4MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		23025 to 23165	23025(700.5MHz), 23095(707.5MHz), 23165(714.5MHz)	3MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		23035 to 23155	23035(701.5MHz), 23095(707.5MHz), 23155(713.5MHz)	5MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		23060 to 23130	23060(704.0MHz), 23095(707.5 MHz), 23130(711.0 MHz)	10MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
A	Modulation Characteristics	23060 to 23130	23095(707.5MHz)	5MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
A	Frequency Stability	23017 to 23173	23017(699.7MHz), 23173(715.3MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
		23025 to 23165	23025(700.5MHz), 23165(714.5MHz)	3MHz	QPSK	1 RB / 0 RB Offset
		23035 to 23155	23035(701.5MHz), 23155(713.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		23060 to 23130	23060(704.0MHz), 23130(711.0 MHz)	10MHz	QPSK	1 RB / 0 RB Offset
A	Emission Bandwidth	23017 to 23173	23017(699.7MHz), 23095(707.5MHz), 23173(715.3MHz)	1.4MHz	QPSK / 16QAM / 64QAM	6 RB / 0 RB Offset
		23025 to 23165	23025(700.5MHz), 23095(707.5MHz), 23165(714.5MHz)	3MHz	QPSK / 16QAM / 64QAM	15 RB / 0 RB Offset
		23035 to 23155	23035(701.5MHz), 23095(707.5MHz), 23155(713.5MHz)	5MHz	QPSK / 16QAM / 64QAM	25 RB / 0 RB Offset
		23060 to 23130	23060(704.0MHz), 23095(707.5MHz), 23130(711.0MHz)	10MHz	QPSK / 16QAM / 64QAM	50 RB / 0 RB Offset
A	Band Edge	23017 to 23173	23017(699.7MHz), 23173(715.3MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset 1 RB / 5 RB Offset 6 RB / 0 RB Offset
		23025 to 23165	23025(700.5MHz), 23165(714.5MHz)	3MHz	QPSK	1 RB / 0 RB Offset 1 RB / 14 RB Offset 15 RB / 0 RB Offset
		23035 to 23155	23035(701.5MHz), 23155(713.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset 1 RB / 24 RB Offset 25 RB / 0 RB Offset
		23060 to 23130	23060(704.0MHz), 23130(711.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset 1 RB / 49 RB Offset 50 RB / 0 RB Offset

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
A	Peak to Average Ratio	23017 to 23173	23017(699.7MHz), 23095(707.5MHz), 23173(715.3MHz)	1.4MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		23025 to 23165	23025(700.5MHz), 23095(707.5MHz), 23165(714.5MHz)	3MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		23035 to 23155	23035(701.5MHz), 23095(707.5MHz), 23155(713.5MHz)	5MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		23060 to 23130	23060(704.0MHz), 23095(707.5MHz), 23130(711.0MHz)	10MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
A	Conducted Emission	23017 to 23173	23017(699.7MHz), 23095(707.5MHz), 23173(715.3MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
		23025 to 23165	23025(700.5MHz), 23095(707.5MHz), 23165(714.5MHz)	3MHz	QPSK	1 RB / 0 RB Offset
		23035 to 23155	23035(701.5MHz), 23095(707.5MHz), 23155(713.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		23060 to 23130	23060(704.0MHz), 23095(707.5MHz), 23130(711.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset
A	Radiated Emission below 1GHz	23017 to 23173	23017(699.7MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
		23025 to 23165	23025(700.5MHz)	3MHz	QPSK	1 RB / 0 RB Offset
		23035 to 23155	23035(701.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		23060 to 23130	23060(704.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset
A	Radiated Emission above 1GHz	23017 to 23173	23017(699.7MHz), 23095(707.5MHz), 23173(715.3MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
		23025 to 23165	23025(700.5MHz), 23095(707.5MHz), 23165(714.5MHz)	3MHz	QPSK	1 RB / 0 RB Offset
		23035 to 23155	23035(701.5MHz), 23095(707.5MHz), 23155(713.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		23060 to 23130	23060(704.0MHz), 23095(707.5MHz), 23130(711.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset

Note: The output power for QPSK, 16QAM and 64QAM, measured value of QPSK is higher than 16QAM and 64QAM mode. Therefore, only ERP, Modulation Characteristics, Emission Bandwidth and Peak to Average Ratio had been tested under QPSK, 16QAM and 64QAM modes, the other test items were performed under QPSK mode only.



# LTE Band 30

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
A	Conducted Output Power	27685 to 27735	27685(2307.5MHz), 27710(2310.0MHz), 27735(2312.5MHz)	5MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		27710	27710(2310.0MHz)	10MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
A	EIRP	27685 to 27735	27685(2307.5MHz), 27710(2310.0MHz), 27735(2312.5MHz)	5MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		27710	27710(2310.0MHz)	10MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
B		27685 to 27735	27685(2307.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
A	Modulation Characteristics	27685 to 27735	27710(2310.0MHz)	5MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
A	Frequency Stability	27685 to 27735	27685(2307.5MHz), 27735(2312.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		27710	27710(2310.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset
A	Emission Bandwidth	27685 to 27735	27685(2307.5MHz), 27710(2310.0MHz), 27735(2312.5MHz)	5MHz	QPSK / 16QAM / 64QAM	25 RB / 0 RB Offset
		27710	27710(2310.0MHz)	10MHz	QPSK / 16QAM / 64QAM	50 RB / 0 RB Offset
A	Band Edge	27685 to 27735	27685(2307.5MHz), 27710(2310.0MHz), 27735(2312.5MHz)	5MHz	QPSK / 16QAM / 64QAM	25 RB / 0 RB Offset
		27710	27710(2310.0MHz)	10MHz	QPSK / 16QAM / 64QAM	50 RB / 0 RB Offset
A	Conducted Emission	27685 to 27735	27685(2307.5MHz), 27710(2310.0MHz), 27735(2312.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		27710	27710(2310.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset
A	Radiated Emission below 1GHz	27685 to 27735	27685(2307.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		27710	27710(2310.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset
B		27685 to 27735	27685(2307.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
A	Radiated Emission above 1GHz	27685 to 27735	27685(2307.5MHz), 27710(2310.0MHz), 27735(2312.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		27710	27710(2310.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset
B		27685 to 27735	27685(2307.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset

Note: The output power for QPSK, 16QAM and 64QAM, measured value of QPSK is higher than 16QAM and 64QAM mode. Therefore, only EIRP, Modulation Characteristics, Emission Bandwidth and Band Edge had been tested under QPSK, 16QAM and 64QAM modes, the other test items were performed under QPSK mode only.

### **Test Condition:**

Test Item	Environmental Conditions	Input Power	Tested By
EIRP / ERP	25deg. C, 66%RH 24deg. C, 67%RH 24deg. C, 66%RH	120Vac, 60Hz	Han Wu Greg Lin
Modulation characteristics	24deg. C, 64%RH	120Vac, 60Hz	Wayne Lin
Frequency Stability	24deg. C, 64%RH	120Vac, 60Hz	Wayne Lin
Occupied Bandwidth	24deg. C, 64%RH	120Vac, 60Hz	Wayne Lin
Band Edge	24deg. C, 64%RH	120Vac, 60Hz	Wayne Lin
Peak To Average Ratio	24deg. C, 64%RH	120Vac, 60Hz	Wayne Lin
Conducted Emission	24deg. C, 64%RH	120Vac, 60Hz	Wayne Lin
Radiated Emission	25deg. C, 66%RH 24deg. C, 67%RH	120Vac, 60Hz	Han Wu Greg Lin

### **3.4 EUT Operating Conditions**

The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency

### **3.5 General Description of Applied Standards**

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

**FCC 47 CFR Part 2**

**FCC 47 CFR Part 27**

**KDB 971168 D01 Power Meas License Digital Systems v03r01**

**ANSI/TIA/EIA-603-E 2016**

**ANSI 63.26-2015**

Note: All test items have been performed and recorded as per the above standards.

## 4 Test Types and Results

### 4.1 Output Power Measurement

#### 4.1.1 Limits of Output Power Measurement

Mobile / Portable station are limited to 1 watts e.i.r.p for WCDMA, LTE Band 4 and 3 watts e.r.p for LTE Band 12.

For LTE Band 30, Mobile and portable stations. (i) For mobile and portable stations transmitting in the 2305-2315 MHz band or the 2350-2360 MHz band, the average EIRP must not exceed 50 milliwatts within any 1 megahertz of authorized bandwidth, except that for mobile and portable stations compliant with 3GPP LTE standards or another advanced mobile broadband protocol that avoids concentrating energy at the edge of the operating band the average EIRP must not exceed 250 milliwatts within any 5 megahertz of authorized bandwidth but may exceed 50 milliwatts within any 1 megahertz of authorized bandwidth. For mobile and portable stations using time division duplexing (TDD) technology, the duty cycle must not exceed 38 percent in the 2305-2315 MHz and 2350-2360 MHz bands. Mobile and portable stations using FDD technology are restricted to transmitting in the 2305-2315 MHz band. Power averaging shall not include intervals in which the transmitter is off.

#### 4.1.2 Test Procedures

##### EIRP / ERP Measurement:

- a. All measurements were done at low, middle and high operational frequency range. RWB and VBW is 5MHz for WCDMA mode and 5MHz for LTE Mode.
- b. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m(below or equal 1GHz) and/or 1.5m(above 1GHz) height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- c. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value" of step b. Record the power level of S.G
- d.  $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}$ . E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole,  $E.R.P \text{ power} = E.I.R.P \text{ power} - 2.15\text{dBi}$ .

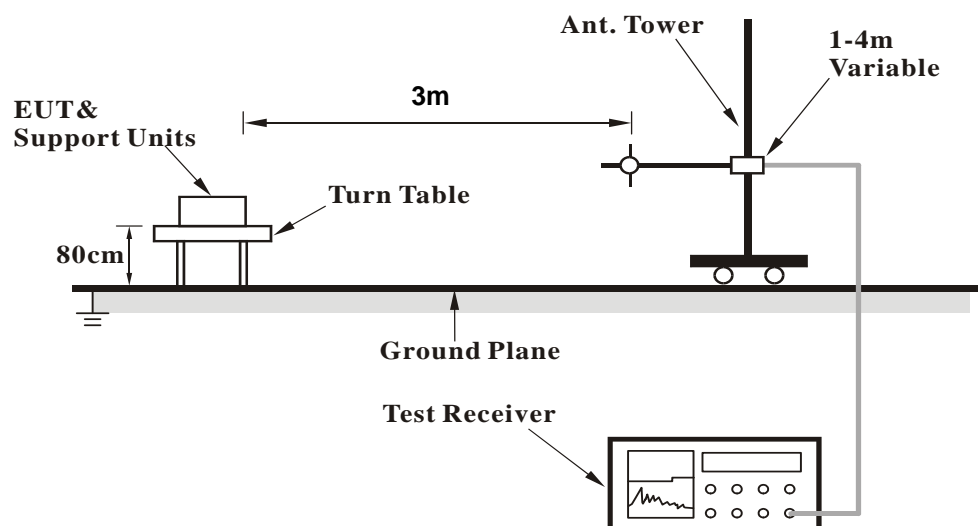
##### Conducted Power Measurement:

A power sensor was used on the output port of the EUT. A power meter was used to read the response of the power sensor. Record the power level.

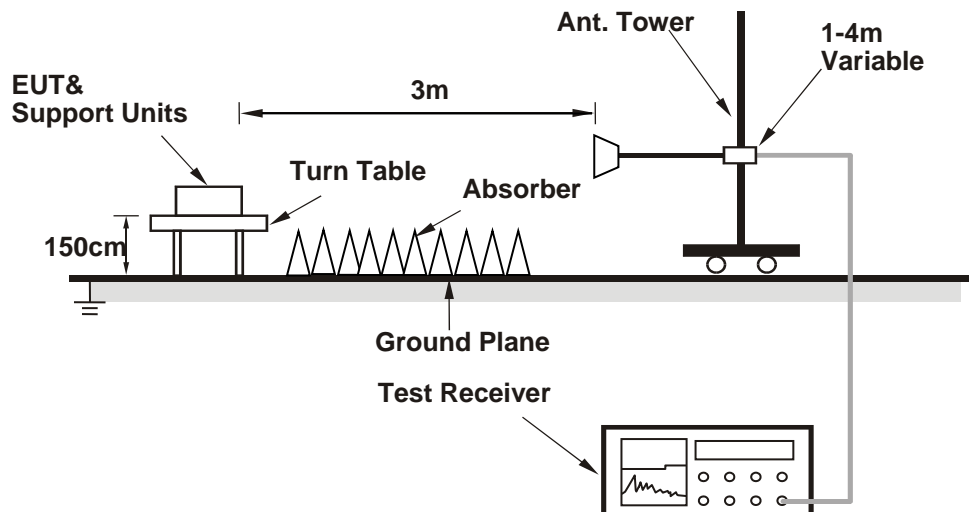
#### 4.1.3 Test Setup

EIRP / ERP MEASUREMENT:

For Radiated Emission below or equal 1GHz

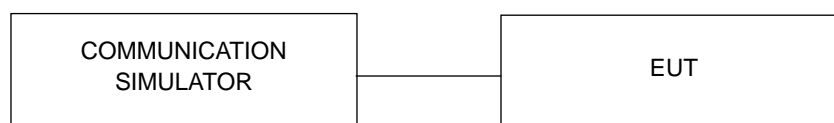


For Radiated Emission above 1GHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

CONDUCTED POWER MEASUREMENT:



For the actual test configuration, please refer to the attached file (Test Setup Photo).

#### 4.1.4 Test Results

Conducted Output Power (dBm)

Band	WCDMA IV		
TX Channel	1312	1413	1513
Rx Channel	1537	1638	1738
Frequency (MHz)	1712.4	1732.6	1752.6
RMC 12.2K	24.58	24.69	24.66
HSDPA Subtest-1	23.66	23.73	23.70
HSDPA Subtest-2	23.57	23.64	23.61
HSDPA Subtest-3	23.09	23.16	23.13
HSDPA Subtest-4	23.06	23.13	23.10
DC-HSDPA Subtest-1	23.54	23.61	23.58
DC-HSDPA Subtest-2	23.52	23.59	23.56
DC-HSDPA Subtest-3	23.04	23.11	23.08
DC-HSDPA Subtest-4	23.01	23.08	23.05
HSUPA Subtest-1	23.89	23.96	23.93
HSUPA Subtest-2	22.72	22.79	22.76
HSUPA Subtest-3	22.51	22.56	22.53
HSUPA Subtest-4	22.67	22.74	22.71
HSUPA Subtest-5	23.75	23.82	23.79

LTE Band 4						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		19957	20175	20393
		Frequency (MHz)		1710.7	1732.5	1754.3
1.4M	QPSK	1	0	23.70	23.90	23.82
		1	2	23.81	23.80	23.65
		1	5	23.68	23.78	23.70
		3	0	23.74	23.88	23.64
		3	1	23.70	23.86	23.60
		3	3	23.70	23.68	23.58
		6	0	22.41	22.56	22.45
	16QAM	1	0	22.76	22.73	22.63
		1	2	22.71	22.68	22.73
		1	5	22.68	22.78	22.58
		3	0	22.87	22.77	22.75
		3	1	22.67	22.74	22.72
		3	3	22.66	22.84	22.67
		6	0	21.48	21.43	21.38
	64QAM	1	0	21.66	21.78	21.68
		1	2	21.73	21.91	21.66
		1	5	21.67	21.68	21.62
		3	0	21.69	21.67	21.76
		3	1	21.70	21.72	21.54
		3	3	21.73	21.78	21.67
		6	0	20.44	20.56	20.37

LTE Band 4						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		19965	20175	20385
		Frequency (MHz)		1711.5	1732.5	1753.5
3M	QPSK	1	0	23.87	23.92	23.76
		1	7	23.80	23.85	23.66
		1	14	23.65	23.82	23.66
		8	0	22.76	22.79	22.65
		8	3	22.77	22.83	22.76
		8	7	22.75	22.80	22.69
		15	0	22.55	22.62	22.58
	16QAM	1	0	22.63	22.79	22.77
		1	7	22.80	22.77	22.57
		1	14	22.65	22.67	22.54
		8	0	21.64	21.77	21.72
		8	3	21.66	21.62	21.75
		8	7	21.54	21.66	21.64
		15	0	21.55	21.50	21.34
	64QAM	1	0	21.77	21.74	21.67
		1	7	21.66	21.75	21.63
		1	14	21.74	21.67	21.53
		8	0	20.73	20.78	20.66
		8	3	20.69	20.78	20.63
		8	7	20.51	20.75	20.65
		15	0	20.47	20.61	20.36

LTE Band 4						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		19975	20175	20375
		Frequency (MHz)		1712.5	1732.5	1752.5
5M	QPSK	1	0	23.77	23.81	23.64
		1	12	23.80	23.89	23.76
		1	24	23.68	23.76	23.59
		12	0	22.82	22.79	22.62
		12	6	22.80	22.87	22.59
		12	13	22.64	22.67	22.56
		25	0	22.63	22.57	22.31
	16QAM	1	0	22.71	22.74	22.74
		1	12	22.66	22.84	22.72
		1	24	22.69	22.76	22.57
		12	0	21.75	21.74	21.63
		12	6	21.67	21.71	21.72
		12	13	21.73	21.70	21.61
		25	0	21.46	21.60	21.35
	64QAM	1	0	21.64	21.75	21.67
		1	12	21.61	21.78	21.67
		1	24	21.57	21.80	21.60
		12	0	20.68	20.62	20.64
		12	6	20.65	20.73	20.61
		12	13	20.63	20.83	20.68
		25	0	20.46	20.44	20.37



LTE Band 4						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20000	20175	20350
		Frequency (MHz)		1715	1732.5	1750
10M	QPSK	1	0	23.78	23.84	23.74
		1	24	23.79	23.85	23.71
		1	49	23.68	23.75	23.69
		25	0	22.86	22.78	22.63
		25	12	22.81	22.82	22.66
		25	25	22.62	22.75	22.73
		50	0	22.57	22.49	22.49
	16QAM	1	0	22.78	22.80	22.62
		1	24	22.75	22.81	22.75
		1	49	22.64	22.66	22.60
		25	0	21.63	21.77	21.68
		25	12	21.64	21.76	21.71
		25	25	21.66	21.62	21.58
		50	0	21.52	21.54	21.51
	64QAM	1	0	21.74	21.77	21.71
		1	24	21.74	21.73	21.69
		1	49	21.73	21.66	21.51
		25	0	20.83	20.78	20.56
		25	12	20.73	20.71	20.66
		25	25	20.65	20.77	20.59
		50	0	20.54	20.59	20.46

LTE Band 4						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20025	20175	20325
		Frequency (MHz)		1717.5	1732.5	1747.5
15M	QPSK	1	0	23.85	23.89	23.84
		1	37	23.90	23.88	23.85
		1	74	23.77	23.80	23.75
		36	0	22.85	22.86	22.77
		36	19	22.86	22.90	22.76
		36	39	22.80	22.80	22.70
		75	0	22.56	22.63	22.53
	16QAM	1	0	22.81	22.87	22.79
		1	37	22.80	22.83	22.76
		1	74	22.76	22.78	22.69
		36	0	21.75	21.80	21.77
		36	19	21.76	21.74	21.72
		36	39	21.74	21.74	21.72
		75	0	21.59	21.57	21.43
	64QAM	1	0	21.83	21.85	21.80
		1	37	21.83	21.81	21.78
		1	74	21.72	21.84	21.69
		36	0	20.86	20.79	20.73
		36	19	20.76	20.77	20.72
		36	39	20.67	20.84	20.67
		75	0	20.64	20.61	20.44

LTE Band 4						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20050	20175	20300
		Frequency (MHz)		1720	1732.5	1745
20M	QPSK	1	0	23.91	23.95	23.86
		1	50	23.90	23.94	23.85
		1	99	23.84	23.88	23.79
		50	0	22.89	22.93	22.84
		50	25	22.87	22.91	22.82
		50	50	22.82	22.86	22.77
		100	0	22.65	22.69	22.60
	16QAM	1	0	22.86	22.86	22.80
		1	50	22.90	22.91	22.83
		1	99	22.78	22.83	22.79
		50	0	21.85	21.87	21.79
		50	25	21.81	21.87	21.76
		50	50	21.80	21.78	21.69
		100	0	21.65	21.65	21.56
	64QAM	1	0	21.89	21.94	21.86
		1	50	21.89	21.84	21.81
		1	99	21.78	21.80	21.77
		50	0	20.89	20.91	20.74
		50	25	20.84	20.81	20.77
		50	50	20.77	20.81	20.71
		100	0	20.55	20.63	20.52

LTE Band 12						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		23017	23095	23173
		Frequency (MHz)		699.7	707.5	715.3
1.4M	QPSK	1	0	23.96	23.88	23.96
		1	2	24.28	24.21	24.23
		1	5	23.94	23.94	23.96
		3	0	23.93	23.97	24.09
		3	1	24.02	23.97	24.19
		3	3	24.08	24.08	24.08
		6	0	23.03	22.98	23.10
	16QAM	1	0	22.81	22.73	22.85
		1	2	23.15	23.15	23.26
		1	5	22.83	22.69	22.99
		3	0	22.99	22.98	23.01
		3	1	22.89	23.05	23.07
		3	3	22.93	23.04	23.20
		6	0	21.78	21.87	22.01
	64QAM	1	0	21.72	21.67	21.80
		1	2	22.15	22.14	22.17
		1	5	21.96	21.81	22.04
		3	0	22.02	21.82	22.05
		3	1	22.07	22.04	22.07
		3	3	22.06	22.07	22.06
		6	0	20.80	20.71	20.96

LTE Band 12						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		23025	23095	23165
		Frequency (MHz)		700.5	707.5	714.5
3M	QPSK	1	0	23.85	23.78	23.88
		1	7	24.25	24.06	24.23
		1	14	23.85	23.85	23.97
		8	0	23.00	22.92	23.12
		8	3	23.09	23.00	23.17
		8	7	23.03	23.08	23.12
		15	0	22.97	22.86	23.03
	16QAM	1	0	22.87	22.85	22.92
		1	7	23.07	23.12	23.11
		1	14	22.99	22.86	22.95
		8	0	22.01	21.93	22.07
		8	3	22.12	22.01	22.13
		8	7	21.93	22.00	22.02
		15	0	21.87	21.77	22.04
	64QAM	1	0	21.79	21.77	21.94
		1	7	22.02	22.16	22.18
		1	14	21.90	21.83	22.00
		8	0	20.84	20.89	21.00
		8	3	21.06	20.90	21.11
		8	7	21.02	21.05	21.12
		15	0	20.92	20.80	21.01

LTE Band 12						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		23035	23095	23155
		Frequency (MHz)		701.5	707.5	713.5
5M	QPSK	1	0	23.96	23.87	23.97
		1	12	24.21	24.23	24.34
		1	24	24.03	23.96	24.02
		12	0	23.08	23.08	23.17
		12	6	23.14	23.08	23.24
		12	13	23.09	23.05	23.20
		25	0	23.02	22.93	23.03
	16QAM	1	0	22.89	22.92	22.95
		1	12	23.20	23.19	23.26
		1	24	22.94	22.93	23.04
		12	0	22.09	21.90	22.14
		12	6	22.04	22.04	22.17
		12	13	22.16	22.03	22.12
		25	0	21.96	21.86	22.00
	64QAM	1	0	21.94	21.90	21.91
		1	12	22.27	22.15	22.29
		1	24	22.02	21.89	22.06
		12	0	20.99	20.90	21.19
		12	6	21.16	21.07	21.11
		12	13	21.04	21.02	21.13
		25	0	21.01	20.87	20.98

LTE Band 12						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		23060	23095	23130
		Frequency (MHz)		704	707.5	711
10M	QPSK	1	0	23.99	23.94	24.06
		1	24	24.31	24.26	24.38
		1	49	24.04	23.99	24.11
		25	0	23.13	23.08	23.20
		25	12	23.22	23.17	23.29
		25	25	23.19	23.14	23.26
		50	0	23.06	23.01	23.13
	16QAM	1	0	22.90	22.90	22.99
		1	24	23.22	23.16	23.38
		1	49	23.01	22.99	23.05
		25	0	22.10	22.05	22.10
		25	12	22.17	22.14	22.20
		25	25	22.19	22.14	22.23
		50	0	22.04	21.95	22.07
	64QAM	1	0	21.98	21.84	22.00
		1	24	22.23	22.22	22.36
		1	49	21.95	21.99	22.07
		25	0	21.08	21.01	21.15
		25	12	21.16	21.09	21.27
		25	25	21.15	21.04	21.17
		50	0	20.97	20.98	21.13

LTE Band 30						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		27685	27710	27735
		Frequency (MHz)		2307.5	2310	2312.5
5M	QPSK	1	0	23.29	23.35	23.31
		1	12	23.26	23.32	23.28
		1	24	23.24	23.30	23.26
		12	0	22.20	22.26	22.22
		12	6	22.18	22.24	22.20
		12	13	22.06	22.12	22.08
		25	0	22.12	22.18	22.14
	16QAM	1	0	22.24	22.30	22.26
		1	12	22.21	22.27	22.23
		1	24	22.19	22.25	22.21
		12	0	21.15	21.21	21.17
		12	6	21.13	21.19	21.15
		12	13	21.01	21.07	21.03
		25	0	21.07	21.13	21.09
	64QAM	1	0	21.26	21.32	21.28
		1	12	21.23	21.29	21.25
		1	24	21.21	21.27	21.23
		12	0	20.17	20.23	20.19
		12	6	20.15	20.21	20.17
		12	13	20.03	20.09	20.05
		25	0	20.09	20.15	20.11



LTE Band 30				
BW	MCS Index	RB Size	RB Offset	Mid
		Channel		27710
		Frequency (MHz)		2310
10M	QPSK	1	0	23.38
		1	24	23.35
		1	49	23.33
		25	0	22.29
		25	12	22.27
		25	25	22.15
		50	0	22.21
	16QAM	1	0	22.33
		1	24	22.30
		1	49	22.28
		25	0	21.24
		25	12	21.22
		25	25	21.10
		50	0	21.16
	64QAM	1	0	21.35
		1	24	21.32
		1	49	21.30
		25	0	20.26
		25	12	20.24
		25	25	20.12
		50	0	20.18

EIRP / ERP Power (dBm)

Test Mode A

WCDMA Band 4 Mode

MODE		TX channel 1312					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1712.40	-12.30	25.70	0.70	26.40	30.00	-3.60
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1712.40	-17.90	19.90	0.70	20.60	30.00	-9.40

MODE		TX channel 1413					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.60	-12.10	26.30	0.60	26.90	30.00	-3.10
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.60	-17.80	20.60	0.60	21.20	30.00	-8.80

MODE		TX channel 1513					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1752.60	-12.10	26.70	0.50	<b>27.20</b>	30.00	-2.80
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1752.60	-17.70	21.10	0.50	21.60	30.00	-8.40

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

### Modulation Type: QPSK

LTE Band 4

Channel Bandwidth: 1.4MHz

MODE		TX channel 19957					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1710.70	-13.30	24.70	0.70	25.40	30.00	-4.60
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1710.70	-21.90	15.90	0.70	16.60	30.00	-13.40

MODE		TX channel 20175					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-13.10	25.30	0.60	25.90	30.00	-4.10
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-21.50	16.80	0.60	17.40	30.00	-12.60

MODE		TX channel 20393					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1754.30	-13.10	25.70	0.50	<b>26.20</b>	30.00	-3.80
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1754.30	-21.70	17.20	0.50	17.70	30.00	-12.30

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 3MHz

MODE		TX channel 19965					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1711.50	-13.50	24.50	0.70	25.20	30.00	-4.80
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1711.50	-21.90	15.90	0.70	16.60	30.00	-13.40

MODE		TX channel 20175					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-13.40	25.00	0.60	25.60	30.00	-4.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-21.80	16.50	0.60	17.10	30.00	-12.90

MODE		TX channel 20385					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1753.50	-13.50	25.30	0.50	25.80	30.00	-4.20
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1753.50	-22.00	16.90	0.50	17.40	30.00	-12.60

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 5MHz

MODE		TX channel 19975					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1712.50	-14.20	23.90	0.70	24.60	30.00	-5.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1712.50	-22.50	15.40	0.70	16.10	30.00	-13.90

MODE		TX channel 20175					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-13.40	25.00	0.60	25.60	30.00	-4.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-21.80	16.50	0.60	17.10	30.00	-12.90

MODE		TX channel 20375					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1752.50	-13.30	25.50	0.50	26.00	30.00	-4.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1752.50	-21.60	17.20	0.50	17.70	30.00	-12.30

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 10MHz

MODE		TX channel 20000					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1715.00	-14.10	24.00	0.70	24.70	30.00	-5.30
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1715.00	-22.30	15.60	0.70	16.30	30.00	-13.70

MODE		TX channel 20175					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-13.50	24.90	0.60	25.50	30.00	-4.50
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-21.80	16.50	0.60	17.10	30.00	-12.90

MODE		TX channel 20350					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1750.00	-13.10	25.70	0.50	26.20	30.00	-3.80
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1750.00	-21.50	17.30	0.50	17.80	30.00	-12.20

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 15MHz

MODE		TX channel 20025					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1717.50	-14.20	23.90	0.70	24.60	30.00	-5.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1717.50	-22.70	15.30	0.70	16.00	30.00	-14.00

MODE		TX channel 20175					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-13.20	25.20	0.60	25.80	30.00	-4.20
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-21.60	16.70	0.60	17.30	30.00	-12.70

MODE		TX channel 20325					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1747.50	-13.10	25.60	0.50	<b>26.10</b>	30.00	-3.90
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1747.50	-21.40	17.30	0.50	17.80	30.00	-12.20

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 20MHz

MODE		TX channel 20050					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1720.00	-14.10	24.10	0.70	24.80	30.00	-5.20
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1720.00	-22.50	15.50	0.70	16.20	30.00	-13.80

MODE		TX channel 20175					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-13.00	25.40	0.60	<b>26.00</b>	30.00	-4.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-21.40	16.90	0.60	17.50	30.00	-12.50

MODE		TX channel 20300					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1745.00	-13.20	25.50	0.50	<b>26.00</b>	30.00	-4.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1745.00	-21.70	17.00	0.50	17.50	30.00	-12.50

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).



LTE Band 12

Channel Bandwidth: 1.4MHz

MODE		TX channel 23017					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	699.70	-7.10	17.40	3.50	20.90	34.80	-13.90
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm))	Limit (dBm)	Margin (dB)
1	699.70	-11.50	16.00	3.50	19.50	34.80	-15.30

MODE		TX channel 23095					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	707.50	-6.90	17.80	3.50	21.30	34.80	-13.50
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	707.50	-11.20	16.50	3.50	20.00	34.80	-14.80

MODE		TX channel 23173					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	715.30	-7.30	17.70	3.50	21.20	34.80	-13.60
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	715.30	-11.30	16.30	3.50	19.80	34.80	-15.00

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 3MHz

MODE		TX channel 23025					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	700.50	-7.10	17.40	3.50	20.90	34.80	-13.90
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	700.50	-11.00	16.60	3.50	20.10	34.80	-14.70

MODE		TX channel 23095					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	707.50	-6.90	17.90	3.50	21.40	34.80	-13.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	707.50	-10.90	16.80	3.50	20.30	34.80	-14.50

MODE		TX channel 23165					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	714.50	-6.90	18.10	3.50	21.60	34.80	-13.20
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	714.50	-11.40	16.20	3.50	19.70	34.80	-15.10

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 5MHz

MODE		TX channel 23035					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	701.50	-7.20	17.40	3.40	20.80	34.80	-14.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	701.50	-11.30	16.40	3.40	19.80	34.80	-15.00

MODE		TX channel 23095					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	707.50	-6.90	17.80	3.50	21.30	34.80	-13.50
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	707.50	-11.20	16.50	3.50	20.00	34.80	-14.80

MODE		TX channel 23155					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	713.50	-7.00	18.00	3.50	21.50	34.80	-13.30
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	713.50	-11.60	16.20	3.50	19.70	34.80	-15.10

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 10MHz

MODE		TX channel 23060					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	704.00	-7.30	17.40	3.50	20.90	34.80	-13.90
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	704.00	-11.10	16.50	3.50	20.00	34.80	-14.80

MODE		TX channel 23095					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	707.50	-7.10	17.60	3.50	21.10	34.80	-13.70
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	707.50	-10.90	16.90	3.50	20.40	34.80	-14.40

MODE		TX channel 23130					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	711.00	-7.20	17.80	3.50	21.30	34.80	-13.50
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	711.00	-10.90	16.70	3.50	20.20	34.80	-14.60

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

LTE Band 30

Channel Bandwidth: 5MHz

MODE		TX channel 27685					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2307.50	-17.90	23.50	-0.10	<b>23.40</b>	23.90	-0.50
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2307.50	-24.60	18.50	-0.10	18.40	23.90	-5.50

MODE		TX channel 27710					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2310.00	-18.20	23.20	-0.10	23.10	23.90	-0.80
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2310.00	-25.40	17.70	-0.10	17.60	23.90	-6.30

MODE		TX channel 27735					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2312.50	-18.30	23.10	-0.10	23.00	23.90	-0.90
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2312.50	-25.50	17.60	-0.10	17.50	23.90	-6.40

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 10MHz

MODE		TX channel 27710					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2310.00	-18.10	23.30	-0.10	23.20	23.90	-0.70
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2310.00	-25.20	17.90	-0.10	17.80	23.90	-6.10

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

### Modulation Type: 16QAM

LTE Band 4

Channel Bandwidth: 1.4MHz

MODE		TX channel 19957					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1710.70	-14.10	23.90	0.70	24.60	30.00	-5.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1710.70	-22.70	15.10	0.70	15.80	30.00	-14.20

MODE		TX channel 20175					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-14.00	24.40	0.60	25.00	30.00	-5.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-22.40	15.90	0.60	16.50	30.00	-13.50

MODE		TX channel 20393					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1754.30	-14.20	24.60	0.50	<b>25.10</b>	30.00	-4.90
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1754.30	-22.70	16.20	0.50	16.70	30.00	-13.30

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 3MHz

MODE		TX channel 19965					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1711.50	-14.30	23.70	0.70	24.40	30.00	-5.60
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1711.50	-23.00	14.80	0.70	15.50	30.00	-14.50

MODE		TX channel 20175					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-14.30	24.10	0.60	24.70	30.00	-5.30
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-22.70	15.60	0.60	16.20	30.00	-13.80

MODE		TX channel 20385					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1753.50	-14.50	24.30	0.50	24.80	30.00	-5.20
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1753.50	-22.90	16.00	0.50	16.50	30.00	-13.50

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).



Channel Bandwidth: 5MHz

MODE		TX channel 19975					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1712.50	-15.00	23.10	0.70	23.80	30.00	-6.20
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1712.50	-23.40	14.50	0.70	15.20	30.00	-14.80

MODE		TX channel 20175					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-14.40	24.00	0.60	24.60	30.00	-5.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-22.70	15.60	0.60	16.20	30.00	-13.80

MODE		TX channel 20375					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1752.50	-14.10	24.70	0.50	25.20	30.00	-4.80
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1752.50	-22.40	16.40	0.50	16.90	30.00	-13.10

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 10MHz

MODE		TX channel 20000					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1715.00	-14.90	23.20	0.70	23.90	30.00	-6.10
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1715.00	-23.10	14.80	0.70	15.50	30.00	-14.50

MODE		TX channel 20175					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-14.30	24.10	0.60	24.70	30.00	-5.30
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-22.70	15.60	0.60	16.20	30.00	-13.80

MODE		TX channel 20350					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1750.00	-14.10	24.70	0.50	<b>25.20</b>	30.00	-4.80
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1750.00	-22.50	16.30	0.50	16.80	30.00	-13.20

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 15MHz

MODE		TX channel 20025					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1717.50	-15.00	23.10	0.70	23.80	30.00	-6.20
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1717.50	-23.60	14.40	0.70	15.10	30.00	-14.90

MODE		TX channel 20175					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-13.90	24.50	0.60	<b>25.10</b>	30.00	-4.90
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-22.40	15.90	0.60	16.50	30.00	-13.50

MODE		TX channel 20325					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1747.50	-14.20	24.50	0.50	25.00	30.00	-5.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1747.50	-22.40	16.30	0.50	16.80	30.00	-13.20

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 20MHz

MODE		TX channel 20050					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1720.00	-14.90	23.30	0.70	24.00	30.00	-6.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1720.00	-23.20	14.80	0.70	15.50	30.00	-14.50

MODE		TX channel 20175					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-14.20	24.20	0.60	24.80	30.00	-5.20
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-22.50	15.80	0.60	16.40	30.00	-13.60

MODE		TX channel 20300					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1745.00	-14.20	24.50	0.50	25.00	30.00	-5.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1745.00	-22.70	16.00	0.50	16.50	30.00	-13.50

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

LTE Band 12

Channel Bandwidth: 1.4MHz

MODE		TX channel 23017					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	699.70	-7.80	16.70	3.50	20.20	34.80	-14.60
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm))	Limit (dBm)	Margin (dB)
1	699.70	-12.30	15.20	3.50	18.70	34.80	-16.10

MODE		TX channel 23095					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	707.50	-7.60	17.10	3.50	20.60	34.80	-14.20
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	707.50	-12.10	15.60	3.50	19.10	34.80	-15.70

MODE		TX channel 23173					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	715.30	-8.00	17.00	3.50	20.50	34.80	-14.30
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	715.30	-11.90	15.70	3.50	19.20	34.80	-15.60

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 3MHz

MODE		TX channel 23025					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	700.50	-7.80	16.70	3.50	20.20	34.80	-14.60
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	700.50	-11.80	15.80	3.50	19.30	34.80	-15.50

MODE		TX channel 23095					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	707.50	-7.90	16.90	3.50	20.40	34.80	-14.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	707.50	-11.90	15.90	3.50	19.40	34.80	-15.40

MODE		TX channel 23165					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	714.50	-7.50	17.50	3.50	21.00	34.80	-13.80
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	714.50	-12.10	15.50	3.50	19.00	34.80	-15.80

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 5MHz

MODE		TX channel 23035					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	701.50	-7.90	16.70	3.40	20.10	34.80	-14.70
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	701.50	-12.00	15.70	3.40	19.10	34.80	-15.70

MODE		TX channel 23095					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	707.50	-7.80	17.00	3.50	20.50	34.80	-14.30
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	707.50	-11.90	15.90	3.50	19.40	34.80	-15.40

MODE		TX channel 23155					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	713.50	-7.90	17.10	3.50	20.60	34.80	-14.20
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	713.50	-12.40	15.40	3.50	18.90	34.80	-15.90

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 10MHz

MODE		TX channel 23060					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	704.00	-8.10	16.60	3.50	20.10	34.80	-14.70
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	704.00	-11.90	15.70	3.50	19.20	34.80	-15.60

MODE		TX channel 23095					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	707.50	-7.80	17.00	3.50	20.50	34.80	-14.30
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	707.50	-11.60	16.10	3.50	19.60	34.80	-15.20

MODE		TX channel 23130					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	711.00	-8.00	17.00	3.50	20.50	34.80	-14.30
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	711.00	-11.70	15.90	3.50	19.40	34.80	-15.40

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).



LTE Band 30

Channel Bandwidth: 5MHz

MODE		TX channel 27685					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2307.50	-18.50	22.90	-0.10	22.80	23.90	-1.10
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2307.50	-25.80	17.30	-0.10	17.20	23.90	-6.70

MODE		TX channel 27710					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2310.00	-18.50	22.90	-0.10	22.80	23.90	-1.10
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2310.00	-25.70	17.40	-0.10	17.30	23.90	-6.60

MODE		TX channel 27735					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2312.50	-18.40	23.00	-0.10	<b>22.90</b>	23.90	-1.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2312.50	-25.80	17.30	-0.10	17.20	23.90	-6.70

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 10MHz

MODE		TX channel 27710					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2310.00	-18.80	22.60	-0.10	22.50	23.90	-1.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2310.00	-26.00	17.10	-0.10	17.00	23.90	-6.90

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

# Modulation Type: 64QAM

LTE Band 4

Channel Bandwidth: 1.4MHz

MODE		TX channel 19957					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1710.70	-14.70	23.30	0.70	24.00	30.00	-6.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1710.70	-23.30	14.50	0.70	15.20	30.00	-14.80

MODE		TX channel 20175					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-14.50	23.90	0.60	24.50	30.00	-5.50
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-22.90	15.40	0.60	16.00	30.00	-14.00

MODE		TX channel 20393					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1754.30	-14.90	23.90	0.50	24.40	30.00	-5.60
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1754.30	-23.40	15.50	0.50	16.00	30.00	-14.00

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 3MHz

MODE		TX channel 19965					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1711.50	-15.10	22.90	0.70	23.60	30.00	-6.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1711.50	-23.80	14.00	0.70	14.70	30.00	-15.30

MODE		TX channel 20175					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-14.80	23.60	0.60	24.20	30.00	-5.80
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-23.30	15.00	0.60	15.60	30.00	-14.40

MODE		TX channel 20385					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1753.50	-15.20	23.60	0.50	24.10	30.00	-5.90
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1753.50	-23.50	15.40	0.50	15.90	30.00	-14.10

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 5MHz

MODE		TX channel 19975					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1712.50	-15.50	22.60	0.70	23.30	30.00	-6.70
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1712.50	-24.00	13.90	0.70	14.60	30.00	-15.40

MODE		TX channel 20175					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-15.10	23.30	0.60	23.90	30.00	-6.10
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-23.50	14.80	0.60	15.40	30.00	-14.60

MODE		TX channel 20375					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1752.50	-14.70	24.10	0.50	<b>24.60</b>	30.00	-5.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1752.50	-23.00	15.80	0.50	16.30	30.00	-13.70

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 10MHz

MODE		TX channel 20000					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1715.00	-15.60	22.50	0.70	23.20	30.00	-6.80
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1715.00	-23.80	14.10	0.70	14.80	30.00	-15.20

MODE		TX channel 20175					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-15.00	23.40	0.60	24.00	30.00	-6.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-23.40	14.90	0.60	15.50	30.00	-14.50

MODE		TX channel 20350					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1750.00	-14.90	23.90	0.50	24.40	30.00	-5.60
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1750.00	-23.30	15.50	0.50	16.00	30.00	-14.00

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 15MHz

MODE		TX channel 20025					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1717.50	-15.60	22.50	0.70	23.20	30.00	-6.80
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1717.50	-24.30	13.70	0.70	14.40	30.00	-15.60

MODE		TX channel 20175					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-14.40	24.00	0.60	<b>24.60</b>	30.00	-5.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-23.00	15.30	0.60	15.90	30.00	-14.10

MODE		TX channel 20325					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1747.50	-14.90	23.80	0.50	24.30	30.00	-5.70
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1747.50	-23.20	15.50	0.50	16.00	30.00	-14.00

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 20MHz

MODE		TX channel 20050					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1720.00	-15.50	22.70	0.70	23.40	30.00	-6.60
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1720.00	-23.90	14.10	0.70	14.80	30.00	-15.20

MODE		TX channel 20175					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-14.70	23.70	0.60	24.30	30.00	-5.70
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.50	-23.20	15.10	0.60	15.70	30.00	-14.30

MODE		TX channel 20300					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1745.00	-14.80	23.90	0.50	24.40	30.00	-5.60
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1745.00	-23.30	15.40	0.50	15.90	30.00	-14.10

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).



LTE Band 12

Channel Bandwidth: 1.4MHz

MODE		TX channel 23017					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	699.70	-8.60	15.90	3.50	19.40	34.80	-15.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm))	Limit (dBm)	Margin (dB)
1	699.70	-13.10	14.40	3.50	17.90	34.80	-16.90

MODE		TX channel 23095					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	707.50	-8.40	16.40	3.50	19.90	34.80	-14.90
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	707.50	-12.90	14.90	3.50	18.40	34.80	-16.40

MODE		TX channel 23173					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	715.30	-8.50	16.50	3.50	20.00	34.80	-14.80
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	715.30	-12.50	15.10	3.50	18.60	34.80	-16.20

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 3MHz

MODE		TX channel 23025					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	700.50	-8.40	16.10	3.50	19.60	34.80	-15.20
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	700.50	-12.60	15.00	3.50	18.50	34.80	-16.30

MODE		TX channel 23095					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	707.50	-8.60	16.10	3.50	19.60	34.80	-15.20
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	707.50	-12.60	15.10	3.50	18.60	34.80	-16.20

MODE		TX channel 23165					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	714.50	-8.20	16.80	3.50	20.30	34.80	-14.50
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	714.50	-12.80	14.80	3.50	18.30	34.80	-16.50

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 5MHz

MODE		TX channel 23035					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	701.50	-8.40	16.20	3.40	19.60	34.80	-15.20
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	701.50	-12.70	15.00	3.40	18.40	34.80	-16.40

MODE		TX channel 23095					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	707.50	-8.60	16.10	3.50	19.60	34.80	-15.20
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	707.50	-12.60	15.10	3.50	18.60	34.80	-16.20

MODE		TX channel 23155					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	713.50	-8.70	16.30	3.50	19.80	34.80	-15.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	713.50	-13.10	14.60	3.50	18.10	34.80	-16.70

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 10MHz

MODE		TX channel 23060					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	704.00	-8.80	15.90	3.50	19.40	34.80	-15.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	704.00	-12.80	14.80	3.50	18.30	34.80	-16.50

MODE		TX channel 23095					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	707.50	-8.60	16.20	3.50	19.70	34.80	-15.10
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	707.50	-12.10	15.60	3.50	19.10	34.80	-15.70

MODE		TX channel 23130					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	711.00	-8.60	16.40	3.50	19.90	34.80	-14.90
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	711.00	-12.30	15.30	3.50	18.80	34.80	-16.00

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

LTE Band 30

Channel Bandwidth: 5MHz

MODE		TX channel 27685					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2307.50	-19.10	22.30	-0.10	22.20	23.90	-1.70
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2307.50	-26.50	16.60	-0.10	16.50	23.90	-7.40

MODE		TX channel 27710					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2310.00	-19.00	22.40	-0.10	22.30	23.90	-1.60
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2310.00	-26.50	16.60	-0.10	16.50	23.90	-7.40

MODE		TX channel 27735					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2312.50	-19.20	22.20	-0.10	22.10	23.90	-1.80
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2312.50	-26.40	16.70	-0.10	16.60	23.90	-7.30

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Channel Bandwidth: 10MHz

MODE		TX channel 27710					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2310.00	-19.20	22.20	-0.10	22.10	23.90	-1.80
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2310.00	-26.30	16.80	-0.10	16.70	23.90	-7.20

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

## Test Mode B

LTE Band 4

Channel Bandwidth: 10MHz

MODE		TX channel 20350					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1750.00	-13.30	25.50	0.50	26.00	30.00	-4.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1750.00	-21.90	16.90	0.50	17.40	30.00	-12.60

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

LTE Band 30

Channel Bandwidth: 5MHz

MODE		TX channel 27685					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2307.50	-17.90	23.50	-0.10	23.40	23.90	-0.50
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	2307.50	-25.00	18.10	-0.10	18.00	23.90	-5.90

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

## 4.2 Modulation Characteristics Measurement

### 4.2.1 Limits of Modulation Characteristics

N/A

### 4.2.2 Test Procedure

Connect the EUT to Communication Simulator via the antenna connector, the frequency band is set as EUT supported Modulation and Channels, the EUT output is matched with 50 ohm load, the waveform quality and constellation of the EUT was tested.

### 4.2.3 Test Setup



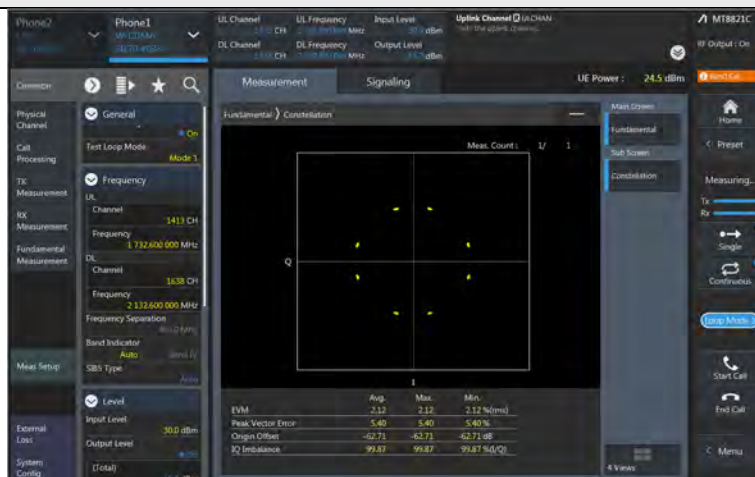


#### 4.2.4 Test Results

##### Spectrum Plot of Measurement Value

Channel: 1413 / Frequency (MHz): 1732.6MHz

WCDMA

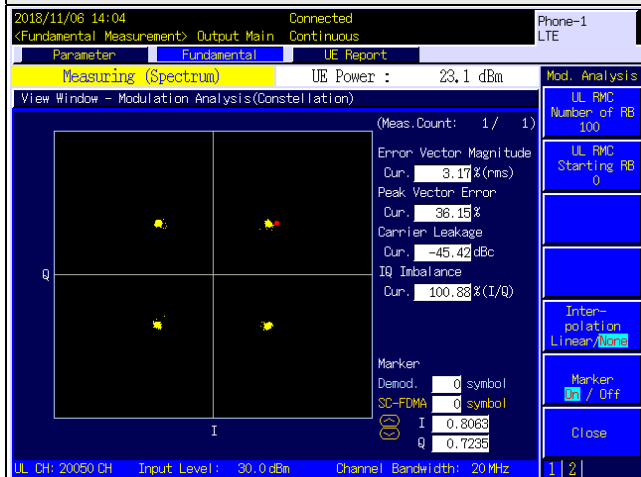


# LTE Band 4

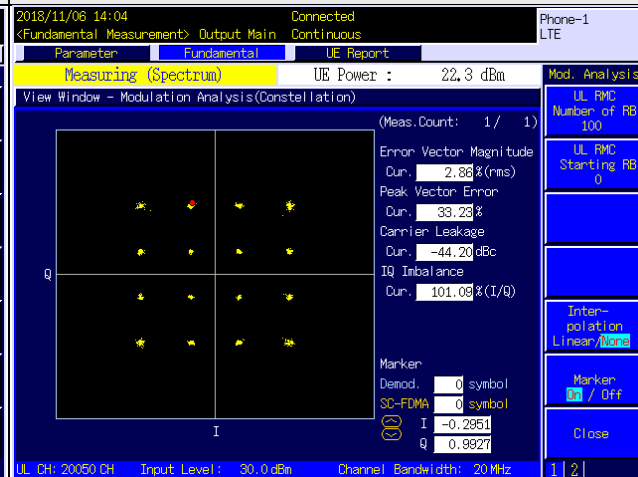
## Spectrum Plot of Measurement Value

Channel: 20050 / Frequency (MHz): 1720.0MHz

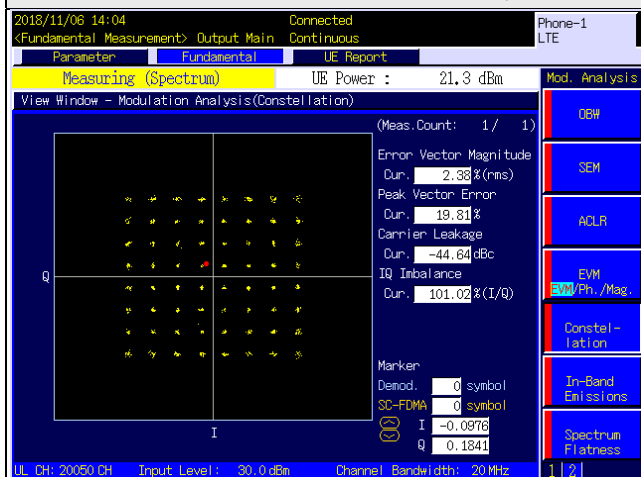
Channel Bandwidth: 20MHz / QPSK



Channel Bandwidth: 20MHz / 16QAM



Channel Bandwidth: 20MHz / 64QAM

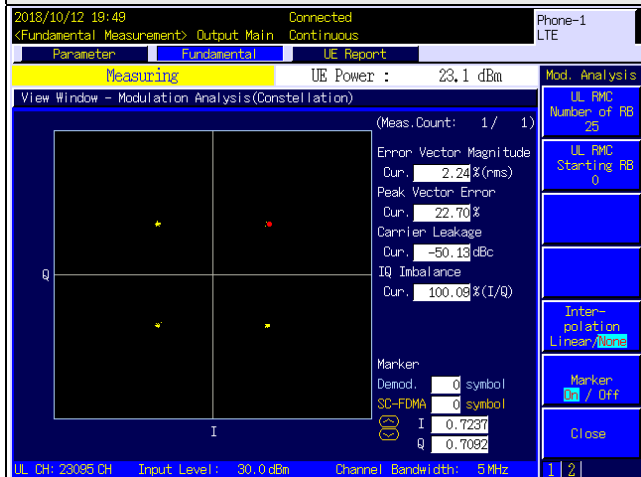


## LTE Band 12

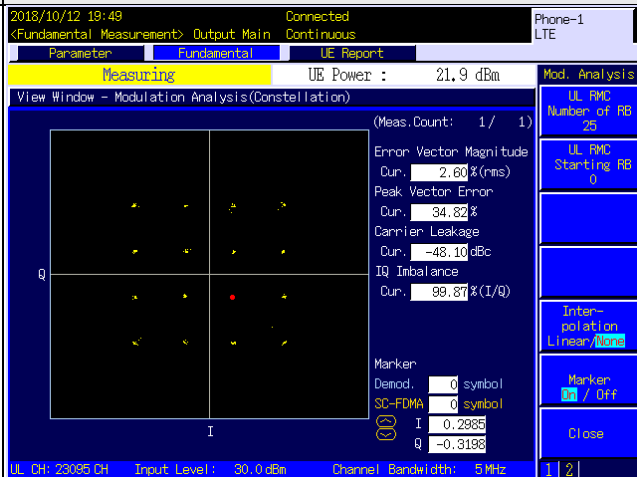
### Spectrum Plot of Measurement Value

Channel: 23095 / Frequency (MHz): 707.5 MHz

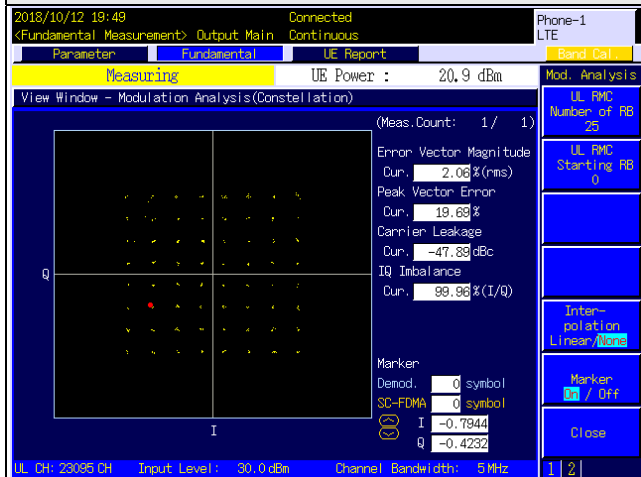
Channel Bandwidth: 5MHz / QPSK



Channel Bandwidth: 5MHz / 16QAM



Channel Bandwidth: 5MHz / 64QAM

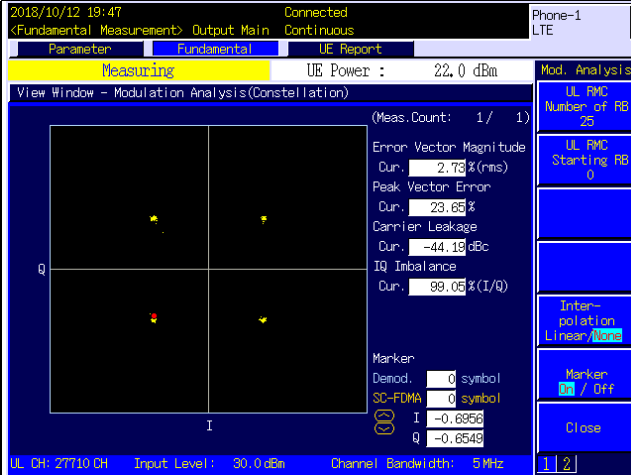


# LTE Band 30

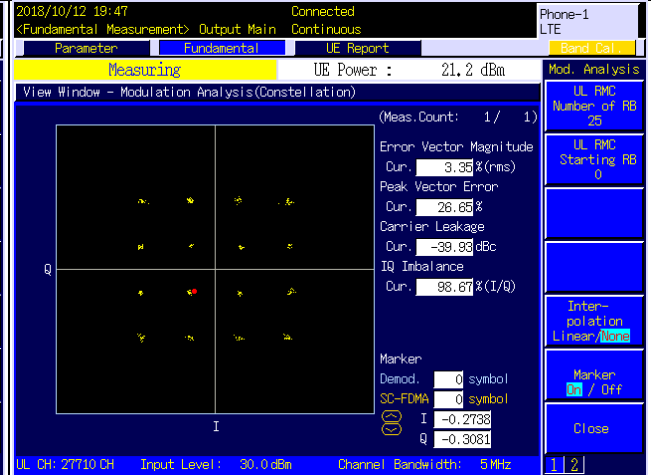
## Spectrum Plot of Measurement Value

Channel: 27710 / Frequency (MHz): 2310.0 MHz

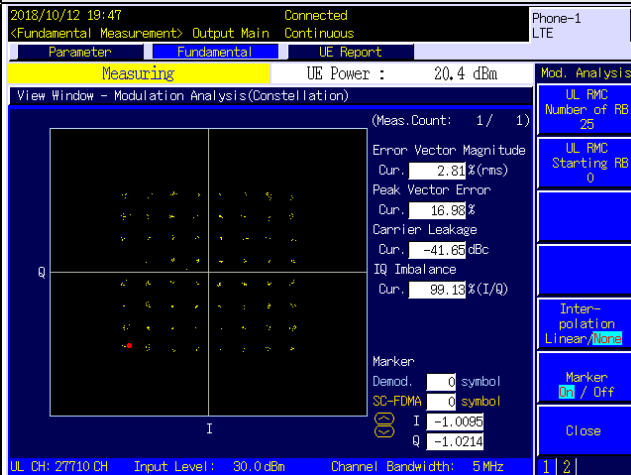
Channel Bandwidth: 5MHz / QPSK



Channel Bandwidth: 5MHz / 16QAM



Channel Bandwidth: 5MHz / 64QAM



### 4.3 Frequency Stability Measurement

#### 4.3.1 Limits of Frequency Stability Measurement

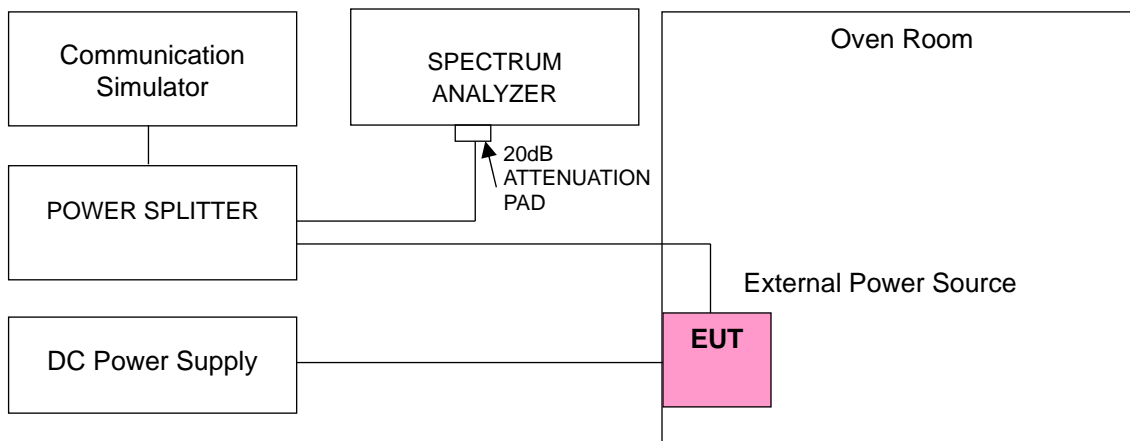
According to the FCC part 2.1055 shall be tested the frequency stability. The rule is defined that "The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block." The test extreme voltage is according to the 2.1055(d)(1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment and the extreme temperature rule is comply with specification of EUT  $-30^{\circ}\text{C} \sim 50^{\circ}\text{C}$ .

#### 4.3.2 Test Procedure

- Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.
- EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.
- The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the  $\pm 0.5^{\circ}\text{C}$  during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

Note: The frequency error was recorded frequency error from the communication simulator.

#### 4.3.3 Test Setup



#### 4.3.4 Test Results

##### Frequency Error vs. Voltage

Voltage (Volts)	WCDMA Band 4			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.85	1712.400003	0.002	1752.600002	0.001
3.27	1712.400003	0.002	1752.600002	0.001
4.42	1712.400003	0.002	1752.600002	0.001

Note: The applicant defined the normal working voltage is from 3.27Vdc to 4.42Vdc.

##### Frequency Error vs. Temperature

Temp. (°C)	WCDMA Band 4			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	1712.400001	0.001	1752.600003	0.002
-20	1712.400004	0.002	1752.600001	0.001
-10	1712.400001	0.001	1752.600003	0.002
0	1712.400002	0.001	1752.600002	0.001
10	1712.400002	0.001	1752.600003	0.001
20	1712.399999	-0.001	1752.599998	-0.001
30	1712.399997	-0.002	1752.599998	-0.001
40	1712.399997	-0.002	1752.599998	-0.001
50	1712.399998	-0.001	1752.599999	-0.001

### Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 4			
	Channel Bandwidth: 1.4 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.85	1710.700002	0.001	1754.300001	0.001
3.27	1710.700003	0.002	1754.300003	0.002
4.42	1710.700002	0.001	1754.300003	0.002

Note: The applicant defined the normal working voltage is from 3.27Vdc to 4.42Vdc.

### Frequency Error vs. Temperature

Temp. (°C)	LTE Band 4			
	Channel Bandwidth: 1.4 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	1710.700003	0.002	1754.300001	0.001
-20	1710.700002	0.001	1754.300003	0.002
-10	1710.700001	0.001	1754.300004	0.002
0	1710.700002	0.001	1754.300001	0.001
10	1710.700002	0.001	1754.300003	0.002
20	1710.699996	-0.002	1754.299997	-0.002
30	1710.699997	-0.002	1754.299998	-0.001
40	1710.699999	-0.001	1754.299999	-0.001
50	1710.699996	-0.002	1754.299998	-0.001

### Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 4			
	Channel Bandwidth: 3 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.85	1711.500002	0.001	1753.500004	0.002
3.27	1711.500004	0.002	1753.500004	0.002
4.42	1711.500002	0.001	1753.500003	0.002

Note: The applicant defined the normal working voltage is from 3.27Vdc to 4.42Vdc.

### Frequency Error vs. Temperature

Temp. (°C)	LTE Band 4			
	Channel Bandwidth: 3 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	1711.500003	0.002	1753.500004	0.002
-20	1711.500003	0.002	1753.500001	0.001
-10	1711.500003	0.002	1753.500003	0.002
0	1711.500002	0.001	1753.500002	0.001
10	1711.500003	0.002	1753.500001	0.001
20	1711.499999	-0.001	1753.499998	-0.001
30	1711.499996	-0.002	1753.499997	-0.002
40	1711.499998	-0.001	1753.499998	-0.001
50	1711.499997	-0.002	1753.499996	-0.002



### Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 4			
	Channel Bandwidth: 5 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.85	1712.500002	0.001	1752.500003	0.002
3.27	1712.500003	0.002	1752.500001	0.001
4.42	1712.500003	0.002	1752.500002	0.001

Note: The applicant defined the normal working voltage is from 3.27Vdc to 4.42Vdc.

### Frequency Error vs. Temperature

Temp. (°C)	LTE Band 4			
	Channel Bandwidth: 5 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	1712.500001	0.001	1752.500004	0.002
-20	1712.500003	0.001	1752.500004	0.002
-10	1712.500004	0.002	1752.500003	0.002
0	1712.500004	0.002	1752.500002	0.001
10	1712.500003	0.002	1752.500003	0.002
20	1712.499999	-0.001	1752.499998	-0.001
30	1712.499997	-0.002	1752.499996	-0.002
40	1712.499997	-0.002	1752.499998	-0.001
50	1712.499999	-0.001	1752.499997	-0.002

### Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 4			
	Channel Bandwidth: 10 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.85	1715.000003	0.002	1750.000002	0.001
3.27	1715.000002	0.001	1750.000002	0.001
4.42	1715.000001	0.001	1750.000004	0.002

Note: The applicant defined the normal working voltage is from 3.27Vdc to 4.42Vdc.

### Frequency Error vs. Temperature

Temp. (°C)	LTE Band 4			
	Channel Bandwidth: 10 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	1715.000004	0.002	1750.000002	0.001
-20	1715.000002	0.001	1750.000002	0.001
-10	1715.000002	0.001	1750.000002	0.001
0	1715.000002	0.001	1750.000002	0.001
10	1715.000001	0.001	1750.000002	0.001
20	1714.999996	-0.002	1749.999999	-0.001
30	1714.999998	-0.001	1749.999999	-0.001
40	1714.999997	-0.002	1749.999999	-0.001
50	1714.999999	-0.001	1749.999999	-0.001

### Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 4			
	Channel Bandwidth: 15 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.85	1717.500002	0.001	1747.500001	0.001
3.27	1717.500001	0.001	1747.500001	0.001
4.42	1717.500001	0.001	1747.500002	0.001

Note: The applicant defined the normal working voltage is from 3.27Vdc to 4.42Vdc.

### Frequency Error vs. Temperature

Temp. (°C)	LTE Band 4			
	Channel Bandwidth: 15 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	1717.500002	0.001	1747.500003	0.002
-20	1717.500001	0.001	1747.500003	0.002
-10	1717.500003	0.002	1747.500002	0.001
0	1717.500003	0.002	1747.500003	0.002
10	1717.500002	0.001	1747.500003	0.002
20	1717.499998	-0.001	1747.499997	-0.002
30	1717.499999	-0.001	1747.499997	-0.002
40	1717.499998	-0.001	1747.499998	-0.001
50	1717.499996	-0.002	1747.499999	-0.001

### Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 4			
	Channel Bandwidth: 20 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.85	1720.000003	0.002	1745.000001	0.001
3.27	1720.000001	0.001	1745.000003	0.001
4.42	1720.000001	0.001	1745.000003	0.002

Note: The applicant defined the normal working voltage is from 3.27Vdc to 4.42Vdc.

### Frequency Error vs. Temperature

Temp. (°C)	LTE Band 4			
	Channel Bandwidth: 20 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	1720.000003	0.002	1745.000004	0.002
-20	1720.000004	0.002	1745.000002	0.001
-10	1720.000003	0.002	1745.000004	0.002
0	1720.000002	0.001	1745.000003	0.001
10	1720.000004	0.002	1745.000001	0.001
20	1719.999999	-0.001	1744.999997	-0.002
30	1719.999996	-0.002	1744.999997	-0.002
40	1719.999998	-0.001	1744.999998	-0.001
50	1719.999999	-0.001	1744.999999	-0.001

### Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 12			
	Channel Bandwidth: 1.4 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.85	699.700003	0.005	715.300004	0.005
3.27	699.700004	0.005	715.300002	0.003
4.42	699.700001	0.002	715.300002	0.002

Note: The applicant defined the normal working voltage is from 3.27Vdc to 4.42Vdc.

### Frequency Error vs. Temperature

Temp. (°C)	LTE Band 12			
	Channel Bandwidth: 1.4 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	699.700003	0.004	715.300003	0.004
-20	699.700002	0.003	715.300004	0.006
-10	699.700002	0.003	715.300002	0.003
0	699.700003	0.004	715.300002	0.003
10	699.700002	0.003	715.300003	0.004
20	699.699997	-0.004	715.299996	-0.006
30	699.699998	-0.004	715.299999	-0.002
40	699.699997	-0.004	715.299997	-0.004
50	699.699998	-0.002	715.299996	-0.005

#### Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 12			
	Channel Bandwidth: 3 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.85	700.500002	0.003	714.500004	0.005
3.27	700.500003	0.004	714.500003	0.004
4.42	700.500003	0.004	714.500002	0.003

Note: The applicant defined the normal working voltage is from 3.27Vdc to 4.42Vdc.

#### Frequency Error vs. Temperature

Temp. (°C)	LTE Band 12			
	Channel Bandwidth: 3 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	700.500001	0.001	714.500002	0.003
-20	700.500002	0.003	714.500004	0.005
-10	700.500004	0.005	714.500002	0.003
0	700.500004	0.005	714.500002	0.002
10	700.500002	0.003	714.500002	0.002
20	700.499997	-0.004	714.499997	-0.005
30	700.499997	-0.004	714.499998	-0.002
40	700.499999	-0.002	714.499997	-0.005
50	700.499998	-0.003	714.499997	-0.004

### Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 12			
	Channel Bandwidth: 5 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.85	701.500001	0.002	713.500003	0.004
3.27	701.500001	0.001	713.500003	0.004
4.42	701.500001	0.002	713.500001	0.002

Note: The applicant defined the normal working voltage is from 3.27Vdc to 4.42Vdc.

### Frequency Error vs. Temperature

Temp. (°C)	LTE Band 12			
	Channel Bandwidth: 5 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	701.500003	0.005	713.500003	0.004
-20	701.500002	0.003	713.500001	0.002
-10	701.500004	0.005	713.500001	0.002
0	701.500003	0.004	713.500004	0.005
10	701.500002	0.003	713.500002	0.003
20	701.499997	-0.005	713.499999	-0.002
30	701.499996	-0.006	713.499996	-0.005
40	701.499999	-0.002	713.499996	-0.005
50	701.499997	-0.004	713.499998	-0.003

### Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 12			
	Channel Bandwidth: 10 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.85	704.000004	0.005	711.000003	0.004
3.27	704.000003	0.005	711.000003	0.004
4.42	704.000002	0.003	711.000003	0.004

Note: The applicant defined the normal working voltage is from 3.27Vdc to 4.42Vdc.

### Frequency Error vs. Temperature

Temp. (°C)	LTE Band 12			
	Channel Bandwidth: 10 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	704.000004	0.005	711.000001	0.002
-20	704.000001	0.002	711.000004	0.006
-10	704.000004	0.006	711.000001	0.002
0	704.000002	0.003	711.000002	0.002
10	704.000002	0.003	711.000003	0.004
20	703.999998	-0.004	710.999999	-0.002
30	703.999998	-0.003	710.999997	-0.005
40	703.999998	-0.002	710.999996	-0.006
50	703.999998	-0.003	710.999997	-0.004



### Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 30			
	Channel Bandwidth: 5 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.85	2307.500002	0.001	2312.500003	0.001
3.27	2307.500003	0.001	2312.500002	0.001
4.42	2307.500004	0.002	2312.500003	0.001

Note: The applicant defined the normal working voltage is from 3.27Vdc to 4.42Vdc.

### Frequency Error vs. Temperature

Temp. (°C)	LTE Band 30			
	Channel Bandwidth: 5 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	2307.500002	0.001	2312.500003	0.001
-20	2307.500004	0.002	2312.500003	0.001
-10	2307.500002	0.001	2312.500004	0.002
0	2307.500002	0.001	2312.500003	0.001
10	2307.500001	0.001	2312.500001	0.001
20	2307.499999	-0.001	2312.499996	-0.002
30	2307.499999	0.000	2312.499998	-0.001
40	2307.499997	-0.001	2312.499999	-0.001
50	2307.499997	-0.002	2312.499996	-0.002

#### Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 30	
	Channel Bandwidth: 10 MHz	
	Frequency (MHz)	Frequency Error (ppm)
3.85	2310.000002	0.001
3.27	2310.000004	0.002
4.42	2310.000001	0.000

Note: The applicant defined the normal working voltage is from 3.27Vdc to 4.42Vdc.

#### Frequency Error vs. Temperature

Temp. (°C)	LTE Band 30	
	Channel Bandwidth: 10 MHz	
	Frequency (MHz)	Frequency Error (ppm)
-30	2310.000003	0.001
-20	2310.000001	0.001
-10	2310.000004	0.002
0	2310.000003	0.001
10	2310.000001	0.001
20	2309.999999	-0.001
30	2309.999999	0.000
40	2309.999999	-0.001
50	2309.999997	-0.001

## 4.4 Emission Bandwidth Measurement

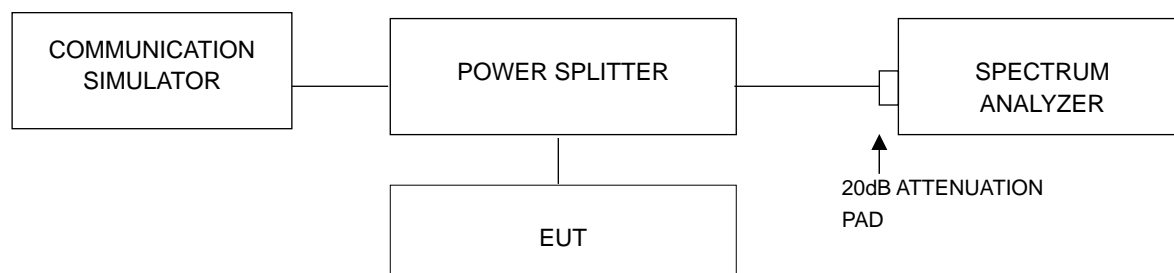
### 4.4.1 Limits of Emission Bandwidth Measurement

According to FCC 27.53(m)(6) specified that emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26dB below the transmitter power.

### 4.4.2 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with RBW = 30kHz and VBW = 100kHz (Channel Bandwidth: 1.4MHz), RBW = 51kHz and VBW = 150kHz (Channel Bandwidth: 3MHz and 5MHz), RBW = 100kHz and VBW = 300kHz (Channel Bandwidth: 10MHz), RBW = 200kHz and VBW = 620kHz (Channel Bandwidth: 15MHz) and RBW = 430kHz and VBW = 1.2MHz (Channel Bandwidth: 20MHz). The 26dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 26dB.

### 4.4.3 Test Setup



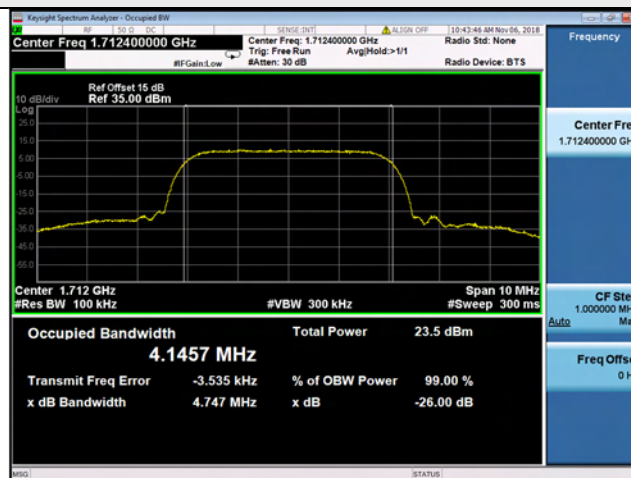
#### 4.4.4 Test Result

##### WCDMA Band 4

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	Occupied Bandwidth (MHz)
		WCDMA	WCDMA
1312	1712.4	4.75	4.15
1413	1732.6	4.71	4.14
1513	1752.6	4.69	4.14

##### Spectrum Plot of Worst Value

##### WCDMA



## LTE Band 4

Channel Bandwidth: 1.4MHz							
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
19957	1710.7	1.28	1.28	1.26	1.09	1.09	1.09
20175	1732.5	1.26	1.25	1.27	1.09	1.09	1.09
20393	1754.3	1.26	1.25	1.26	1.09	1.09	1.09
Channel Bandwidth: 3MHz							
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
19965	1711.5	2.95	2.94	2.91	2.70	2.70	2.70
20175	1732.5	2.92	2.93	2.91	2.70	2.70	2.70
20385	1753.5	2.93	2.93	2.91	2.70	2.70	2.70
Channel Bandwidth: 5MHz							
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
19975	1712.5	4.85	4.85	4.85	4.49	4.50	4.50
20175	1732.5	4.83	4.83	4.86	4.49	4.49	4.50
20375	1752.5	4.83	4.82	4.85	4.49	4.49	4.50
Channel Bandwidth: 10MHz							
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
20000	1715.0	9.51	9.51	9.51	8.95	8.95	8.95
20175	1732.5	9.50	9.52	9.53	8.95	8.96	8.96
20350	1750.0	9.50	9.49	9.53	8.95	8.95	8.95
Channel Bandwidth: 15MHz							
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
20025	1717.5	14.22	14.24	14.23	13.44	13.42	13.42
20175	1732.5	14.26	14.24	14.24	13.44	13.43	13.43
20325	1747.5	14.21	14.20	14.22	13.41	13.40	13.40
Channel Bandwidth: 20MHz							
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
20050	1720.0	19.03	19.02	19.02	17.90	17.93	17.92
20175	1732.5	19.01	19.02	19.01	17.90	17.91	17.91
20300	1745.0	18.98	19.00	18.99	17.84	17.86	17.85

## 26dBc Bandwidth

### Spectrum Plot of Worst Value

#### 1.4MHz / QPSK



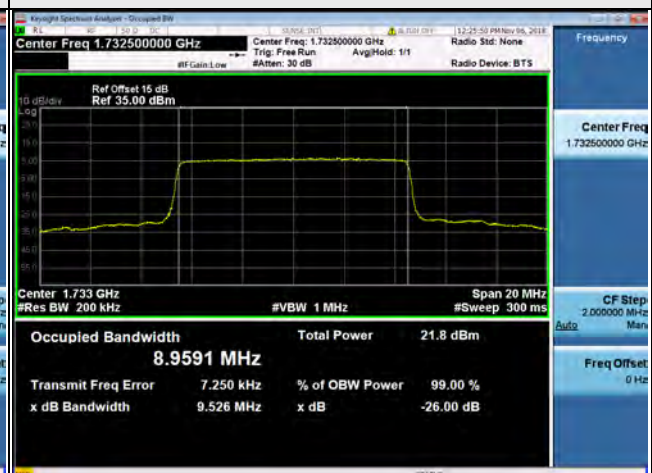
#### 3MHz / QPSK



#### 5MHz / 64QAM



#### 10MHz / 64QAM



#### 15MHz / QPSK



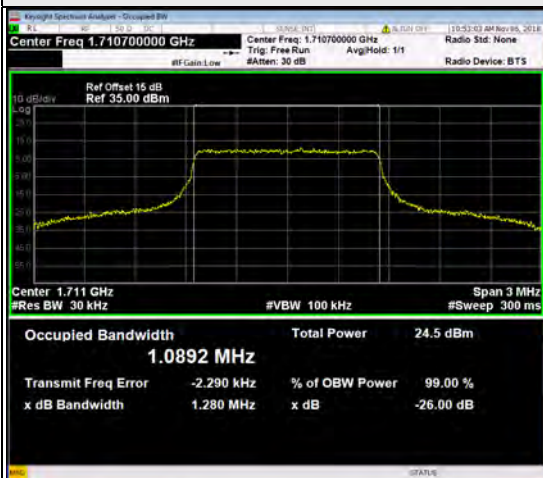
#### 20MHz / QPSK





## Occupied Bandwidth Spectrum Plot of Worst Value

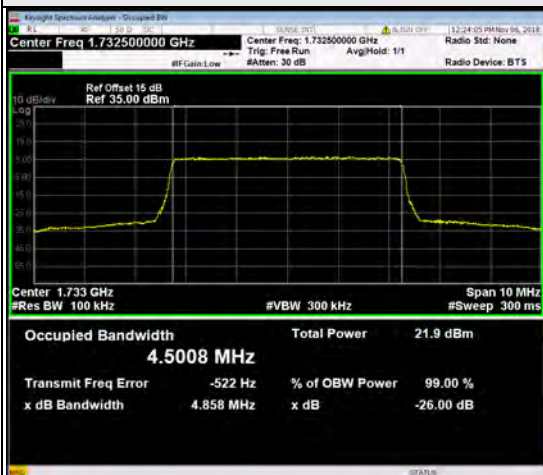
1.4MHz / QPSK



3MHz / QPSK



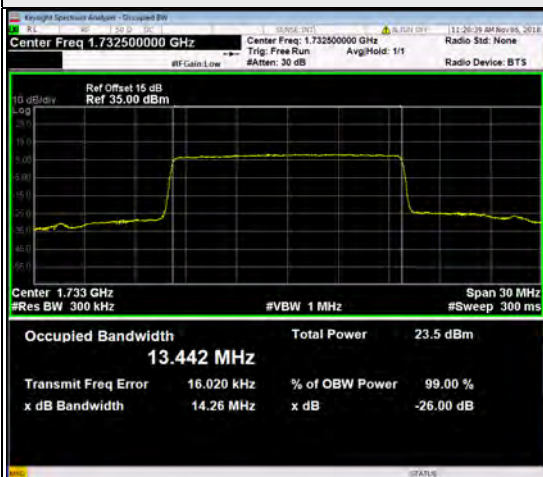
5MHz / 64QAM



10MHz / 64QAM



15MHz / QPSK



20MHz / 16QAM



# LTE Band 12

Channel Bandwidth: 1.4MHz							
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
23017	699.7	1.26	1.26	1.26	1.09	1.09	1.09
23095	707.5	1.28	1.27	1.26	1.09	1.09	1.09
23173	715.3	1.30	1.31	1.26	1.09	1.09	1.09
Channel Bandwidth: 3MHz							
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
23025	700.5	2.93	2.93	2.89	2.70	2.70	2.70
23095	707.5	2.94	2.93	2.91	2.70	2.70	2.70
23165	714.5	2.97	2.95	2.90	2.70	2.70	2.69
Channel Bandwidth: 5MHz							
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
23035	701.5	4.83	4.82	4.83	4.48	4.49	4.49
23095	707.5	4.85	4.85	4.83	4.50	4.49	4.50
23155	713.5	4.82	4.82	4.83	4.49	4.49	4.49
Channel Bandwidth: 10MHz							
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
23060	704	9.52	9.52	9.52	8.94	8.94	8.94
23095	707.5	9.55	9.58	9.54	8.97	8.97	8.97
23130	711	9.52	9.52	9.50	8.95	8.95	8.95



## 26dBc Bandwidth

### Spectrum Plot of Worst Value

#### 1.4MHz / 16QAM



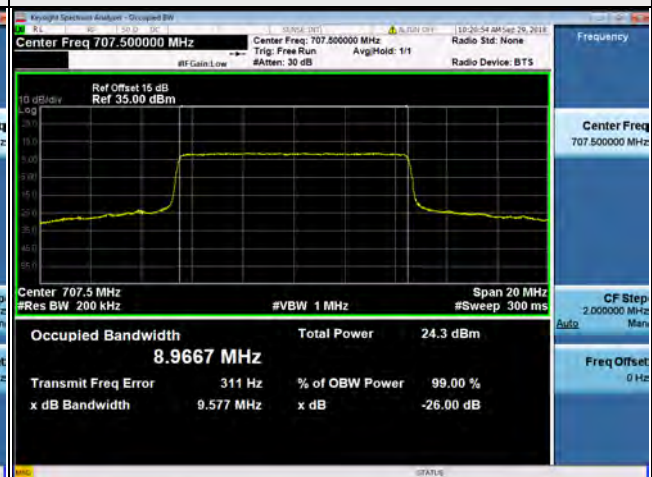
#### 3MHz / QPSK



#### 5MHz / QPSK



#### 10MHz / 16QAM

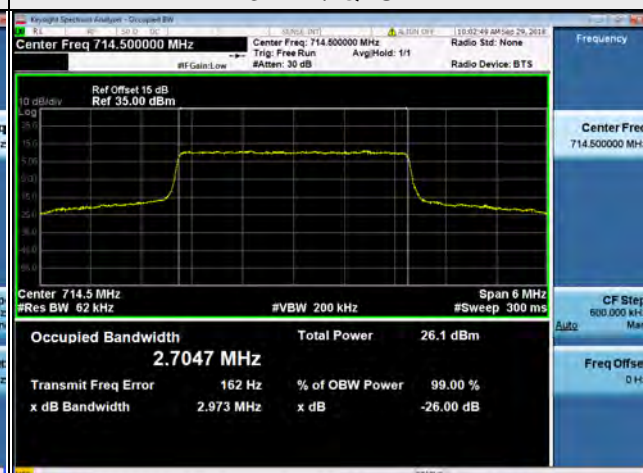


## Occupied Bandwidth Spectrum Plot of Worst Value

1.4MHz / 16QAM



3MHz / QPSK



5MHz / QPSK



10MHz / 16QAM

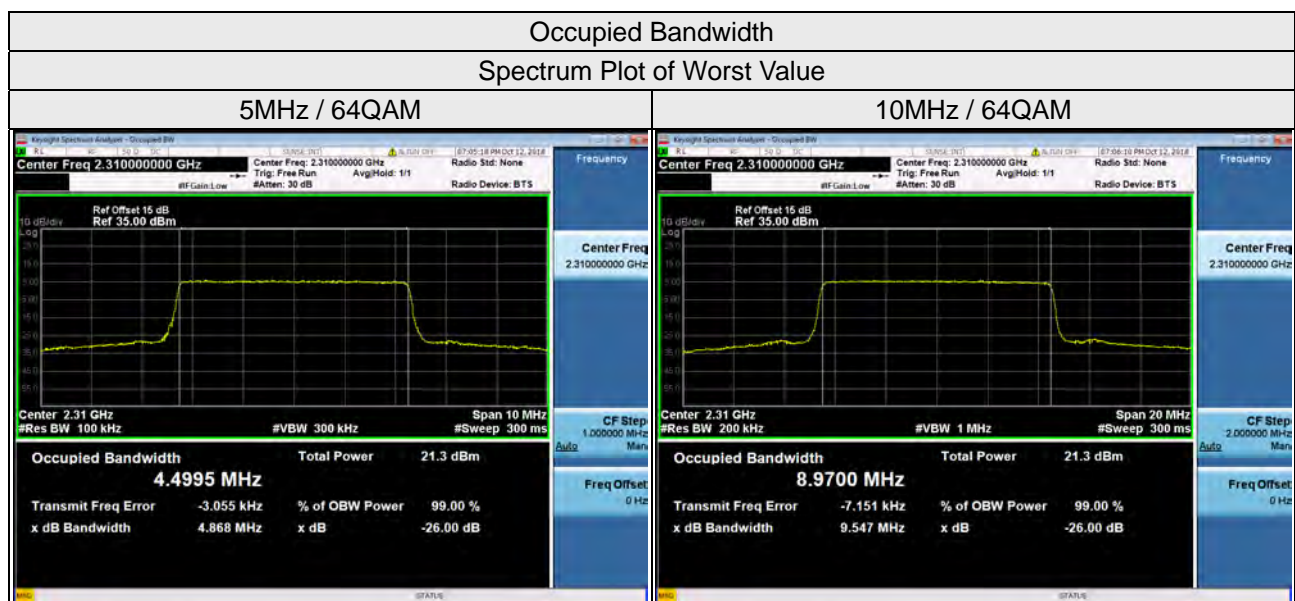
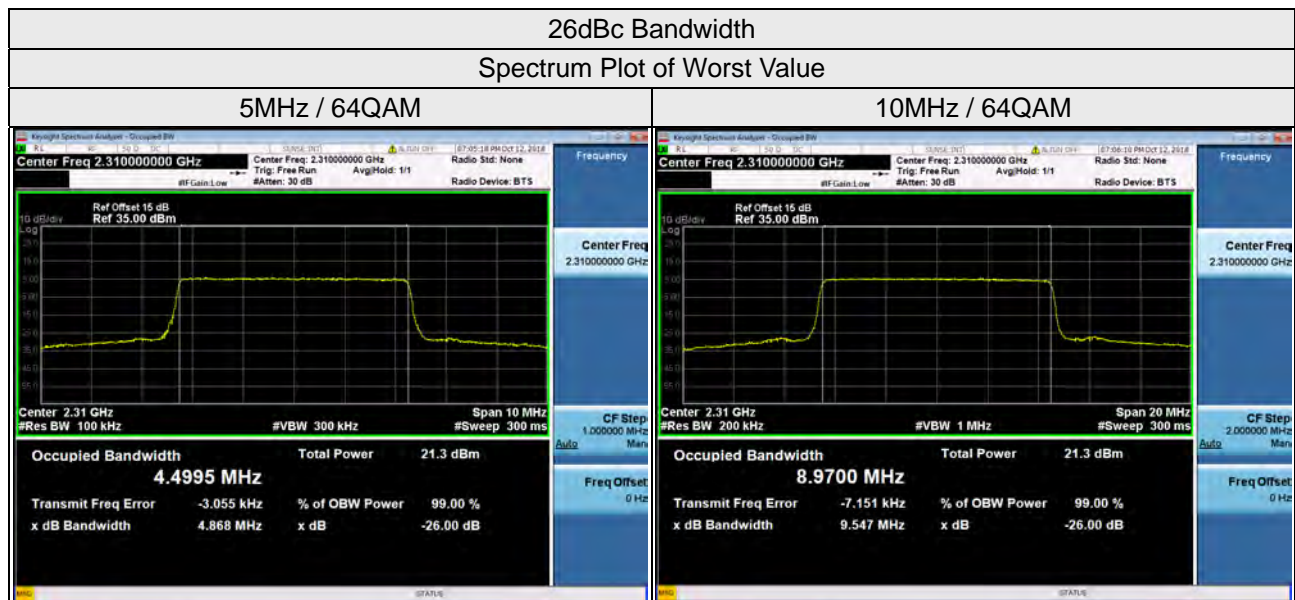


# LTE Band 30

Channel Bandwidth: 5MHz							
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
27685	2307.5	4.83	4.83	4.86	4.49	4.49	4.50
27710	2310.0	4.82	4.86	4.87	4.49	4.49	4.50
27735	2312.5	4.84	4.85	4.86	4.49	4.49	4.50

Channel Bandwidth: 10MHz							
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
27710	2310.0	9.53	9.53	9.55	8.96	8.95	8.97





## 4.5 Channel Edge Measurement

### 4.5.1 Limits of Band Edge Measurement

For WCDMA Band 4, LTE Band 4

According to FCC 27.53(h) for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least  $43 + 10 \log_{10} (P)$  dB.

For LTE Band 12

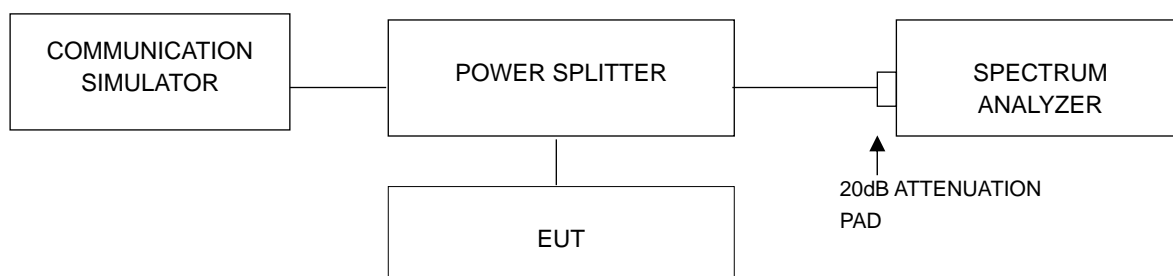
According to FCC 27.53(g) for operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least  $43 + 10 \log (P)$  dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater.

For LTE Band 30

According to FCC 27.53(a) (4) For mobile and portable stations operating in the 2305-2315 MHz and 2350-2360 MHz bands:

- (i) By a factor of not less than:  $43 + 10 \log (P)$  dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, not less than  $55 + 10 \log (P)$  dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz, not less than  $61 + 10 \log (P)$  dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than  $67 + 10 \log (P)$  dB on all frequencies between 2328 and 2337 MHz;
- (ii) By a factor of not less than  $43 + 10 \log (P)$  dB on all frequencies between 2300 and 2305 MHz,  $55 + 10 \log (P)$  dB on all frequencies between 2296 and 2300 MHz,  $61 + 10 \log (P)$  dB on all frequencies between 2292 and 2296 MHz,  $67 + 10 \log (P)$  dB on all frequencies between 2288 and 2292 MHz, and  $70 + 10 \log (P)$  dB below 2288 MHz;
- (iii) By a factor of not less than  $43 + 10 \log (P)$  dB on all frequencies between 2360 and 2365 MHz, and not less than  $70 + 10 \log (P)$  dB above 2365 MHz.

### 4.5.2 Test Setup



### 4.5.3 Test Procedures

For WCDMA Band 4, LTE Band 4, LTE Band 12

- a. The EUT was set up for the rated peak power. The power was measured with Spectrum Analyzer. All measurements were done at 3 channels: low, middle and high operational frequency range.
- b. The center frequency of spectrum is the band edge frequency and span is 1.5MHz. RBW = 15kHz and VBW = 51kHz (Channel Bandwidth: 1.4MHz), RBW = 30kHz and VBW = 100kHz (Channel Bandwidth: 3MHz), RBW = 62kHz and VBW = 200kHz (Channel Bandwidth: 5MHz), RBW = 100kHz and VBW = 300kHz (Channel Bandwidth: 10MHz), RBW = 150kHz and VBW = 470kHz (Channel Bandwidth: 15MHz) and RBW = 200kHz and VBW = 1MHz (Channel Bandwidth: 20MHz).
- c. Record the max trace plot into the test report.

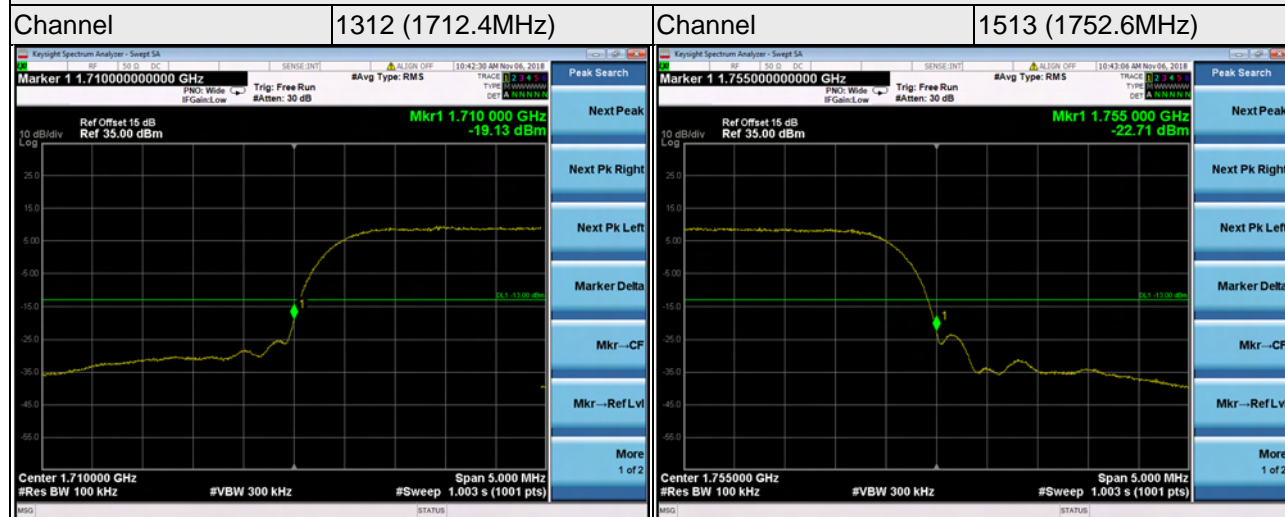
For LTE Band 30

- a. The EUT was set up for the rated peak power. The power was measured with Spectrum Analyzer. All measurements were done at 2 channels for the 5MHz: low and high operational frequency range and 1 channel for the 10MHz: middle operational frequency range.
- b. The center frequency of spectrum is the band edge frequency. RBW = 1MHz and VBW = 3MHz.
- c. Record the max trace plot into the test report.

#### 4.5.4 Test Results

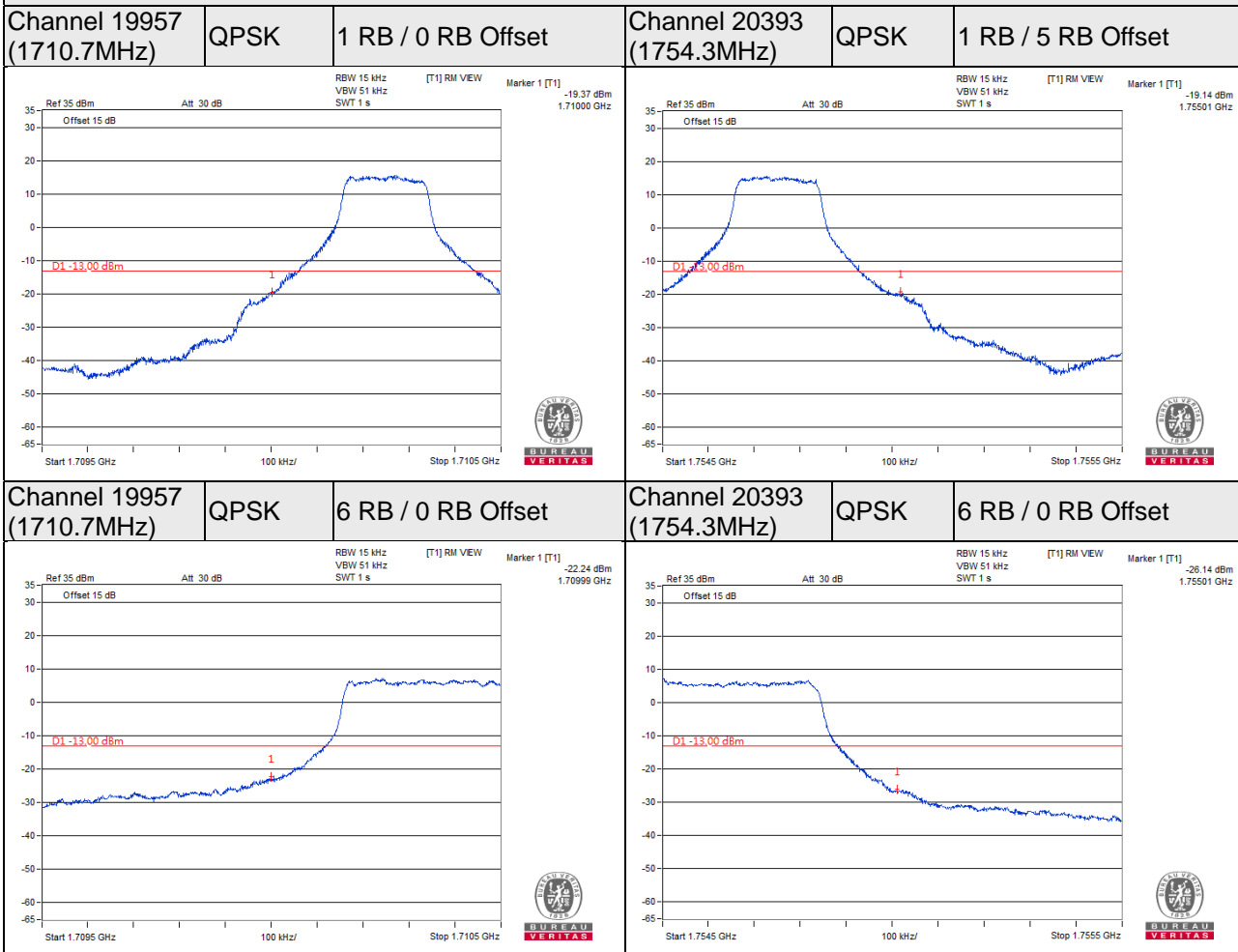
WCDMA Band 4

WCDMA



# LTE Band 4

Channel Bandwidth: 1.4MHz



Channel Bandwidth: 3MHz

Channel 19965  
(1711.5MHz)

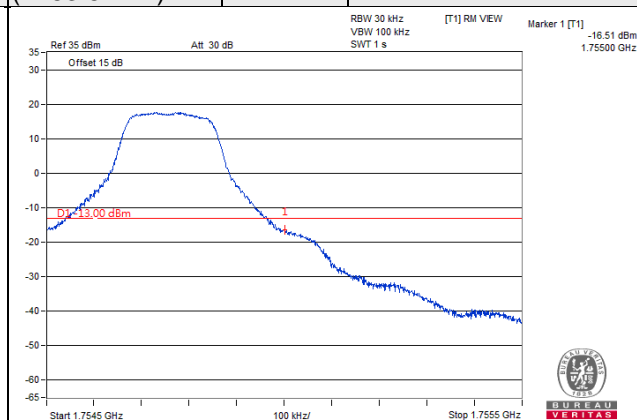
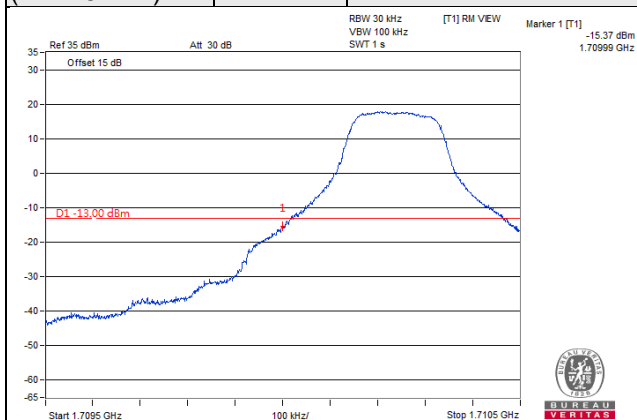
QPSK

1 RB / 0 RB Offset

Channel 20385  
(1753.5MHz)

QPSK

1 RB / 14 RB Offset



Channel 19965  
(1711.5MHz)

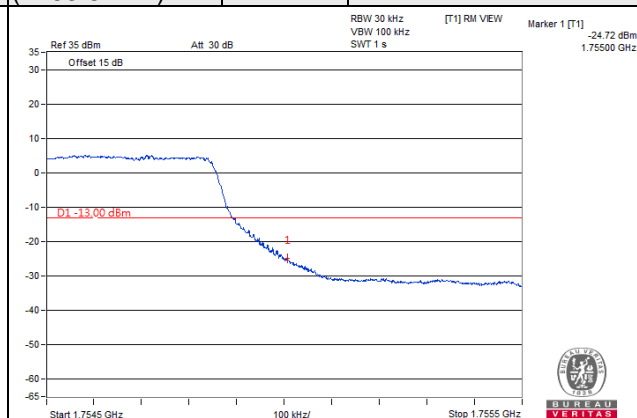
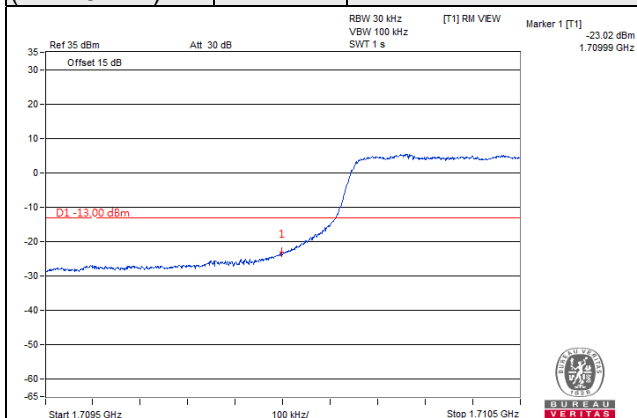
QPSK

15 RB / 0 RB Offset

Channel 20385  
(1753.5MHz)

QPSK

15 RB / 0 RB Offset





# Channel Bandwidth: 5MHz

Channel 19975  
(1712.5MHz)

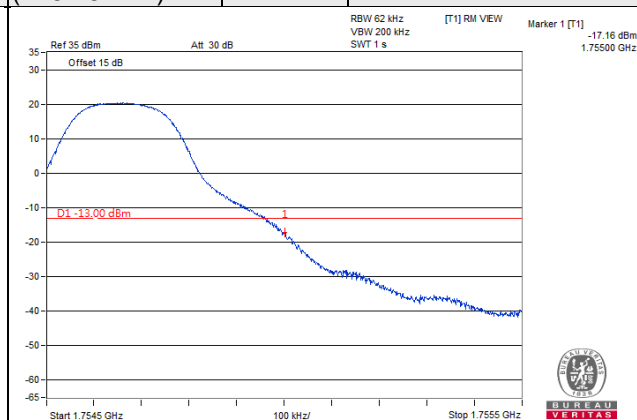
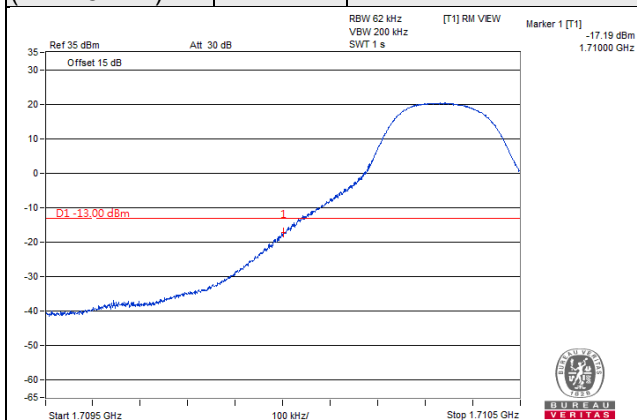
QPSK

1 RB / 0 RB Offset

Channel 20375  
(1752.5MHz)

QPSK

1 RB / 24 RB Offset



Channel 19975  
(1712.5MHz)

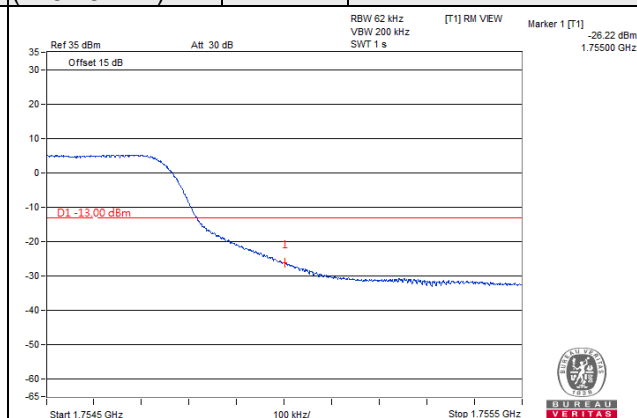
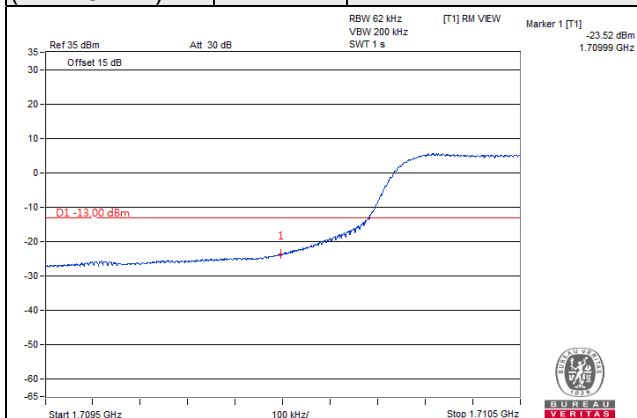
QPSK

25 RB / 0 RB Offset

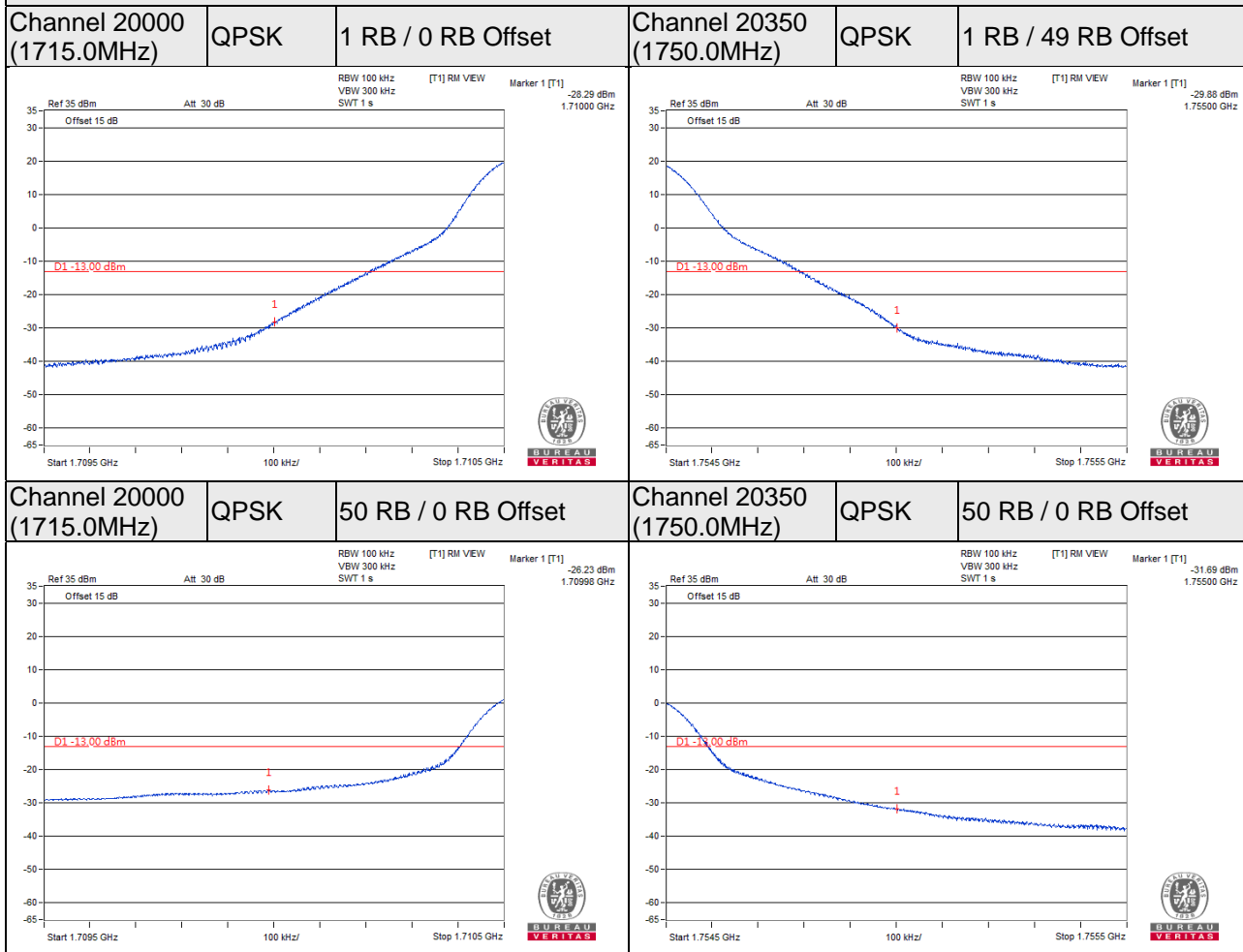
Channel 20375  
(1752.5MHz)

QPSK

25 RB / 0 RB Offset



# Channel Bandwidth: 10MHz



Channel Bandwidth: 15MHz

Channel 20025  
(1717.5MHz)

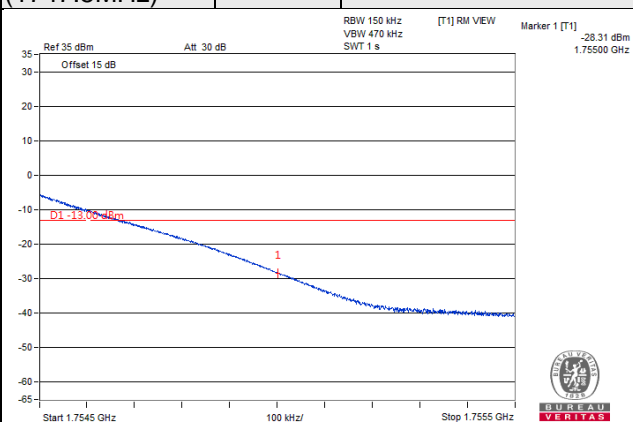
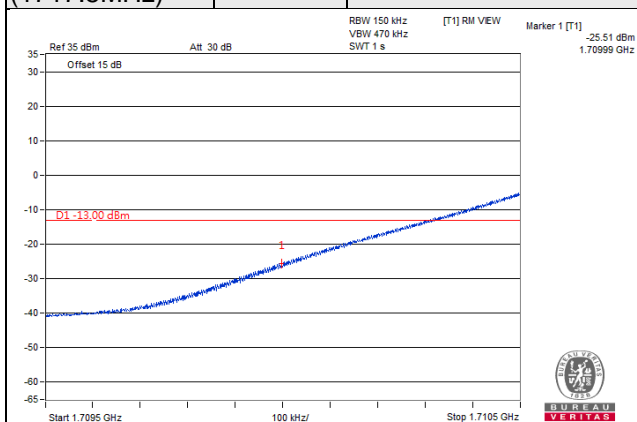
QPSK

1 RB / 0 RB Offset

Channel 20325  
(1747.5MHz)

QPSK

1 RB / 74 RB Offset



Channel 20025  
(1717.5MHz)

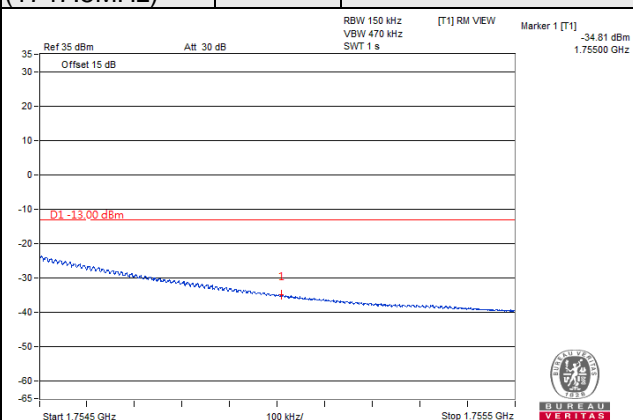
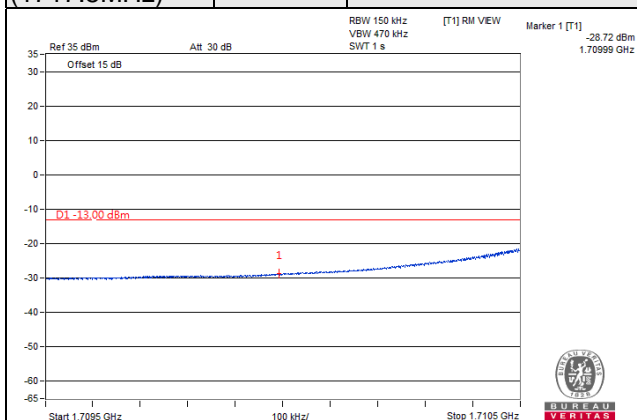
QPSK

75 RB / 0 RB Offset

Channel 20325  
(1747.5MHz)

QPSK

75 RB / 0 RB Offset



Channel Bandwidth: 20MHz

Channel 20050  
(1720.0MHz)

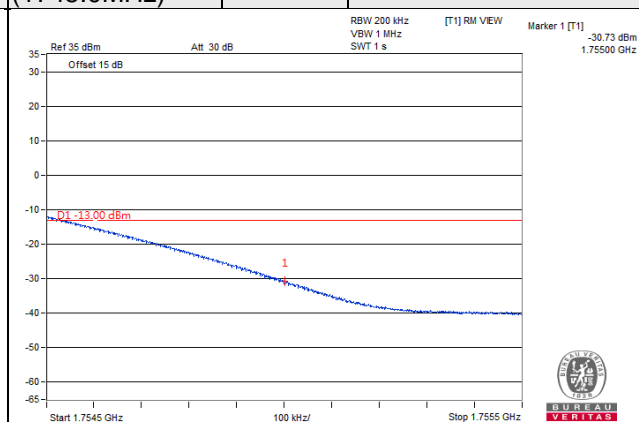
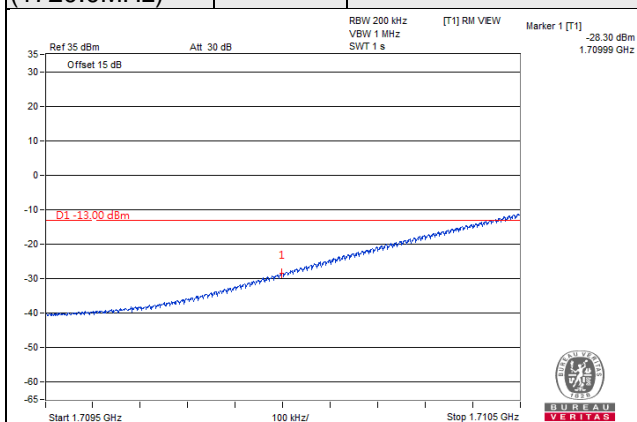
QPSK

1 RB / 0 RB Offset

Channel 20300  
(1745.0MHz)

QPSK

1 RB / 99 RB Offset



Channel 20050  
(1720.0MHz)

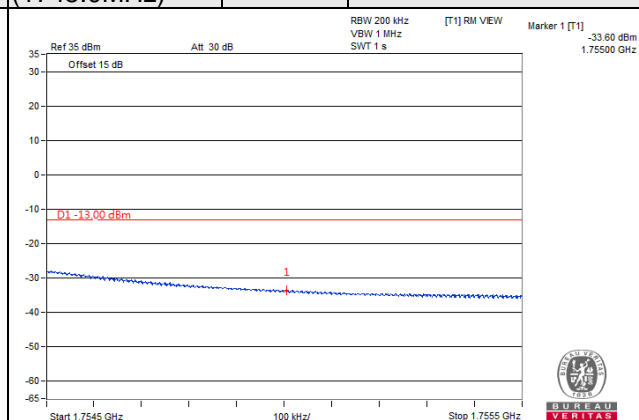
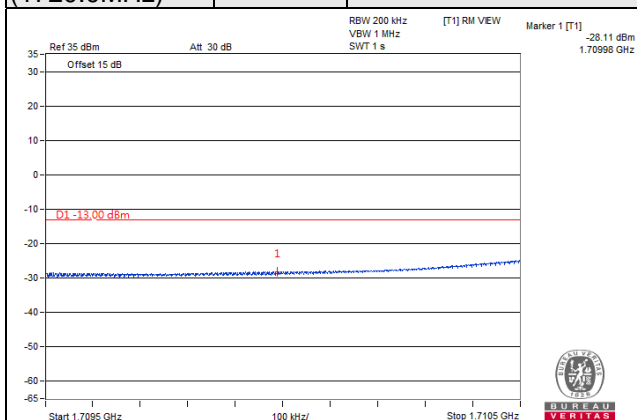
QPSK

100 RB / 0 RB Offset

Channel 20300  
(1745.0MHz)

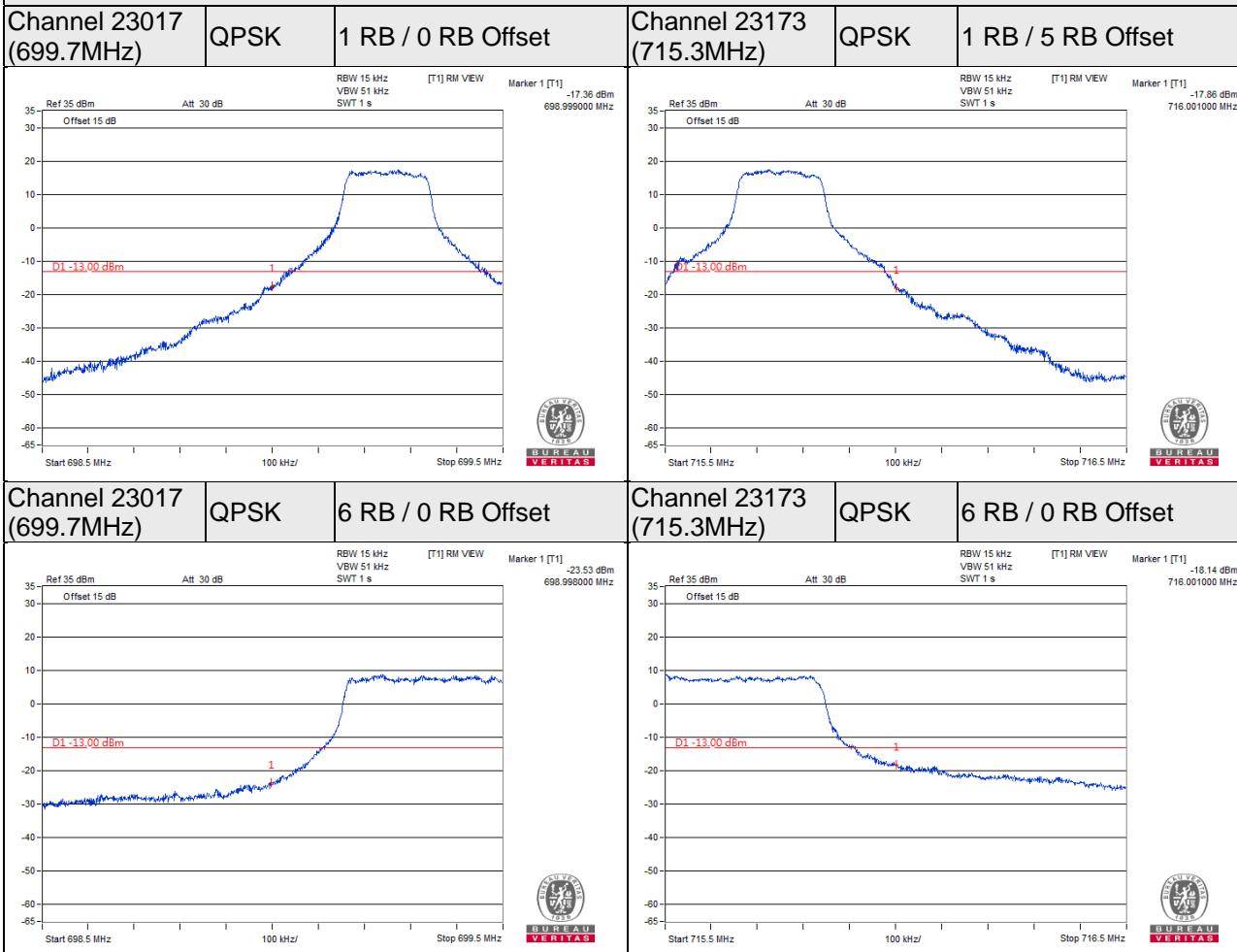
QPSK

100 RB / 0 RB Offset

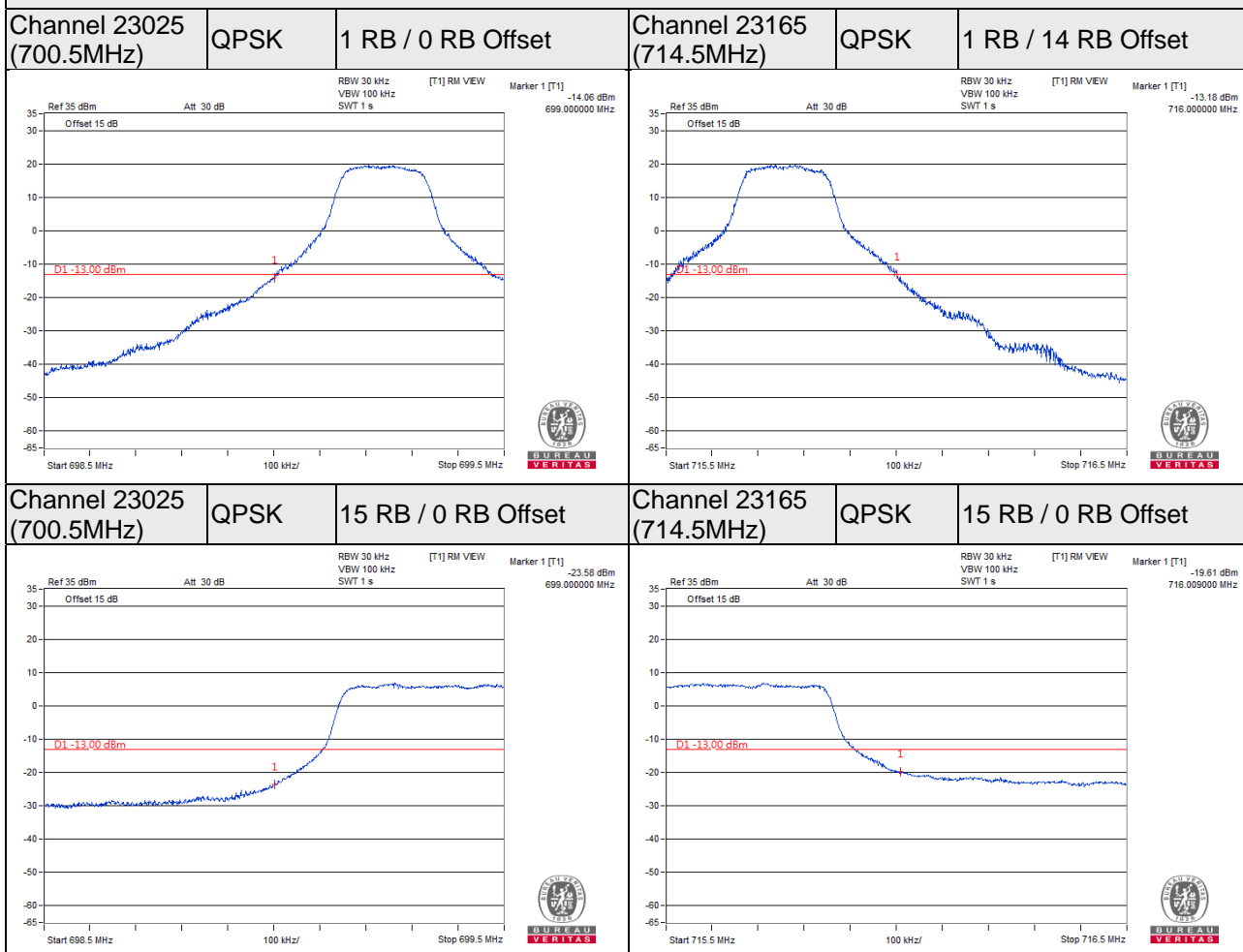


# LTE Band 12

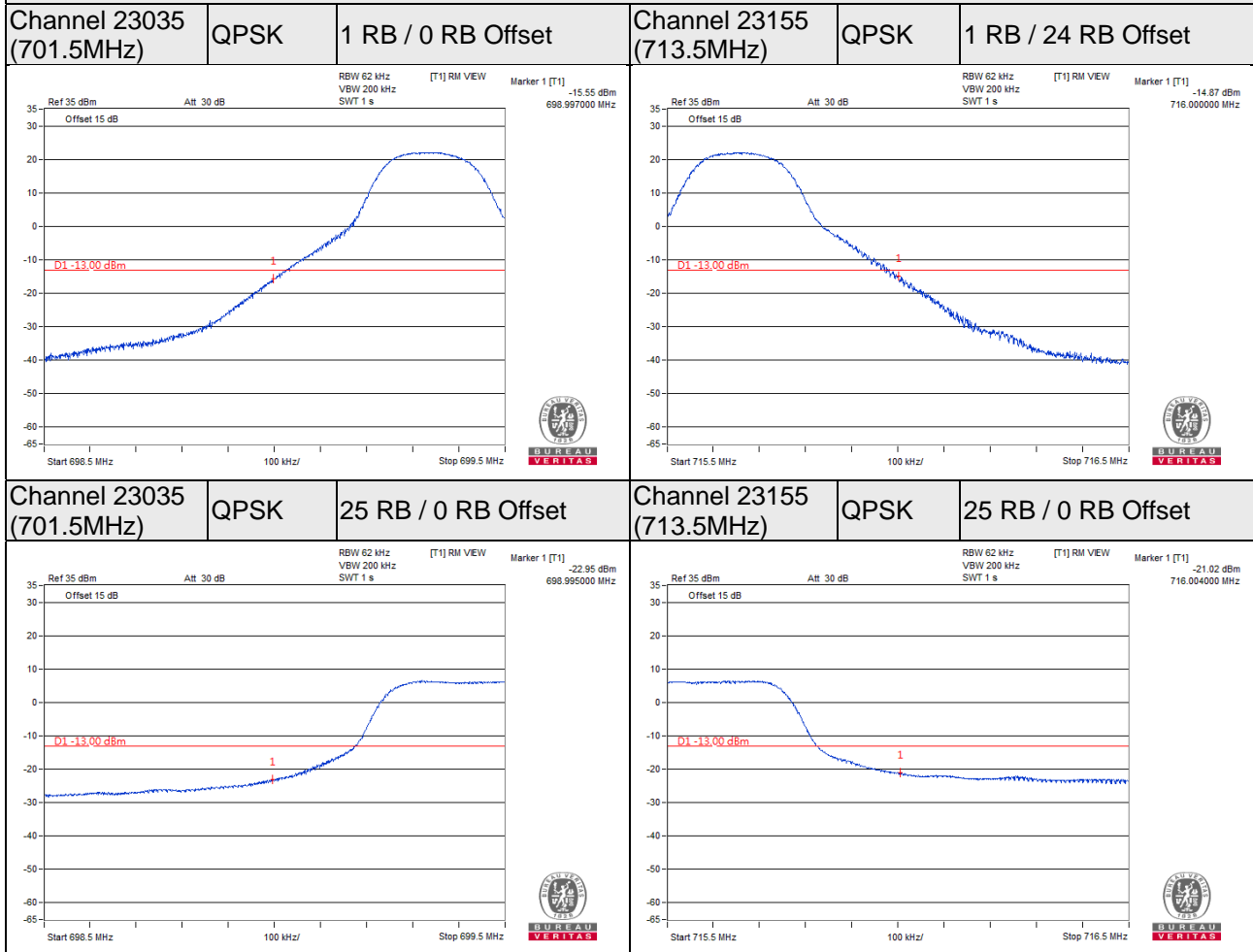
Channel Bandwidth: 1.4MHz



Channel Bandwidth: 3MHz

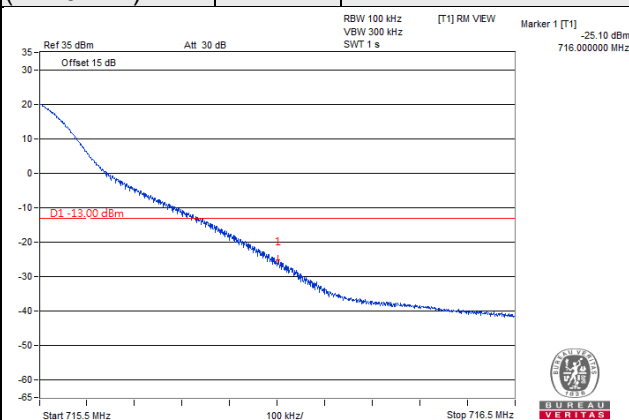
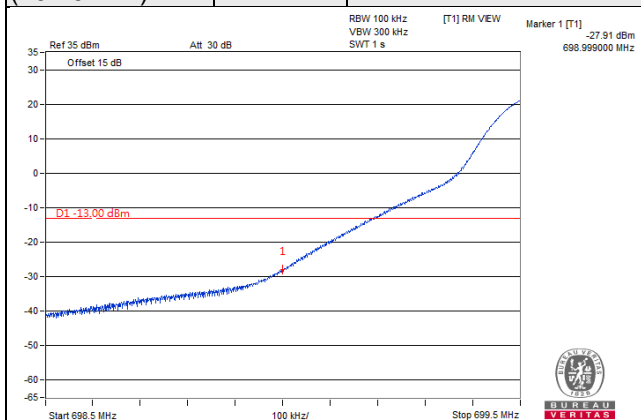


# Channel Bandwidth: 5MHz

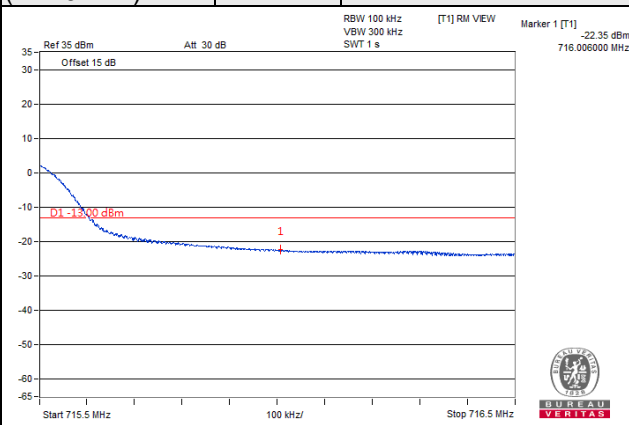
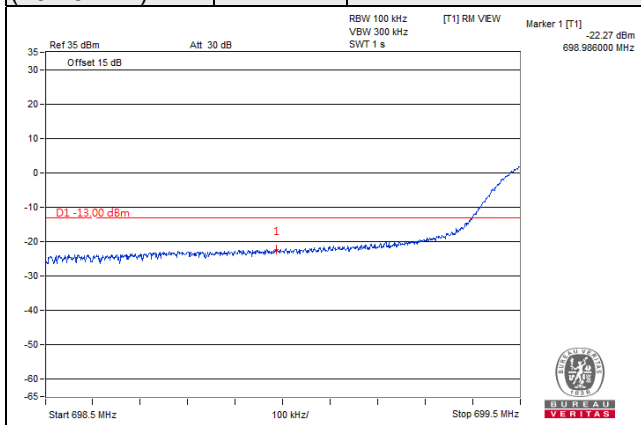


Channel Bandwidth: 10MHz

Channel 23060 (704.0MHz)	QPSK	1 RB / 0 RB Offset	Channel 23130 (711.0MHz)	QPSK	1 RB / 49 RB Offset
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Channel 23060 (704.0MHz)	QPSK	50 RB / 0 RB Offset	Channel 23130 (711.0MHz)	QPSK	50 RB / 0 RB Offset
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# LTE Band 30

Channel Bandwidth: 5MHz

Channel 27685  
(1712.5MHz)

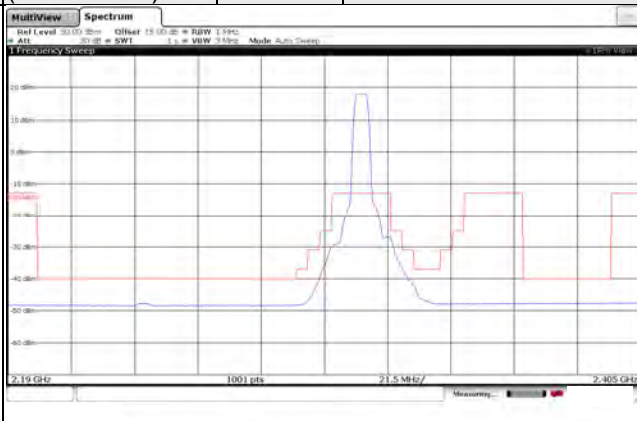
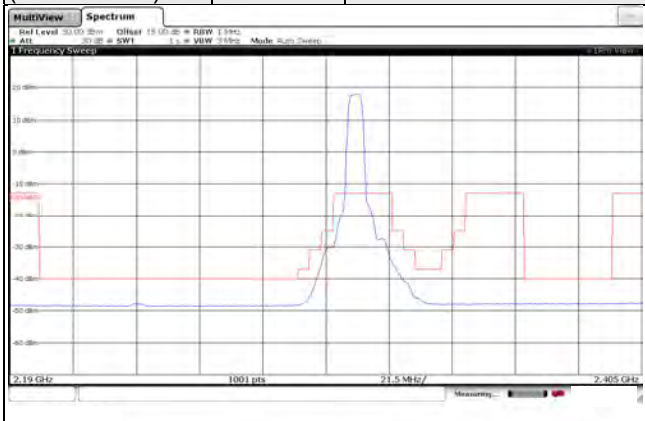
QPSK

25 RB / 0 RB Offset

Channel 27710  
(2310.0MHz)

QPSK

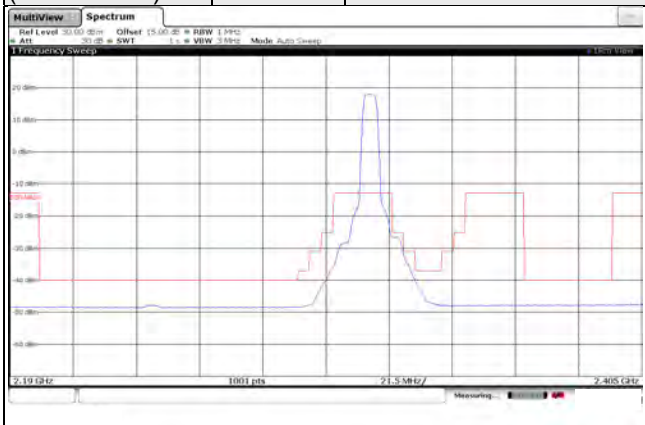
25 RB / 0 RB Offset



Channel 27735  
(2315.5MHz)

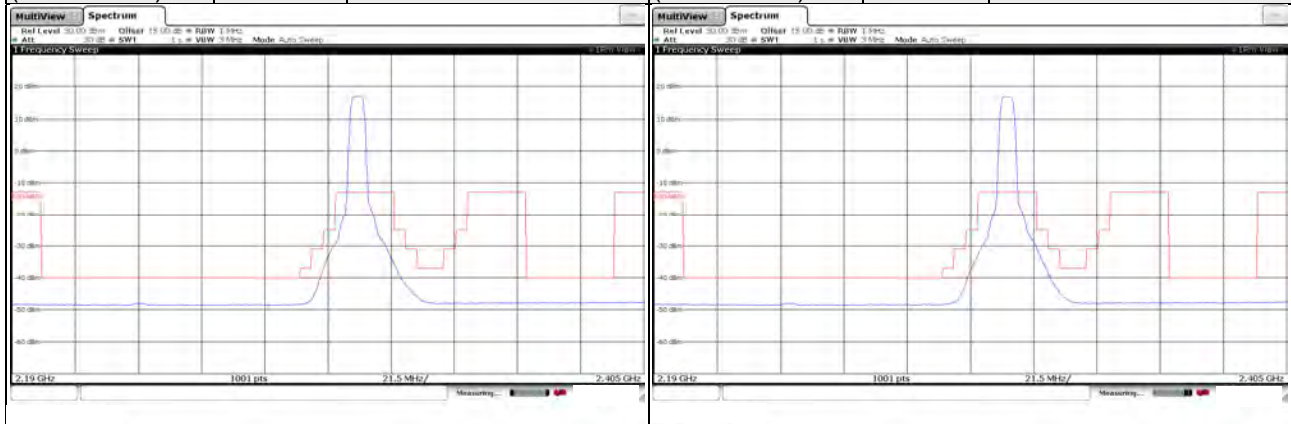
QPSK

25 RB / 0 RB Offset

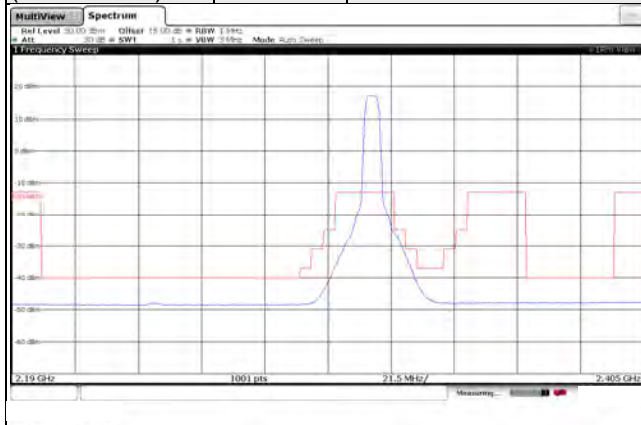


Channel Bandwidth: 5MHz

Channel 27685 (1712.5MHz)	16QAM	25 RB / 0 RB Offset	Channel 27710 (2310.0MHz)	16QAM	25 RB / 0 RB Offset
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Channel 27735 (2315.5MHz)	16QAM	25 RB / 0 RB Offset
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Channel Bandwidth: 5MHz

Channel 27685  
(1712.5MHz)

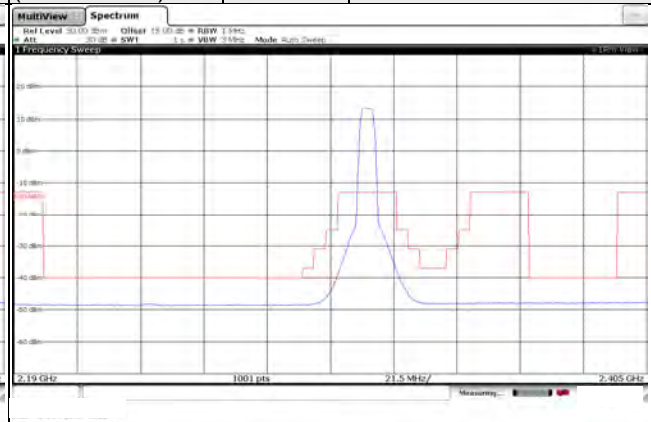
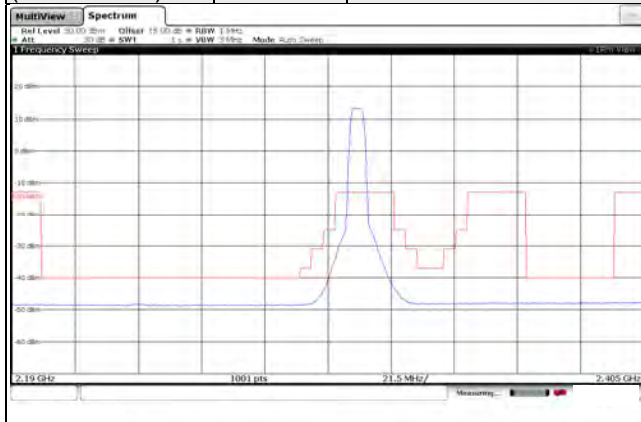
64QAM

25 RB / 0 RB Offset

Channel 27710  
(2310.0MHz)

64QAM

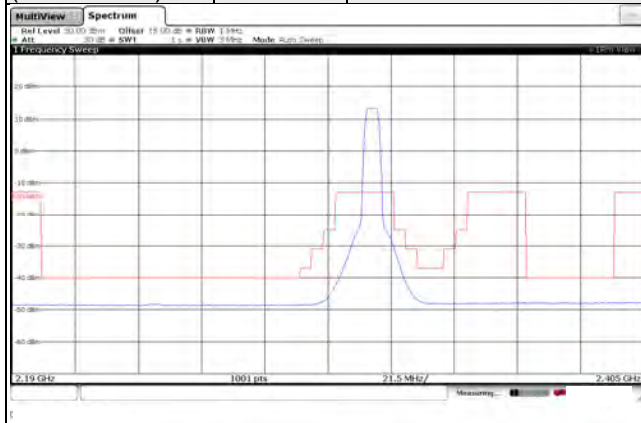
25 RB / 0 RB Offset



Channel 27735  
(2315.5MHz)

64QAM

25 RB / 0 RB Offset



Channel Bandwidth: 10MHz

Channel 27710  
(2310.0MHz)

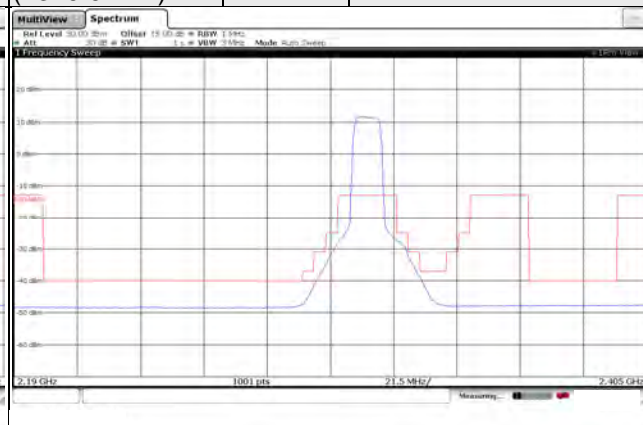
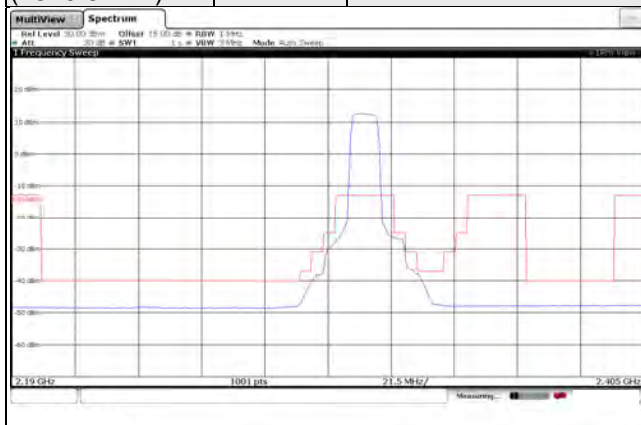
QPSK

50 RB / 0 RB Offset

Channel 27710  
(2310.0MHz)

16QAM

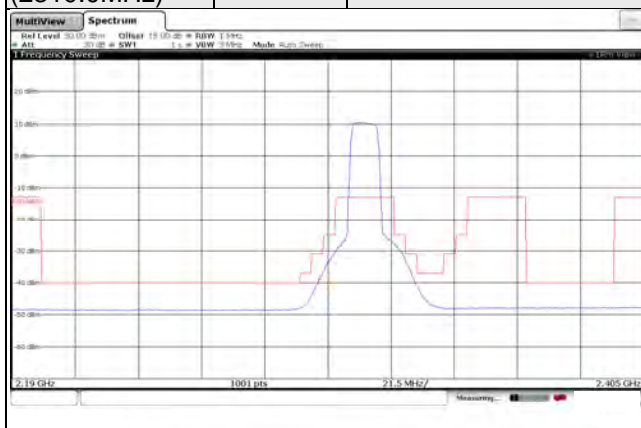
50 RB / 0 RB Offset



Channel 27710  
(2310.0MHz)

64QAM

50 RB / 0 RB Offset

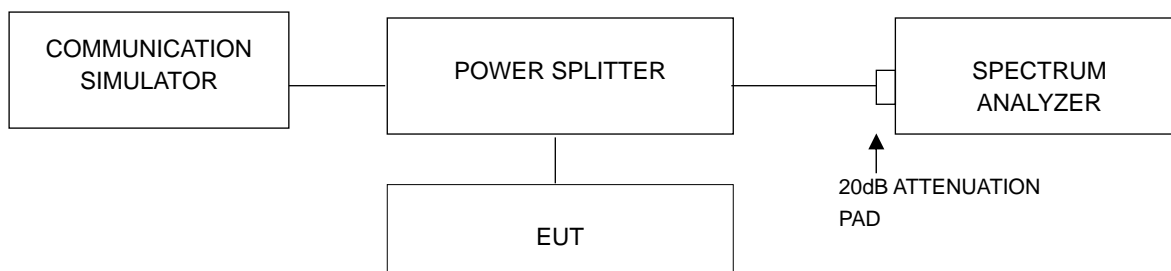


## 4.6 Peak to Average Ratio

### 4.6.1 Limits of Peak to Average Ratio Measurement

In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB

### 4.6.2 Test Setup



### 4.6.3 Test Procedures

- Set resolution/measurement bandwidth  $\geq$  signal's occupied bandwidth;
- Set the number of counts to a value that stabilizes the measured CCDF curve;
- Record the maximum PAPR level associated with a probability of 0.1%.

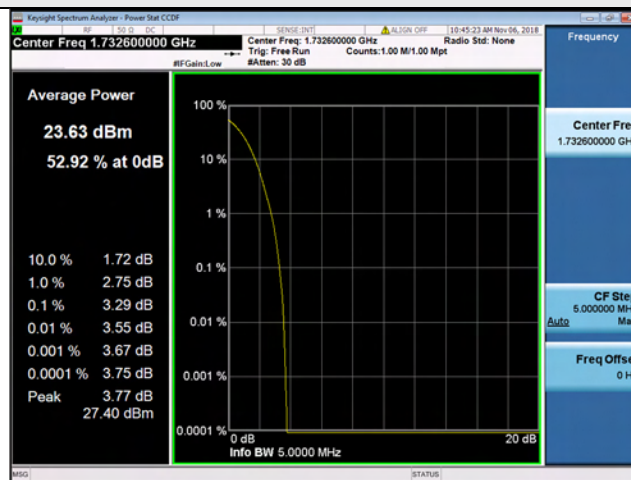
#### 4.6.4 Test Results

##### WCDMA Band 4

Channel	Frequency (MHz)	Peak To Average Ratio (dB)
		WCDMA
1312	1712.4	2.87
1413	1732.6	3.29
1513	1752.6	3.26

##### Spectrum Plot of Worst Value

##### WCDMA



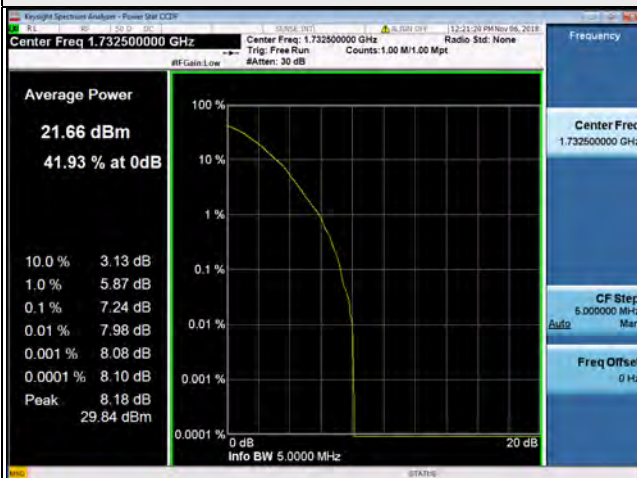
# LTE Band 4

Channel Bandwidth: 1.4MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
19957	1710.7	3.84	4.91	5.88
20175	1732.5	4.98	5.92	7.24
20393	1754.3	4.39	5.56	6.64
Channel Bandwidth: 3MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
19965	1711.5	3.72	4.87	5.90
20175	1732.5	4.97	5.98	7.38
20385	1753.5	4.31	5.59	6.39
Channel Bandwidth: 5MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
19975	1712.5	3.78	4.76	5.99
20175	1732.5	5.06	5.94	7.21
20375	1752.5	4.25	5.37	6.37
Channel Bandwidth: 10MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
20000	1715.0	3.67	4.76	5.93
20175	1732.5	4.94	5.90	7.41
20350	1750.0	4.15	5.22	6.32
Channel Bandwidth: 15MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
20025	1717.5	3.68	4.75	5.94
20175	1732.5	4.85	5.80	7.10
20325	1747.5	4.26	5.32	6.63
Channel Bandwidth: 20MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
20050	1720.0	3.81	4.72	5.89
20175	1732.5	4.65	5.64	6.75
20300	1745.0	4.70	5.63	6.88



## Spectrum Plot Of Worst Value

**1.4MHz / 64QAM**



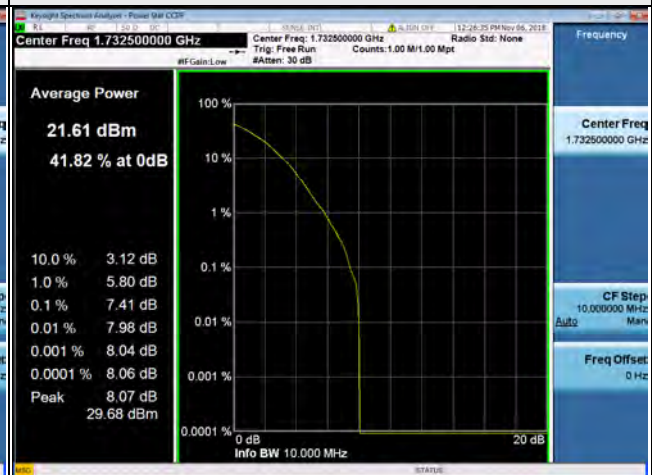
**3MHz / 64QAM**



**5MHz / 64QAM**



**10MHz / 64QAM**



**15MHz / 64QAM**



**20MHz / 64QAM**



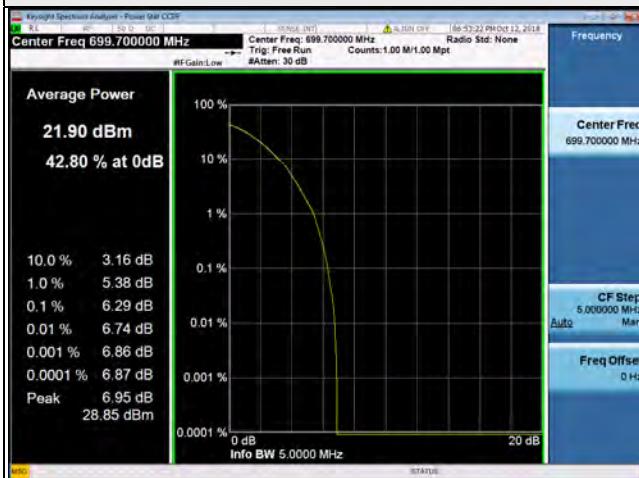


# LTE Band 12

Channel Bandwidth: 1.4MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
23017	699.7	3.44	4.57	6.29
23095	707.5	2.80	3.72	6.19
23173	715.3	2.61	3.75	5.71
Channel Bandwidth: 3MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
23025	700.5	3.56	4.60	6.27
23095	707.5	2.89	4.01	6.10
23165	714.5	2.92	4.19	5.83
Channel Bandwidth: 5MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
23035	701.5	3.28	4.54	6.87
23095	707.5	2.68	4.03	6.16
23155	713.5	3.30	4.52	6.68
Channel Bandwidth: 10MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
23060	704.0	3.42	4.57	6.69
23095	707.5	2.95	4.25	6.12
23130	711.0	2.76	4.05	6.67

## Spectrum Plot Of Worst Value

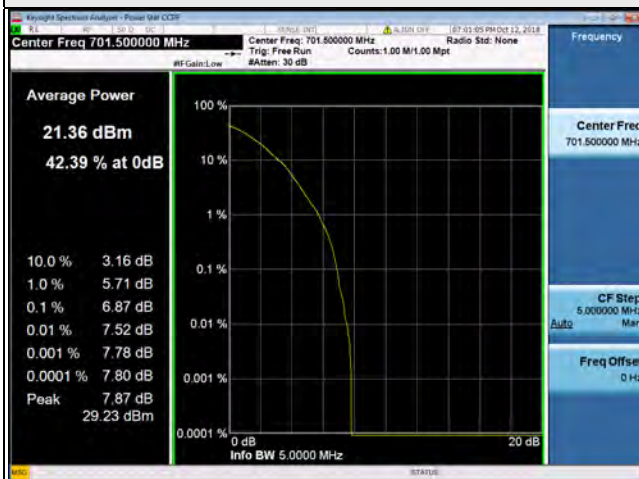
1.4MHz / 64QAM



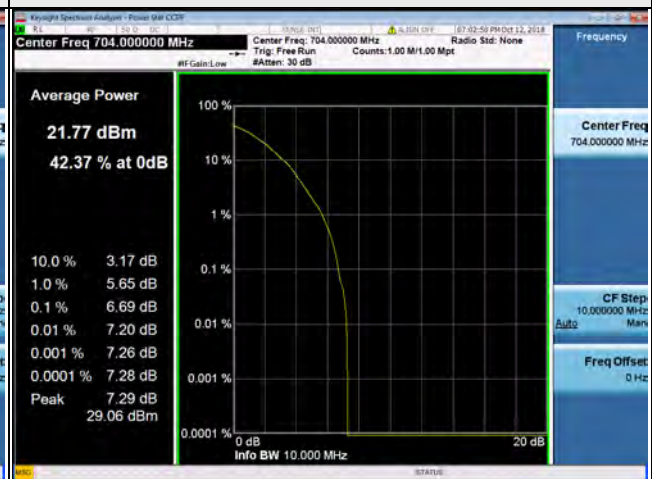
3MHz / 64QAM



5MHz / 64QAM



10MHz / 64QAM



## 4.7 Conducted Spurious Emissions

### 4.7.1 Limits of Conducted Spurious Emissions Measurement

For WCDMA Band 4, LTE Band 4

In the FCC 27.53(m)(4), On any frequency outside a licensee's frequency block, The power of any emission shall be attenuated below the transmitter power (P) by at least  $43 + 10 \log (P)$  dB. The emission limit equal to  $-13\text{dBm}$ .

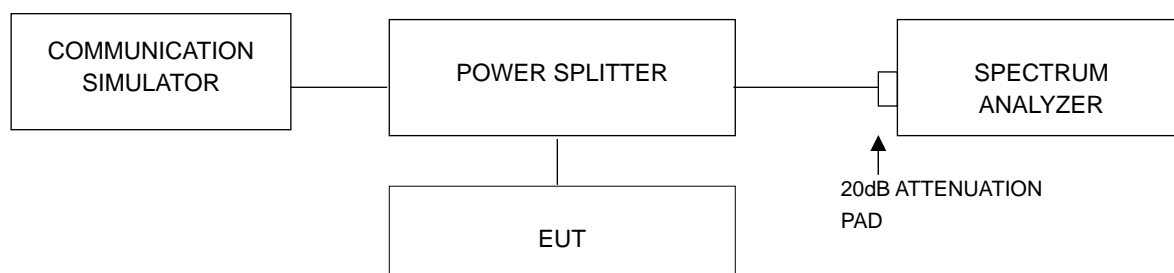
For LTE Band 12

For operations in the 600 MHz band and the 698–746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least  $43 + 10 \log (P)$  dB.

For LTE Band 30

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least  $70 + 10 \log_{10}(P)$  dB. The limit of emission is equal to  $-40\text{ dBm}$ .

### 4.7.2 Test Setup



### 4.7.3 Test Procedure

- All measurements were done at 3 channels: low, middle and high operational frequency range.
- When the spectrum scanned from 9kHz to 26.5GHz for WCDMA Band 4, from 9kHz to 27GHz for LTE Band 4 and LTE Band 12, from 30 MHz to 23.5 GHz for LTE Band 30, it shall be connected to the attenuator with the carried frequency.

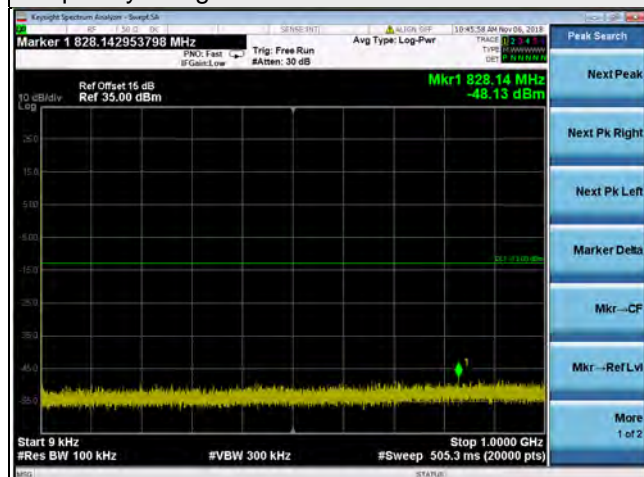
#### 4.7.4 Test Results

WCDMA Band 4

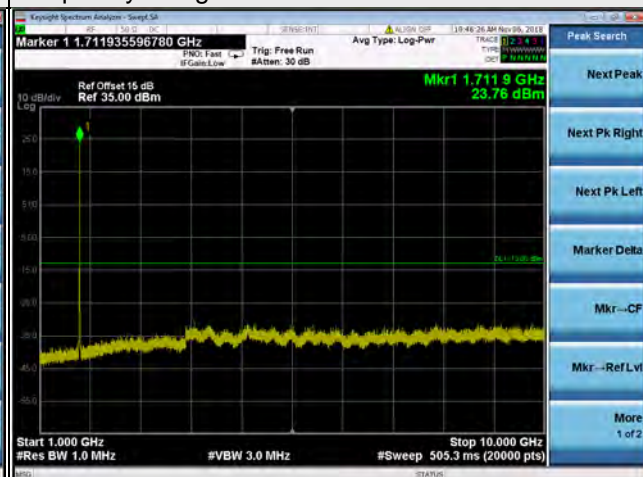
WCDMA

Channel 1312 (1712.4MHz)

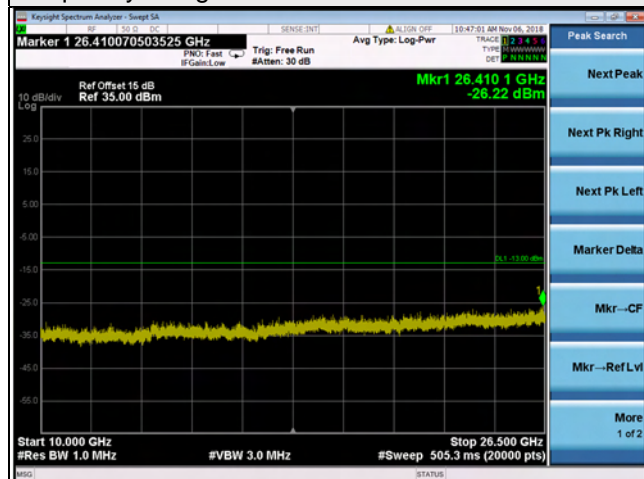
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz



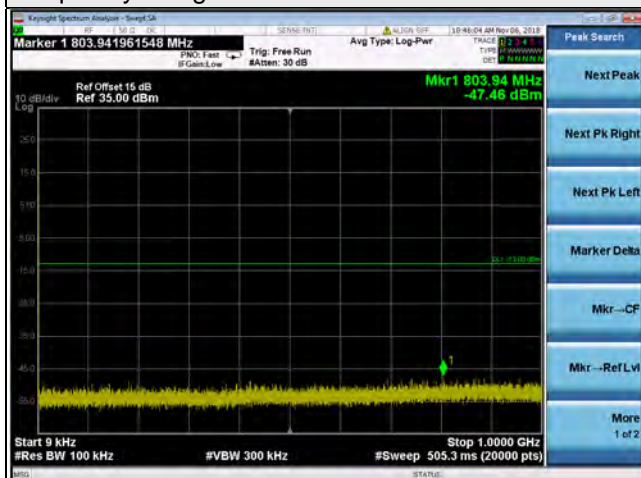
Frequency Range : 10GHz~27GHz



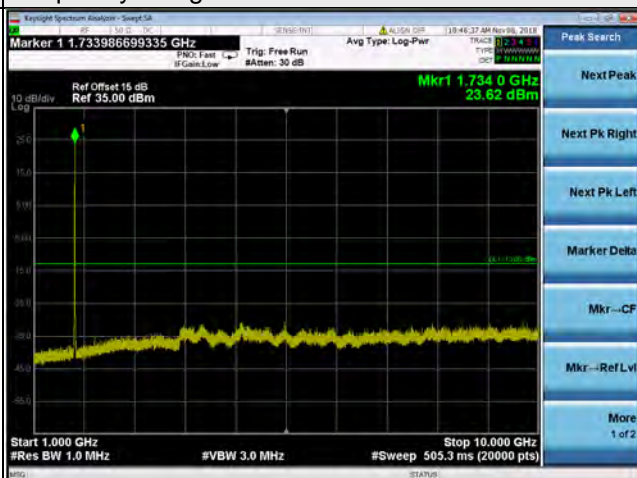
WCDMA

Channel 1413 (1732.6MHz)

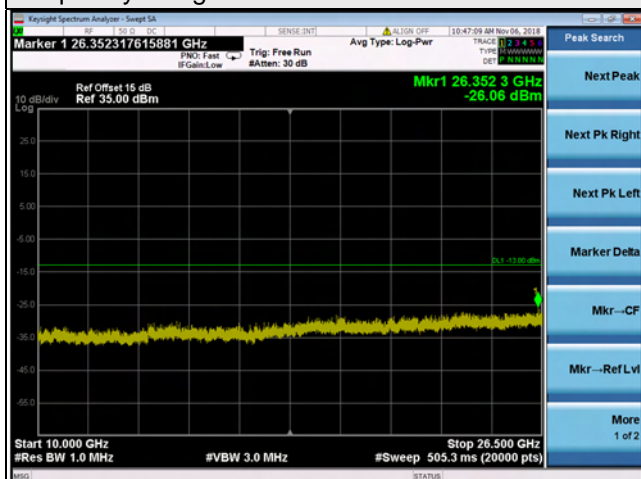
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~27GHz

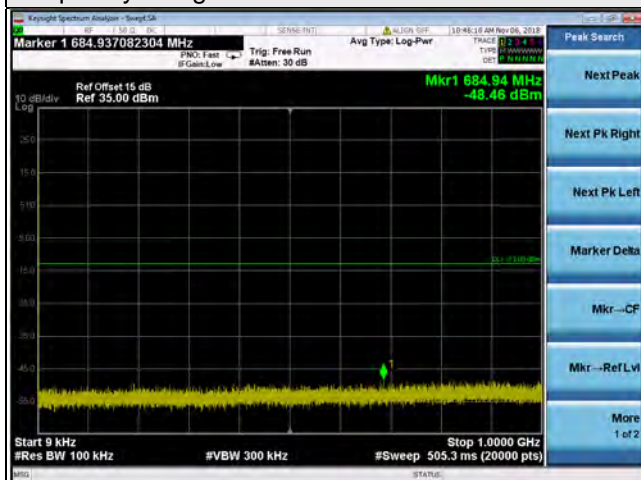




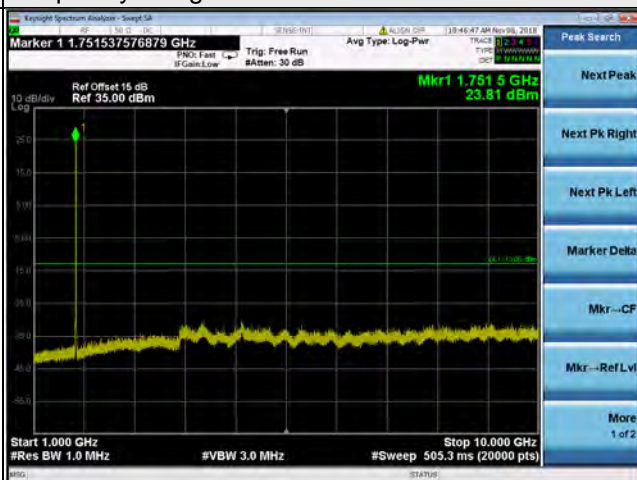
WCDMA

Channel 1513 (1752.6MHz)

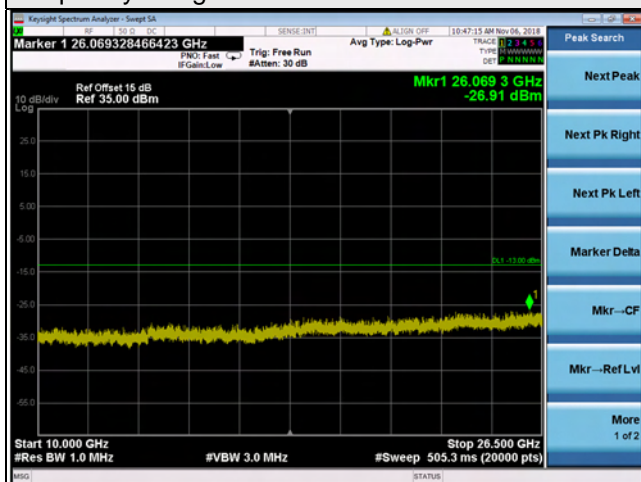
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~27GHz

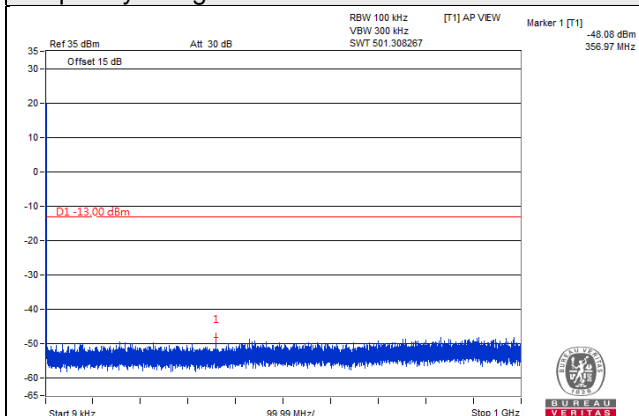


# LTE Band 4

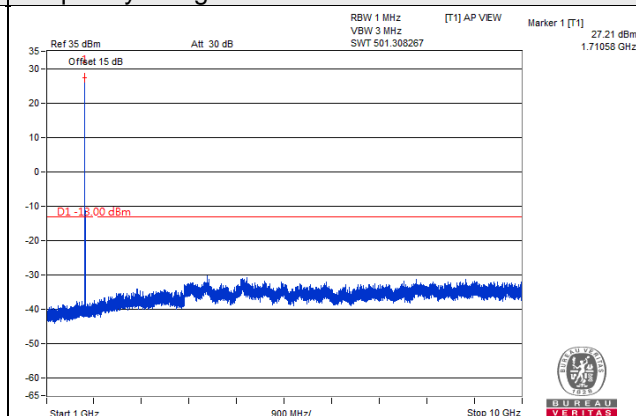
Channel Bandwidth: 1.4MHz

Channel 19957 (1710.7MHz)

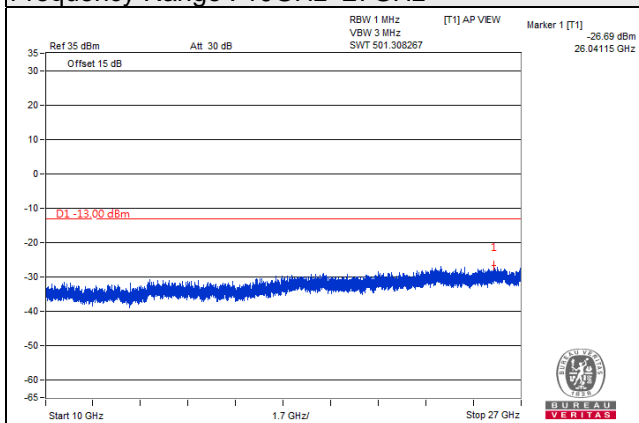
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz



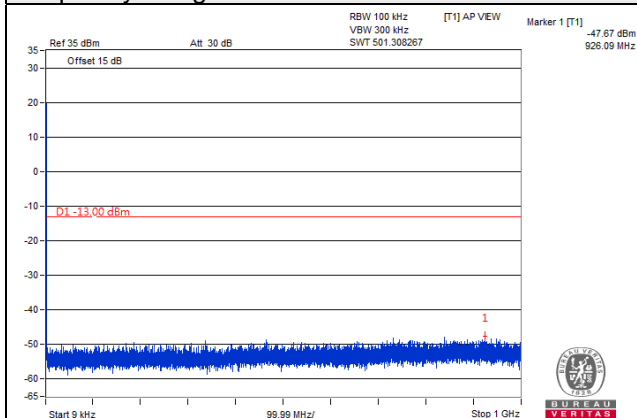
Frequency Range : 10GHz~27GHz



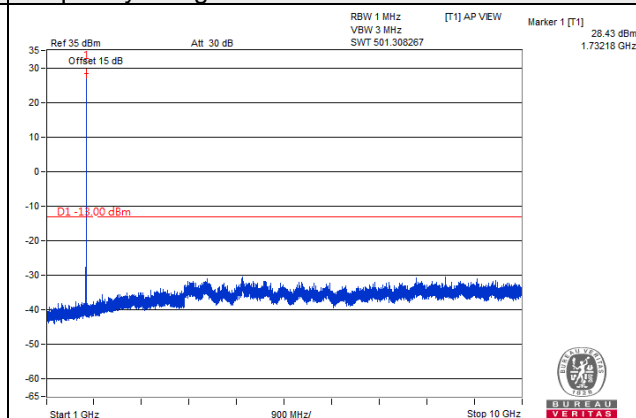
Channel Bandwidth: 1.4MHz

Channel 20175 (1732.5MHz)

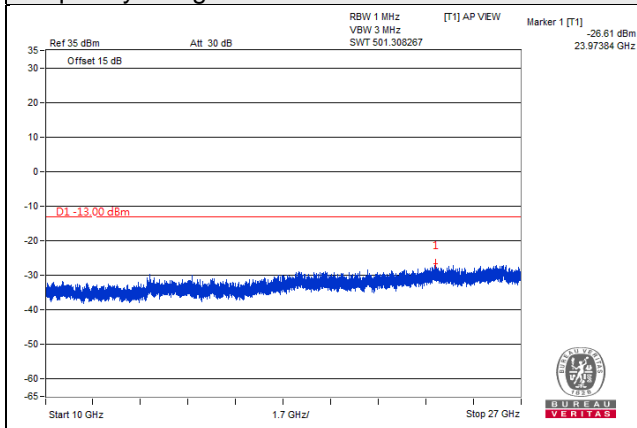
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~27GHz

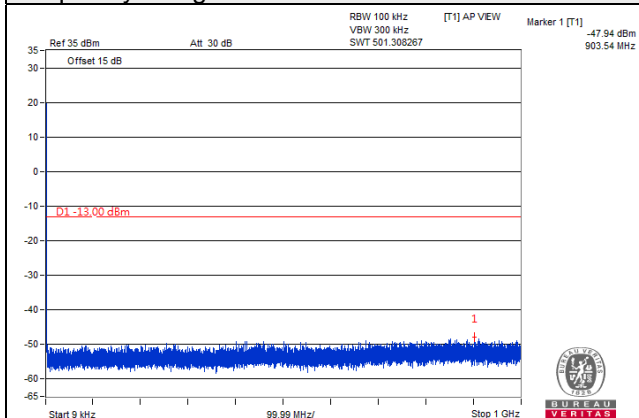




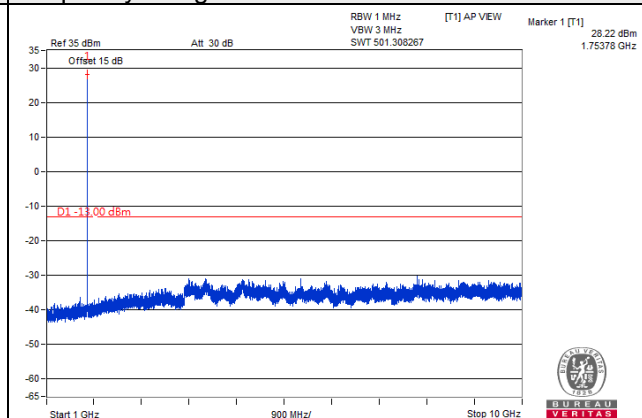
Channel Bandwidth: 1.4MHz

Channel 20393 (1754.3MHz)

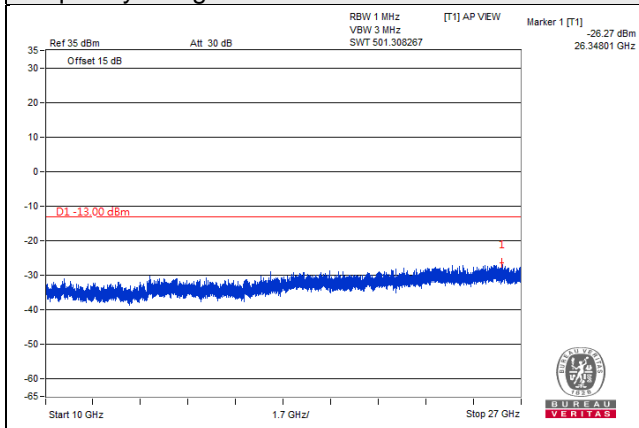
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz

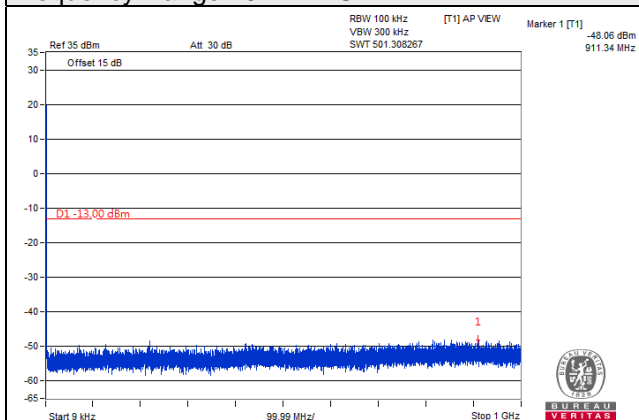


Frequency Range : 10GHz~27GHz

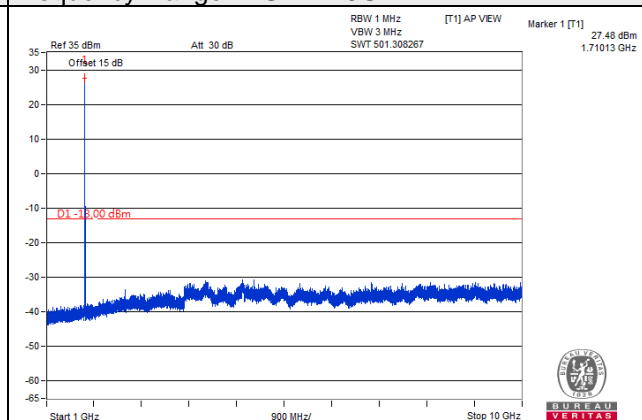


Channel Bandwidth: 3MHz  
Channel 19965 (1711.5MHz)

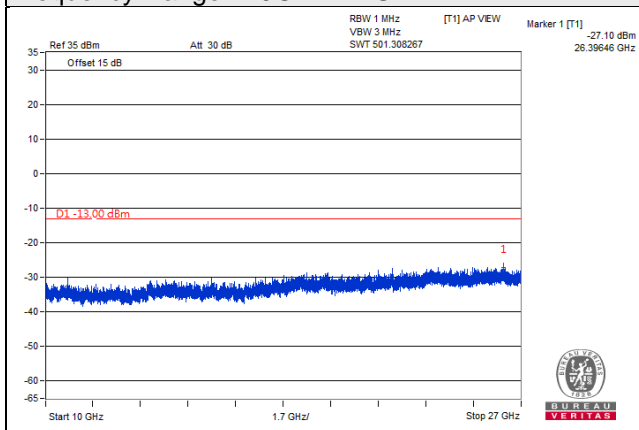
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz

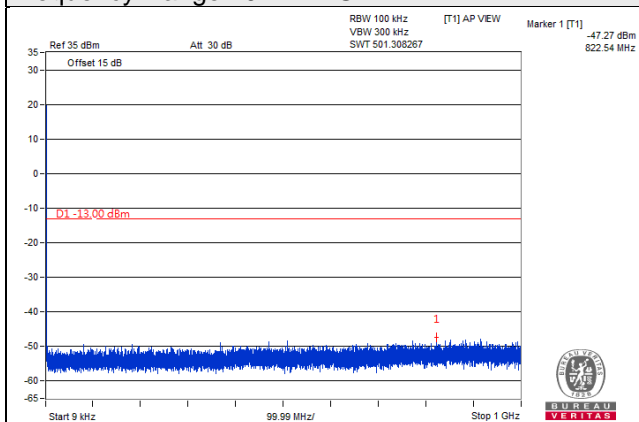


Frequency Range : 10GHz~27GHz

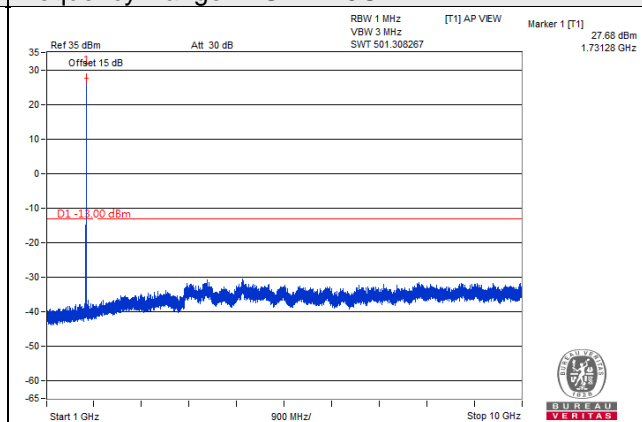


Channel Bandwidth: 3MHz  
Channel 20175 (1732.5MHz)

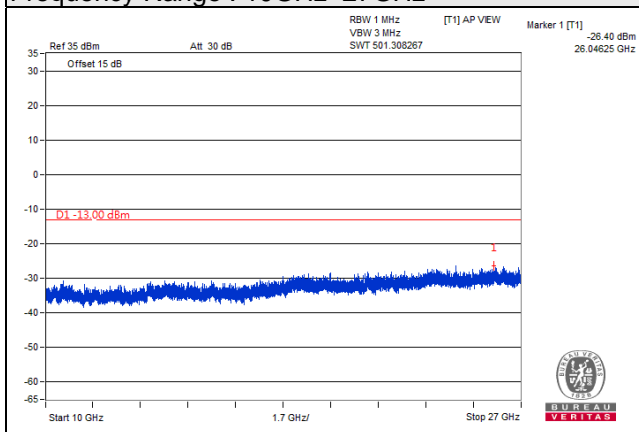
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz

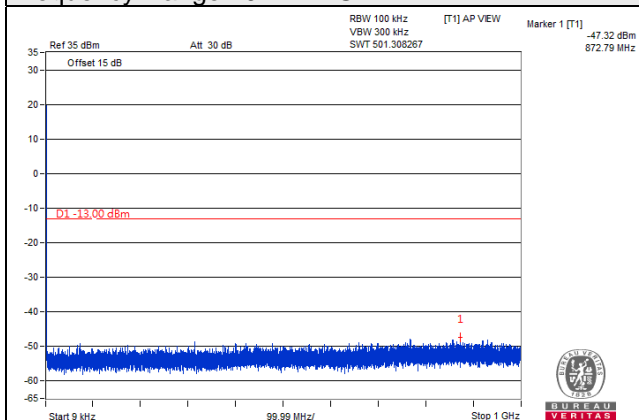


Frequency Range : 10GHz~27GHz

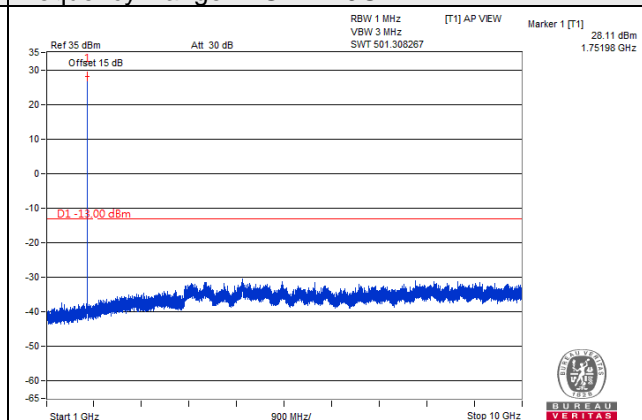


Channel Bandwidth: 3MHz  
Channel 20385 (1753.5MHz)

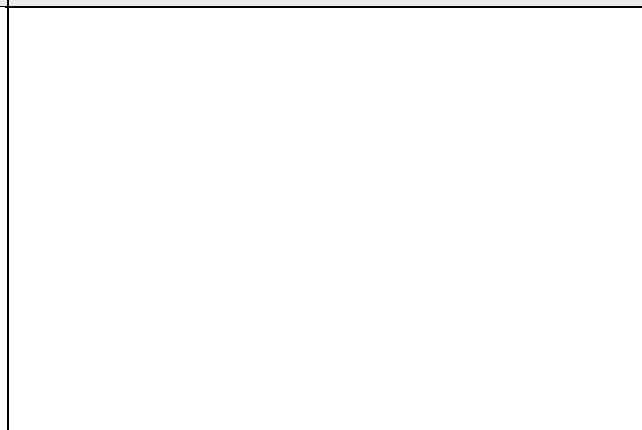
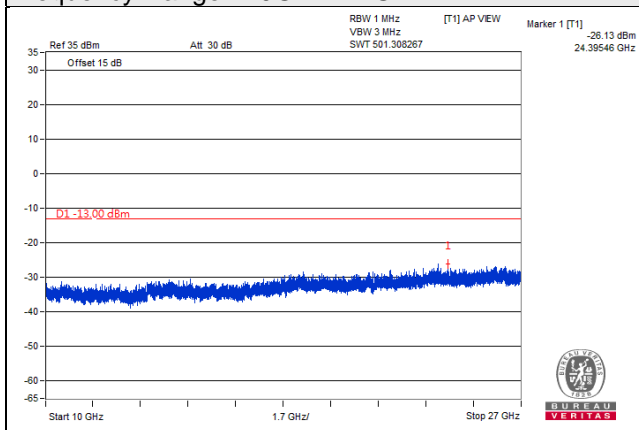
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz



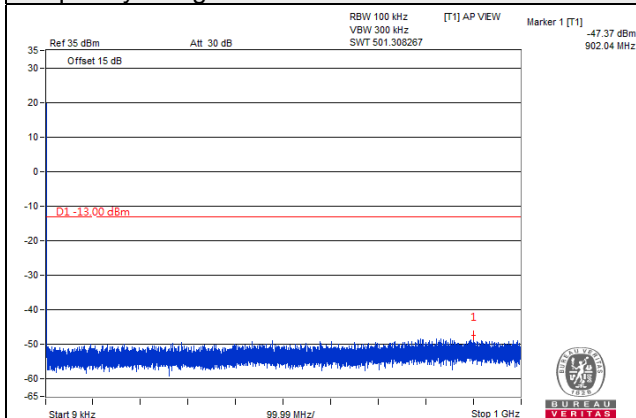
Frequency Range : 10GHz~27GHz



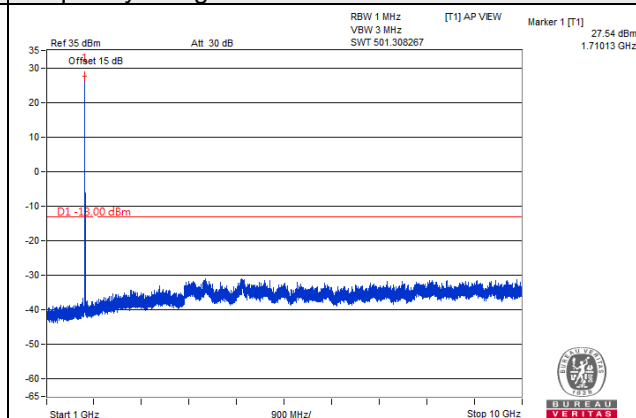
Channel Bandwidth: 5MHz

Channel 19975 (1712.5MHz)

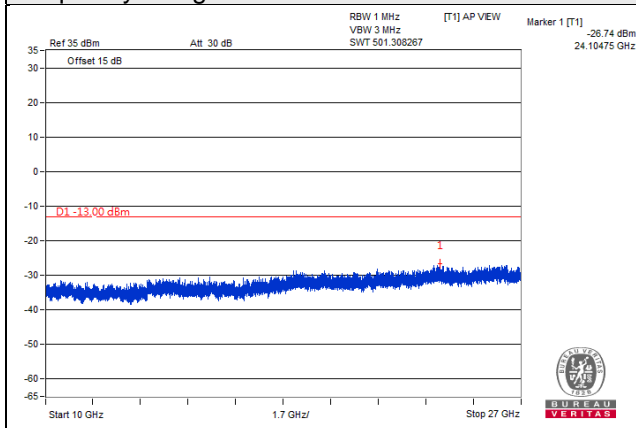
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz

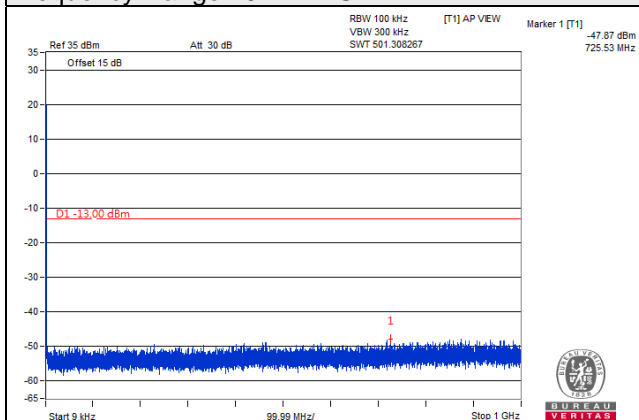


Frequency Range : 10GHz~27GHz

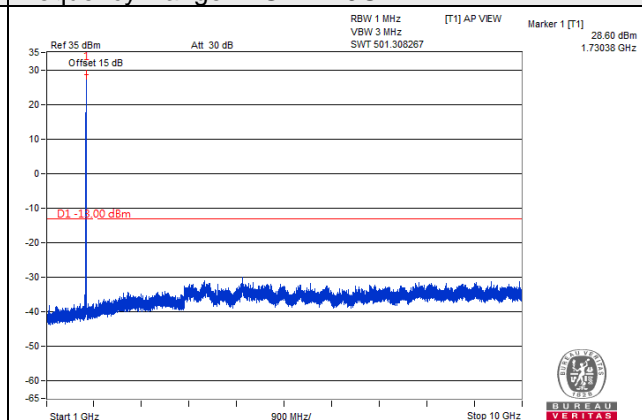


Channel Bandwidth: 5MHz  
Channel 20175 (1732.5MHz)

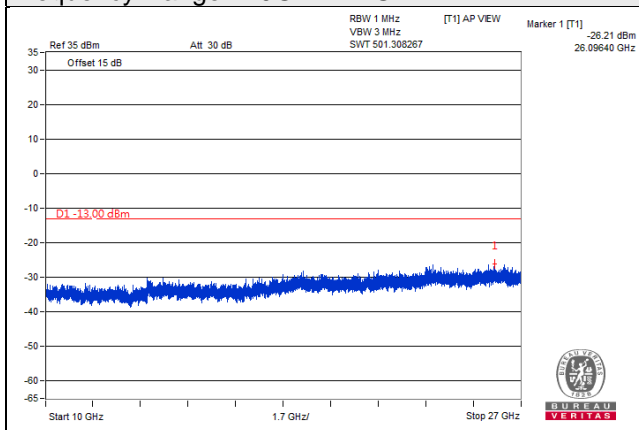
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz

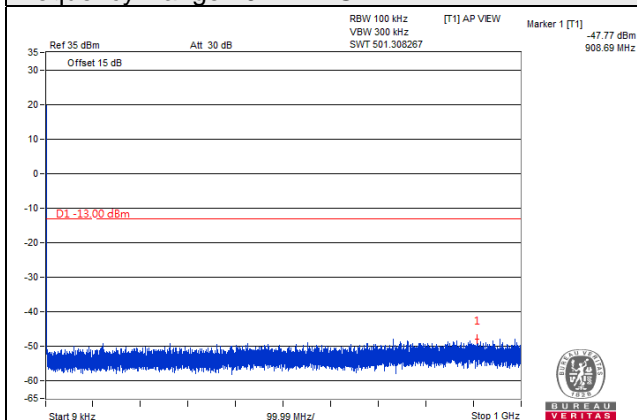


Frequency Range : 10GHz~27GHz

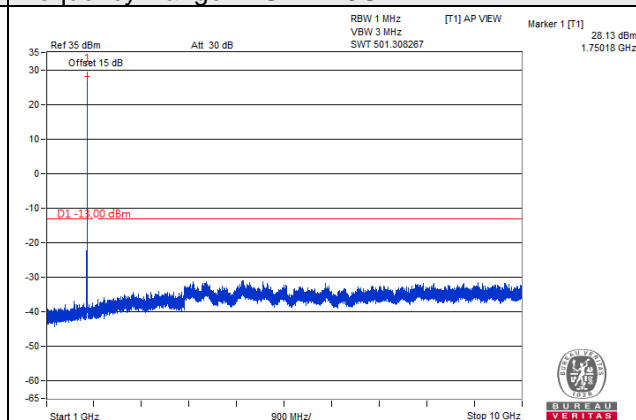


Channel Bandwidth: 5MHz  
Channel 20375 (1752.5MHz)

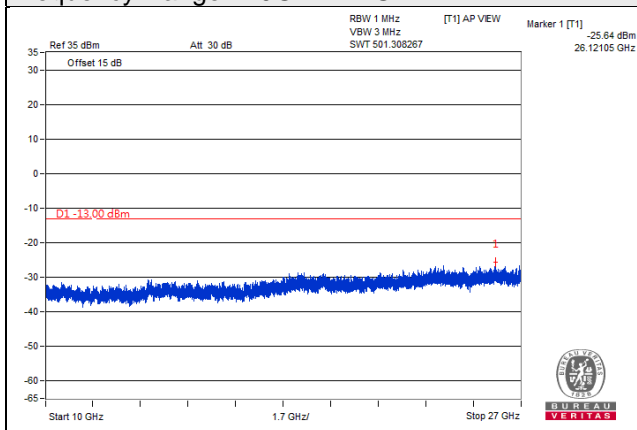
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz



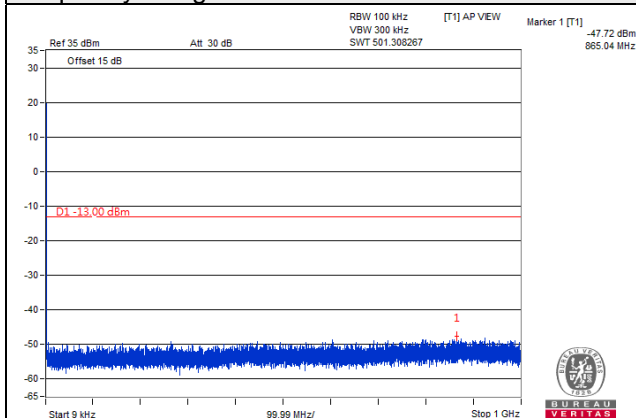
Frequency Range : 10GHz~27GHz



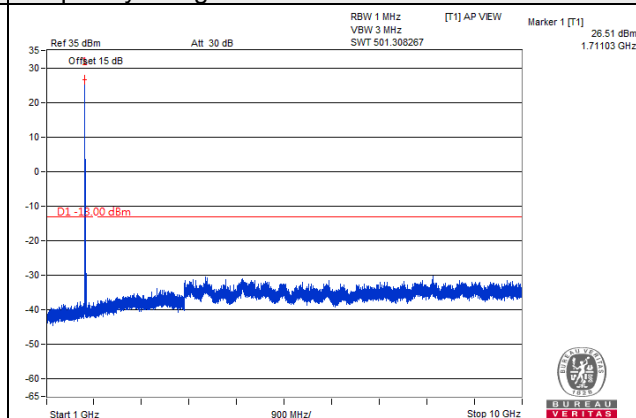
Channel Bandwidth: 10MHz

Channel 20000 (1715.0MHz)

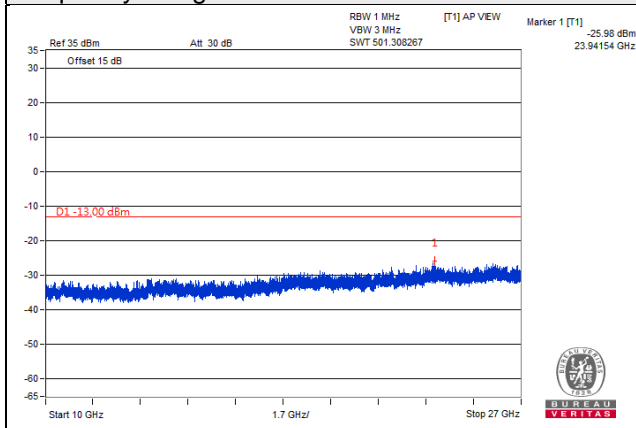
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~27GHz

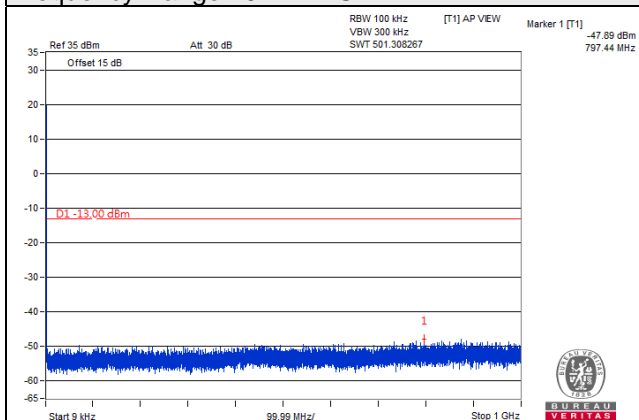




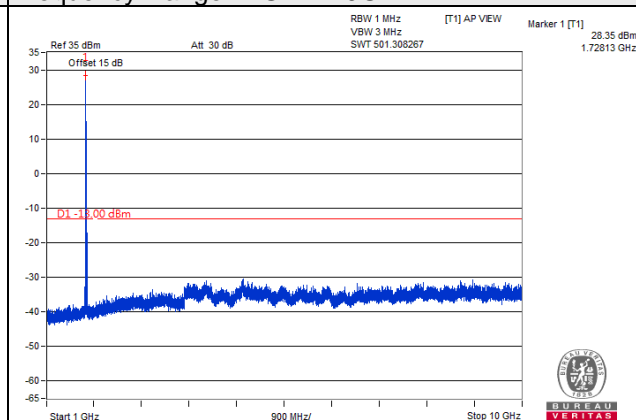
Channel Bandwidth: 10MHz

Channel 20175 (1732.5MHz)

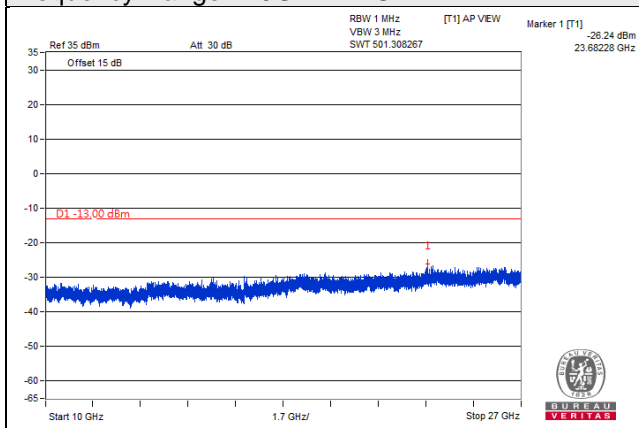
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz



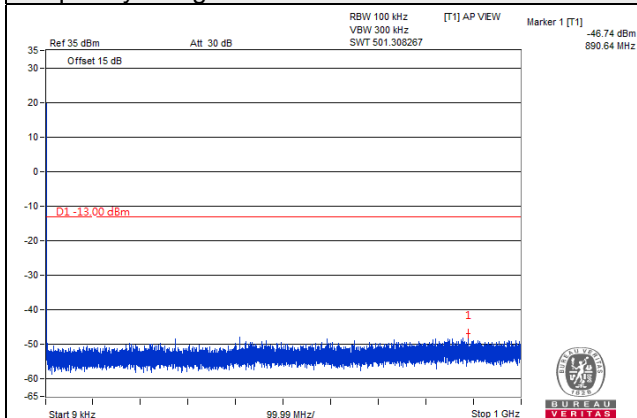
Frequency Range : 10GHz~27GHz



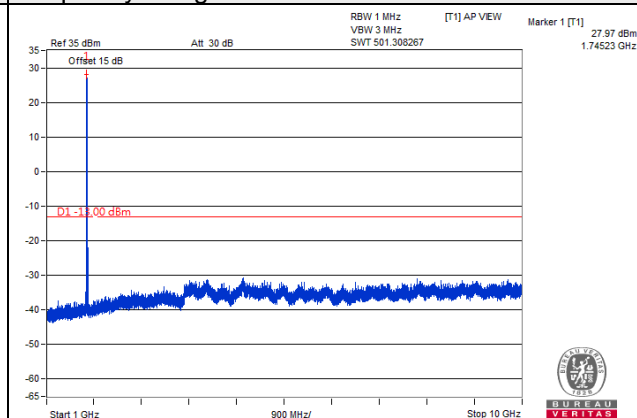
Channel Bandwidth: 10MHz

Channel 20350 (1750.0MHz)

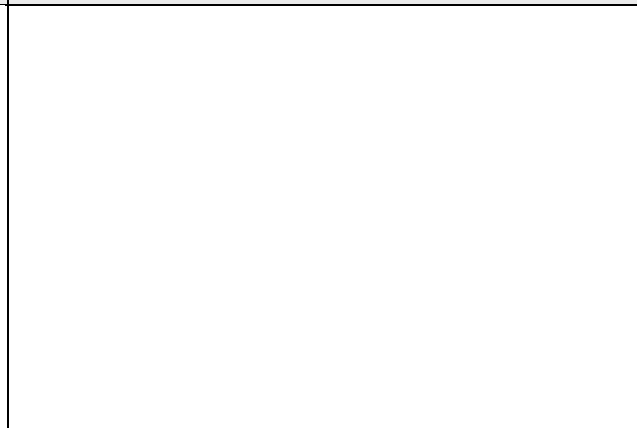
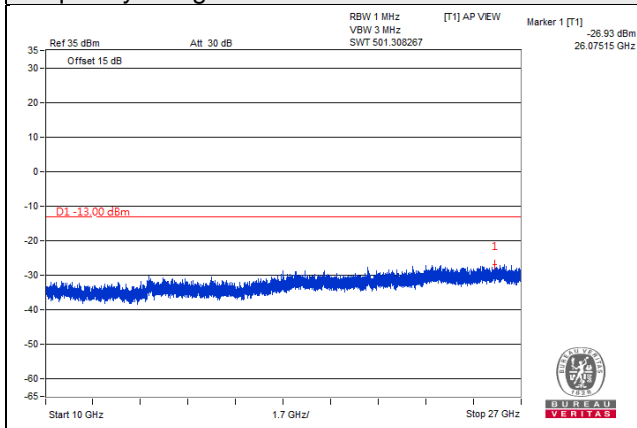
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz



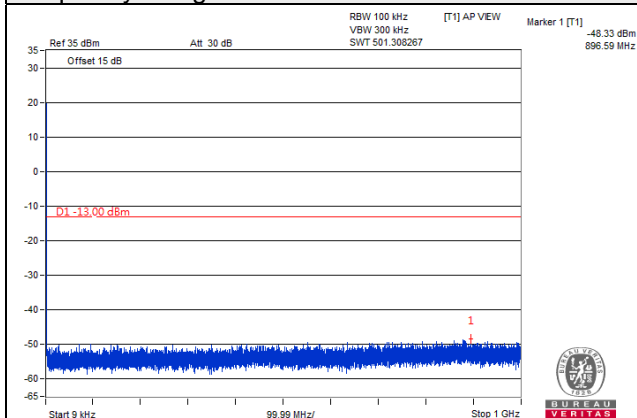
Frequency Range : 10GHz~27GHz



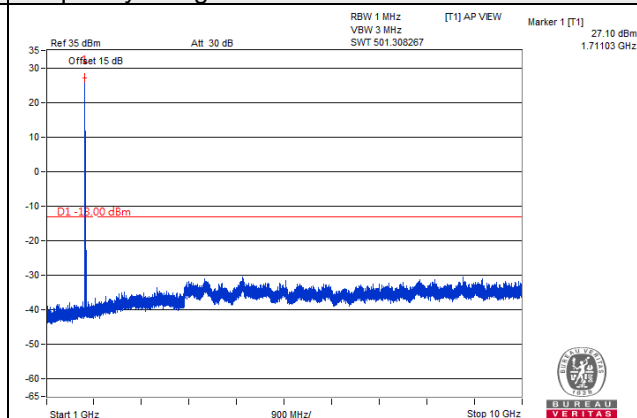
Channel Bandwidth: 15MHz

Channel 20025 (1717.5MHz)

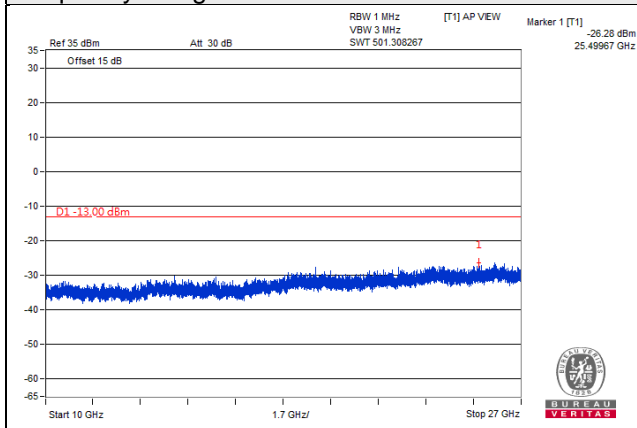
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz



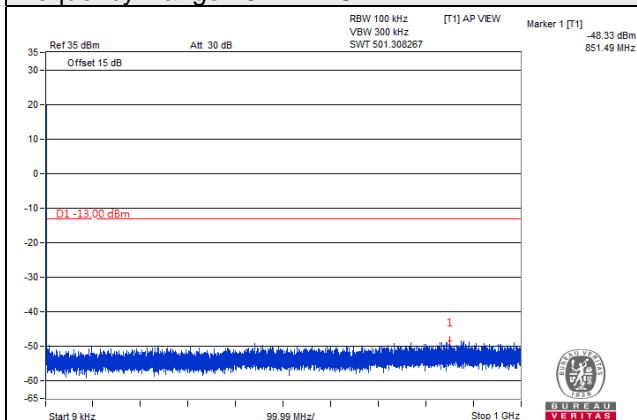
Frequency Range : 10GHz~27GHz



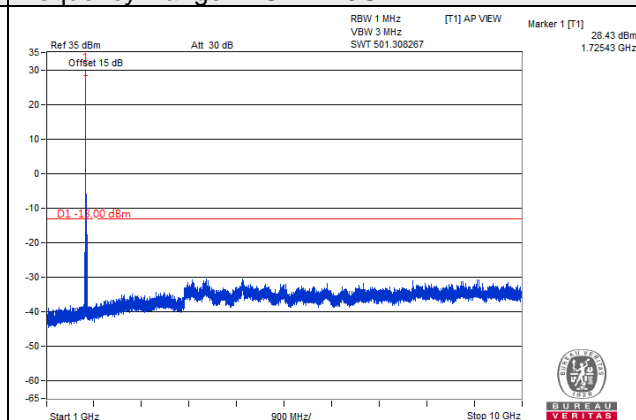
Channel Bandwidth: 15MHz

Channel 20175 (1732.5MHz)

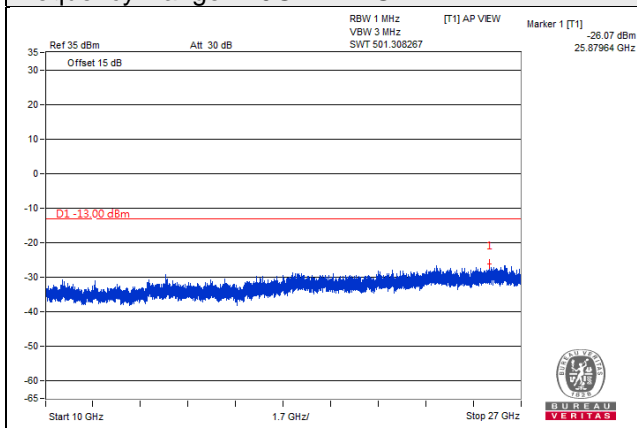
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz



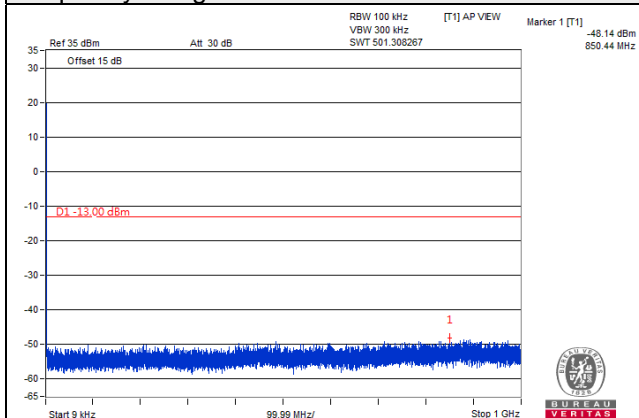
Frequency Range : 10GHz~27GHz



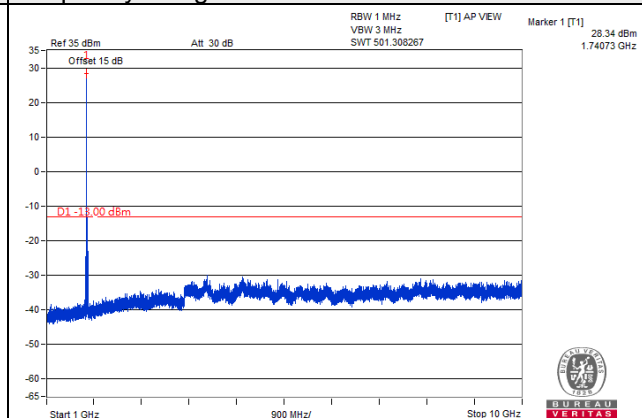
Channel Bandwidth: 15MHz

Channel 20325 (1747.5MHz)

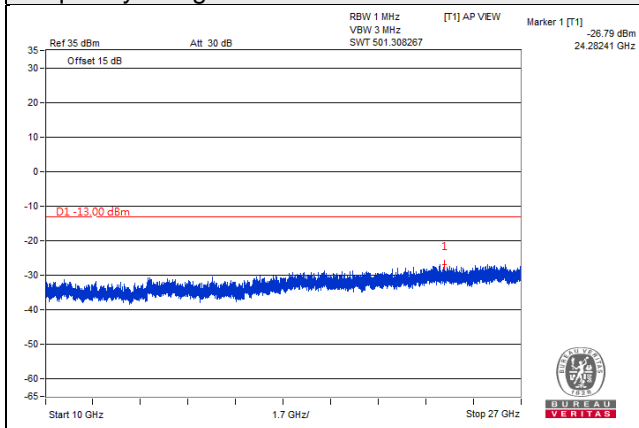
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz



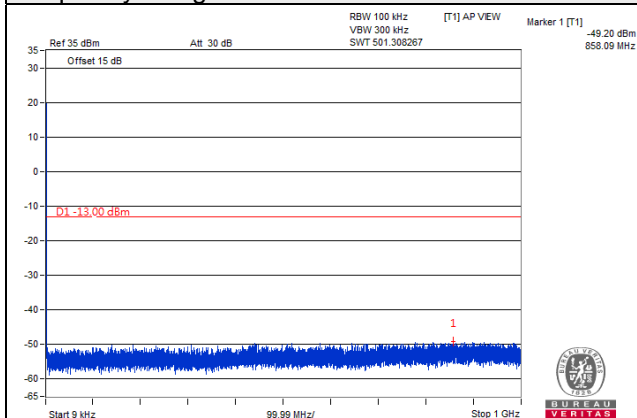
Frequency Range : 10GHz~27GHz



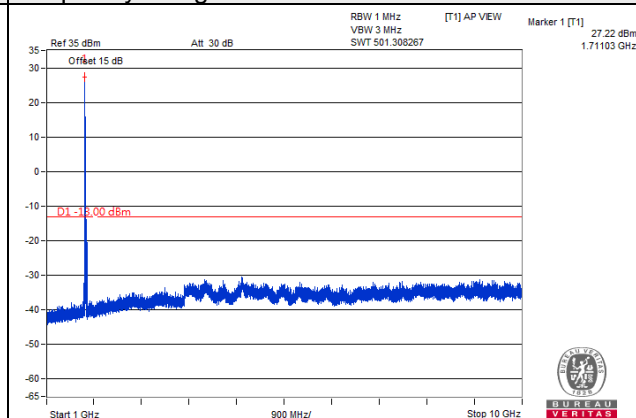
Channel Bandwidth: 20MHz

Channel 20050 (1720.0MHz)

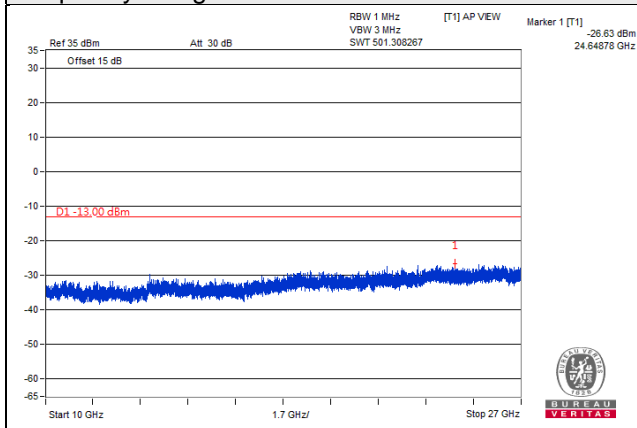
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz



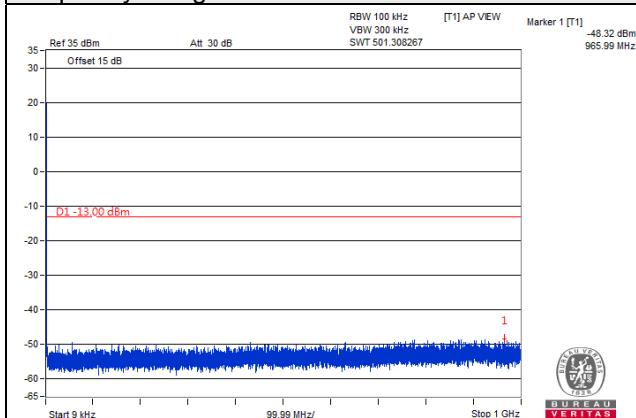
Frequency Range : 10GHz~27GHz



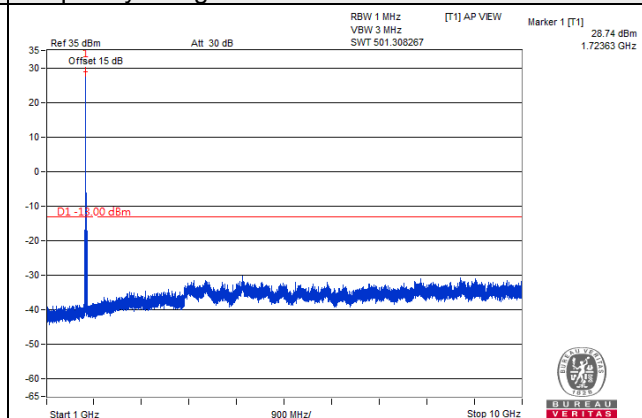
Channel Bandwidth: 20MHz

Channel 20175 (1732.5MHz)

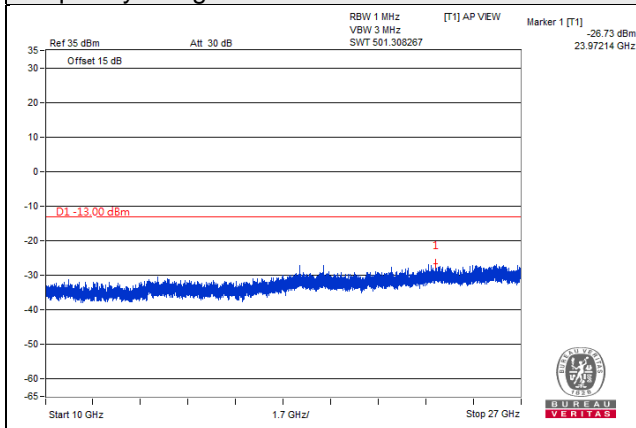
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz



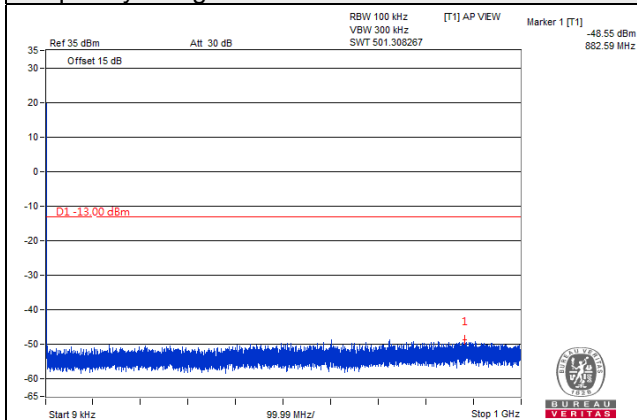
Frequency Range : 10GHz~27GHz



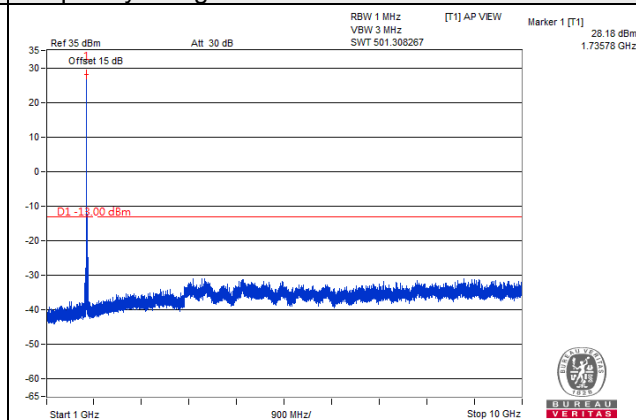
Channel Bandwidth: 20MHz

Channel 20300 (1745.0MHz)

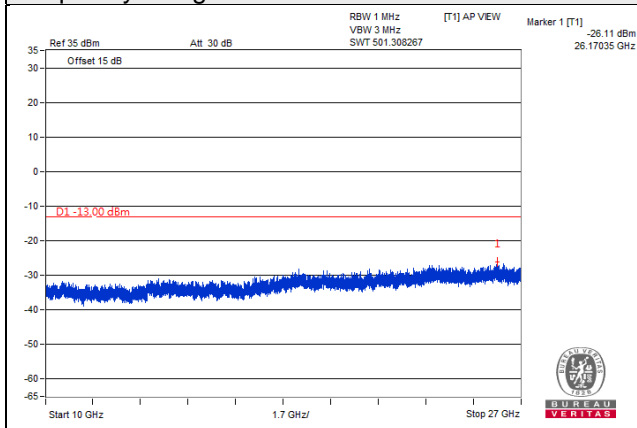
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~27GHz



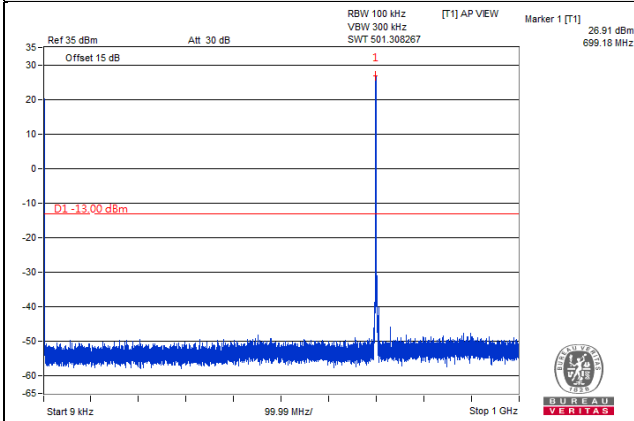


# LTE Band 12

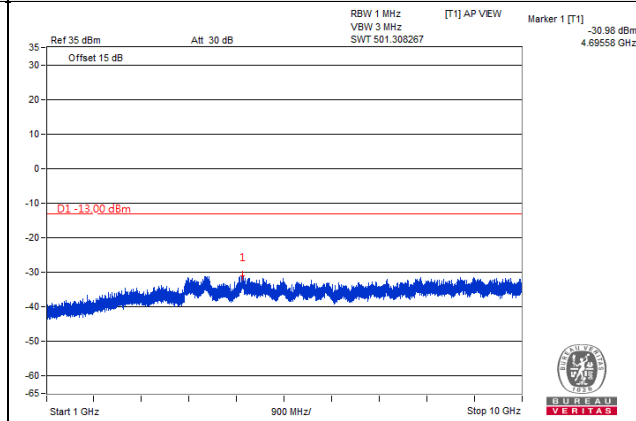
Channel Band width: 1.4MHz

Channel 23017 (699.7MHz)

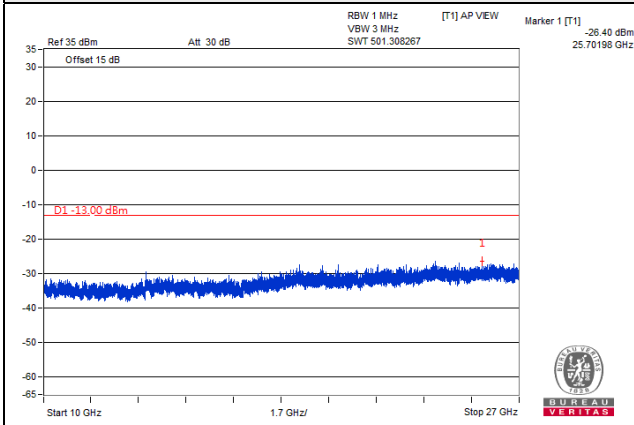
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz



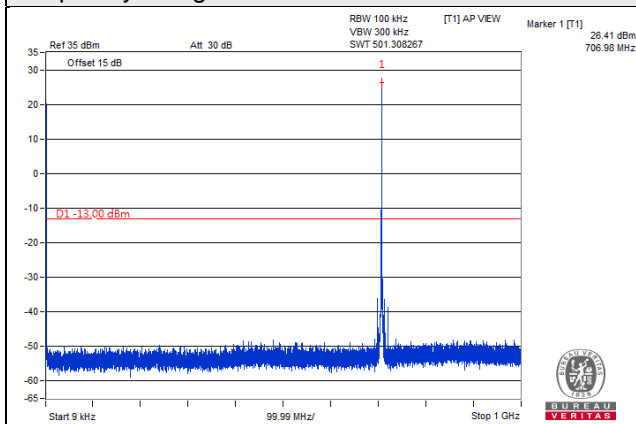
Frequency Range : 10GHz~27GHz



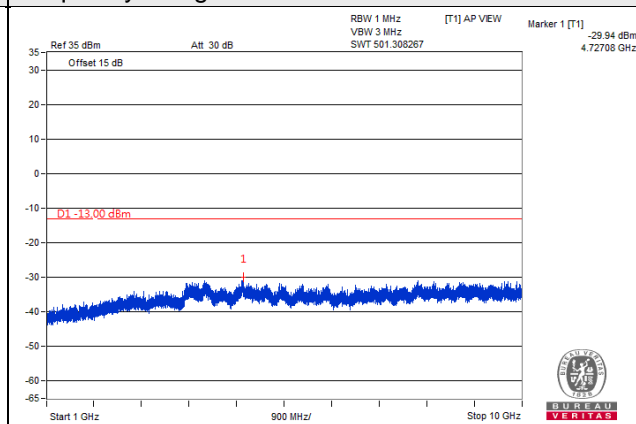
Channel Band width: 1.4MHz

Channel 23095 (707.5MHz)

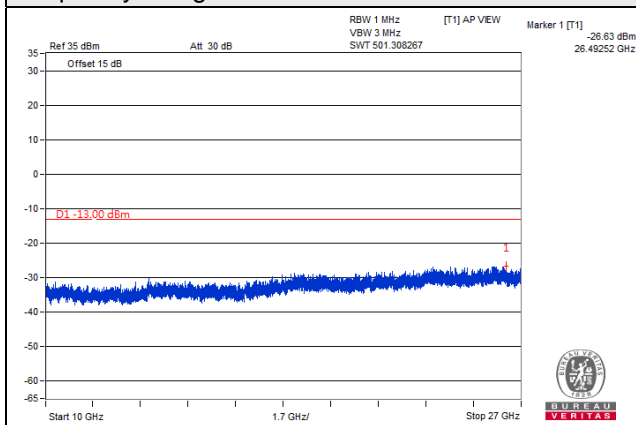
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz



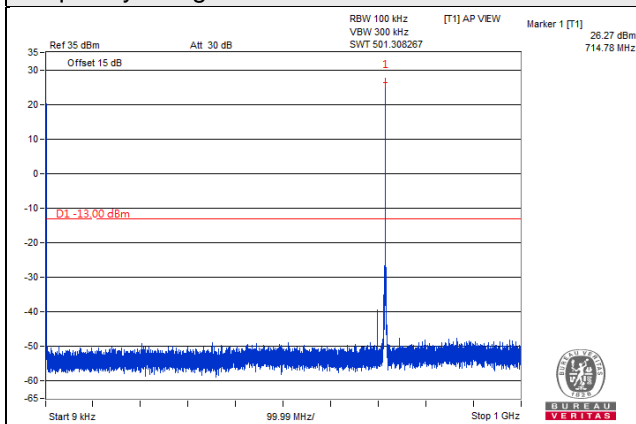
Frequency Range : 10GHz~27GHz



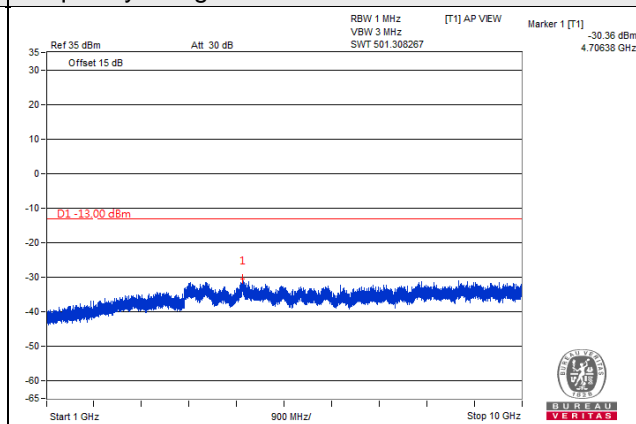
Channel Band width: 1.4MHz

Channel 23173 (715.3MHz)

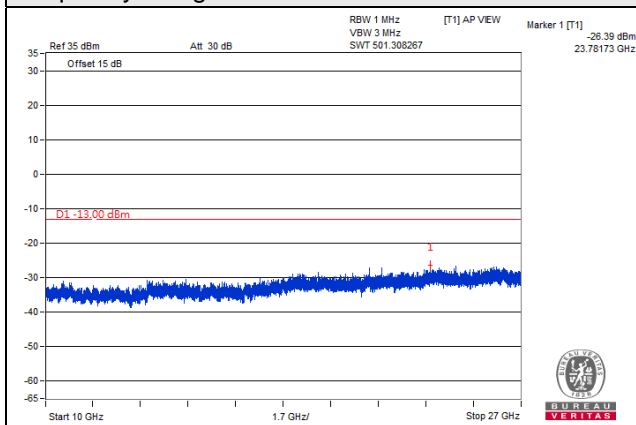
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz



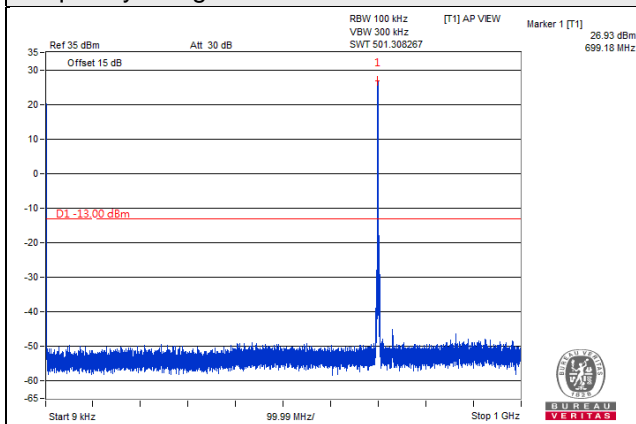
Frequency Range : 10GHz~27GHz



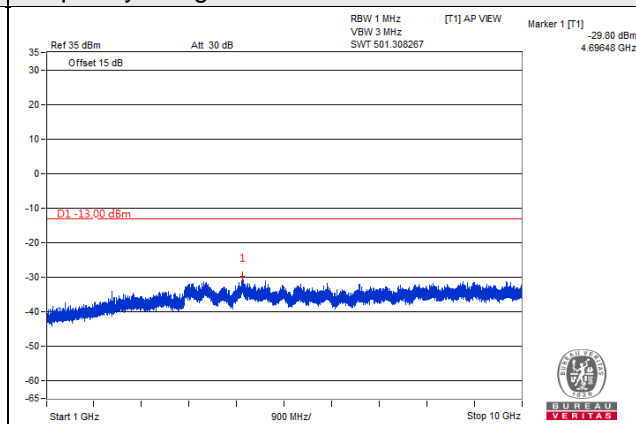
Channel Band width: 3MHz

Channel 23025 (700.5MHz)

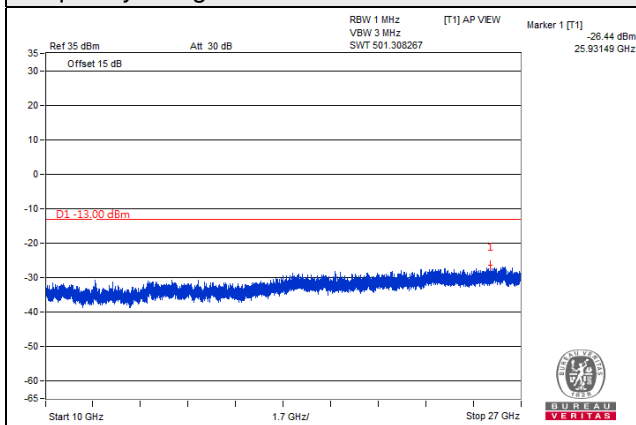
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz



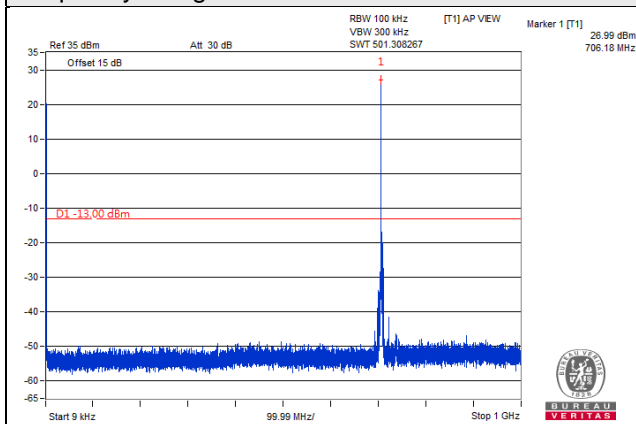
Frequency Range : 10GHz~27GHz



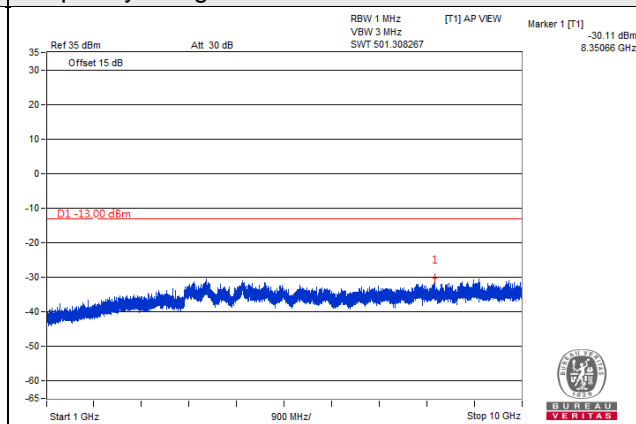
Channel Band width: 3MHz

Channel 23095 (707.5MHz)

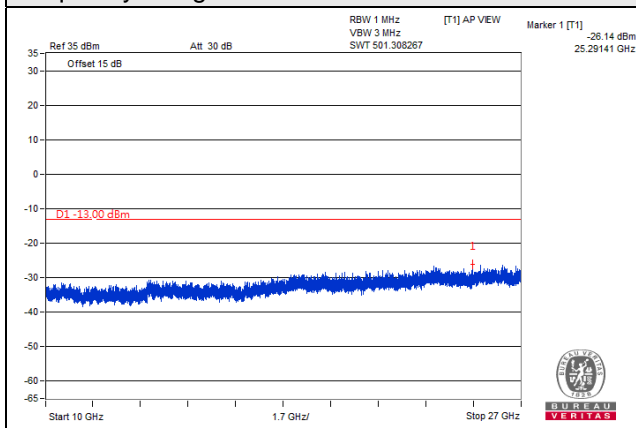
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz



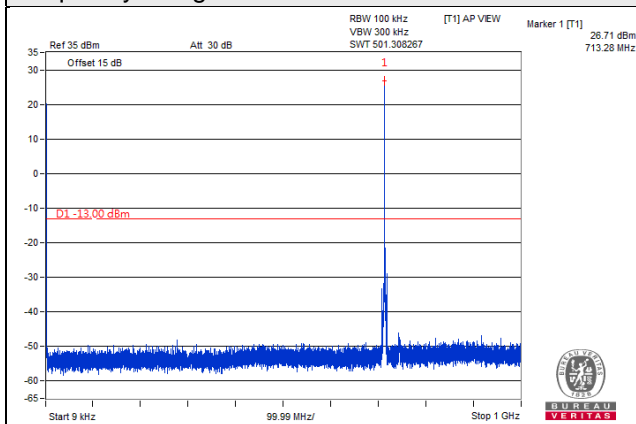
Frequency Range : 10GHz~27GHz



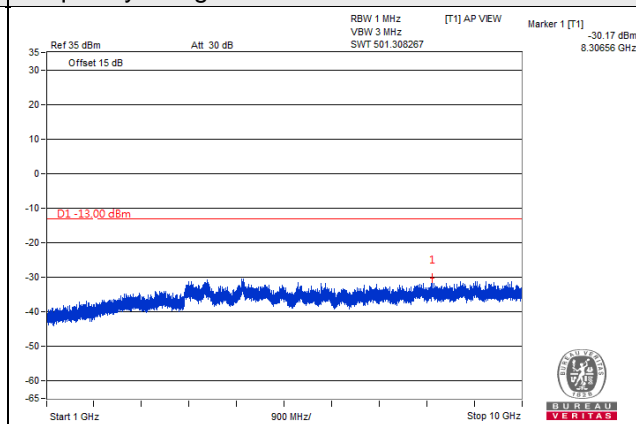
Channel Band width: 3MHz

Channel 23165 (714.5MHz)

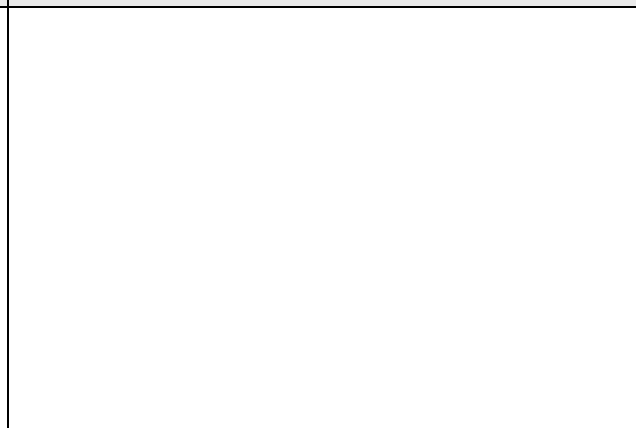
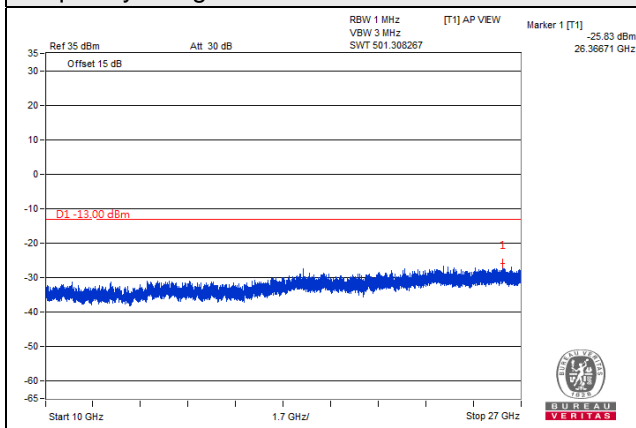
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz



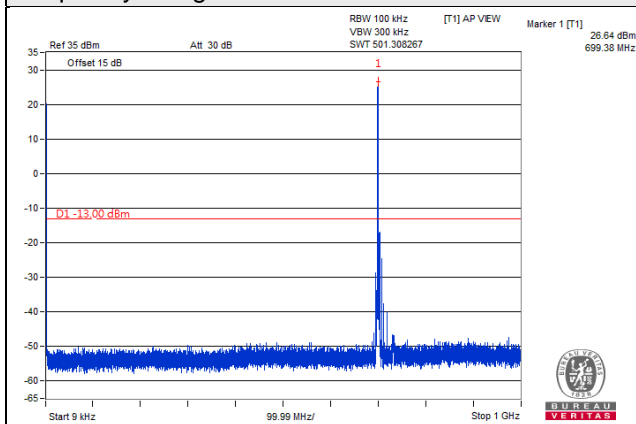
Frequency Range : 10GHz~27GHz



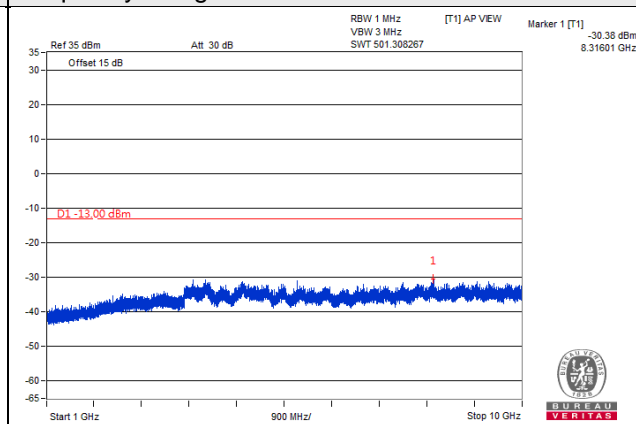
Channel Band width: 5MHz

Channel 23035 (701.5MHz)

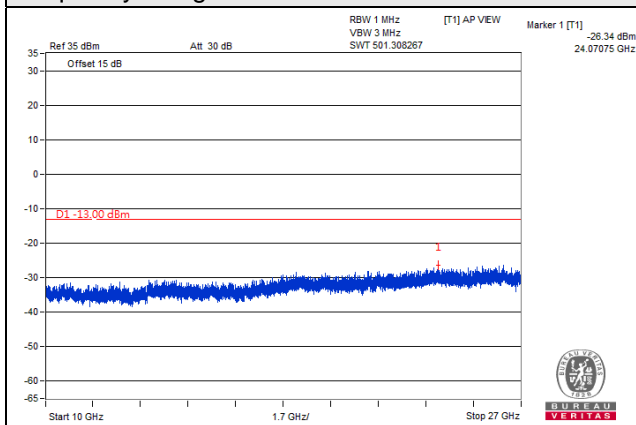
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz



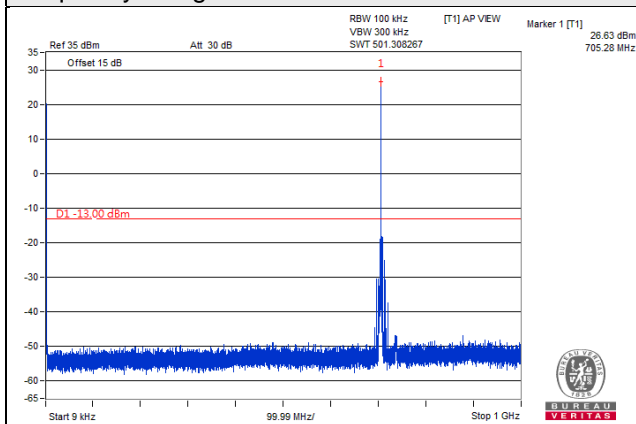
Frequency Range : 10GHz~27GHz



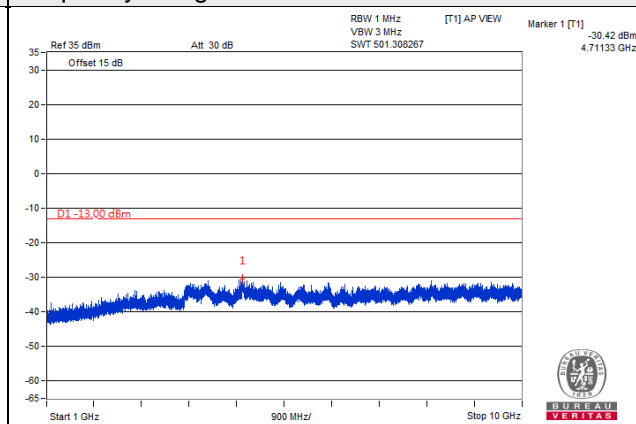
Channel Band width: 5MHz

Channel 23095 (707.5MHz)

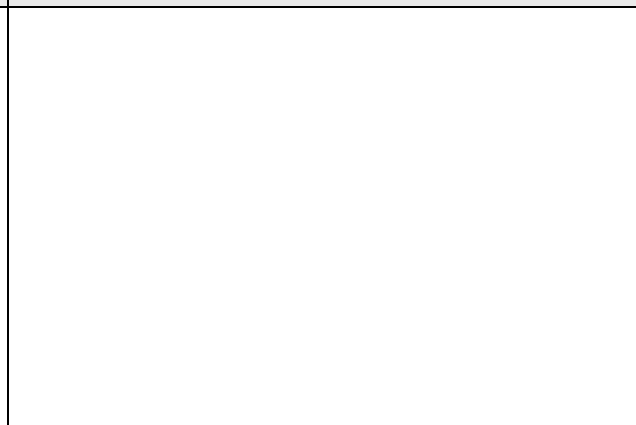
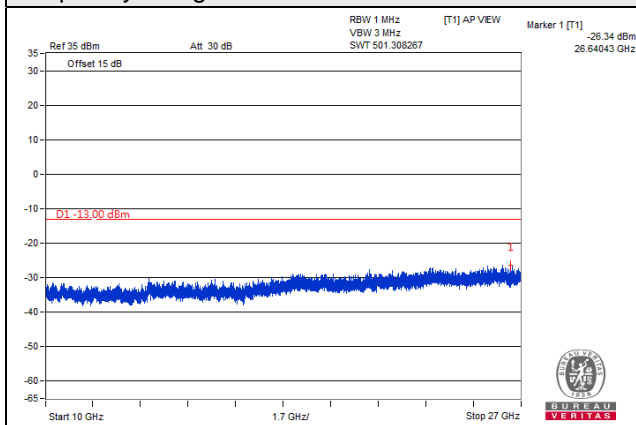
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~27GHz

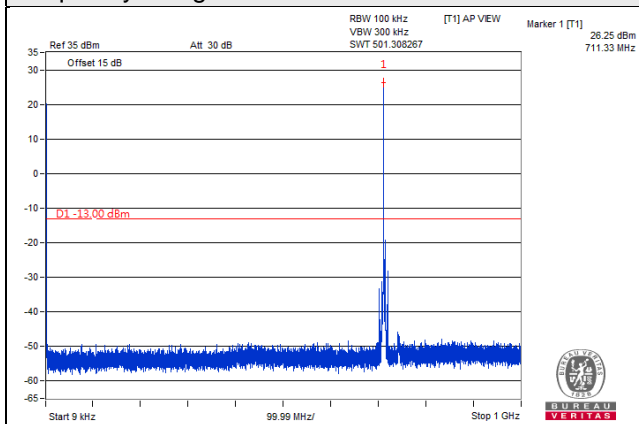




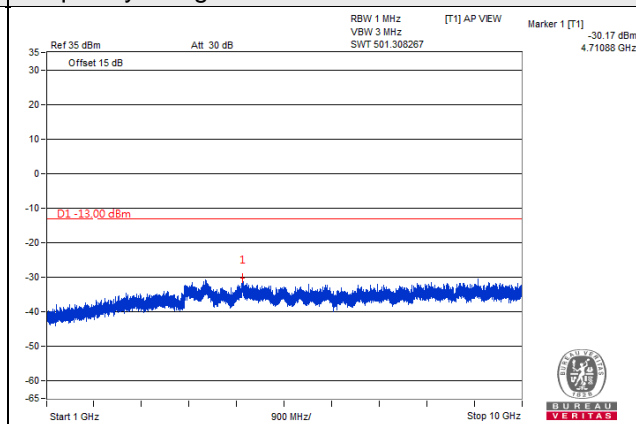
Channel Band width: 5MHz

Channel 23155 (713.5MHz)

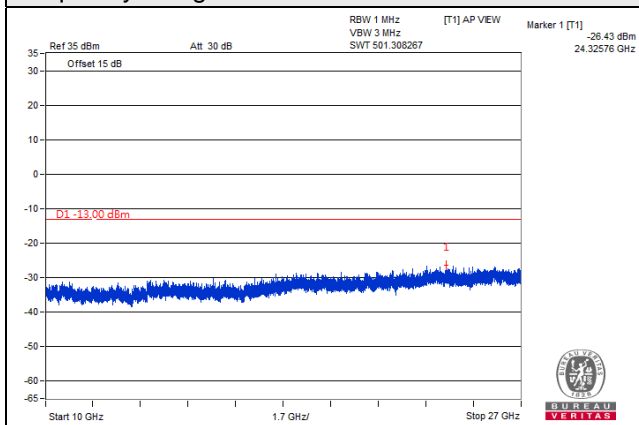
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz



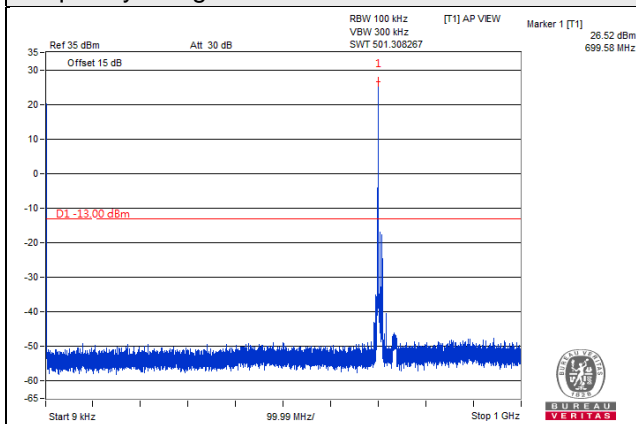
Frequency Range : 10GHz~27GHz



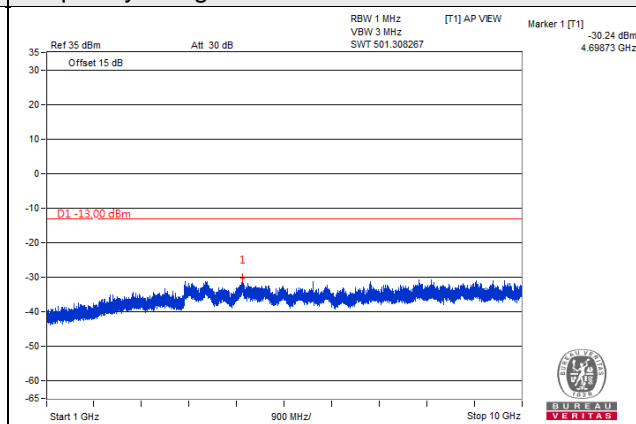
Channel Band width: 10MHz

Channel 23060 (704MHz)

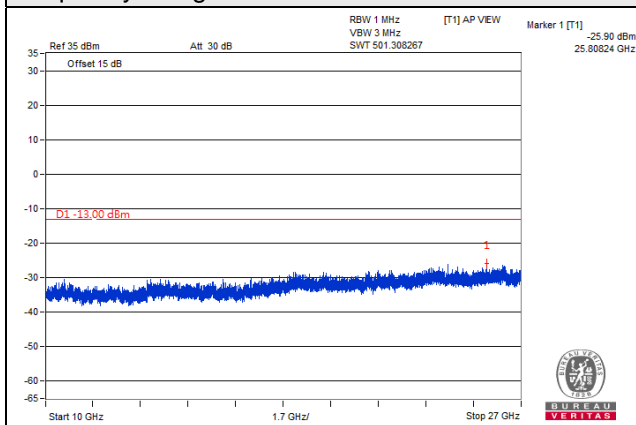
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz



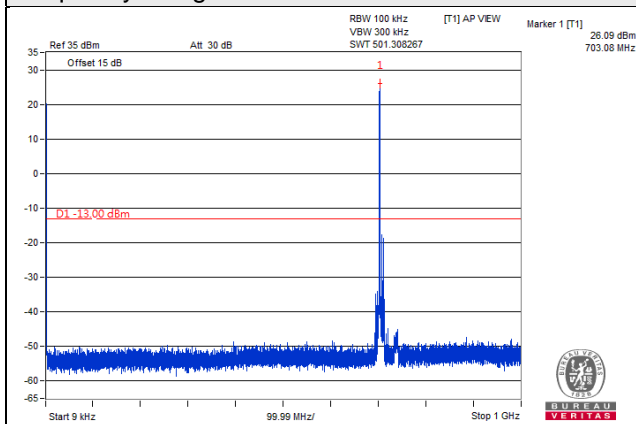
Frequency Range : 10GHz~27GHz



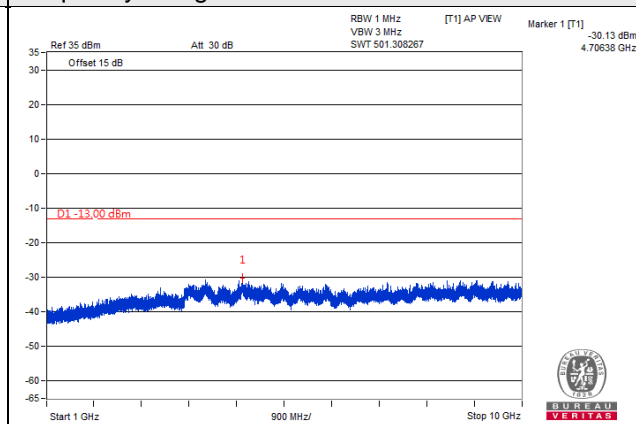
Channel Band width: 10MHz

Channel 23095 (707.5MHz)

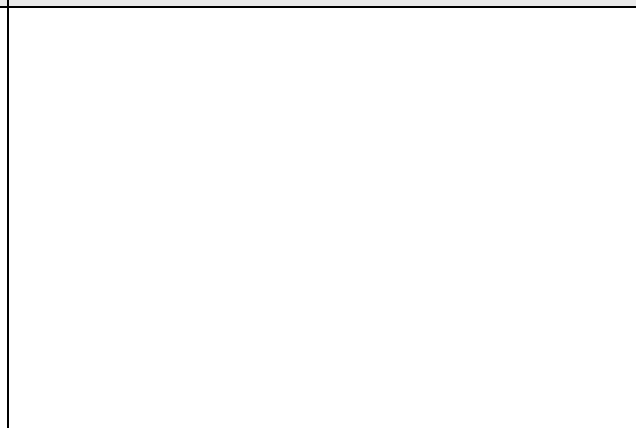
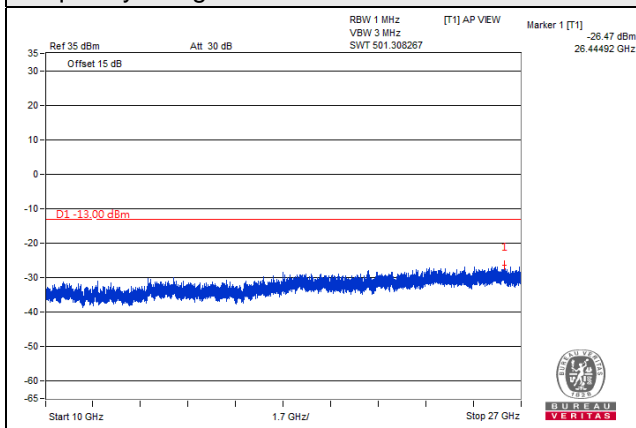
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz



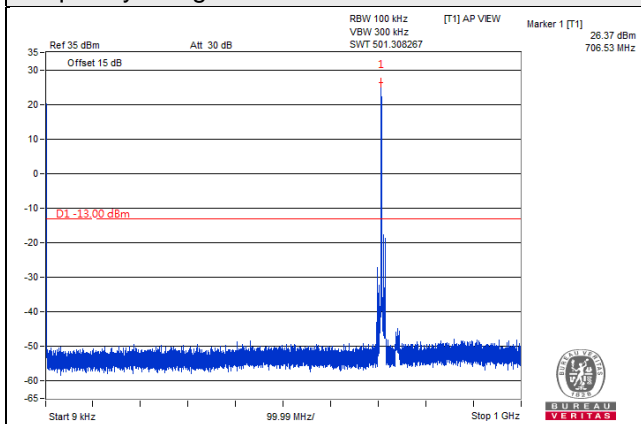
Frequency Range : 10GHz~27GHz



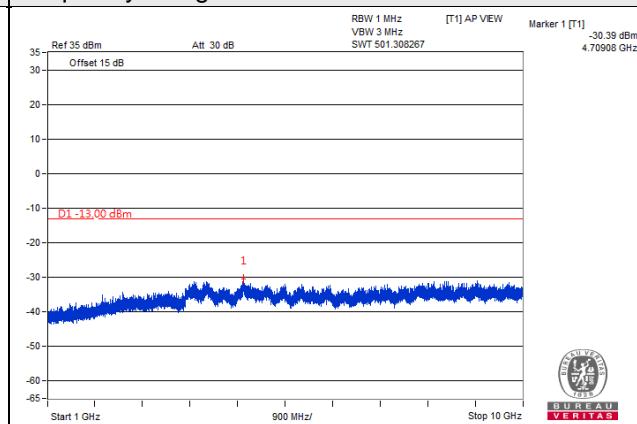
Channel Band width: 10MHz

Channel 23130 (711MHz)

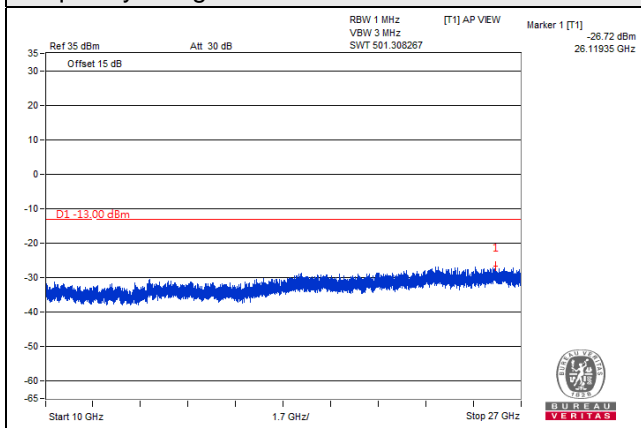
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~27GHz

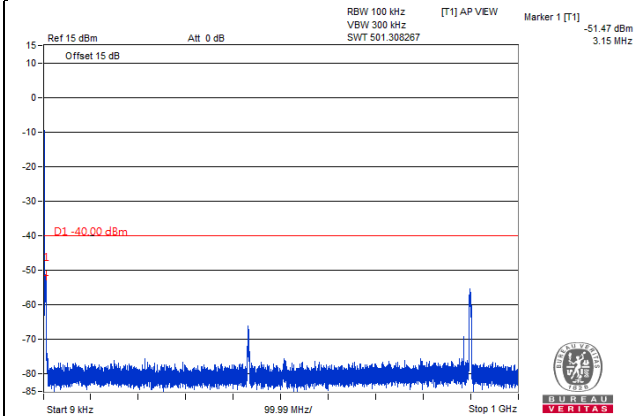


# LTE Band 30

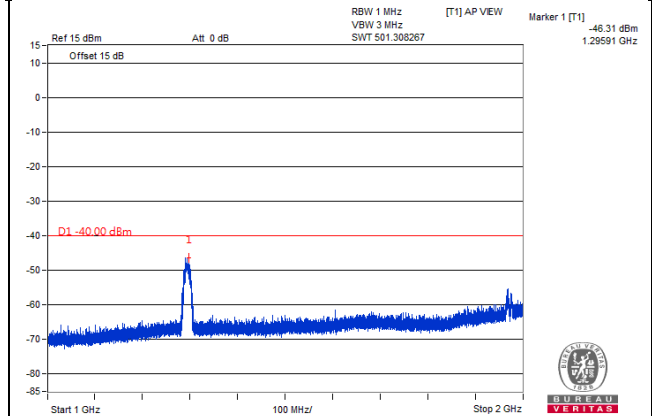
Channel Bandwidth: 5MHz

Channel 27685(2307.5MHz)

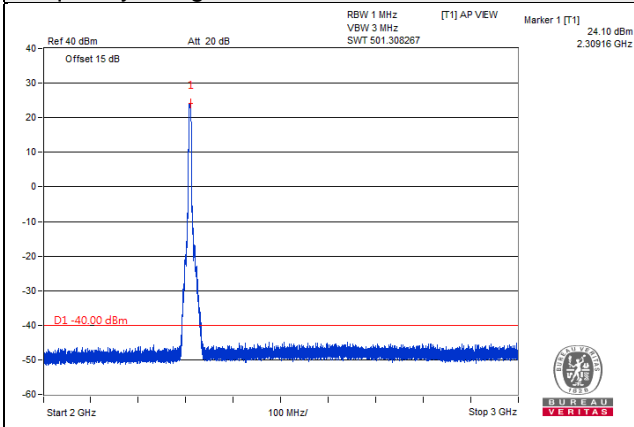
Frequency Range : 9kHz~1GHz



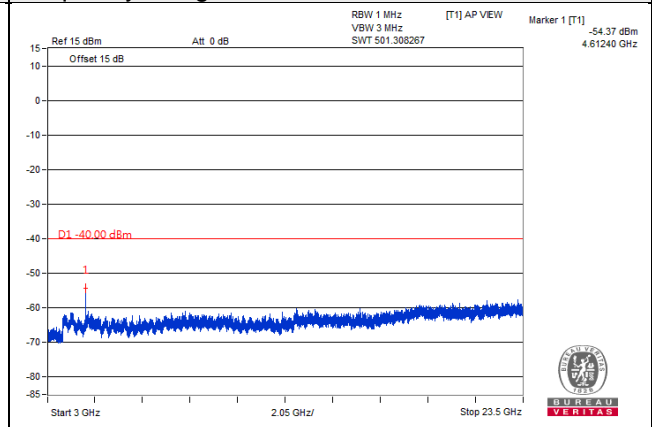
Frequency Range : 1GHz~2GHz



Frequency Range : 2GHz~3GHz



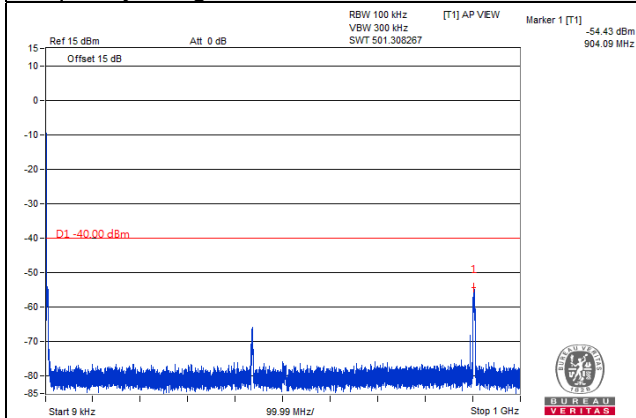
Frequency Range : 3GHz~23GHz



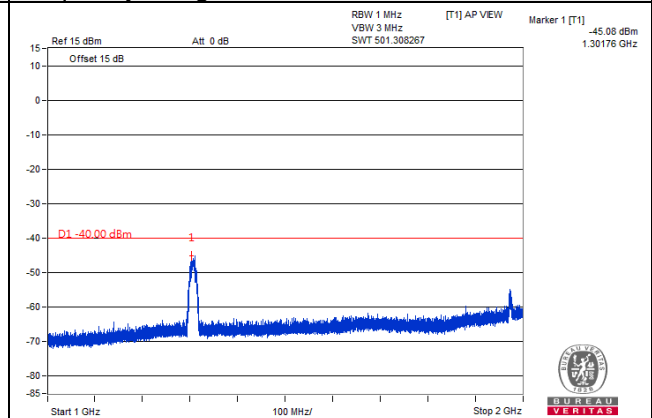
Channel Bandwidth: 5MHz

Channel 27710(2310.0MHz)

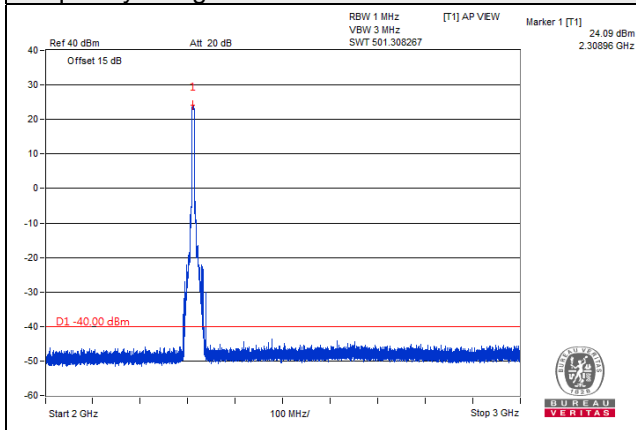
Frequency Range : 9kHz~1GHz



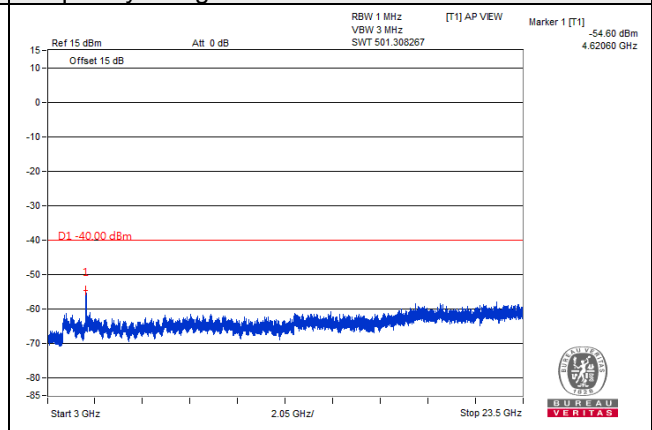
Frequency Range : 1GHz~2GHz



Frequency Range : 2GHz~3GHz



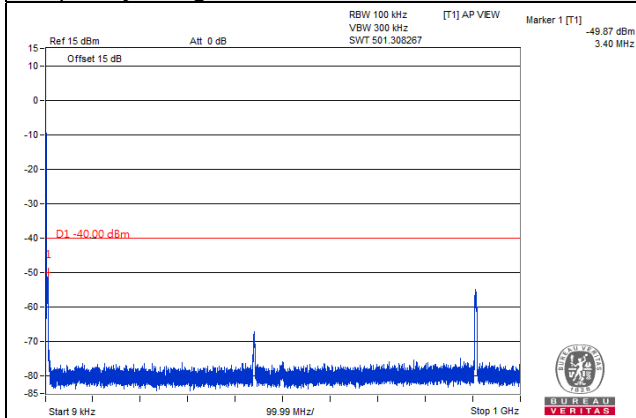
Frequency Range : 3GHz~23GHz



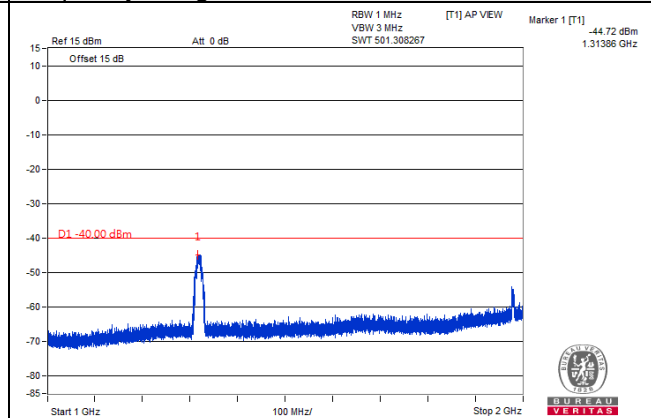
Channel Bandwidth: 5MHz

Channel 277735(2312.5MHz)

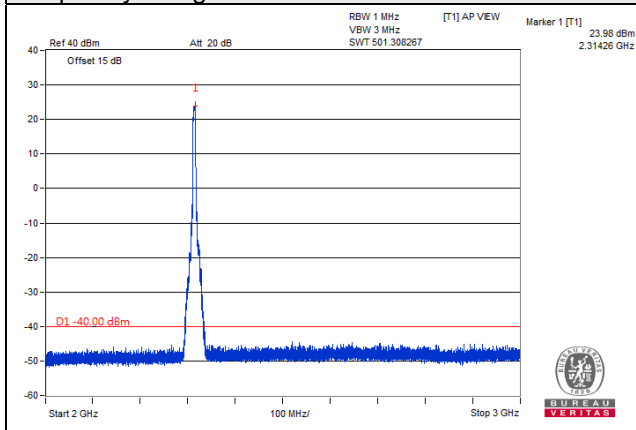
Frequency Range : 9kHz~1GHz



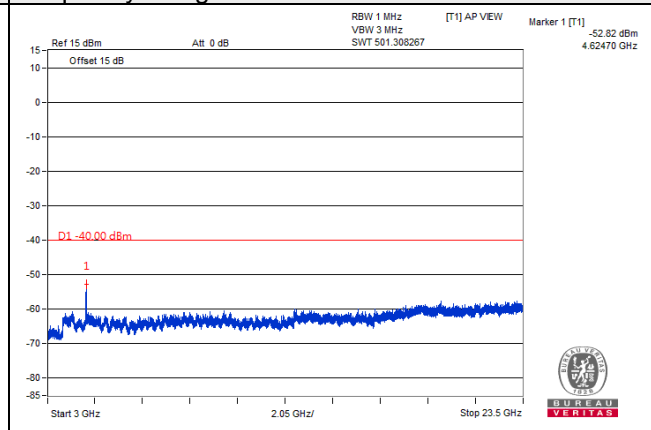
Frequency Range : 1GHz~2GHz



Frequency Range : 2GHz~3GHz



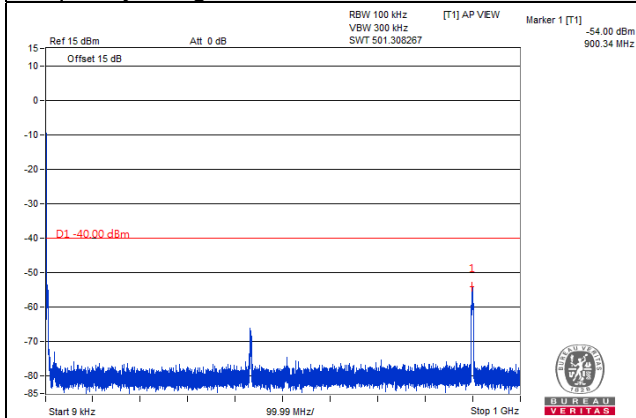
Frequency Range : 3GHz~23GHz



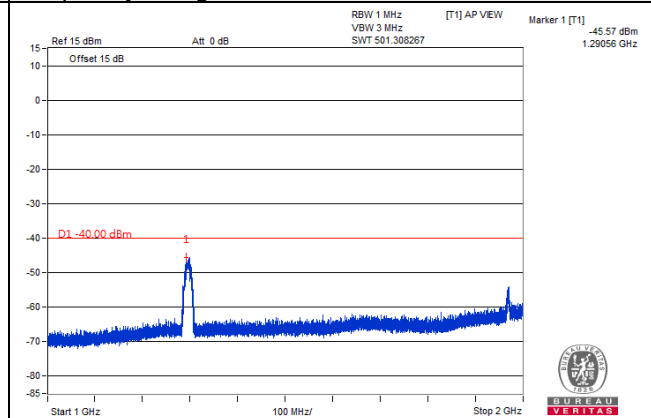
Channel Bandwidth: 10MHz

Channel 27710(2310.0MHz)

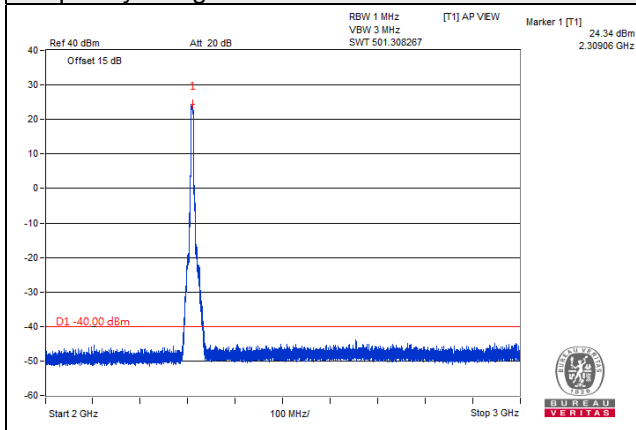
Frequency Range : 9kHz~1GHz



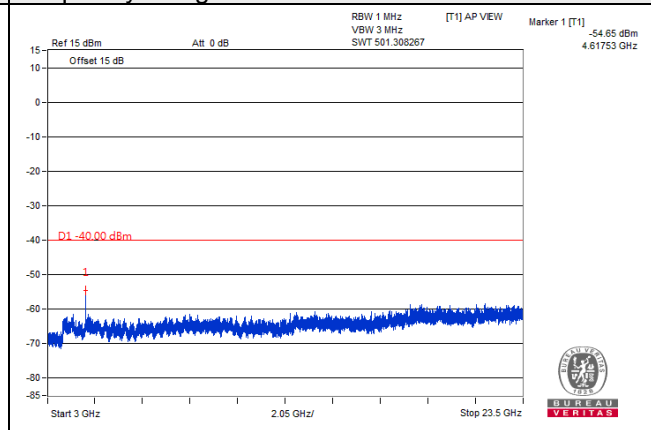
Frequency Range : 1GHz~2GHz



Frequency Range : 2GHz~3GHz



Frequency Range : 3GHz~23GHz





## 4.8 Radiated Emission Measurement

### 4.8.1 Limits of Radiated Emission Measurement

For WCDMA Band 4, LTE Band 4

According to FCC 27.53(h) for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least  $43 + 10 \log_{10}(P)$  dB.

For LTE Band 12

According to FCC 27.53(g) for operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least  $43 + 10 \log(P)$  dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater.

For LTE Band 30

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least  $70 + 10 \log_{10}(P)$  dB. The limit of emission is equal to -40 dBm.

### 4.8.2 Test Procedure

- a. The power was measured with R&S Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high channel of operational frequency range.)
- b. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- c. The substitution antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value" of step b. Record the power level of S.G
- d.  $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution antenna}$ .

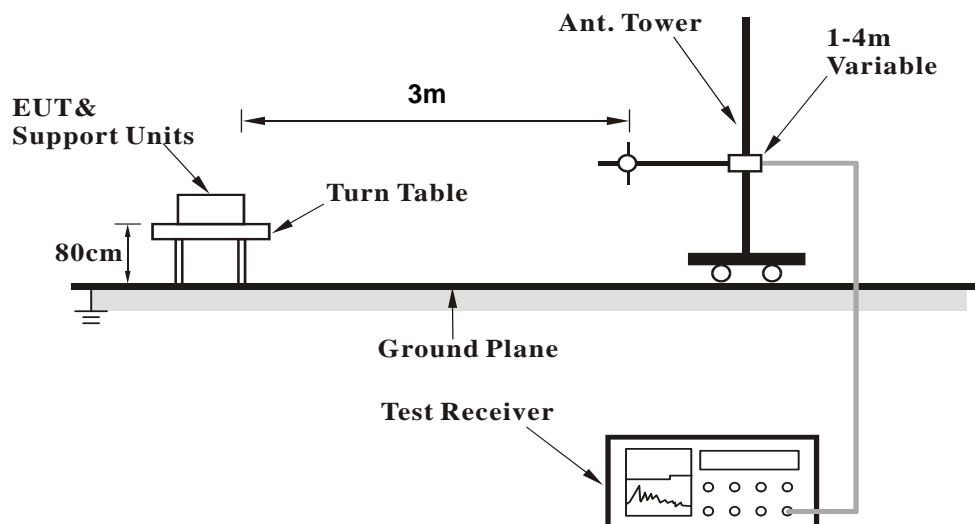
Note: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

### 4.8.3 Deviation from Test Standard

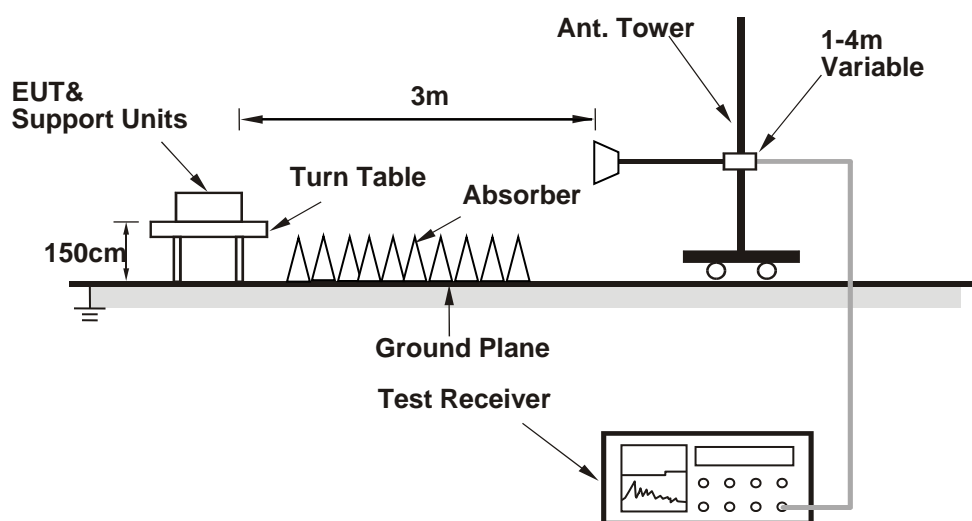
No deviation.

#### 4.8.4 Test Setup

##### For Radiated Emission below or equal 1GHz



##### For Radiated Emission above 1GHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

## 4.8.5 Test Results

### Test Mode A

Below 1GHz

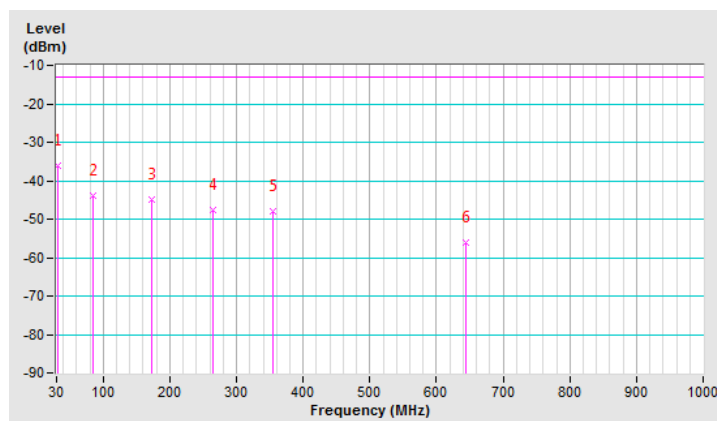
WCDMA Band 4

Mode	TX channel 1312 (1712.4MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	32.91	-42.40	-18.40	-17.70	-36.10	-13.00	-23.10
2	85.29	-50.20	-44.20	0.30	-43.90	-13.00	-30.90
3	172.59	-51.10	-41.90	-2.90	-44.80	-13.00	-31.80
4	264.74	-53.90	-46.00	-1.60	-47.60	-13.00	-34.60
5	354.95	-54.10	-51.70	3.90	-47.80	-13.00	-34.80
6	644.01	-62.30	-59.70	3.70	-56.00	-13.00	-43.00

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

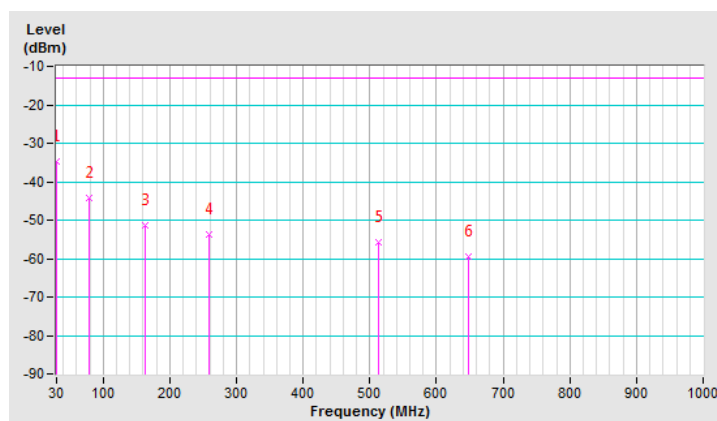


Mode	TX channel 1312 (1712.4MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	30.00	-24.70	-15.20	-19.40	-34.60	-13.00	-21.60
2	79.47	-39.30	-44.80	0.60	-44.20	-13.00	-31.20
3	163.86	-48.40	-48.60	-2.90	-51.50	-13.00	-38.50
4	257.95	-54.30	-52.20	-1.60	-53.80	-13.00	-40.80
5	512.09	-55.90	-59.60	3.90	-55.70	-13.00	-42.70
6	648.86	-65.10	-63.20	3.70	-59.50	-13.00	-46.50

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



LTE Band 4

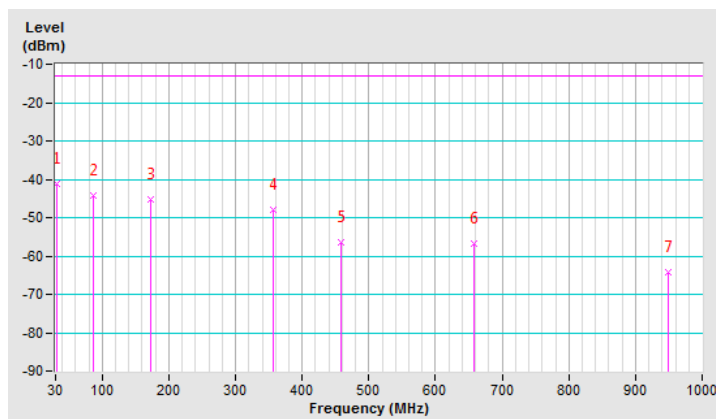
Channel Bandwidth: 1.4MHz

Mode	TX channel 19957 (1710.7MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	32.91	-47.50	-23.50	-17.70	-41.20	-13.00	-28.20
2	86.26	-50.60	-44.40	0.10	-44.30	-13.00	-31.30
3	173.56	-51.50	-42.40	-2.80	-45.20	-13.00	-32.20
4	356.89	-54.30	-52.00	4.00	-48.00	-13.00	-35.00
5	458.74	-62.70	-59.90	3.50	-56.40	-13.00	-43.40
6	658.56	-63.20	-60.60	3.70	-56.90	-13.00	-43.90
7	948.59	-70.60	-68.00	3.70	-64.30	-13.00	-51.30

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

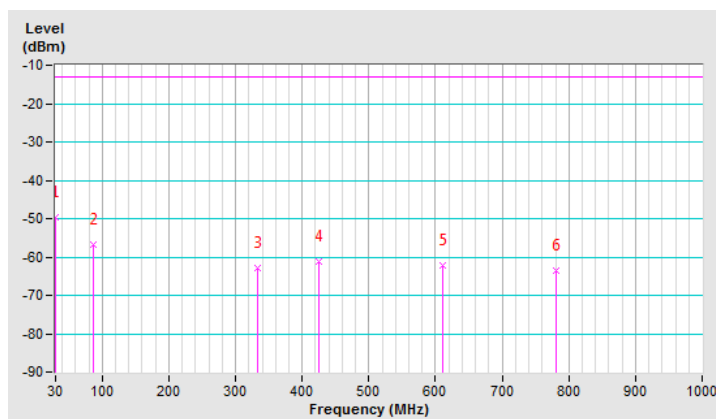


Mode	TX channel 19957 (1710.7MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	30.00	-39.70	-30.20	-19.40	-49.60	-13.00	-36.60
2	87.23	-50.60	-56.70	-0.10	-56.80	-13.00	-43.80
3	332.64	-62.20	-66.80	4.00	-62.80	-13.00	-49.80
4	424.79	-61.00	-64.80	3.50	-61.30	-13.00	-48.30
5	611.03	-66.70	-65.80	3.70	-62.10	-13.00	-49.10
6	780.78	-70.70	-67.60	4.00	-63.60	-13.00	-50.60

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



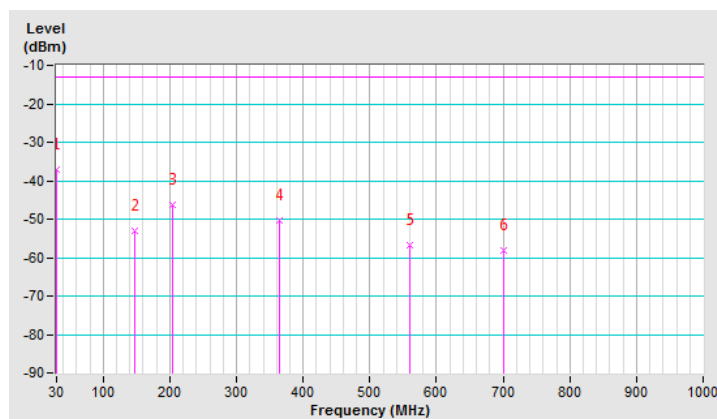
Channel Bandwidth: 3MHz

Mode	TX channel 19965 (1711.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	30.97	-43.40	-18.30	-18.80	-37.10	-13.00	-24.10
2	146.40	-59.50	-50.20	-3.00	-53.20	-13.00	-40.20
3	203.63	-52.50	-44.10	-2.10	-46.20	-13.00	-33.20
4	363.68	-56.70	-54.30	3.90	-50.40	-13.00	-37.40
5	559.62	-63.00	-60.40	3.70	-56.70	-13.00	-43.70
6	701.24	-64.30	-61.40	3.40	-58.00	-13.00	-45.00

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

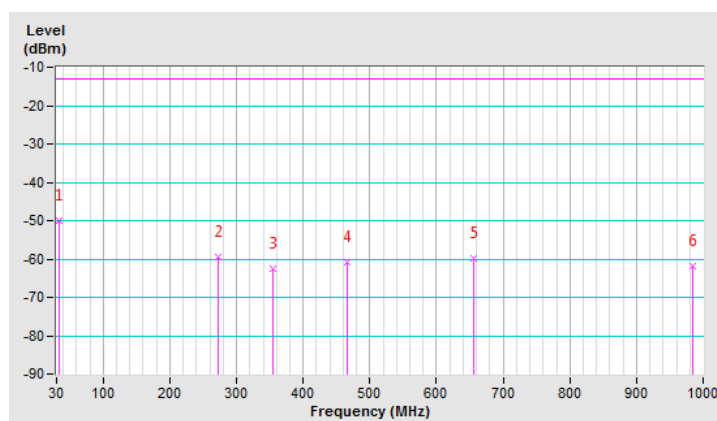


Mode	TX channel 19965 (1711.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	33.88	-39.40	-32.90	-17.10	-50.00	-13.00	-37.00
2	271.53	-61.80	-58.20	-1.40	-59.60	-13.00	-46.60
3	353.98	-62.30	-66.60	3.90	-62.70	-13.00	-49.70
4	465.53	-60.60	-64.20	3.50	-60.70	-13.00	-47.70
5	655.65	-65.40	-63.50	3.60	-59.90	-13.00	-46.90
6	983.51	-71.30	-65.40	3.50	-61.90	-13.00	-48.90

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).





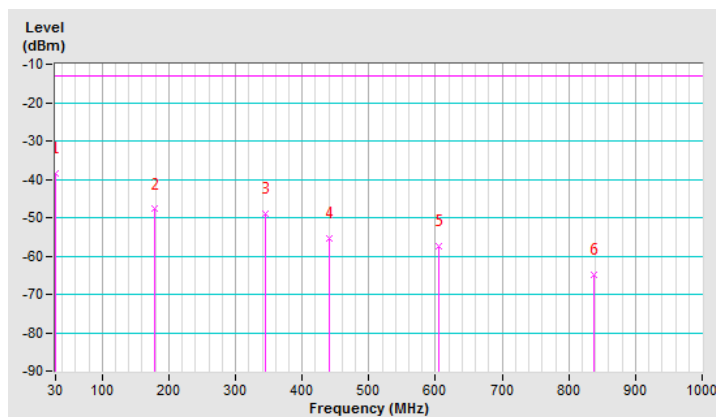
Channel Bandwidth: 5MHz

Mode	TX channel 19975 (1712.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	30.00	-44.80	-19.10	-19.40	-38.50	-13.00	-25.50
2	178.41	-54.10	-44.80	-3.00	-47.80	-13.00	-34.80
3	344.28	-55.20	-52.90	4.00	-48.90	-13.00	-35.90
4	441.28	-61.80	-59.00	3.50	-55.50	-13.00	-42.50
5	604.24	-63.80	-61.10	3.60	-57.50	-13.00	-44.50
6	838.01	-71.30	-68.80	3.80	-65.00	-13.00	-52.00

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

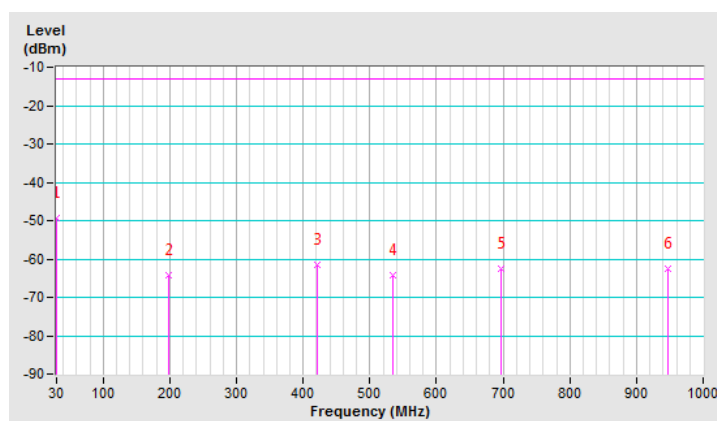


Mode	TX channel 19975 (1712.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	30.00	-39.30	-29.80	-19.40	-49.20	-13.00	-36.20
2	197.81	-63.40	-61.80	-2.40	-64.20	-13.00	-51.20
3	421.88	-61.20	-65.00	3.40	-61.60	-13.00	-48.60
4	535.37	-65.60	-68.20	3.80	-64.40	-13.00	-51.40
5	697.36	-68.40	-65.90	3.30	-62.60	-13.00	-49.60
6	946.65	-71.90	-66.40	3.80	-62.60	-13.00	-49.60

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



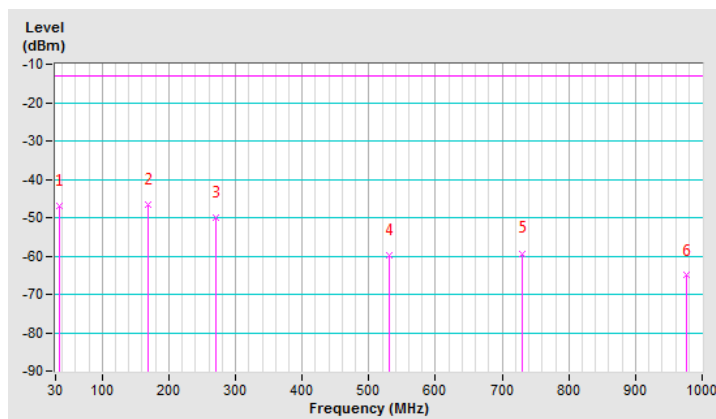
Channel Bandwidth: 10MHz

Mode	TX channel 20000 (1715.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	35.82	-53.30	-31.10	-15.90	-47.00	-13.00	-34.00
2	169.68	-52.80	-43.70	-2.80	-46.50	-13.00	-33.50
3	269.59	-56.20	-48.50	-1.40	-49.90	-13.00	-36.90
4	530.52	-66.10	-63.70	3.90	-59.80	-13.00	-46.80
5	730.34	-65.60	-62.90	3.60	-59.30	-13.00	-46.30
6	976.72	-71.40	-68.70	3.60	-65.10	-13.00	-52.10

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

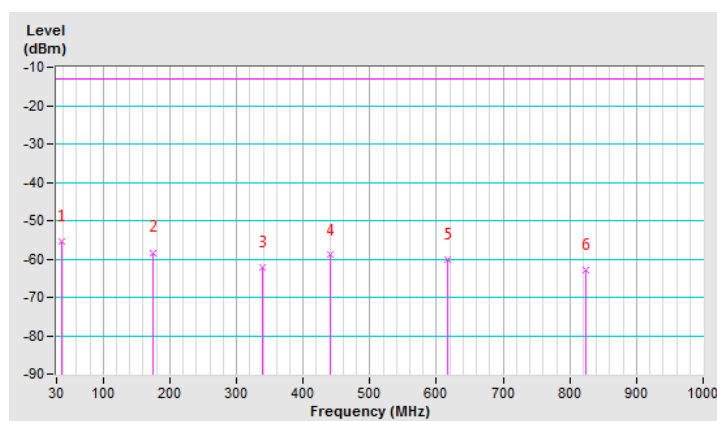


Mode	TX channel 20000 (1715.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	38.73	-45.80	-41.10	-14.20	-55.30	-13.00	-42.30
2	174.53	-54.70	-55.50	-2.80	-58.30	-13.00	-45.30
3	338.46	-61.80	-66.40	4.10	-62.30	-13.00	-49.30
4	441.28	-58.90	-62.50	3.50	-59.00	-13.00	-46.00
5	616.85	-65.00	-63.90	3.70	-60.20	-13.00	-47.20
6	823.46	-70.30	-66.70	3.90	-62.80	-13.00	-49.80

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



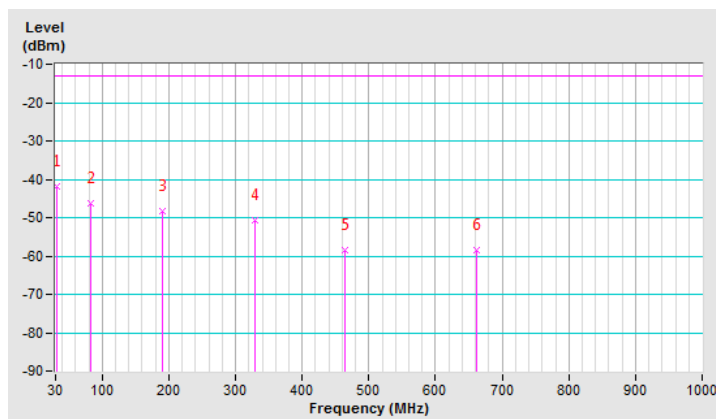
Channel Bandwidth: 15MHz

Mode	TX channel 20025 (1717.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	32.91	-48.30	-24.30	-17.70	-42.00	-13.00	-29.00
2	83.35	-52.60	-46.80	0.50	-46.30	-13.00	-33.30
3	191.02	-54.60	-45.60	-2.70	-48.30	-13.00	-35.30
4	329.73	-57.00	-54.80	4.10	-50.70	-13.00	-37.70
5	464.56	-64.70	-61.90	3.50	-58.40	-13.00	-45.40
6	662.44	-64.80	-62.20	3.70	-58.50	-13.00	-45.50

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

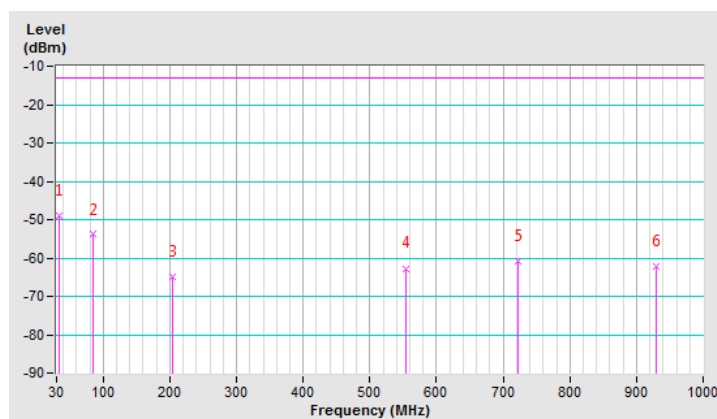


Mode	TX channel 20025 (1717.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	33.88	-38.40	-31.90	-17.10	-49.00	-13.00	-36.00
2	85.29	-48.40	-54.20	0.30	-53.90	-13.00	-40.90
3	204.60	-63.00	-62.90	-2.00	-64.90	-13.00	-51.90
4	554.77	-64.40	-66.50	3.80	-62.70	-13.00	-49.70
5	721.61	-67.10	-64.50	3.60	-60.90	-13.00	-47.90
6	930.16	-70.90	-65.80	3.70	-62.10	-13.00	-49.10

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



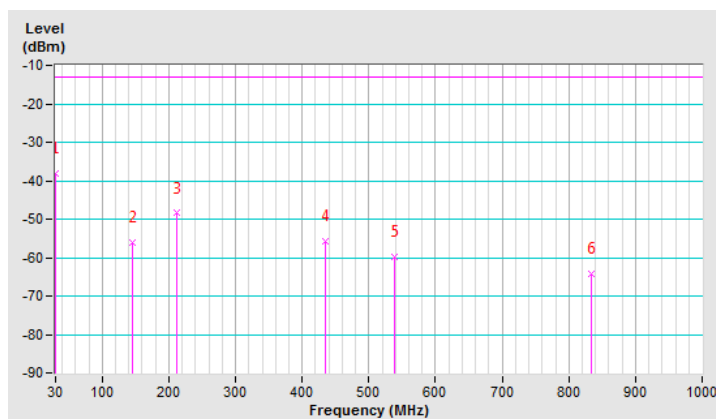
Channel Bandwidth: 20MHz

Mode	TX channel 20050 (1720.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	30.97	-44.30	-19.20	-18.80	-38.00	-13.00	-25.00
2	145.43	-62.40	-53.00	-3.10	-56.10	-13.00	-43.10
3	211.39	-54.80	-46.40	-2.10	-48.50	-13.00	-35.50
4	434.49	-62.20	-59.50	3.60	-55.90	-13.00	-42.90
5	539.25	-66.10	-63.60	3.80	-59.80	-13.00	-46.80
6	833.16	-70.60	-68.10	3.80	-64.30	-13.00	-51.30

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

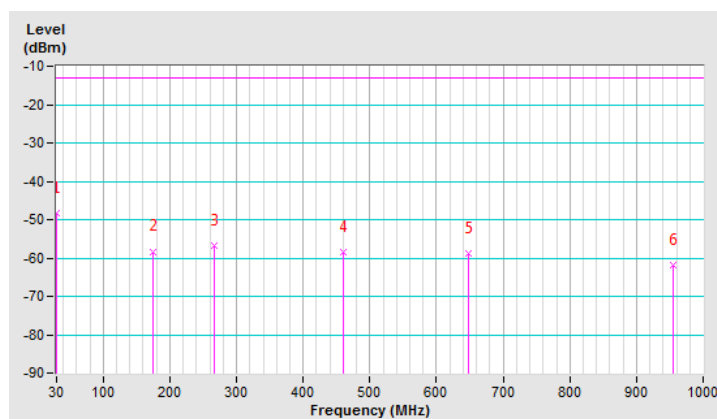


Mode	TX channel 20050 (1720.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	30.00	-38.30	-28.80	-19.40	-48.20	-13.00	-35.20
2	174.53	-54.70	-55.50	-2.80	-58.30	-13.00	-45.30
3	265.71	-57.80	-55.10	-1.60	-56.70	-13.00	-43.70
4	459.71	-58.50	-61.90	3.40	-58.50	-13.00	-45.50
5	647.89	-64.30	-62.40	3.70	-58.70	-13.00	-45.70
6	954.41	-71.30	-65.70	3.80	-61.90	-13.00	-48.90

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).





LTE Band 12

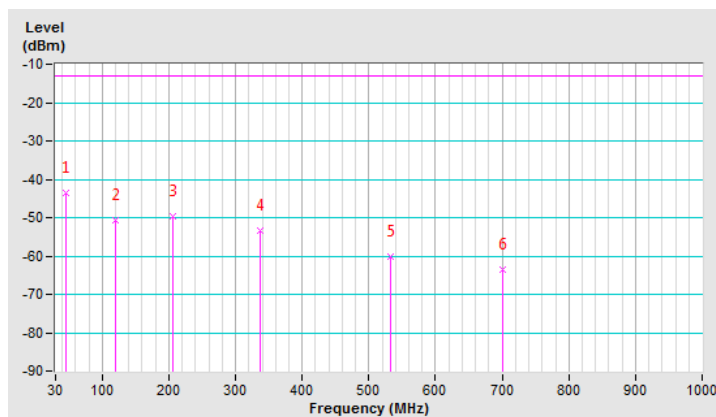
Channel Bandwidth: 1.4MHz

Mode	TX channel 23017 (699.7MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	45.52	-47.90	-33.30	-10.40	-43.70	-13.00	-30.70
2	120.21	-54.80	-47.40	-3.20	-50.60	-13.00	-37.60
3	206.54	-53.80	-47.60	-2.00	-49.60	-13.00	-36.60
4	337.49	-57.60	-57.50	4.00	-53.50	-13.00	-40.50
5	532.46	-64.40	-64.10	3.90	-60.20	-13.00	-47.20
6	701.24	-67.50	-66.80	3.40	-63.40	-13.00	-50.40

Remarks:

1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

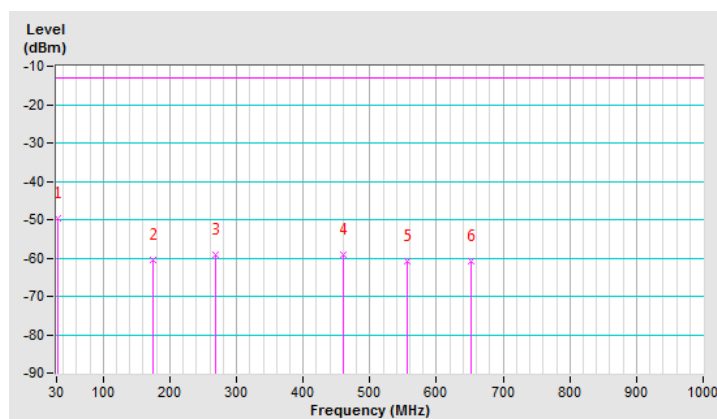


Mode	TX channel 23017 (699.7MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	32.91	-36.90	-31.90	-17.70	-49.60	-13.00	-36.60
2	174.53	-54.90	-57.80	-2.80	-60.60	-13.00	-47.60
3	267.65	-58.60	-57.60	-1.60	-59.20	-13.00	-46.20
4	460.68	-57.10	-62.60	3.40	-59.20	-13.00	-46.20
5	555.74	-60.30	-64.50	3.70	-60.80	-13.00	-47.80
6	652.74	-64.20	-64.40	3.60	-60.80	-13.00	-47.80

Remarks:

1.  $ERP\ (dBm) = S.G\ Value\ (dBm) + Correction\ Factor\ (dB)$ .
2.  $Correction\ Factor\ (dB) = Substitution\ Antenna\ Gain\ (dB) + Cable\ Loss\ (dB)$ .



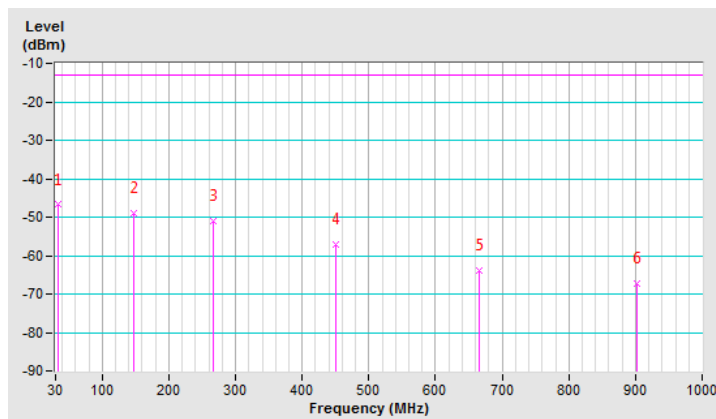
Channel Bandwidth: 3MHz

Mode	TX channel 23025 (700.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	34.85	-50.90	-30.30	-16.50	-46.80	-13.00	-33.80
2	147.37	-53.10	-46.10	-2.90	-49.00	-13.00	-36.00
3	266.68	-55.10	-49.40	-1.60	-51.00	-13.00	-38.00
4	450.98	-61.10	-60.40	3.40	-57.00	-13.00	-44.00
5	665.35	-68.20	-67.60	3.60	-64.00	-13.00	-51.00
6	903.00	-71.40	-70.80	3.60	-67.20	-13.00	-54.20

Remarks:

1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

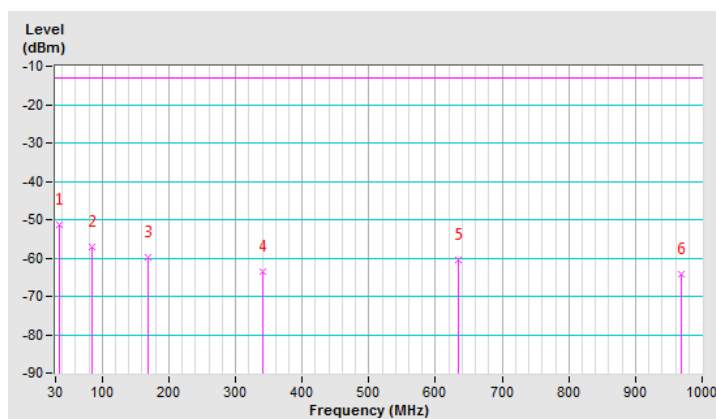


Mode	TX channel 23025 (700.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	35.82	-39.60	-35.60	-15.90	-51.50	-13.00	-38.50
2	84.32	-50.00	-57.50	0.40	-57.10	-13.00	-44.10
3	168.71	-54.50	-57.10	-2.80	-59.90	-13.00	-46.90
4	341.37	-60.60	-67.30	3.90	-63.40	-13.00	-50.40
5	633.34	-63.10	-64.00	3.60	-60.40	-13.00	-47.40
6	967.99	-70.90	-67.70	3.60	-64.10	-13.00	-51.10

Remarks:

1.  $ERP\ (dBm) = S.G\ Value\ (dBm) + Correction\ Factor\ (dB)$ .
2.  $Correction\ Factor\ (dB) = Substitution\ Antenna\ Gain\ (dB) + Cable\ Loss\ (dB)$ .



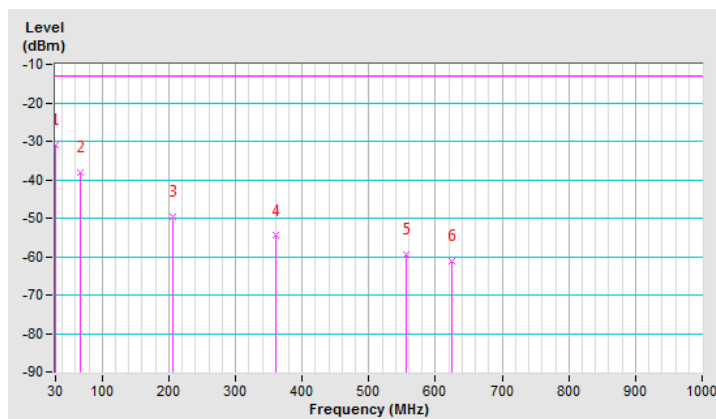
Channel Bandwidth: 5MHz

Mode	TX channel 23035 (701.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	30.00	-35.20	-11.70	-19.40	-31.10	-13.00	-18.10
2	67.83	-42.40	-37.30	-1.00	-38.30	-13.00	-25.30
3	206.54	-53.80	-47.60	-2.00	-49.60	-13.00	-36.60
4	360.77	-58.80	-58.60	4.00	-54.60	-13.00	-41.60
5	555.74	-63.50	-63.10	3.70	-59.40	-13.00	-46.40
6	624.61	-65.40	-64.90	3.70	-61.20	-13.00	-48.20

Remarks:

1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

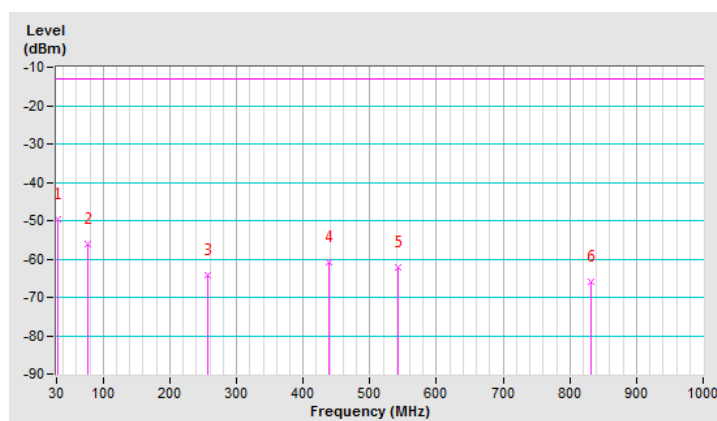


Mode	TX channel 23035 (701.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	31.94	-37.00	-31.30	-18.30	-49.60	-13.00	-36.60
2	77.53	-48.40	-56.50	0.50	-56.00	-13.00	-43.00
3	256.98	-62.80	-62.90	-1.50	-64.40	-13.00	-51.40
4	439.34	-58.80	-64.40	3.50	-60.90	-13.00	-47.90
5	542.16	-61.50	-66.20	3.90	-62.30	-13.00	-49.30
6	831.22	-71.10	-69.80	3.90	-65.90	-13.00	-52.90

Remarks:

1.  $ERP\ (dBm) = S.G\ Value\ (dBm) + Correction\ Factor\ (dB)$ .
2.  $Correction\ Factor\ (dB) = Substitution\ Antenna\ Gain\ (dB) + Cable\ Loss\ (dB)$ .



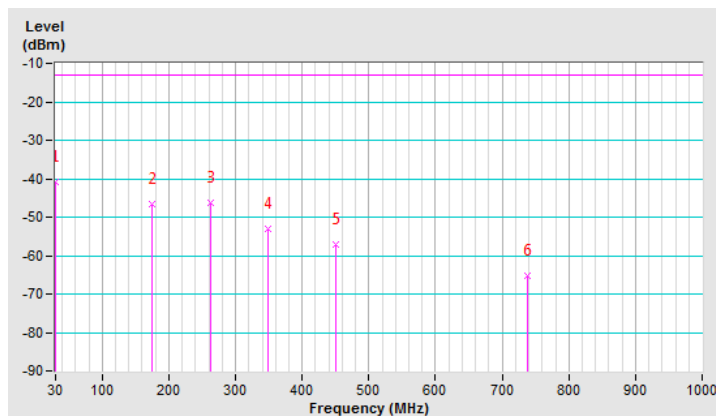
Channel Bandwidth: 10MHz

Mode	TX channel 23060 (704MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	30.97	-44.90	-22.00	-18.80	-40.80	-13.00	-27.80
2	175.50	-50.60	-43.70	-2.80	-46.50	-13.00	-33.50
3	262.80	-50.40	-44.70	-1.60	-46.30	-13.00	-33.30
4	349.13	-57.40	-57.10	3.90	-53.20	-13.00	-40.20
5	450.98	-61.10	-60.40	3.40	-57.00	-13.00	-44.00
6	737.13	-69.40	-68.90	3.70	-65.20	-13.00	-52.20

Remarks:

1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

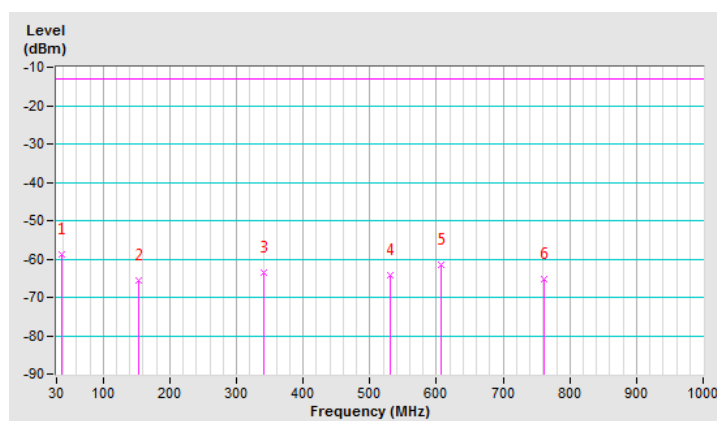


Mode	TX channel 23060 (704MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	38.73	-47.20	-44.70	-14.20	-58.90	-13.00	-45.90
2	153.19	-61.20	-62.60	-2.90	-65.50	-13.00	-52.50
3	341.37	-60.60	-67.30	3.90	-63.40	-13.00	-50.40
4	531.49	-63.20	-68.20	4.00	-64.20	-13.00	-51.20
5	607.15	-63.50	-65.00	3.60	-61.40	-13.00	-48.40
6	762.35	-70.10	-68.90	3.80	-65.10	-13.00	-52.10

Remarks:

1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).





LTE Band 30

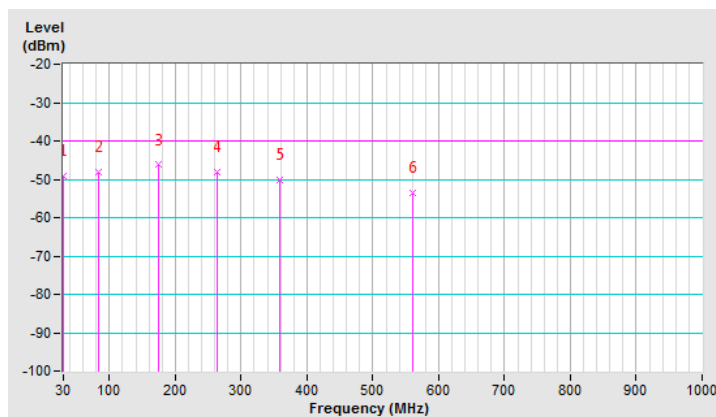
Channel Bandwidth: 5MHz

Mode	TX channel 27685 (2307.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	30.97	-55.40	-30.30	-18.80	-49.10	-40.00	-9.10
2	84.32	-54.60	-48.70	0.40	-48.30	-40.00	-8.30
3	174.53	-52.60	-43.50	-2.80	-46.30	-40.00	-6.30
4	262.80	-54.40	-46.50	-1.60	-48.10	-40.00	-8.10
5	358.83	-56.50	-54.20	4.00	-50.20	-40.00	-10.20
6	559.62	-59.80	-57.20	3.70	-53.50	-40.00	-13.50

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

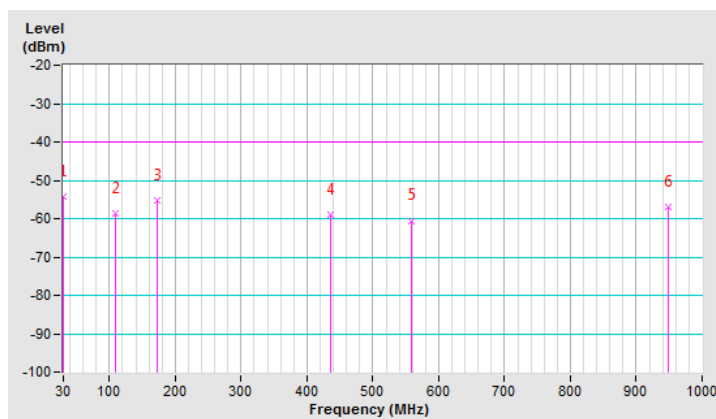


Mode	TX channel 27685 (2307.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	30.00	-44.30	-34.80	-19.40	-54.20	-40.00	-14.20
2	108.57	-50.30	-56.10	-2.40	-58.50	-40.00	-18.50
3	172.59	-51.80	-52.40	-2.90	-55.30	-40.00	-15.30
4	435.46	-58.80	-62.50	3.60	-58.90	-40.00	-18.90
5	558.65	-62.00	-64.20	3.70	-60.50	-40.00	-20.50
6	948.59	-66.40	-60.80	3.70	-57.10	-40.00	-17.10

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



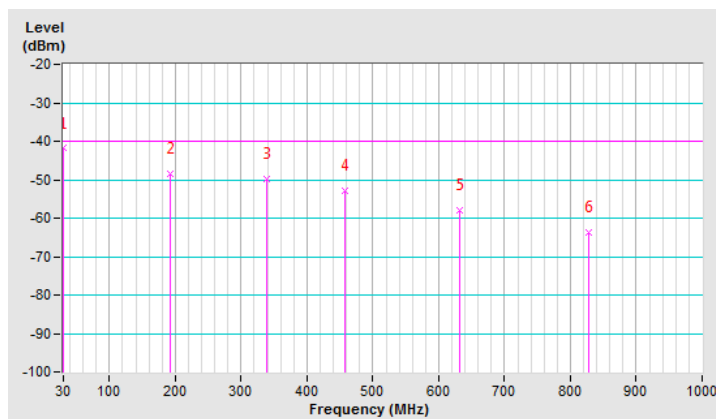
Channel Bandwidth: 10MHz

Mode	TX channel 27710 (2310.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	30.00	-48.20	-22.50	-19.40	-41.90	-40.00	-1.90
2	191.99	-54.80	-45.90	-2.60	-48.50	-40.00	-8.50
3	338.46	-56.20	-54.00	4.10	-49.90	-40.00	-9.90
4	456.80	-59.20	-56.40	3.50	-52.90	-40.00	-12.90
5	631.40	-64.40	-61.70	3.60	-58.10	-40.00	-18.10
6	828.31	-70.00	-67.60	3.90	-63.70	-40.00	-23.70

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

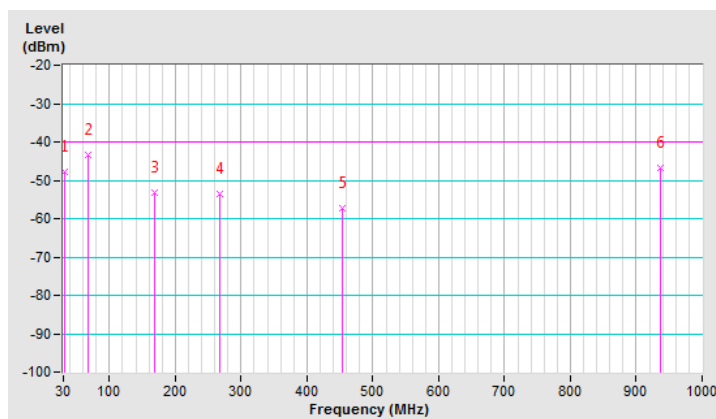


Mode	TX channel 27710 (2310.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	32.91	-37.30	-30.20	-17.70	-47.90	-40.00	-7.90
2	66.86	-36.10	-41.80	-1.50	-43.30	-40.00	-3.30
3	167.74	-49.90	-50.20	-2.90	-53.10	-40.00	-13.10
4	266.68	-55.00	-52.10	-1.60	-53.70	-40.00	-13.70
5	453.89	-57.20	-60.90	3.50	-57.40	-40.00	-17.40
6	936.95	-55.80	-50.50	3.70	-46.80	-40.00	-6.80

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



Above 1GHz

WCDMA Band 4

Mode	TX channel 1312 (1712.4MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3424.80	-59.60	-51.00	1.30	-49.70	-13.00	-36.70
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3424.80	-61.40	-53.30	1.30	-52.00	-13.00	-39.00

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode	TX channel 1413 (1732.6MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3465.20	-59.90	-51.50	1.40	-50.10	-13.00	-37.10
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3465.20	-61.40	-53.60	1.40	-52.20	-13.00	-39.20

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode	TX channel 1513 (1752.6MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3505.20	-59.80	-51.60	1.50	-50.10	-13.00	-37.10
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3505.20	-61.10	-53.50	1.50	-52.00	-13.00	-39.00

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

LTE Band 4

Channel Bandwidth: 1.4MHz

Mode	TX channel 19957 (1710.7MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3421.40	-58.90	-50.30	1.30	-49.00	-13.00	-36.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3421.40	-59.80	-51.70	1.30	-50.40	-13.00	-37.40

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode	TX channel 20175 (1732.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3465.00	-58.40	-50.00	1.40	-48.60	-13.00	-35.60
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3465.00	-59.70	-51.90	1.40	-50.50	-13.00	-37.50

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode	TX channel 20393 (1754.3MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3508.60	-58.60	-50.30	1.40	-48.90	-13.00	-35.90
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3508.60	-60.10	-52.40	1.40	-51.00	-13.00	-38.00

Remarks:

1.  $EIRP (dBm) = S.G \text{ Value (dBm)} + \text{Correction Factor (dB)}$ .
2.  $\text{Correction Factor (dB)} = \text{Substitution Antenna Gain (dB)} + \text{Cable Loss (dB)}$ .



Channel Bandwidth: 3MHz

Mode	TX channel 19965 (1711.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3423.00	-59.00	-50.40	1.30	-49.10	-13.00	-36.10
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3423.00	-59.80	-51.70	1.30	-50.40	-13.00	-37.40

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode	TX channel 20175 (1732.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3465.00	-58.90	-50.50	1.40	-49.10	-13.00	-36.10
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3465.00	-59.70	-51.90	1.40	-50.50	-13.00	-37.50

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode	TX channel 20385 (1753.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3507.00	-59.10	-50.80	1.40	-49.40	-13.00	-36.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3507.00	-59.90	-52.20	1.40	-50.80	-13.00	-37.80

Remarks:

1.  $EIRP (dBm) = S.G \text{ Value (dBm)} + \text{Correction Factor (dB)}$ .
2.  $\text{Correction Factor (dB)} = \text{Substitution Antenna Gain (dB)} + \text{Cable Loss (dB)}$ .

Channel Bandwidth: 5MHz

Mode	TX channel 19975 (1712.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3425.00	-58.70	-50.10	1.30	-48.80	-13.00	-35.80
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3425.00	-59.50	-51.40	1.30	-50.10	-13.00	-37.10

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode	TX channel 20175 (1732.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3465.00	-58.50	-50.10	1.40	-48.70	-13.00	-35.70
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3465.00	-59.40	-51.60	1.40	-50.20	-13.00	-37.20

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode	TX channel 20375 (1752.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3505.00	-58.60	-50.40	1.50	-48.90	-13.00	-35.90
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3505.00	-60.10	-52.50	1.50	-51.00	-13.00	-38.00

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Channel Bandwidth: 10MHz

Mode	TX channel 20000 (1715.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3430.00	-59.10	-50.60	1.40	-49.20	-13.00	-36.20
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3430.00	-59.70	-51.70	1.40	-50.30	-13.00	-37.30

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode	TX channel 20175 (1732.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3465.00	-58.60	-50.20	1.40	-48.80	-13.00	-35.80
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3465.00	-59.60	-51.80	1.40	-50.40	-13.00	-37.40

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode	TX channel 20350 (1750.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3500.00	-58.70	-50.50	1.50	-49.00	-13.00	-36.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3500.00	-60.10	-52.50	1.50	-51.00	-13.00	-38.00

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Channel Bandwidth: 15MHz

Mode	TX channel 20025 (1717.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3435.00	-59.00	-50.40	1.30	-49.10	-13.00	-36.10
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3435.00	-59.50	-51.40	1.30	-50.10	-13.00	-37.10

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode	TX channel 20175 (1732.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3465.00	-58.80	-50.40	1.40	-49.00	-13.00	-36.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3465.00	-59.40	-51.60	1.40	-50.20	-13.00	-37.20

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode	TX channel 20325 (1747.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3495.00	-58.90	-50.70	1.50	-49.20	-13.00	-36.20
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3495.00	-59.50	-51.90	1.50	-50.40	-13.00	-37.40

Remarks:

1.  $EIRP (dBm) = S.G \text{ Value (dBm)} + \text{Correction Factor (dB)}$ .
2.  $\text{Correction Factor (dB)} = \text{Substitution Antenna Gain (dB)} + \text{Cable Loss (dB)}$ .



Channel Bandwidth: 20MHz

Mode	TX channel 20050 (1720.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3440.00	-58.70	-50.20	1.30	-48.90	-13.00	-35.90
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3440.00	-60.10	-52.10	1.30	-50.80	-13.00	-37.80

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode	TX channel 20175 (1732.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3465.00	-58.30	-49.90	1.40	-48.50	-13.00	-35.50
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3465.00	-59.30	-51.50	1.40	-50.10	-13.00	-37.10

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode	TX channel 20300 (1745.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3490.00	-58.50	-50.30	1.50	-48.80	-13.00	-35.80
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3490.00	-59.60	-52.00	1.50	-50.50	-13.00	-37.50

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

LTE Band 12

Channel Bandwidth: 1.4MHz

Mode	TX channel 23017 (699.7MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1399.40	-55.90	-49.60	0.90	-48.70	-13.00	-35.70
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1399.40	-56.90	-51.80	0.90	-50.90	-13.00	-37.90

Remarks:

1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode	TX channel 23095 (707.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1415.00	-56.00	-49.40	0.90	-48.50	-13.00	-35.50
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1415.00	-56.60	-51.30	0.90	-50.40	-13.00	-37.40

Remarks:

1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode	TX channel 23173 (715.3MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1430.60	-56.50	-49.80	1.00	-48.80	-13.00	-35.80
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1430.60	-56.80	-51.20	1.00	-50.20	-13.00	-37.20

Remarks:

1.  $ERP (dBm) = S.G \text{ Value (dBm)} + \text{Correction Factor (dB)}$ .
2.  $\text{Correction Factor (dB)} = \text{Substitution Antenna Gain (dB)} + \text{Cable Loss (dB)}$ .

Channel Bandwidth: 3MHz

Mode	TX channel 23025 (700.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1401.00	-56.40	-50.20	0.90	-49.30	-13.00	-36.30
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1401.00	-56.60	-51.50	0.90	-50.60	-13.00	-37.60

Remarks:

1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode	TX channel 23095 (707.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1415.00	-56.00	-49.40	0.90	-48.50	-13.00	-35.50
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1415.00	-56.50	-51.20	0.90	-50.30	-13.00	-37.30

Remarks:

1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode	TX channel 23165 (714.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1429.00	-55.90	-49.30	1.00	-48.30	-13.00	-35.30
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1429.00	-56.90	-51.40	1.00	-50.40	-13.00	-37.40

Remarks:

1.  $ERP (dBm) = S.G \text{ Value (dBm)} + \text{Correction Factor (dB)}$ .
2.  $\text{Correction Factor (dB)} = \text{Substitution Antenna Gain (dB)} + \text{Cable Loss (dB)}$ .

Channel Bandwidth: 5MHz

Mode	TX channel 23035 (701.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1403.00	-56.50	-50.20	0.90	-49.30	-13.00	-36.30
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1403.00	-56.80	-51.70	0.90	-50.80	-13.00	-37.80

Remarks:

1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode	TX channel 23095 (707.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1415.00	-55.70	-49.10	0.90	-48.20	-13.00	-35.20
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1415.00	-56.60	-51.30	0.90	-50.40	-13.00	-37.40

Remarks:

1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode	TX channel 23155 (713.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1427.00	-55.60	-49.00	1.00	-48.00	-13.00	-35.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1427.00	-56.80	-51.20	1.00	-50.20	-13.00	-37.20

Remarks:

1.  $ERP (dBm) = S.G \text{ Value (dBm)} + \text{Correction Factor (dB)}$ .
2.  $\text{Correction Factor (dB)} = \text{Substitution Antenna Gain (dB)} + \text{Cable Loss (dB)}$ .



Channel Bandwidth: 10MHz

Mode	TX channel 23060 (704MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1408.00	-55.60	-49.20	0.90	-48.30	-13.00	-35.30
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1408.00	-56.40	-51.20	0.90	-50.30	-13.00	-37.30

Remarks:

1.  $ERP (dBm) = S.G \text{ Value (dBm)} + \text{Correction Factor (dB)}$ .
2.  $\text{Correction Factor (dB)} = \text{Substitution Antenna Gain (dB)} + \text{Cable Loss (dB)}$ .

Mode	TX channel 23095 (707.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1415.00	-55.50	-49.00	0.90	-48.10	-13.00	-35.10
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1415.00	-56.20	-50.90	0.90	-50.00	-13.00	-37.00

Remarks:

1.  $ERP (dBm) = S.G \text{ Value (dBm)} + \text{Correction Factor (dB)}$ .
2.  $\text{Correction Factor (dB)} = \text{Substitution Antenna Gain (dB)} + \text{Cable Loss (dB)}$ .

Mode	TX channel 23130 (711MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1422.00	-55.80	-49.30	1.00	-48.30	-13.00	-35.30
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1422.00	-56.30	-50.90	1.00	-49.90	-13.00	-36.90

Remarks:

1.  $ERP (dBm) = S.G \text{ Value (dBm)} + \text{Correction Factor (dB)}$ .
2.  $\text{Correction Factor (dB)} = \text{Substitution Antenna Gain (dB)} + \text{Cable Loss (dB)}$ .

LTE Band 30

Channel Bandwidth: 5MHz

Mode	TX channel 27685 (2307.5MHz)	Frequency Range	1GHz ~ 25GHz
Environmental Conditions	24deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	4615.00	-58.60	-48.20	1.00	-47.20	-40.00	-7.20
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	4615.00	-59.40	-49.20	1.00	-48.20	-40.00	-8.20

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode	TX channel 27710 (2310.0MHz)	Frequency Range	1GHz ~ 25GHz
Environmental Conditions	24deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	4620.00	-57.40	-47.00	1.00	-46.00	-40.00	-6.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	4620.00	-58.30	-48.00	1.00	-47.00	-40.00	-7.00

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode	TX channel 27735 (2312.5MHz)	Frequency Range	1GHz ~ 25GHz
Environmental Conditions	24deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	4625.00	-58.50	-48.10	1.10	-47.00	-40.00	-7.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	4625.00	-59.30	-49.10	1.10	-48.00	-40.00	-8.00

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Channel Bandwidth: 10MHz

Mode	TX channel 27710 (2310.0MHz)	Frequency Range	1GHz ~ 25GHz
Environmental Conditions	24deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	4620.00	-58.80	-48.40	1.00	-47.40	-40.00	-7.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	4620.00	-59.70	-49.40	1.00	-48.40	-40.00	-8.40

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

# Test Mode B

Below 1GHz

LTE Band 4

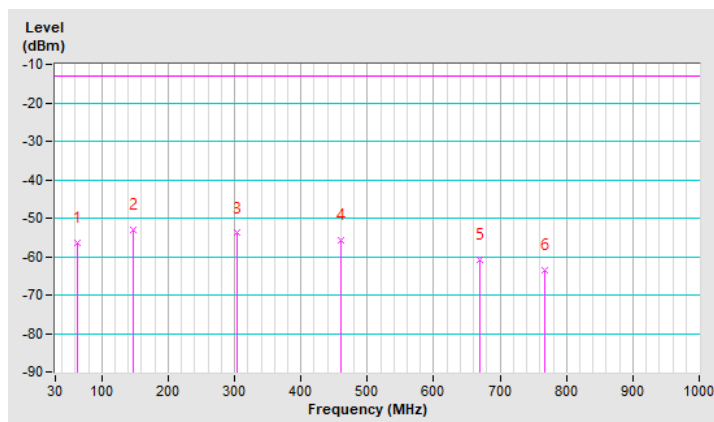
Channel Bandwidth: 10MHz

Mode	TX channel 20350 (1750.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	62.98	-62.90	-54.20	-2.40	-56.60	-13.00	-43.60
2	146.40	-59.50	-50.20	-3.00	-53.20	-13.00	-40.20
3	304.51	-60.20	-57.70	3.80	-53.90	-13.00	-40.90
4	460.68	-62.20	-59.30	3.40	-55.90	-13.00	-42.90
5	670.20	-67.20	-64.50	3.60	-60.90	-13.00	-47.90
6	767.20	-69.90	-67.60	4.00	-63.60	-13.00	-50.60

## Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

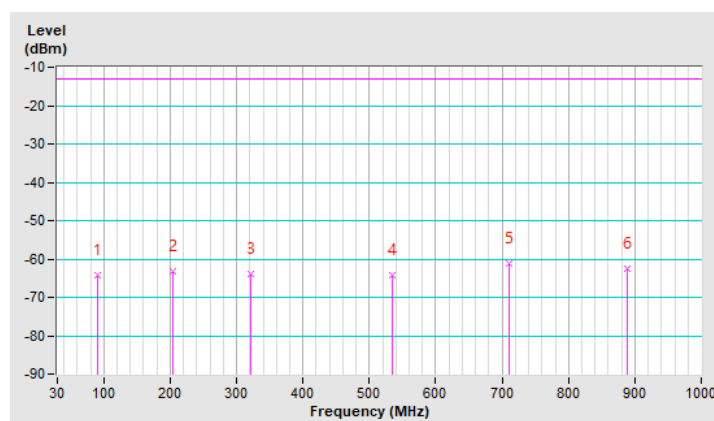


Mode	TX channel 20350 (1750.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	91.11	-57.50	-63.70	-0.40	-64.10	-13.00	-51.10
2	203.63	-61.50	-61.10	-2.10	-63.20	-13.00	-50.20
3	321.00	-63.60	-67.80	4.00	-63.80	-13.00	-50.80
4	535.37	-65.60	-68.20	3.80	-64.40	-13.00	-51.40
5	709.97	-67.10	-64.70	3.50	-61.20	-13.00	-48.20
6	889.42	-70.70	-66.00	3.50	-62.50	-13.00	-49.50

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



LTE Band 30

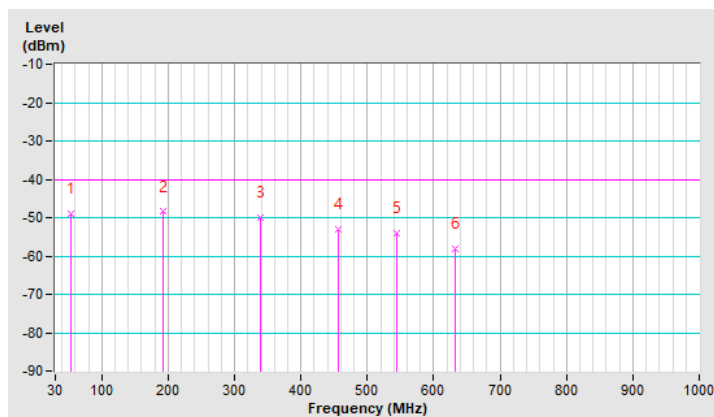
Channel Bandwidth: 5MHz

Mode	TX channel 27685 (2307.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	54.25	-55.20	-43.20	-5.70	-48.90	-40.00	-8.90
2	191.99	-54.80	-45.90	-2.60	-48.50	-40.00	-8.50
3	338.46	-56.20	-54.00	4.10	-49.90	-40.00	-9.90
4	456.80	-59.20	-56.40	3.50	-52.90	-40.00	-12.90
5	544.10	-60.30	-57.80	3.80	-54.00	-40.00	-14.00
6	631.40	-64.40	-61.70	3.60	-58.10	-40.00	-18.10

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



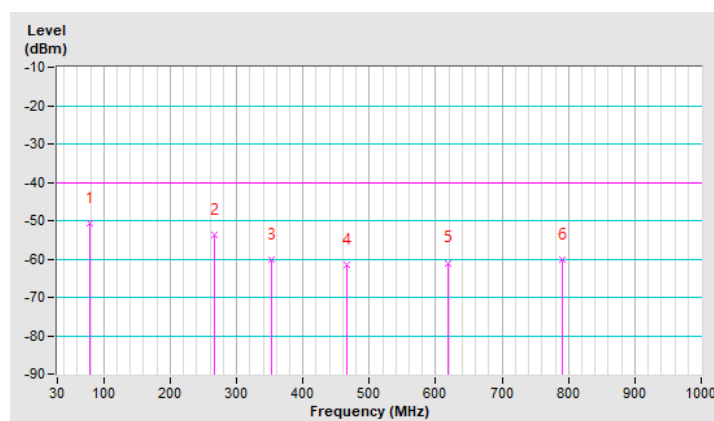


Mode	TX channel 27685 (2307.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	79.47	-45.80	-51.30	0.60	-50.70	-40.00	-10.70
2	266.68	-55.00	-52.10	-1.60	-53.70	-40.00	-13.70
3	352.04	-59.80	-64.10	3.90	-60.20	-40.00	-20.20
4	466.50	-61.50	-65.20	3.60	-61.60	-40.00	-21.60
5	617.82	-65.80	-64.70	3.70	-61.00	-40.00	-21.00
6	790.48	-67.20	-64.30	4.00	-60.30	-40.00	-20.30

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



Above 1GHz

LTE Band 4

Channel Bandwidth: 10MHz

Mode	TX channel 20350 (1750.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	25deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3500.00	-60.60	-52.40	1.50	-50.90	-13.00	-37.90
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3500.00	-62.00	-54.40	1.50	-52.90	-13.00	-39.90

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

LTE Band 30

Channel Bandwidth: 5MHz

Mode	TX channel 27685 (2307.5MHz)	Frequency Range	1GHz ~ 25GHz
Environmental Conditions	24deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	4615.00	-59.30	-48.90	1.00	-47.90	-40.00	-7.90
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	4615.00	-60.00	-49.80	1.00	-48.80	-40.00	-8.80

Remarks:

1. EIRP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

## 5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

## Appendix – Information on the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited and approved according to ISO/IEC 17025.

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**Web Site:** [www.bureauveritas-adt.com](http://www.bureauveritas-adt.com)

The address and road map of all our labs can be found in our web site also.

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