

FCC Test Report (Part 27)

Report No.: RF190530C17B-8

FCC ID: H8NCDR8011

Model: CDR8010-DBB1

Series Model: CDR8011-DBA1, CDR8011-DDA1, CDR8011-DDB1, CDR8011-SBA1, CDR8011-SBB1, CDR8011-SDA1, CDR8011-SDB1 (refer to item 3.1 for more details)

Received Date: Feb. 25, 2019

Test Date: Jun. 19 ~ Aug. 28, 2019

Issued Date: Sep. 03, 2019

Applicant: ASKEY COMPUTER CORP.

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Release Control Record

Issue No.	Description	Date Issued
RF190530C17B-8	Original release	Sep. 03, 2019

1 Certificate of Conformity

Product: iDVR800

Brand: ASKEY

Model: CDR8010-DBB1

Series Model: CDR8011-DBA1, CDR8011-DDA1, CDR8011-DDB1, CDR8011-SBA1, CDR8011-SBB1, CDR8011-SDA1, CDR8011-SDB1 (refer to item 3.1 for more details)

Sample Status: Engineering sample

Applicant: ASKEY COMPUTER CORP.

Test Date: Jun. 19 ~ Aug. 28, 2019

Standards: FCC Part 27, Subpart C, L, H, F

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 : Pettie Chen, **Date:** Sep. 03, 2019
Pettie Chen / Senior Specialist

Approved by : Bruce Chen, **Date:** Sep. 03, 2019
Bruce Chen / Senior Project Engineer

2 Summary of Test Results

Applied Standard: FCC Part 27 & Part 2						
FCC Clause				Test Item	Result	Remarks
LTE Band 4	LTE Band 12	LTE Band 13	LTE Band 17			
2.1046 27.50 (d)(4)	2.1046 27.50 (c)(10)	2.1046 27.50 (b)(10)	2.1046 27.50 (c)(10)	Equivalent Isotropically Radiated Power	Pass	Meet the requirement of limit.
27.50(d)(5)	----	----	----	Peak To Average Ratio	Pass	Meet the requirement of limit.
2.1055 27.54	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)	2.1049 27.53(m)(6)	Emission Bandwidth	Pass	Meet the requirement of limit.
2.1051 27.53(h)	2.1051 27.53(c)	2.1051 27.53(c)	2.1051 27.53(g)	Band Edge Measurements	Pass	Meet the requirement of limit.
2.1051 27.53(h)	2.1051 27.53(c)	2.1051 27.53(c)	2.1051 27.53(g)	Conducted Spurious Emissions	Pass	Meet the requirement of limit.
2.1051 27.53(h)	2.1051 27.53(c)	2.1051 27.53(c)	2.1051 27.53(g)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -7.8dB at 1569.00MHz.

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

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	9kHz ~ 30MHz	3.04 dB
	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. 15, 2019	Apr. 14, 2020
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Jun. 04, 2019	Jun. 03, 2020
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Nov. 21, 2018	Nov. 20, 2019
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-1169	Nov. 25, 2018	Nov. 24, 2019
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 25, 2018	Nov. 24, 2019
Preamplifier Agilent (Below 1GHz)	8447D	2944A10638	Aug. 08, 2018	Aug. 07, 2019
			Jul. 11, 2019	Jul. 10, 2020
Preamplifier Agilent (Above 1GHz)	8449B	3008A02367	Feb. 19, 2019	Feb. 18, 2020
RF signal cable HUBER+SUHNER&EMCI	SUCOFLEX 104 & EMC104-SM-SM80 00	CABLE-CH9-02 (248780+171006)	Jan. 19, 2019	Jan. 18, 2020
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-(250795/4)	Aug. 08, 2018	Aug. 07, 2019
			Jul. 11, 2019	Jul. 10, 2020
RF signal cable Woken	8D-FB	Cable-CH9-01	Jul. 31, 2018	Jul. 30, 2019
			Jul. 30, 2019	Jul. 29, 2020
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
Pre-amplifier (18GHz-40GHz) EMC	EMC184045B	980175	Nov. 14, 2018	Nov. 13, 2019
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 03, 2019	Jun. 02, 2020
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 General Information

3.1 General Description of EUT

Product	iDVR800		
Brand	ASKEY		
Model	CDR8010-DBB1		
Series Model	CDR8011-DBA1, CDR8011-DDA1, CDR8011-DDB1, CDR8011-SBA1, CDR8011-SBB1, CDR8011-SDA1, CDR8011-SDB1		
Model Difference	Refer to Note		
Sample Status	Engineering sample		
Power Supply Rating	12Vdc / 24Vdc (Car Charger) 3.7Vdc (Battery)		
Modulation Type	QPSK, 16QAM		
Operating Frequency	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 13	Channel Bandwidth 5MHz	779.5MHz ~ 784.5MHz
		Channel Bandwidth 10MHz	782.0MHz
	LTE Band 17	Channel Bandwidth 5MHz	706.5MHz ~ 713.5MHz
		Channel Bandwidth 10MHz	709.0MHz ~ 711.0MHz

			QPSK	16QAM
	Max. EIRP Power	LTE Band 4	Channel Bandwidth 1.4MHz	537.032mW (27.3dBm)
Channel Bandwidth 3MHz			562.341mW (27.5dBm)	398.107mW (26.0dBm)
Channel Bandwidth 5MHz			537.032mW (27.3dBm)	446.684mW (26.5dBm)
Channel Bandwidth 10MHz			524.807mW (27.2dBm)	416.869mW (26.2dBm)
Channel Bandwidth 15MHz			489.779mW (26.9dBm)	407.380mW (26.1dBm)
Channel Bandwidth 20MHz			537.032mW (27.3dBm)	398.107mW (26.0dBm)
Max. ERP Power	LTE Band 12	Channel Bandwidth 1.4MHz	117.490mW (20.7dBm)	91.201mW (19.6dBm)
		Channel Bandwidth 3MHz	125.893mW (21.0dBm)	97.724mW (19.9dBm)
		Channel Bandwidth 5MHz	134.896mW (21.3dBm)	107.152mW (20.3dBm)
		Channel Bandwidth 10MHz	125.893mW (21.0dBm)	100.000mW (20.0dBm)
	LTE Band 13	Channel Bandwidth 5MHz	316.228mW (25.0dBm)	245.471mW (23.9dBm)
		Channel Bandwidth 10MHz	301.995mW (24.8dBm)	239.883mW (23.8dBm)
	LTE Band 17	Channel Bandwidth 5MHz	204.174mW (23.1dBm)	162.181mW (22.1dBm)
		Channel Bandwidth 10MHz	190.546mW (22.8dBm)	151.356mW (21.8dBm)
Emission Designator			QPSK	16QAM
	LTE Band 4	Channel Bandwidth 1.4MHz	1M09G7D	1M09D7W
		Channel Bandwidth 3MHz	2M70G7D	2M70D7W
		Channel Bandwidth 5MHz	4M49G7D	4M49D7W
		Channel Bandwidth 10MHz	8M95G7D	8M95D7W
		Channel Bandwidth 15MHz	13M4G7D	13M4D7W
		Channel Bandwidth 20MHz	17M9G7D	17M9D7W
	LTE Band 12	Channel Bandwidth 1.4MHz	1M09G7D	1M09D7W
		Channel Bandwidth 3MHz	2M70G7D	2M70D7W
		Channel Bandwidth 5MHz	4M50G7D	4M49D7W
		Channel Bandwidth 10MHz	8M98G7D	8M98D7W
	LTE Band 13	Channel Bandwidth 5MHz	4M49G7D	4M49D7W
		Channel Bandwidth 10MHz	8M92G7D	8M92D7W
	LTE Band 17	Channel Bandwidth 5MHz	4M49G7D	4M49D7W
Channel Bandwidth 10MHz		8M95G7D	8M94D7W	
Antenna Connector	Refer to Note as below			
Antenna Connector	Refer to Note as below			
Accessory Device	Car charger, SD Card			
Data Cable Supplied	NA			

Note:

1. All models are listed as below. Model CDR8010-DBB1 is the representative for final test.

Model	PCB	Camera	NFC	Fan	eSIM	RAM
CDR8010-DBB1	Same PCB	Dual	Yes	Yes	N/A	3GB
CDR8011-DBA1			Yes	Yes		N/A
CDR8011-DDA1			Yes	No		N/A
CDR8011-DDB1			Yes	No		3GB
CDR8011-SBA1		Single	Yes	Yes		N/A
CDR8011-SBB1			Yes	Yes		3GB
CDR8011-SDA1			Yes	No		N/A
CDR8011-SDB1			Yes	No		3GB

2. The EUT is powered by the following car charger and battery.

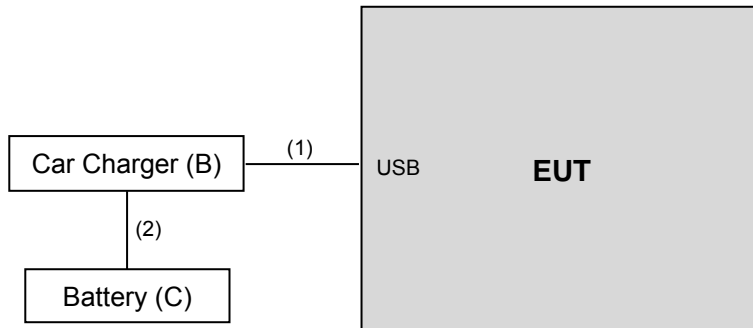
Car charger	
Brand	Sunny
Model	SYD1202-1005
Input Power	12Vdc / 24Vdc, 1.5A
Output Power	5Vdc, 2.1A
Power Line	5.1m cable with USB Type C connector

Battery	
Brand	FUJI ELECTRONICS(SHENZHEN)CO., LTD
Model	ICP463048XS
Rating	3.7Vdc, 750mA

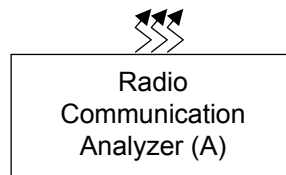
3. The following antennas were provided to the EUT.

Ant. No.	Type	Connector	Gain (dBi)			
			LTE B4	LTE B12	LTE B13	LTE B17
Main	PIFA	I-PEX	1.51	-4.02	-1.88	-4.02
Aux. (RX only)	PIFA	I-PEX	0.35	-6.18	-2.44	-6.56

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 Analyzer	Anritsu	MT8860C	1702001	NA	-
B.	Car Charger	Sunny	SYD1202-1005	NA	NA	Accessory of EUT
C.	Battery	YUASA	ST-CLN126-6S	NA	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.

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	Type C to car charger	1	5.1	N	0	Accessory of EUT
2.	DC cable	1	1	N	0	-

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 on Y-plane. Following channel(s) was (were) selected for the final test as listed below.

LTE Band 4

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	EIRP	19957 to 20393	19957(1710.7MHz), 20175(1732.5MHz), 20393(1754.3MHz)	1.4MHz	QPSK / 16QAM	1 RB / 0 RB Offset
		19965 to 20385	19965(1711.5MHz), 20175(1732.5MHz), 20385(1753.5MHz)	3MHz	QPSK / 16QAM	1 RB / 0 RB Offset
		19975 to 20375	19975(1712.5MHz), 20175(1732.5MHz), 20375(1752.5MHz)	5MHz	QPSK / 16QAM	1 RB / 0 RB Offset
		20000 to 20350	20000(1715.0MHz), 20175(1732.5MHz), 20350(1750.0MHz)	10MHz	QPSK / 16QAM	1 RB / 0 RB Offset
		20025 to 20325	20025(1717.5MHz), 20175(1732.5MHz), 20325(1747.5MHz)	15MHz	QPSK / 16QAM	1 RB / 0 RB Offset
		20050 to 20300	20050(1720.0MHz), 20175(1732.5MHz), 20300(1745.0MHz)	20MHz	QPSK / 16QAM	1 RB / 0 RB Offset
-	Modulation Characteristics	20050 to 20300	20175(1732.5MHz)	20MHz	QPSK / 16QAM	100 RB / 0 RB Offset
-	Frequency Stability	19957 to 20393	20175(1732.5MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
-	Emission Bandwidth	19957 to 20393	19957(1710.7MHz), 20175(1732.5MHz), 20393(1754.3MHz)	1.4MHz	QPSK / 16QAM	6 RB / 0 RB Offset
		19965 to 20385	19965(1711.5MHz), 20175(1732.5MHz), 20385(1753.5MHz)	3MHz	QPSK / 16QAM	15 RB / 0 RB Offset
		19975 to 20375	19975(1712.5MHz), 20175(1732.5MHz), 20375(1752.5MHz)	5MHz	QPSK / 16QAM	25 RB / 0 RB Offset
		20000 to 20350	20000(1715.0MHz), 20175(1732.5MHz), 20350(1750.0MHz)	10MHz	QPSK / 16QAM	50 RB / 0 RB Offset
		20025 to 20325	20025(1717.5MHz), 20175(1732.5MHz), 20325(1747.5MHz)	15MHz	QPSK / 16QAM	75 RB / 0 RB Offset
		20050 to 20300	20050(1720.0MHz), 20175(1732.5MHz), 20300(1745.0MHz)	20MHz	QPSK / 16QAM	100 RB / 0 RB Offset

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	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
-	Conducted Emission	19957 to 20393	19957(1710.7MHz), 20175(1732.5MHz), 20393(1754.3MHz)	1.4MHz	QPSK	6 RB / 0 RB Offset
		19965 to 20385	19965(1711.5MHz), 20175(1732.5MHz), 20385(1753.5MHz)	3MHz	QPSK	15 RB / 0 RB Offset
		19975 to 20375	19975(1712.5MHz), 20175(1732.5MHz), 20375(1752.5MHz)	5MHz	QPSK	25 RB / 0 RB Offset
		20000 to 20350	20000(1715.0MHz), 20175(1732.5MHz), 20350(1750.0MHz)	10MHz	QPSK	50 RB / 0 RB Offset
		20025 to 20325	20025(1717.5MHz), 20175(1732.5MHz), 20325(1747.5MHz)	15MHz	QPSK	75 RB / 0 RB Offset
		20050 to 20300	20050(1720.0MHz), 20175(1732.5MHz), 20300(1745.0MHz)	20MHz	QPSK	100 RB / 0 RB Offset
-	Radiated Emission Below 1GHz	19957 to 20393	19957(1710.7MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
		19975 to 20375	19975(1712.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		20050 to 20300	20050(1720.0MHz)	20MHz	QPSK	1 RB / 0 RB Offset
-	Radiated Emission Above 1GHz	19957 to 20393	19957(1710.7MHz), 20175(1732.5MHz), 20393(1754.3MHz)	1.4MHz	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
		20050 to 20300	20050(1720.0MHz), 20175(1732.5MHz), 20300(1745.0MHz)	20MHz	QPSK	1 RB / 0 RB Offset

LTE Band 12

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

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	Peak to Average Ratio	23017 to 23173	23017(699.7MHz), 23095(707.5MHz), 23173(715.3MHz)	1.4MHz	QPSK / 16QAM	1 RB / 0 RB Offset
		23025 to 23165	23025(700.5MHz), 23095(707.5MHz), 23165(714.5MHz)	3MHz	QPSK / 16QAM	1 RB / 0 RB Offset
		23035 to 23155	23035(701.5MHz), 23095(707.5MHz), 23155(713.5MHz)	5MHz	QPSK / 16QAM	1 RB / 0 RB Offset
		23060 to 23130	23060(704.0MHz), 23095(707.5MHz), 23130(711.0MHz)	10MHz	QPSK / 16QAM	1 RB / 0 RB Offset
-	Conducted Emission	23017 to 23173	23017(699.7MHz), 23095(707.5MHz), 23173(715.3MHz)	1.4MHz	QPSK	6 RB / 0 RB Offset
		23025 to 23165	23025(700.5MHz), 23095(707.5MHz), 23165(714.5MHz)	3MHz	QPSK	15 RB / 0 RB Offset
		23035 to 23155	23035(701.5MHz), 23095(707.5MHz), 23155(713.5MHz)	5MHz	QPSK	25 RB / 0 RB Offset
		23060 to 23130	23060(704.0MHz), 23095(707.5MHz), 23130(711.0MHz)	10MHz	QPSK	50 RB / 0 RB Offset
-	Radiated Emission Below 1GHz	23017 to 23173	23017(699.7MHz)	1.4MHz	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
-	Radiated Emission Above 1GHz	23017 to 23173	23017(699.7MHz), 23095(707.5MHz), 23173(715.3MHz)	1.4MHz	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

LTE Band 13

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	ERP	23205 to 23255	23205(779.5MHz), 23230(782.0MHz), 23255(784.5MHz)	5MHz	QPSK / 16QAM	1 RB / 0 RB Offset
		23230	23230(782.0MHz)	10MHz	QPSK / 16QAM	1 RB / 0 RB Offset
-	Modulation Characteristics	23230	23230(782.0MHz),	10MHz	QPSK / 16QAM	1 RB / 0 RB Offset
-	Frequency Stability	23205 to 23255	23230(782.0MHz)	5MHz	QPSK	1 RB / 0 RB Offset
-	Emission Bandwidth	23205 to 23255	23205(779.5MHz), 23230(782.0MHz), 23255(784.5MHz)	5MHz	QPSK / 16QAM	25 RB / 0 RB Offset
		23230	23230(782.0MHz)	10MHz	QPSK / 16QAM	50 RB / 0 RB Offset
-	Band Edge	23205 to 23255	23205(779.5MHz), 23255(784.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset 1 RB / 24 RB Offset 25 RB / 0 RB Offset
		23230	23230(782.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset 1 RB / 49 RB Offset 50 RB / 0 RB Offset
-	Peak to Average Ratio	23205 to 23255	23205(779.5MHz), 23230(782.0MHz), 23255(784.5MHz)	5MHz	QPSK / 16QAM	25 RB / 0 RB Offset
		23230	23230(782.0MHz)	10MHz	QPSK / 16QAM	50 RB / 0 RB Offset
-	Conducted Emission	23205 to 23255	23205(779.5MHz), 23230(782.0MHz), 23255(784.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		23230	23230(782.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset
-	Radiated Emission Below 1GHz	23205 to 23255	23205(779.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		23230	23230(782.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset
-	Radiated Emission Above 1GHz	23205 to 23255	23205(779.5MHz), 23230(782.0MHz), 23255(784.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		23230	23230(782.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset

LTE Band 17

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	ERP	23755 to 23825	23755(706.5MHz), 23790(710.0MHz), 23825(713.5MHz)	5MHz	QPSK / 16QAM	1 RB / 0 RB Offset
		23780 to 23800	23780(709.0MHz), 23790(710.0MHz), 23800(711.0MHz)	10MHz	QPSK / 16QAM	1 RB / 0 RB Offset
-	Modulation Characteristics	23780 to 23800	23790(710.0MHz)	10MHz	QPSK / 16QAM	1 RB / 0 RB Offset
-	Frequency Stability	23755 to 23825	23790(710.0MHz)	5MHz	QPSK	1 RB / 0 RB Offset
-	Emission Bandwidth	23755 to 23825	23755(706.5MHz), 23790(710.0MHz), 23825(713.5MHz)	5MHz	QPSK / 16QAM	25 RB / 0 RB Offset
		23780 to 23800	23780(709.0MHz), 23790(710.0MHz), 23800(711.0MHz)	10MHz	QPSK / 16QAM	50 RB / 0 RB Offset
-	Band Edge	23755 to 23825	23755(706.5MHz), 23825(713.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset 1 RB / 24 RB Offset 25 RB / 0 RB Offset
		23780 to 23800	23780(709.0MHz), 23800(711.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset 1 RB / 49 RB Offset 50 RB / 0 RB Offset
-	Peak to Average Ratio	23755 to 23825	23755(706.5MHz), 23790(710.0MHz), 23825(713.5MHz)	5MHz	QPSK / 16QAM	25 RB / 0 RB Offset
		23780 to 23800	23780(709.0MHz), 23790(710.0MHz), 23800(711.0MHz)	10MHz	QPSK / 16QAM	50 RB / 0 RB Offset
-	Conducted Emission	23755 to 23825	23755(706.5MHz), 23790(710.0MHz), 23825(713.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		23780 to 23800	23780(709.0MHz), 23790(710.0MHz), 23800(711.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset
-	Radiated Emission Below 1GHz	23755 to 23825	23755(706.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		23780 to 23800	23780(710.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset
-	Radiated Emission Above 1GHz	23755 to 23825	23755(706.5MHz), 23790(710.0MHz), 23825(713.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		23780 to 23800	23780(709.0MHz), 23790(710.0MHz), 23800(711.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset

Note:

1. For radiated emission below 1GHz, low, mid and high channels were pre-tested in chamber. Low channel was found to be the worst case and therefore had been chosen for all final tests.
2. The conducted output power for QPSK, 16QAM, measured value of QPSK is higher than 16QAM mode. Therefore, only occupied bandwidth and Peak to average ratio items had been tested under QPSK, 16QAM modes, the other test items were performed under QPSK mode only.

Test Condition:

Test Item	Environmental Conditions	Input Power	Tested By
EIRP/ERP	22deg. C, 68%RH	120Vac, 60Hz	Greg Lin
Modulation characteristics	24deg. C, 64%RH	120Vac, 60Hz	James Yang
Frequency Stability	24deg. C, 64%RH	3.7Vdc	James Yang
Occupied Bandwidth	24deg. C, 64%RH	120Vac, 60Hz	James Yang
Band Edge	24deg. C, 64%RH	120Vac, 60Hz	James Yang
Peak To Average Ratio	24deg. C, 64%RH	120Vac, 60Hz	James Yang
Conducted Emission	24deg. C, 64%RH	120Vac, 60Hz	James Yang
Radiated Emission	22deg. C, 68%RH 24deg. C, 68%RH	120Vac, 60Hz	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 LTE Band 4, and 3 watts e.r.p for LTE Band 12, Band 13 & Band 17.

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 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, $E.R.P \text{ power} = E.I.R.P \text{ power} - 2.15\text{dBi}$.

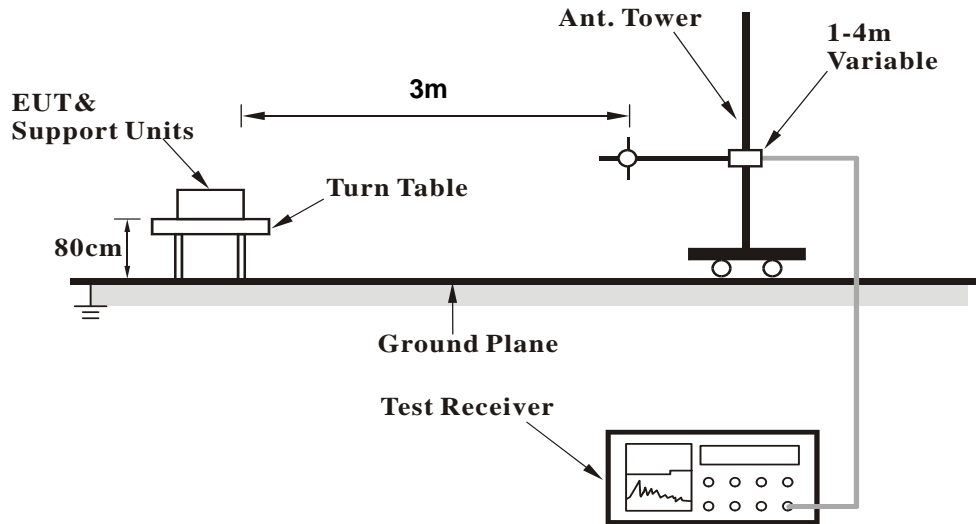
Conducted Power Measurement:

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.

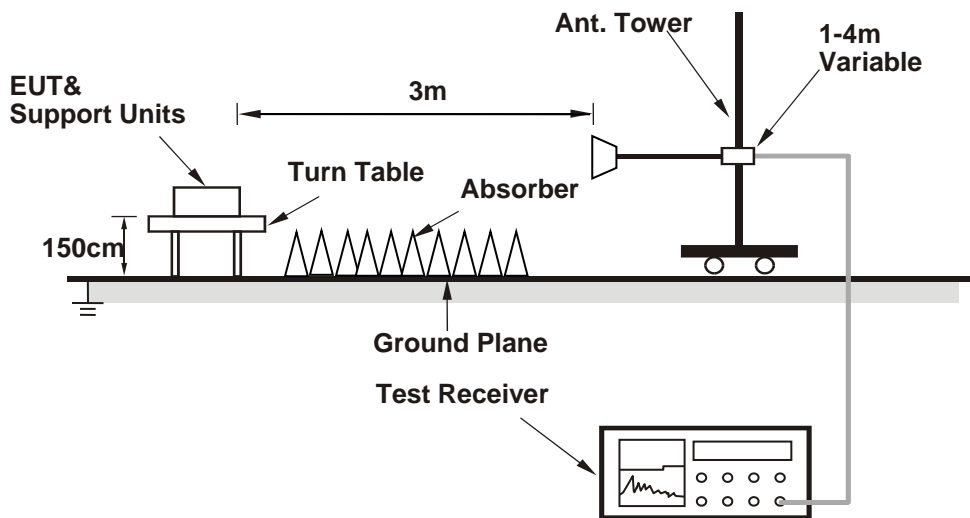
4.1.3 Test Setup

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)
 LTE Band 4

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	22.09	22.67	23.06
		1	2	21.94	22.44	22.76
		1	5	21.97	22.33	22.96
		3	0	22.04	22.71	22.83
		3	1	22.19	22.73	22.93
		3	3	22.07	22.75	22.94
		6	0	21.86	21.60	21.81
	16QAM	1	0	20.80	21.68	22.06
		1	2	20.68	21.32	21.72
		1	5	20.74	21.47	21.81
		3	0	20.96	21.61	21.69
		3	1	21.13	21.65	22.05
		3	3	21.02	21.58	22.04
		6	0	20.86	20.47	20.98
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	22.07	22.78	22.83
		1	7	22.18	22.55	22.65
		1	14	22.04	22.70	22.81
		8	0	21.14	21.45	21.69
		8	3	21.17	21.53	21.75
		8	7	21.16	21.53	21.77
		15	0	21.78	21.52	21.79
	16QAM	1	0	21.41	21.63	21.67
		1	7	21.57	21.58	21.32
		1	14	21.01	21.24	21.66
		8	0	20.18	20.45	20.63
		8	3	20.10	20.41	20.69
		8	7	20.19	20.43	20.58
		15	0	20.75	20.42	20.50

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	22.24	22.25	22.88
		1	12	22.23	22.18	22.83
		1	24	22.18	22.11	22.82
		12	0	21.54	21.52	21.67
		12	6	21.43	21.49	21.74
		12	13	21.49	21.47	21.80
		25	0	21.59	21.47	21.73
	16QAM	1	0	21.17	21.43	22.04
		1	12	21.16	21.50	21.56
		1	24	21.24	21.50	21.84
		12	0	20.53	20.29	20.68
		12	6	20.43	20.36	20.45
		12	13	20.49	20.25	20.62
		25	0	20.47	20.40	20.49
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	22.15	22.27	22.75
		1	24	22.42	22.45	22.55
		1	49	22.14	22.34	22.67
		25	0	21.10	21.47	21.74
		25	12	21.17	21.45	21.68
		25	25	21.13	21.49	21.73
		50	0	21.17	21.54	21.70
	16QAM	1	0	21.12	21.10	21.47
		1	24	21.34	21.44	21.06
		1	49	21.15	21.40	21.40
		25	0	20.04	20.52	20.72
		25	12	20.12	20.52	20.88
		25	25	20.09	20.56	20.81
		50	0	20.04	20.63	20.72

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	22.29	22.20	22.85
		1	37	22.29	22.27	22.83
		1	74	21.87	22.40	22.84
		36	0	21.07	21.43	21.62
		36	19	21.09	21.48	21.72
		36	39	21.26	21.41	21.74
		75	0	21.07	21.51	21.69
	16QAM	1	0	21.26	20.94	21.34
		1	37	21.25	20.90	21.05
		1	74	20.64	20.93	21.31
		36	0	20.03	20.49	20.57
		36	19	20.19	20.44	20.55
		36	39	20.09	20.72	20.73
		75	0	20.13	20.43	20.63
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	22.27	22.29	22.86
		1	50	22.38	22.27	22.85
		1	99	22.18	22.27	22.84
		50	0	21.13	21.40	21.76
		50	25	21.14	21.56	21.59
		50	50	21.24	21.60	21.65
		100	0	21.16	21.44	21.64
	16QAM	1	0	20.89	21.09	21.33
		1	50	20.86	21.16	21.32
		1	99	20.81	21.04	21.32
		50	0	20.18	20.42	20.67
		50	25	20.18	20.48	20.60
		50	50	20.19	20.30	20.57
		100	0	20.23	20.40	20.70

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	23.98	24.01	23.69
		1	2	23.98	23.84	23.60
		1	5	23.82	23.84	23.64
		3	0	23.82	23.98	23.67
		3	1	23.85	23.98	23.65
		3	3	23.84	23.78	23.72
		6	0	22.71	22.73	22.61
	16QAM	1	0	23.00	23.14	22.66
		1	2	22.58	22.67	22.57
		1	5	22.74	22.77	22.63
		3	0	22.99	22.74	22.55
		3	1	22.88	22.84	22.65
		3	3	22.98	22.78	22.51
		6	0	21.66	21.71	21.65
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	23.50	24.01	23.35
		1	7	23.94	23.85	23.93
		1	14	23.88	23.70	23.76
		8	0	22.78	22.67	22.69
		8	3	22.82	22.75	22.67
		8	7	22.74	22.81	22.66
		15	0	22.71	22.66	22.59
	16QAM	1	0	22.59	22.64	22.63
		1	7	22.57	22.57	22.42
		1	14	22.54	22.61	22.48
		8	0	21.75	21.74	21.74
		8	3	21.89	21.90	21.73
		8	7	21.80	21.77	21.81
		15	0	21.53	21.59	21.51

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	23.99	24.03	23.87
		1	12	23.98	24.02	23.84
		1	24	23.33	23.97	23.26
		12	0	22.62	22.63	22.67
		12	6	22.72	22.78	22.66
		12	13	22.59	22.72	22.58
		25	0	22.65	22.69	22.58
	16QAM	1	0	22.26	22.28	22.21
		1	12	22.15	22.15	22.18
		1	24	22.09	22.27	21.82
		12	0	21.58	21.67	21.52
		12	6	21.69	21.84	21.52
		12	13	21.57	21.78	21.42
		25	0	21.74	21.76	21.48
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	23.59	23.77	23.48
		1	24	23.52	23.66	23.47
		1	49	23.54	23.76	23.40
		25	0	22.53	22.57	22.75
		25	12	22.58	22.72	22.79
		25	25	22.82	22.81	22.71
		50	0	22.70	22.72	22.66
	16QAM	1	0	22.22	22.23	22.11
		1	24	22.05	22.17	22.10
		1	49	22.22	22.08	22.05
		25	0	21.53	21.67	21.85
		25	12	21.59	21.83	22.01
		25	25	21.83	21.83	21.96
		50	0	21.79	21.38	21.74

LTE Band 13						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		23205	23230	23255
		Frequency (MHz)		779.5	782	784.5
5M	QPSK	1	0	24.29	24.30	23.78
		1	12	23.96	24.22	23.70
		1	24	23.47	23.58	23.58
		12	0	22.88	22.94	22.98
		12	6	23.00	22.99	23.05
		12	13	22.93	22.94	22.96
		25	0	22.95	22.93	22.93
	16QAM	1	0	22.31	22.48	22.33
		1	12	22.16	22.46	22.27
		1	24	22.29	22.41	22.31
		12	0	22.01	21.78	21.82
		12	6	21.86	22.12	22.10
		12	13	21.87	21.88	22.00
		25	0	21.98	21.94	22.05
LTE Band 13						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		-	23230	-
		Frequency (MHz)		-	782	-
10M	QPSK	1	0	-	23.91	-
		1	24	-	23.72	-
		1	49	-	23.52	-
		25	0	-	22.85	-
		25	12	-	22.94	-
		25	25	-	22.97	-
		50	0	-	22.95	-
	16QAM	1	0	-	22.53	-
		1	24	-	22.49	-
		1	49	-	22.49	-
		25	0	-	21.96	-
		25	12	-	21.87	-
		25	25	-	22.11	-
		50	0	-	21.75	-

LTE Band 17						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		23755	23790	23825
		Frequency (MHz)		706.5	710	713.5
5M	QPSK	1	0	24.10	24.03	23.93
		1	12	23.36	23.27	23.50
		1	24	23.82	23.41	23.74
		12	0	22.63	22.67	22.61
		12	6	22.87	22.77	22.68
		12	13	22.78	22.76	22.55
		25	0	22.81	22.72	22.66
	16QAM	1	0	22.27	22.18	22.04
		1	12	22.17	22.14	22.03
		1	24	22.07	22.00	22.05
		12	0	21.80	21.68	21.62
		12	6	22.00	21.86	21.57
		12	13	21.95	21.74	21.55
		25	0	21.93	21.87	21.80
LTE Band 17						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		23780	23790	23800
		Frequency (MHz)		709	710	711
10M	QPSK	1	0	24.23	23.94	23.97
		1	24	23.56	23.36	23.44
		1	49	23.60	23.73	23.72
		25	0	22.74	22.65	22.70
		25	12	22.78	22.70	22.72
		25	25	22.83	22.73	22.67
		50	0	22.81	22.73	22.75
	16QAM	1	0	22.38	22.23	22.29
		1	24	22.31	22.21	22.28
		1	49	22.34	22.15	22.26
		25	0	21.68	21.51	21.77
		25	12	21.82	21.75	21.88
		25	25	21.89	21.57	21.85
		50	0	21.80	21.73	21.75

EIRP Power (dBm)

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	-11.9	26.1	0.7	26.8	30.0	-3.2
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	-13.7	24.1	0.7	24.8	30.0	-5.2

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	-11.8	26.6	0.6	27.2	30.0	-2.8
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	-13.3	25.0	0.6	25.6	30.0	-4.4

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	-12.0	26.8	0.5	27.3	30.0	-2.7
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	-13.1	25.8	0.5	26.3	30.0	-3.7

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	-12.4	25.6	0.7	26.3	30.0	-3.7
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	-13.2	24.6	0.7	25.3	30.0	-4.7

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	-12.1	26.3	0.6	26.9	30.0	-3.1
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	-13.4	24.9	0.6	25.5	30.0	-4.5

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	-11.8	27.0	0.5	27.5	30.0	-2.5
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	-13.7	25.2	0.5	25.7	30.0	-4.3

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	-12.3	25.8	0.7	26.5	30.0	-3.5
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	-13.4	24.5	0.7	25.2	30.0	-4.8

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	-12.5	25.9	0.6	26.5	30.0	-3.5
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	-13.5	24.8	0.6	25.4	30.0	-4.6

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	-12.0	26.8	0.5	27.3	30.0	-2.7
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	-13.1	25.7	0.5	26.2	30.0	-3.8

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	-12.1	26.0	0.7	26.7	30.0	-3.3
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	-13.3	24.6	0.7	25.3	30.0	-4.7

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	-12.5	26.1	0.5	26.6	30.0	-3.4
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	-13.4	25.1	0.5	25.6	30.0	-4.4

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	-12.1	26.7	0.5	27.2	30.0	-2.8
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	-13.2	25.6	0.5	26.1	30.0	-3.9

Note: $EIRP (dBm) = S.G \text{ Power Value (dBm)} + \text{Correction Factor (dB)}$.

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	-12.2	25.9	0.7	26.6	30.0	-3.4
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	-13.0	25.0	0.7	25.7	30.0	-4.3

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	-12.4	26.0	0.6	26.6	30.0	-3.4
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	-13.6	24.7	0.6	25.3	30.0	-4.7

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	-12.3	26.4	0.5	26.9	30.0	-3.1
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	-13.5	25.2	0.5	25.7	30.0	-4.3

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	-12.5	25.7	0.7	26.4	30.0	-3.6
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	-13.7	24.3	0.7	25.0	30.0	-5.0

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	-12.2	26.2	0.6	26.8	30.0	-3.2
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	-13.4	24.9	0.6	25.5	30.0	-4.5

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	-11.9	26.8	0.5	27.3	30.0	-2.7
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	-13.2	25.5	0.5	26.0	30.0	-4.0

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	-7.8	16.7	3.5	20.2	34.8	-14.6
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	-12.1	15.4	3.5	18.9	34.8	-15.9

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	-7.6	17.2	3.5	20.7	34.8	-14.1
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	-12.4	15.4	3.5	18.9	34.8	-15.9

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	-7.8	17.2	3.5	20.7	34.8	-14.1
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	-12.0	15.6	3.5	19.1	34.8	-15.7

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	-7.8	16.7	3.5	20.2	34.8	-14.6
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	-12.7	14.9	3.5	18.4	34.8	-16.4

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	-7.2	17.5	3.5	21.0	34.8	-13.8
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	-12.1	15.6	3.5	19.1	34.8	-15.7

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	-7.9	17.1	3.5	20.6	34.8	-14.2
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	-12.8	14.9	3.5	18.4	34.8	-16.4

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	-7.4	17.2	3.4	20.6	34.8	-14.2
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	-12.9	14.8	3.4	18.2	34.8	-16.6

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	-7.9	16.9	3.5	20.4	34.8	-14.4
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	-12.9	14.8	3.5	18.3	34.8	-16.5

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	-7.2	17.8	3.5	21.3	34.8	-13.5
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	-12.6	15.1	3.5	18.6	34.8	-16.2

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	-7.6	17.1	3.5	20.6	34.8	-14.2
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	-12.8	14.8	3.5	18.3	34.8	-16.5

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	-7.2	17.5	3.5	21.0	34.8	-13.8
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	-12.4	15.4	3.5	18.9	34.8	-15.9

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	-7.5	17.5	3.5	21.0	34.8	-13.8
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	-12.5	15.1	3.5	18.6	34.8	-16.2

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

LTE Band 13

Channel Bandwidth: 5MHz

MODE		TX channel 23205					
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	779.50	-5.3	20.7	4.0	24.7	34.8	-10.1
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	779.50	-12.7	15.4	4.0	19.4	34.8	-15.4

MODE		TX channel 23230					
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	782.00	-5.0	21.0	4.0	25.0	34.8	-9.8
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	782.00	-12.5	15.4	4.0	19.4	34.8	-15.4

MODE		TX channel 23255					
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	784.50	-5.1	21.0	4.0	25.0	34.8	-9.8
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	784.50	-12.2	15.7	4.0	19.7	34.8	-15.1

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

Channel Bandwidth: 10MHz

MODE		TX channel 23230					
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	782.00	-5.2	20.8	4.0	24.8	34.8	-10.0
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	782.00	-12.8	15.1	4.0	19.1	34.8	-15.7

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

LTE Band 17

Channel Bandwidth: 5MHz

MODE		TX channel 23755					
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	706.50	-5.8	19.0	3.5	22.5	34.8	-12.3
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	706.50	-9.1	18.5	3.5	22.0	34.8	-12.8

MODE		TX channel 23790					
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	710.00	-5.5	19.4	3.5	22.9	34.8	-11.9
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	710.00	-9.6	18.0	3.5	21.5	34.8	-13.3

MODE		TX channel 23825					
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	-5.4	19.6	3.5	23.1	34.8	-11.7
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	-9.4	18.4	3.5	21.9	34.8	-12.9

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

Channel Bandwidth: 10MHz

MODE		TX channel 23780					
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	709.00	-5.6	19.1	3.5	22.6	34.8	-12.2
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	709.00	-9.3	18.3	3.5	21.8	34.8	-13.0

MODE		TX channel 23790					
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	710.00	-5.9	19.0	3.5	22.5	34.8	-12.3
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	710.00	-9.6	18.0	3.5	21.5	34.8	-13.3

MODE		TX channel 23800					
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	-5.7	19.3	3.5	22.8	34.8	-12.0
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	-9.4	18.2	3.5	21.7	34.8	-13.1

Note: ERP (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	-12.6	25.4	0.7	26.1	30.0	-3.9
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	-14.4	23.4	0.7	24.1	30.0	-5.9

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	-13.3	25.1	0.6	25.7	30.0	-4.3
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	-14.5	23.8	0.6	24.4	30.0	-5.6

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	-13.0	25.8	0.5	26.3	30.0	-3.7
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	-14.2	24.7	0.5	25.2	30.0	-4.8

Note: $EIRP (dBm) = S.G \text{ Power Value (dBm)} + \text{Correction Factor (dB)}$.

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	-13.3	24.7	0.7	25.4	30.0	-4.6
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	-13.9	23.9	0.7	24.6	30.0	-5.4

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	-13.2	25.2	0.6	25.8	30.0	-4.2
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	-14.4	23.9	0.6	24.5	30.0	-5.5

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	-13.3	25.5	0.5	26.0	30.0	-4.0
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	-14.2	24.7	0.5	25.2	30.0	-4.8

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	-13.1	25.0	0.7	25.7	30.0	-4.3
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	-14.1	23.8	0.7	24.5	30.0	-5.5

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	-13.0	25.4	0.6	26.0	30.0	-4.0
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	-14.2	24.1	0.6	24.7	30.0	-5.3

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	-12.8	26.0	0.5	26.5	30.0	-3.5
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	-14.3	24.5	0.5	25.0	30.0	-5.0

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	-13.6	24.5	0.7	25.2	30.0	-4.8
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	-14.7	23.2	0.7	23.9	30.0	-6.1

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	-12.9	25.5	0.6	26.1	30.0	-3.9
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	-14.0	24.3	0.6	24.9	30.0	-5.1

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	-13.1	25.7	0.5	26.2	30.0	-3.8
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	-14.3	24.5	0.5	25.0	30.0	-5.0

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	-13.0	25.1	0.7	25.8	30.0	-4.2
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	-14.4	23.6	0.7	24.3	30.0	-5.7

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	-13.3	25.1	0.6	25.7	30.0	-4.3
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	-14.2	24.1	0.6	24.7	30.0	-5.3

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	-13.1	25.6	0.5	26.1	30.0	-3.9
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	-14.0	24.7	0.5	25.2	30.0	-4.8

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	-13.3	24.9	0.7	25.6	30.0	-4.4
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	-14.5	23.5	0.7	24.2	30.0	-5.8

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	-13.4	25.0	0.6	25.6	30.0	-4.4
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	-14.2	24.1	0.6	24.7	30.0	-5.3

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	-13.2	25.5	0.5	26.0	30.0	-4.0
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	-14.1	24.6	0.5	25.1	30.0	-4.9

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	-8.8	15.7	3.5	19.2	34.8	-15.6
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	-13.1	14.4	3.5	17.9	34.8	-16.9

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	-8.6	16.1	3.5	19.6	34.8	-15.2
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	-13.6	14.1	3.5	17.6	34.8	-17.2

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	-8.8	16.1	3.5	19.6	34.8	-15.2
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	-13.0	14.6	3.5	18.1	34.8	-16.7

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	-8.9	15.6	3.5	19.1	34.8	-15.7
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	-13.7	13.9	3.5	17.4	34.8	-17.4

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	-8.4	16.4	3.5	19.9	34.8	-14.9
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	-13.1	14.6	3.5	18.1	34.8	-16.7

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	-9.0	16.0	3.5	19.5	34.8	-15.3
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	-11.8	15.8	3.5	19.3	34.8	-15.5

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	-8.5	16.1	3.4	19.5	34.8	-15.3
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	-13.9	13.8	3.4	17.2	34.8	-17.6

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	-8.9	15.8	3.5	19.3	34.8	-15.5
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	-13.4	14.4	3.5	17.9	34.8	-16.9

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	-8.2	16.8	3.5	20.3	34.8	-14.5
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	-13.6	14.1	3.5	17.6	34.8	-17.2

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	-8.6	16.1	3.5	19.6	34.8	-15.2
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	-13.8	13.8	3.5	17.3	34.8	-17.5

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	-8.4	16.4	3.5	19.9	34.8	-14.9
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	-13.4	14.4	3.5	17.9	34.8	-16.9

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	-8.5	16.5	3.5	20.0	34.8	-14.8
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	-13.5	14.1	3.5	17.6	34.8	-17.2

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

LTE Band 13

Channel Bandwidth: 5MHz

MODE		TX channel 23205					
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	779.50	-6.3	19.7	4.0	23.7	34.8	-11.1
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	779.50	-13.6	14.5	4.0	18.5	34.8	-16.3

MODE		TX channel 23230					
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	782.00	-6.1	19.9	4.0	23.9	34.8	-10.9
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	782.00	-13.7	14.2	4.0	18.2	34.8	-16.6

MODE		TX channel 23255					
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	784.50	-6.2	19.9	4.0	23.9	34.8	-10.9
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	784.50	-13.2	14.7	4.0	18.7	34.8	-16.1

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

Channel Bandwidth: 10MHz

MODE		TX channel 23230					
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	782.00	-6.2	19.8	4.0	23.8	34.8	-11.0
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	782.00	-13.8	14.1	4.0	18.1	34.8	-16.7

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

LTE Band 17

Channel Bandwidth: 5MHz

MODE		TX channel 23755					
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	706.50	-6.8	18.0	3.5	21.5	34.8	-13.3
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	706.50	-10.0	17.6	3.5	21.1	34.8	-13.7

MODE		TX channel 23790					
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	710.00	-6.4	18.5	3.5	22.0	34.8	-12.8
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	710.00	-10.5	17.1	3.5	20.6	34.8	-14.2

MODE		TX channel 23825					
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	-6.4	18.6	3.5	22.1	34.8	-12.7
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	-10.4	17.4	3.5	20.9	34.8	-13.9

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

Channel Bandwidth: 10MHz

MODE		TX channel 23780					
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	709.00	-6.6	18.1	3.5	21.6	34.8	-13.2
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	709.00	-10.3	17.3	3.5	20.8	34.8	-14.0

MODE		TX channel 23790					
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	710.00	-6.9	18.0	3.5	21.5	34.8	-13.3
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	710.00	-10.6	17.0	3.5	20.5	34.8	-14.3

MODE		TX channel 23800					
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	-6.7	18.3	3.5	21.8	34.8	-13.0
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	-10.4	17.2	3.5	20.7	34.8	-14.1

Note: ERP (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

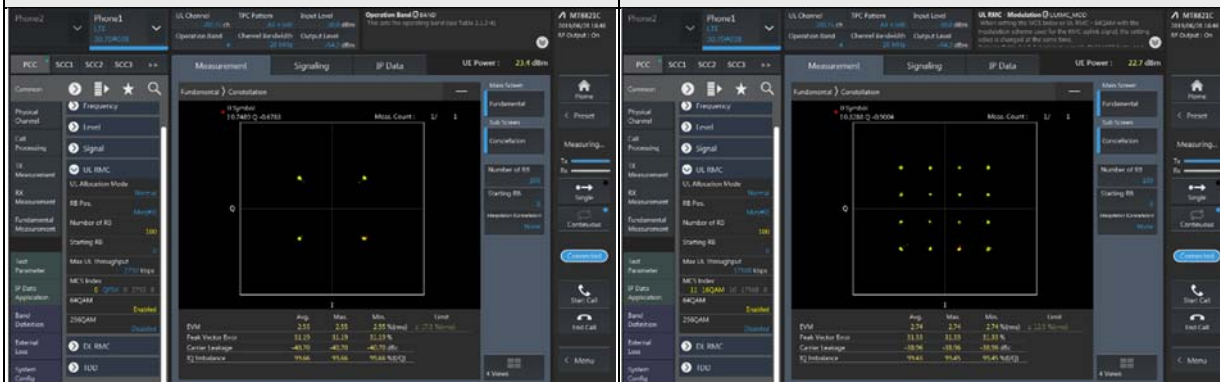
LTE Band 4

Spectrum Plot of Measurement Value

Channel: 20175 / Frequency (MHz): 1732.5MHz

Channel Bandwidth: 20MHz / QPSK

Channel Bandwidth: 20MHz / 16QAM



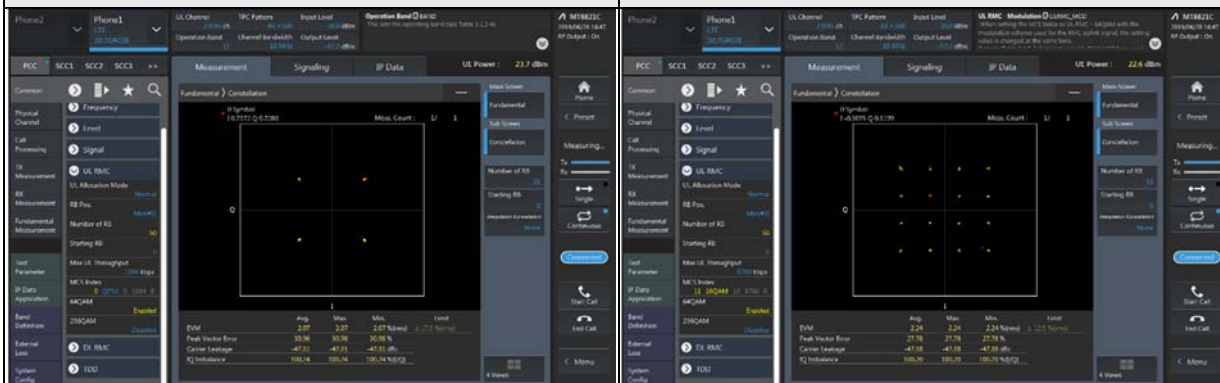
LTE Band 12

Spectrum Plot of Measurement Value

Channel: 23095 / Frequency (MHz): 707.5 MHz

Channel Bandwidth: 10MHz / QPSK

Channel Bandwidth: 10MHz / 16QAM



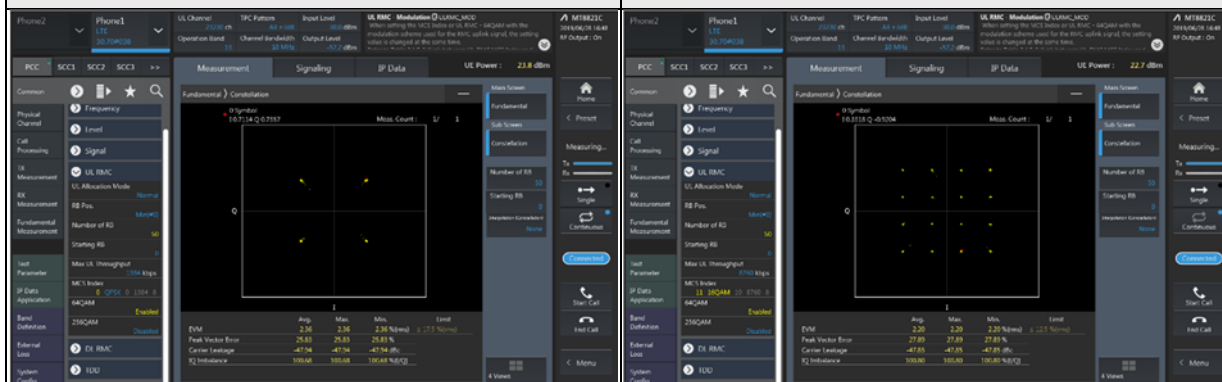
LTE Band 13

Spectrum Plot of Measurement Value

Channel: 23230 / Frequency (MHz): 782.0MHz

Channel Bandwidth: 10MHz / QPSK

Channel Bandwidth: 10MHz / 16QAM



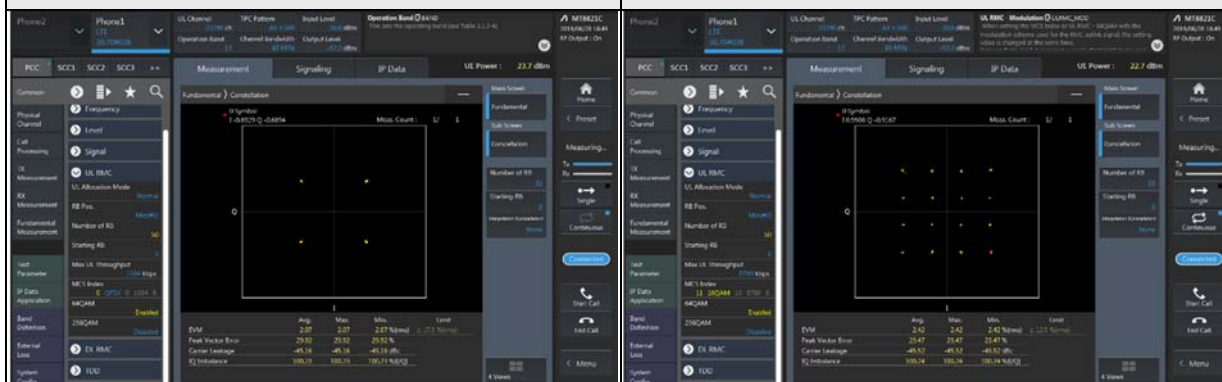
LTE Band 17

Spectrum Plot of Measurement Value

Channel: 23790 / Frequency (MHz): 710.0MHz

Channel Bandwidth: 10MHz / QPSK

Channel Bandwidth: 10MHz / 16QAM



4.3 Frequency Stability Measurement

4.3.1 Limits of Frequency Stability Measurement

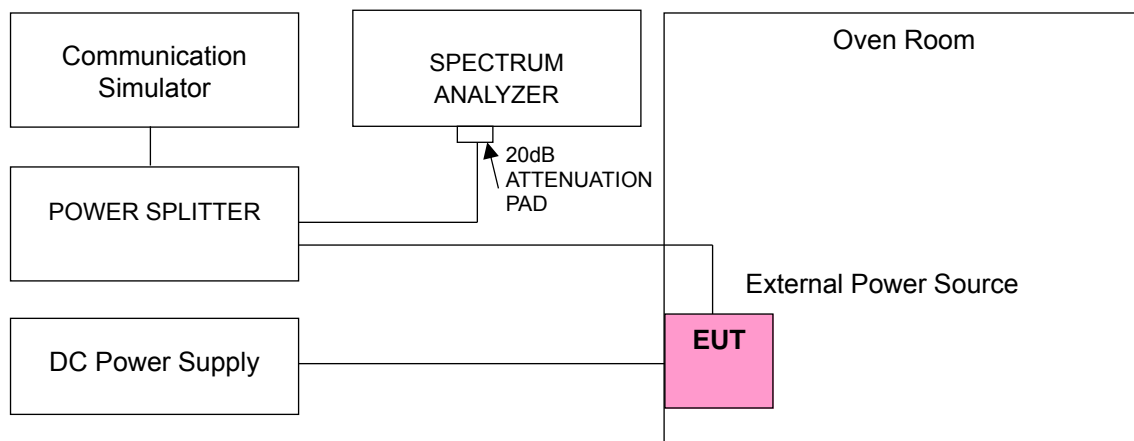
According to the FCC part 2.1055 shall be tested the frequency stability. The rule is defined that "The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block." The test extreme voltage is according to the 2.1055(d)(1) Vary primary 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)	LTE Band 4			
	Channel Bandwidth: 1.4 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.70	1710.700003	0.002	1754.300003	0.002
3.15	1710.700003	0.002	1754.300003	0.002
4.26	1710.700004	0.002	1754.300003	0.001

Note: The applicant defined the normal working voltage is from 3.15Vdc to 4.26Vdc.

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	1710.700004	0.002	1754.300002	0.001
-20	1710.700001	0.001	1754.300003	0.002
-10	1710.700004	0.002	1754.300004	0.002
0	1710.700004	0.002	1754.300003	0.002
10	1710.700003	0.002	1754.300004	0.002
20	1710.699999	-0.001	1754.299996	-0.002
30	1710.699998	-0.001	1754.299999	-0.001
40	1710.699998	-0.001	1754.299996	-0.002
50	1710.699997	-0.002	1754.299999	-0.001
60	1710.699997	-0.002	1754.299997	-0.002

Voltage (Volts)	LTE Band 4			
	Channel Bandwidth: 3MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.70	1711.500002	0.001	1753.500003	0.002
3.15	1711.500002	0.001	1753.500002	0.001
4.26	1711.500002	0.001	1753.500003	0.002

Note: The applicant defined the normal working voltage is from 3.15Vdc to 4.26Vdc.

Frequency Error vs. Temperature

Temp. (°C)	LTE Band 4			
	Channel Bandwidth: 3MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	1711.500002	0.001	1753.500001	0.001
-20	1711.500001	0.001	1753.500004	0.002
-10	1711.500002	0.001	1753.500004	0.002
0	1711.500003	0.002	1753.500004	0.002
10	1711.500003	0.002	1753.500001	0.001
20	1711.499996	-0.002	1753.499999	-0.001
30	1711.499998	-0.001	1753.499999	-0.001
40	1711.499998	-0.001	1753.499999	-0.001
50	1711.499998	-0.001	1753.499998	-0.001
60	1711.499996	-0.002	1753.499997	-0.002

Voltage (Volts)	LTE Band 4			
	Channel Bandwidth: 5MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.70	1712.500001	0.001	1752.500001	0.001
3.15	1712.500002	0.001	1752.500002	0.001
4.26	1712.500003	0.002	1752.500002	0.001

Note: The applicant defined the normal working voltage is from 3.15Vdc to 4.26Vdc.

Frequency Error vs. Temperature

Temp. (°C)	LTE Band 4			
	Channel Bandwidth: 5MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	1712.500003	0.002	1752.500003	0.002
-20	1712.500004	0.002	1752.500002	0.001
-10	1712.500002	0.001	1752.500002	0.001
0	1712.500003	0.002	1752.500003	0.002
10	1712.500001	0.001	1752.500002	0.001
20	1712.499999	-0.001	1752.499998	-0.001
30	1712.499997	-0.002	1752.499998	-0.001
40	1712.499997	-0.002	1752.499999	-0.001
50	1712.499997	-0.002	1752.499996	-0.002
60	1712.499999	-0.001	1752.499998	-0.001

Voltage (Volts)	LTE Band 4			
	Channel Bandwidth: 10MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.70	1715.000003	0.002	1750.000002	0.001
3.15	1715.000002	0.001	1750.000002	0.001
4.26	1715.000004	0.002	1750.000001	0.001

Note: The applicant defined the normal working voltage is from 3.15Vdc to 4.26Vdc.

Frequency Error vs. Temperature

Temp. (°C)	LTE Band 4			
	Channel Bandwidth: 10MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	1715.000003	0.002	1750.000003	0.002
-20	1715.000004	0.002	1750.000003	0.001
-10	1715.000003	0.002	1750.000004	0.002
0	1715.000004	0.002	1750.000003	0.002
10	1715.000001	0.001	1750.000002	0.001
20	1714.999997	-0.002	1749.999997	-0.002
30	1714.999997	-0.002	1749.999997	-0.002
40	1714.999998	-0.001	1749.999997	-0.002
50	1714.999999	-0.001	1749.999997	-0.002
60	1714.999998	-0.001	1749.999998	-0.001

Voltage (Volts)	LTE Band 4			
	Channel Bandwidth: 15MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.70	1717.500004	0.002	1747.500003	0.001
3.15	1717.500001	0.001	1747.500003	0.002
4.26	1717.500002	0.001	1747.500001	0.001

Note: The applicant defined the normal working voltage is from 3.15Vdc to 4.26Vdc.

Frequency Error vs. Temperature

Temp. (°C)	LTE Band 4			
	Channel Bandwidth: 15MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	1717.500002	0.001	1747.500003	0.002
-20	1717.500002	0.001	1747.500004	0.002
-10	1717.500001	0.001	1747.500001	0.001
0	1717.500002	0.001	1747.500002	0.001
10	1717.500001	0.001	1747.500003	0.002
20	1717.499997	-0.002	1747.499998	-0.001
30	1717.499999	-0.001	1747.499999	-0.001
40	1717.499997	-0.002	1747.499997	-0.002
50	1717.499997	-0.002	1747.499998	-0.001
60	1717.499996	-0.002	1747.499997	-0.002

Voltage (Volts)	LTE Band 4			
	Channel Bandwidth: 20MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.70	1720.000004	0.002	1745.000002	0.001
3.15	1720.000001	0.001	1745.000001	0.001
4.26	1720.000002	0.001	1745.000003	0.002

Note: The applicant defined the normal working voltage is from 3.15Vdc to 4.26Vdc.

Frequency Error vs. Temperature

Temp. (°C)	LTE Band 4			
	Channel Bandwidth: 20MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	1720.000002	0.001	1745.000001	0.001
-20	1720.000004	0.002	1745.000003	0.001
-10	1720.000004	0.002	1745.000003	0.002
0	1720.000003	0.002	1745.000003	0.002
10	1720.000004	0.002	1745.000004	0.002
20	1719.999998	-0.001	1744.999998	-0.001
30	1719.999997	-0.002	1744.999998	-0.001
40	1719.999996	-0.002	1744.999997	-0.002
50	1719.999998	-0.001	1744.999999	-0.001
60	1719.999996	-0.002	1744.999998	-0.001

Voltage (Volts)	LTE Band 12			
	Channel Bandwidth: 1.4MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.70	699.700002	0.002	715.300001	0.002
3.15	699.700004	0.006	715.300001	0.002
4.26	699.700002	0.003	715.300004	0.005

Note: The applicant defined the normal working voltage is from 3.15Vdc to 4.26Vdc.

Frequency Error vs. Temperature

Temp. (°C)	LTE Band 12			
	Channel Bandwidth: 1.4MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	699.700004	0.005	715.300004	0.005
-20	699.700001	0.002	715.300003	0.004
-10	699.700002	0.003	715.300001	0.002
0	699.700002	0.003	715.300003	0.005
10	699.700004	0.005	715.300003	0.004
20	699.699996	-0.005	715.299999	-0.002
30	699.699997	-0.004	715.299999	-0.001
40	699.699996	-0.005	715.299996	-0.005
50	699.699998	-0.003	715.299999	-0.002
60	699.699998	-0.003	715.299998	-0.003

Voltage (Volts)	LTE Band 12			
	Channel Bandwidth: 3MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.70	700.500002	0.003	714.500003	0.004
3.15	700.500003	0.004	714.500003	0.004
4.26	700.500004	0.005	714.500004	0.005

Note: The applicant defined the normal working voltage is from 3.15Vdc to 4.26Vdc.

Frequency Error vs. Temperature

Temp. (°C)	LTE Band 12			
	Channel Bandwidth: 3MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	700.500001	0.001	714.500003	0.004
-20	700.500004	0.005	714.500002	0.003
-10	700.500003	0.004	714.500001	0.002
0	700.500002	0.003	714.500004	0.005
10	700.500004	0.005	714.500002	0.003
20	700.499998	-0.003	714.499996	-0.005
30	700.499998	-0.002	714.499996	-0.005
40	700.499997	-0.004	714.499996	-0.005
50	700.499997	-0.005	714.499998	-0.003
60	700.499997	-0.004	714.499999	-0.002

Voltage (Volts)	LTE Band 12			
	Channel Bandwidth: 5MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.70	701.500003	0.004	713.500002	0.003
3.15	701.500002	0.003	713.500002	0.003
4.26	701.500001	0.002	713.500002	0.002

Note: The applicant defined the normal working voltage is from 3.15Vdc to 4.26Vdc.

Frequency Error vs. Temperature

Temp. (°C)	LTE Band 12			
	Channel Bandwidth: 5MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	701.500001	0.002	713.500003	0.004
-20	701.500002	0.003	713.500003	0.004
-10	701.500003	0.004	713.500004	0.005
0	701.500004	0.006	713.500001	0.002
10	701.500001	0.002	713.500001	0.002
20	701.499996	-0.005	713.499999	-0.001
30	701.499997	-0.004	713.499997	-0.005
40	701.499999	-0.002	713.499998	-0.003
50	701.499999	-0.002	713.499998	-0.003
60	701.499999	-0.001	713.499998	-0.002

Voltage (Volts)	LTE Band 12			
	Channel Bandwidth: 10MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.70	704.000002	0.003	711.000003	0.004
3.15	704.000001	0.002	711.000001	0.002
4.26	704.000002	0.002	711.000004	0.006

Note: The applicant defined the normal working voltage is from 3.15Vdc to 4.26Vdc.

Frequency Error vs. Temperature

Temp. (°C)	LTE Band 12			
	Channel Bandwidth: 10MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	704.000002	0.003	711.000004	0.005
-20	704.000003	0.005	711.000001	0.001
-10	704.000002	0.002	711.000001	0.002
0	704.000003	0.004	711.000002	0.003
10	704.000002	0.003	711.000002	0.002
20	703.999997	-0.004	710.999997	-0.004
30	703.999997	-0.005	710.999998	-0.003
40	703.999998	-0.004	710.999997	-0.005
50	703.999997	-0.005	710.999997	-0.005
60	703.999998	-0.003	710.999997	-0.004

Voltage (Volts)	LTE Band 13			
	Channel Bandwidth: 5MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.70	779.500002	0.003	784.500003	0.004
3.15	779.500001	0.001	784.500003	0.004
4.26	779.500003	0.004	784.500001	0.002

Note: The applicant defined the normal working voltage is from 3.15Vdc to 4.26Vdc.

Frequency Error vs. Temperature

Temp. (°C)	LTE Band 13			
	Channel Bandwidth: 5MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	779.500001	0.002	784.500004	0.005
-20	779.500003	0.004	784.500001	0.001
-10	779.500001	0.002	784.500002	0.003
0	779.500004	0.005	784.500002	0.003
10	779.500003	0.004	784.500002	0.003
20	779.499997	-0.004	784.499997	-0.003
30	779.499998	-0.003	784.499998	-0.002
40	779.499997	-0.004	784.499996	-0.005
50	779.499998	-0.003	784.499998	-0.002
60	779.499998	-0.003	784.499998	-0.003

Voltage (Volts)	LTE Band 13	
	Channel Bandwidth: 10MHz	
	Frequency (MHz)	Frequency Error (ppm)
3.70	782.000002	0.003
3.15	782.000004	0.005
4.26	782.000004	0.005

Note: The applicant defined the normal working voltage is from 3.15Vdc to 4.26Vdc.

Frequency Error vs. Temperature

Temp. (°C)	LTE Band 13	
	Channel Bandwidth: 10MHz	
	Frequency (MHz)	Frequency Error (ppm)
-30	782.000001	0.001
-20	782.000004	0.005
-10	782.000003	0.004
0	782.000003	0.004
10	782.000004	0.005
20	781.999998	-0.002
30	781.999996	-0.005
40	781.999996	-0.005
50	781.999999	-0.001
60	781.999996	-0.005

Voltage (Volts)	LTE Band 17			
	Channel Bandwidth: 5MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.70	706.500002	0.003	713.500001	0.002
3.15	706.500002	0.003	713.500003	0.004
4.26	706.500003	0.005	713.500004	0.006

Note: The applicant defined the normal working voltage is from 3.15Vdc to 4.26Vdc.

Frequency Error vs. Temperature

Temp. (°C)	LTE Band 17			
	Channel Bandwidth: 5MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	706.500001	0.002	713.500003	0.004
-20	706.500004	0.005	713.500001	0.002
-10	706.500003	0.004	713.500004	0.005
0	706.500002	0.003	713.500004	0.005
10	706.500004	0.006	713.500001	0.002
20	706.499996	-0.006	713.499998	-0.004
30	706.499996	-0.006	713.499996	-0.005
40	706.499999	-0.002	713.499999	-0.002
50	706.499998	-0.002	713.499999	-0.002
60	706.499996	-0.006	713.499997	-0.005

Voltage (Volts)	LTE Band 17			
	Channel Bandwidth: 10MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.70	709.000003	0.004	711.000002	0.002
3.15	709.000004	0.006	711.000004	0.005
4.26	709.000004	0.005	711.000004	0.005

Note: The applicant defined the normal working voltage is from 3.15Vdc to 4.26Vdc.

Frequency Error vs. Temperature

Temp. (°C)	LTE Band 17			
	Channel Bandwidth: 10MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	709.000001	0.002	711.000004	0.006
-20	709.000002	0.003	711.000003	0.004
-10	709.000003	0.005	711.000003	0.004
0	709.000002	0.003	711.000002	0.003
10	709.000004	0.005	711.000002	0.002
20	708.999997	-0.004	710.999999	-0.002
30	708.999996	-0.005	710.999997	-0.005
40	708.999998	-0.003	710.999997	-0.005
50	708.999999	-0.001	710.999998	-0.003
60	708.999999	-0.002	710.999997	-0.004

4.4 Emission Bandwidth Measurement

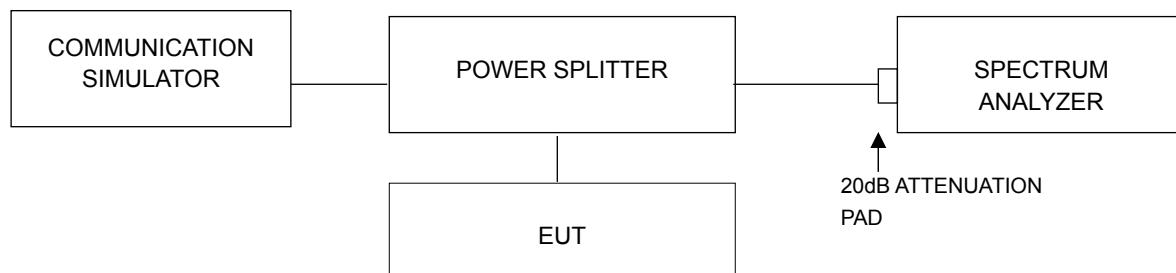
4.4.1 Limits of Emission Bandwidth Measurement

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 = 62kHz and VBW = 200kHz (Channel Bandwidth: 3MHz), RBW = 100kHz and VBW = 300kHz (Channel Bandwidth: 5MHz), RBW = 200kHz and VBW = 1MHz (Channel Bandwidth: 10MHz), RBW = 300kHz and VBW = 1MHz (Channel Bandwidth: 15MHz) and RBW = 430kHz and VBW = 1.3MHz (Channel Bandwidth: 20MHz).

4.4.3 Test Setup



4.4.4 Test Result

LTE Band 4

Channel Bandwidth: 1.4MHz					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		Occupied Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
19957	1710.7	1.249	1.248	1.0873	1.0902
20175	1732.5	1.245	1.250	1.0870	1.0890
20393	1754.3	1.250	1.244	1.0876	1.0903

Channel Bandwidth: 3MHz					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		Occupied Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
19965	1711.5	2.906	2.917	2.6983	2.6946
20175	1732.5	2.915	2.915	2.6993	2.6959
20385	1753.5	2.913	2.923	2.6990	2.6957

Channel Bandwidth: 5MHz					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		Occupied Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
19975	1712.5	4.789	4.809	4.4813	4.4843
20175	1732.5	4.807	4.791	4.4853	4.4851
20375	1752.5	4.799	4.806	4.4858	4.4823

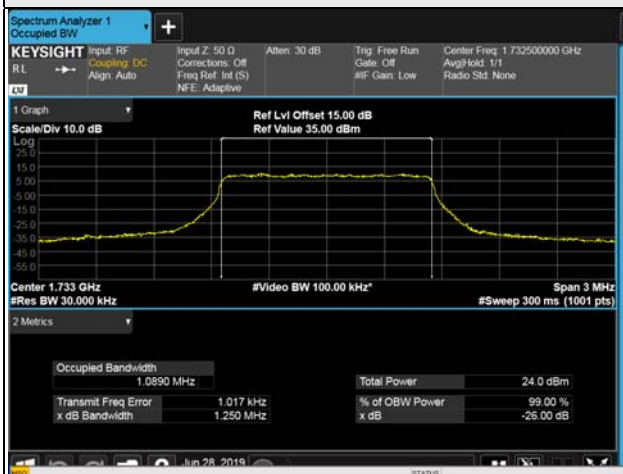
Channel Bandwidth: 10MHz					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		Occupied Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
20000	1715.0	9.511	9.500	8.9458	8.9483
20175	1732.5	9.507	9.517	8.9523	8.9525
20350	1750.0	9.528	9.516	8.9460	8.9479

Channel Bandwidth: 15MHz					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		Occupied Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
20025	1717.5	14.220	14.210	13.417	13.407
20175	1732.5	14.240	14.230	13.426	13.415
20325	1747.5	14.210	14.220	13.403	13.390

Channel Bandwidth: 20MHz					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		Occupied Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
20050	1720.0	18.990	18.990	17.882	17.912
20175	1732.5	19.010	19.020	17.908	17.922
20300	1745.0	18.980	18.990	17.858	17.868

26dBc Bandwidth
Spectrum Plot of Worst Value

1.4MHz / 16QAM



3MHz / 16QAM



5MHz / 16QAM



10MHz / QPSK



15MHz / QPSK

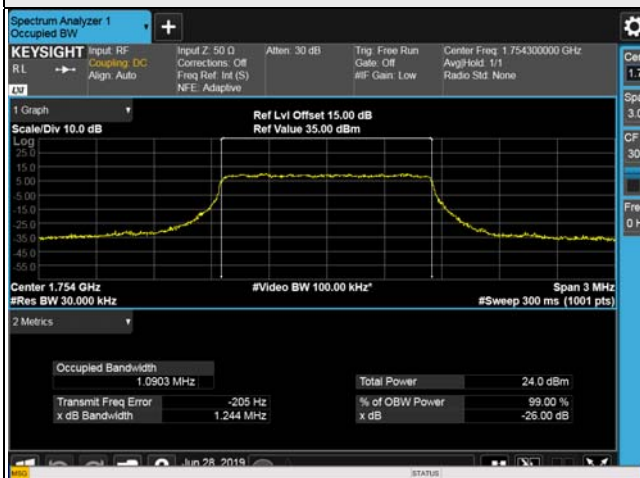


20MHz / 16QAM

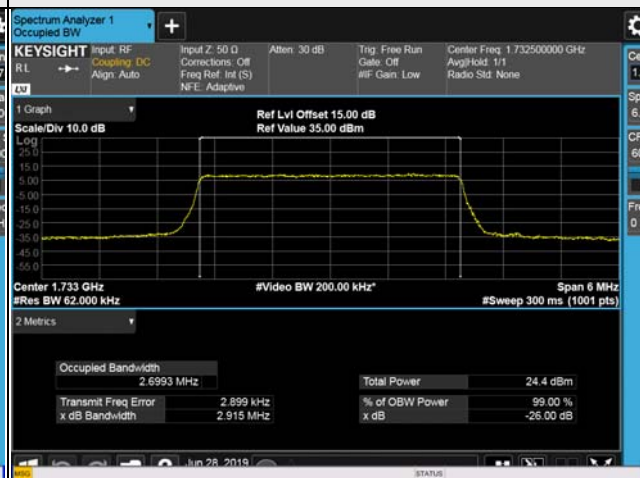


Occupied Bandwidth Spectrum Plot of Worst Value

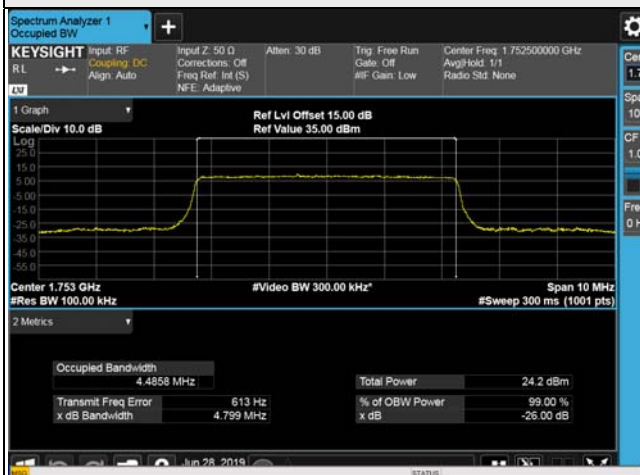
1.4MHz / 16QAM



3MHz / QPSK



5MHz / QPSK



10MHz / 16QAM



15MHz / QPSK



20MHz / 16QAM



LTE Band 12

Channel Bandwidth: 1.4MHz					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		Occupied Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
23017	699.7	1.246	1.244	1.0877	1.0888
23095	707.5	1.247	1.248	1.0889	1.0894
23173	715.3	1.246	1.184	1.0888	1.0906

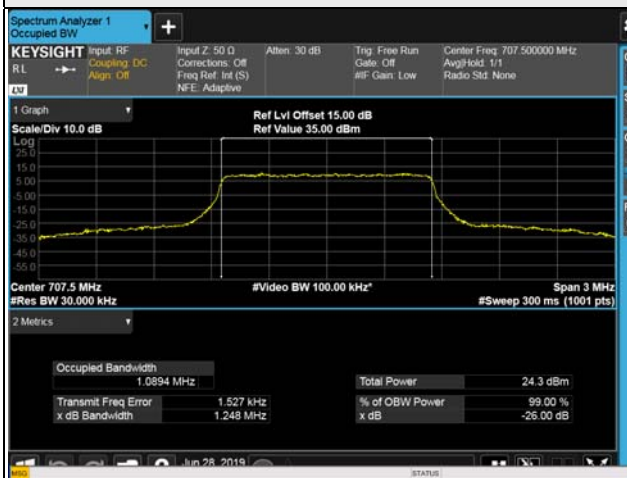
Channel Bandwidth: 3MHz					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		Occupied Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
23025	700.5	2.921	2.918	2.7013	2.6983
23095	707.5	2.912	2.924	2.7009	2.6982
23165	714.5	2.914	2.925	2.7012	2.7011

Channel Bandwidth: 5MHz					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		Occupied Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
23035	701.5	4.824	4.808	4.4882	4.4891
23095	707.5	4.806	4.800	4.4798	4.4843
23155	713.5	4.836	4.829	4.4947	4.4951

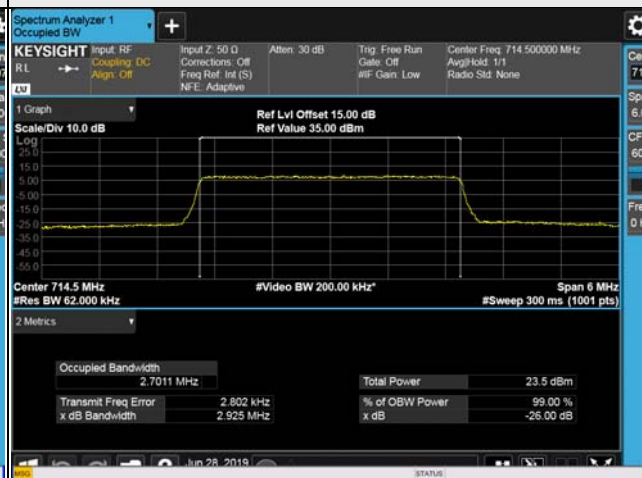
Channel Bandwidth: 10MHz					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		Occupied Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
23060	704	9.533	9.553	8.9793	8.9799
23095	707.5	9.490	9.485	8.9239	8.9234
23130	711	9.490	9.540	8.9393	8.9520

26dBc Bandwidth
Spectrum Plot of Worst Value

1.4MHz / 16QAM



3MHz / 16QAM



5MHz / QPSK



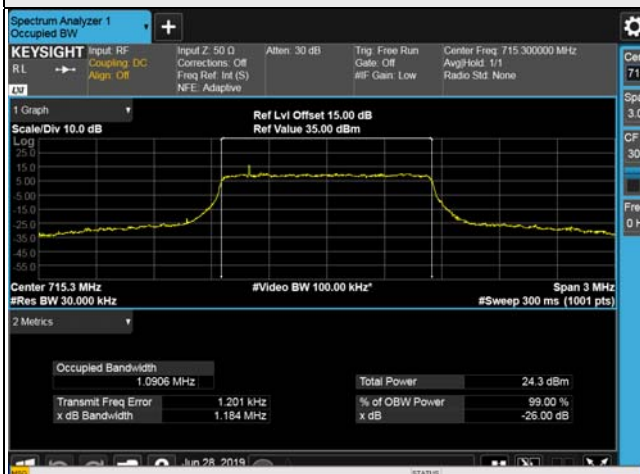
10MHz / 16QAM



Occupied Bandwidth

Spectrum Plot of Worst Value

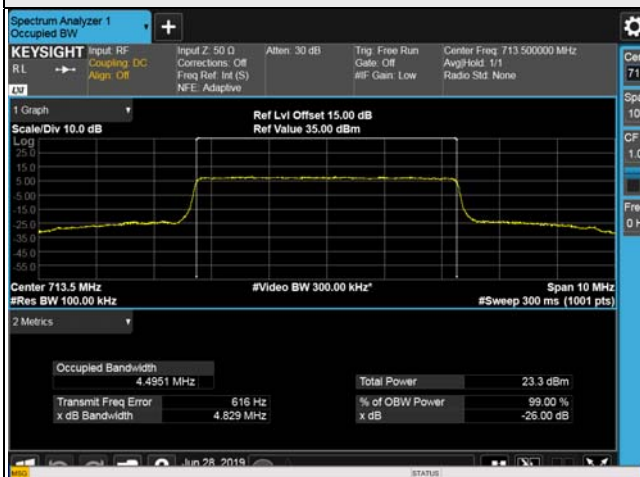
1.4MHz / 16QAM



3MHz / QPSK



5MHz / 16QAM



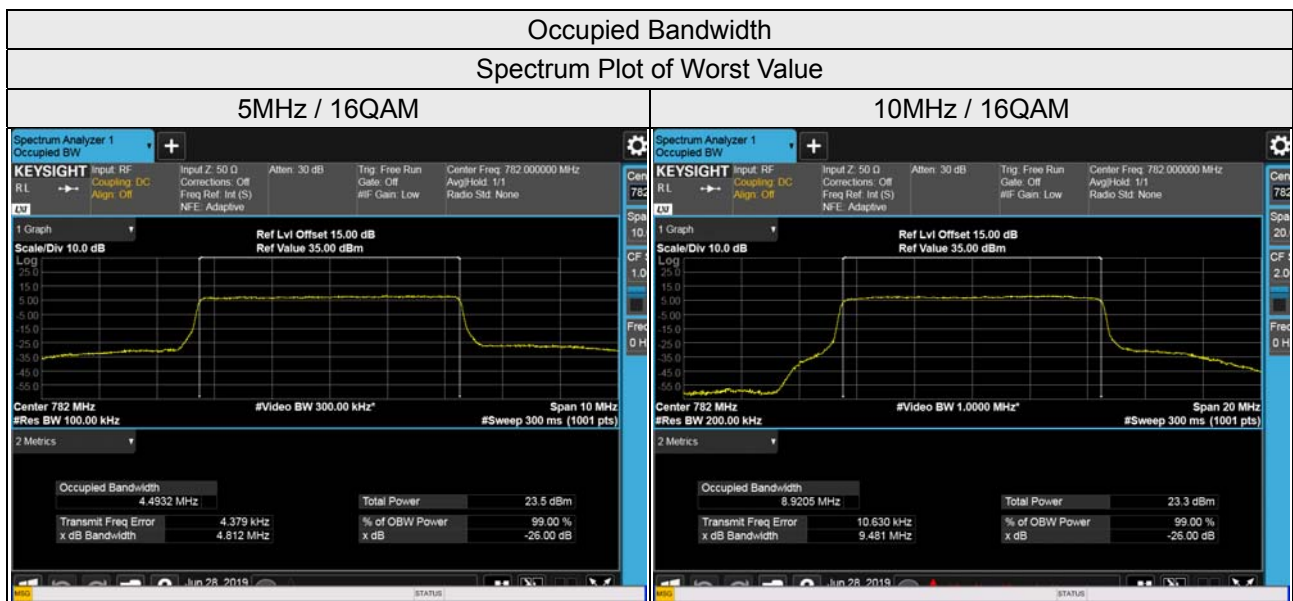
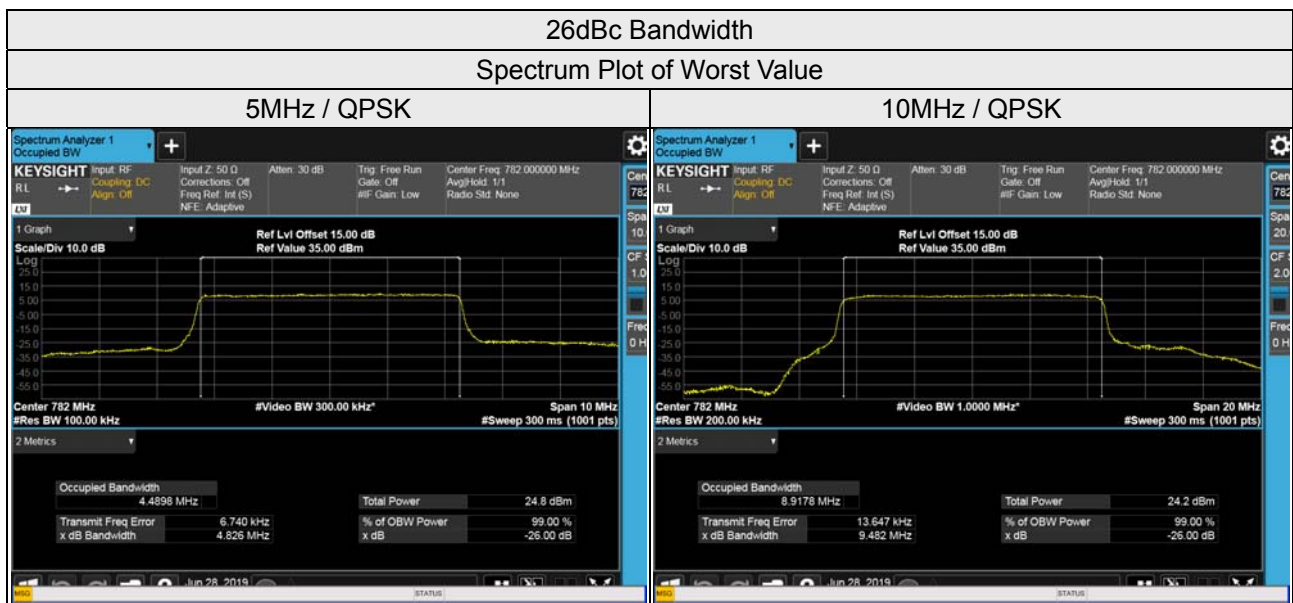
10MHz / 16QAM



LTE Band 13

Channel Bandwidth: 5MHz					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		Occupied Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
23205	779.5	4.767	4.772	4.4617	4.4648
23230	782.0	4.826	4.812	4.4898	4.4932
23255	784.5	4.772	4.770	4.4677	4.4678

Channel Bandwidth: 10MHz					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		Occupied Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
23230	782.0	9.482	9.481	8.9178	8.9205



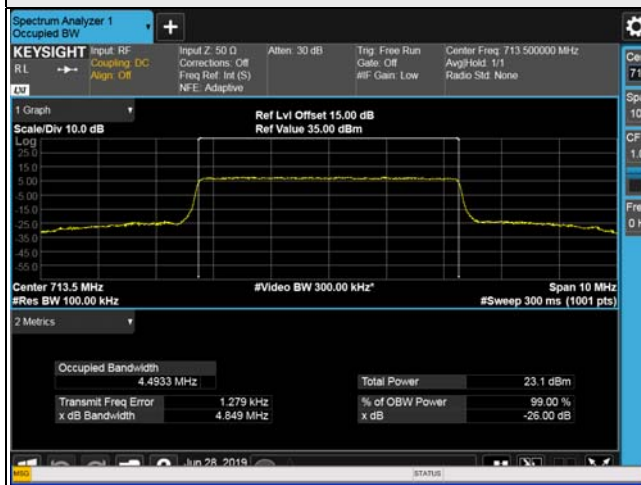
LTE Band 17

Channel Bandwidth: 5MHz					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		Occupied Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
23755	706.5	4.808	4.805	4.4821	4.4843
23790	710.0	4.789	4.794	4.4748	4.4755
23825	713.5	4.811	4.849	4.4929	4.4933

Channel Bandwidth: 10MHz					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		Occupied Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
23780	709.0	9.475	9.484	8.9233	8.9261
23790	710.0	9.471	9.486	8.9325	8.9326
23800	711.0	9.485	9.501	8.9457	8.9413

26dBc Bandwidth
Spectrum Plot of Worst Value

5MHz / 16QAM

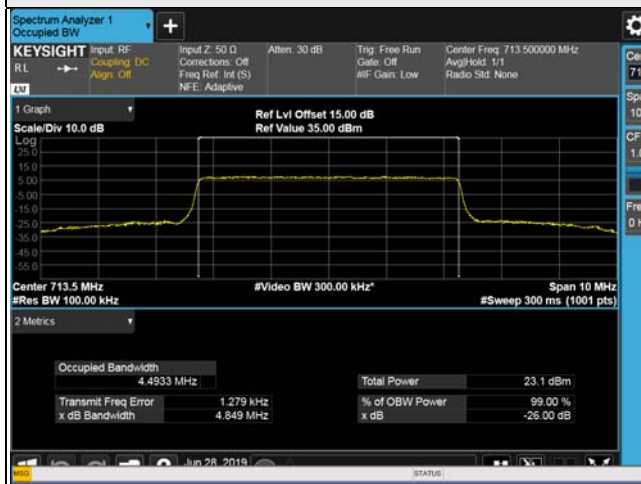


10MHz / 16QAM



Occupied Bandwidth
Spectrum Plot of Worst Value

5MHz / 16QAM



10MHz / QPSK



4.5 Channel Edge Measurement

4.5.1 Limits of Band Edge Measurement

For 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.

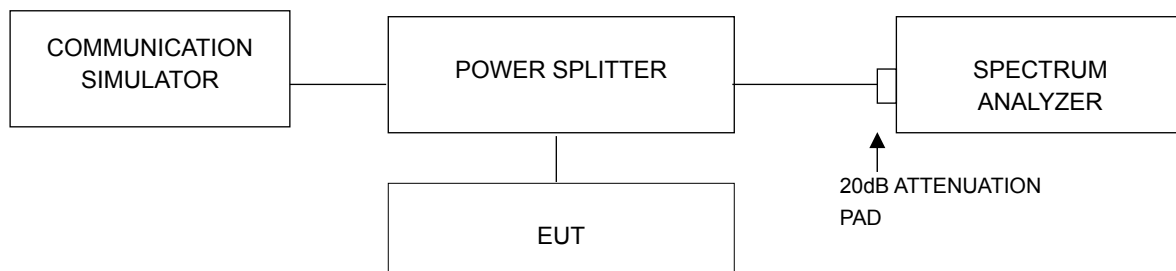
For LTE Band 13

According to FCC 27.53(c)(2) for on any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log(P)$ dB.

For LTE Band 17

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.

4.5.2 Test Setup

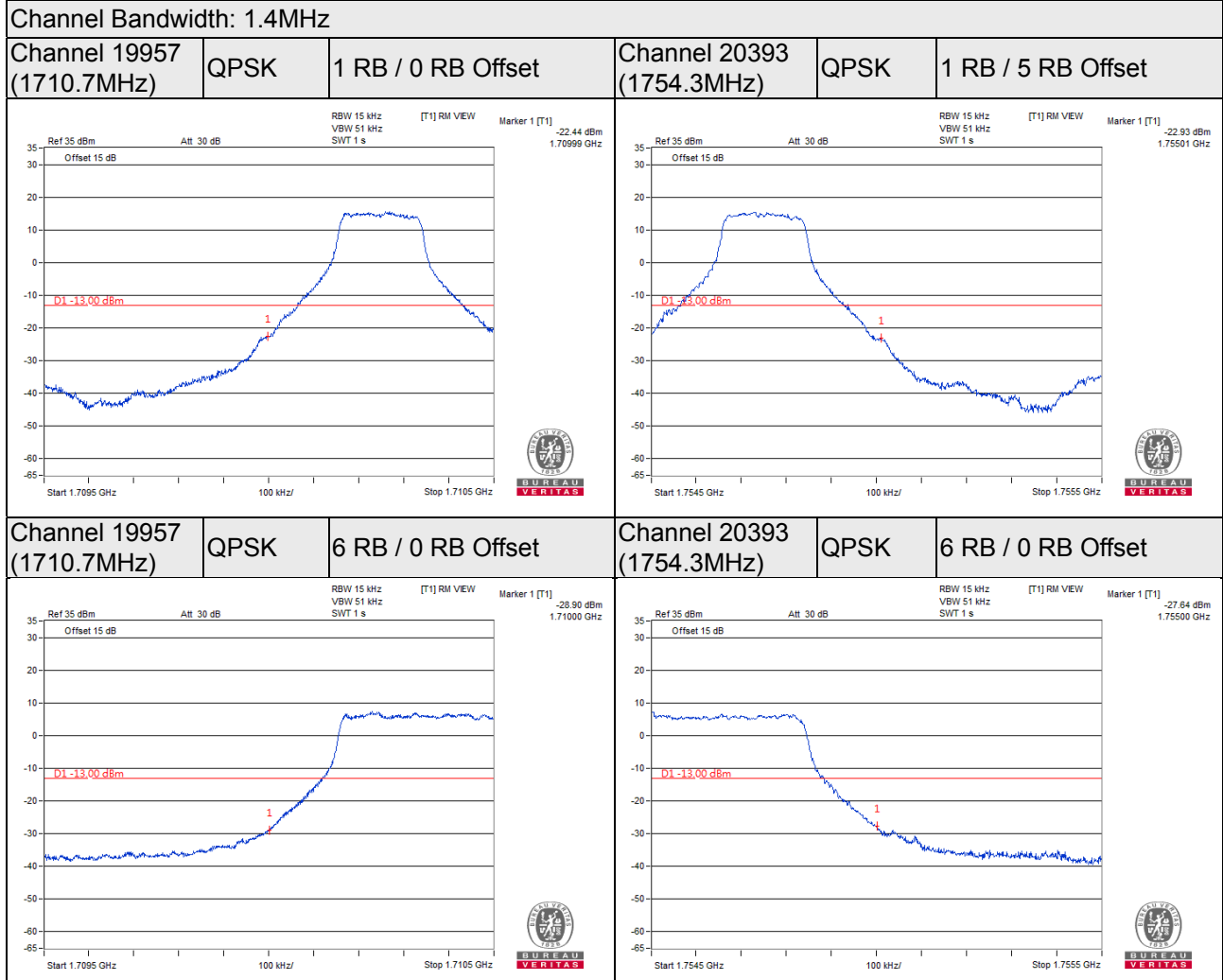


4.5.3 Test Procedures

- 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 or 30kHz and VBW = 51kHz or 100kHz (Channel Bandwidth: 1.4MHz), RBW = 30kHz and VBW = 100kHz (Channel Bandwidth: 3MHz), RBW = 51kHz and VBW = 160kHz (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.

4.5.4 Test Results

LTE Band 4



Channel Bandwidth: 3MHz

**Channel 19965
(1711.5MHz)**

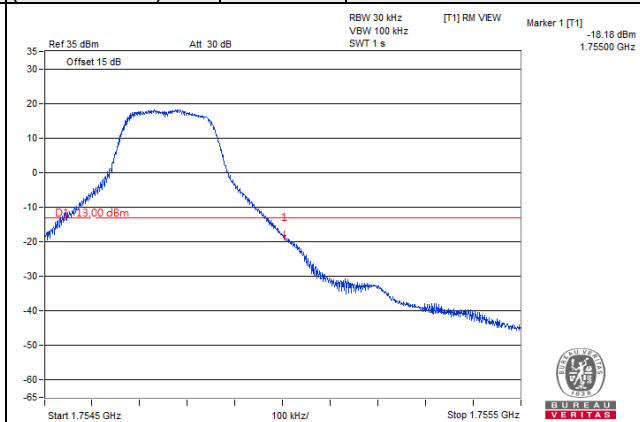
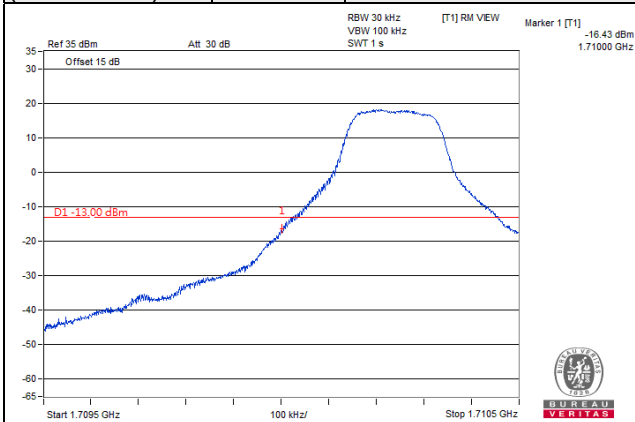
QPSK

1 RB / 0 RB Offset

**Channel 20385
(1753.5MHz)**

QPSK

1 RB / 14 RB Offset



**Channel 19965
(1711.5MHz)**

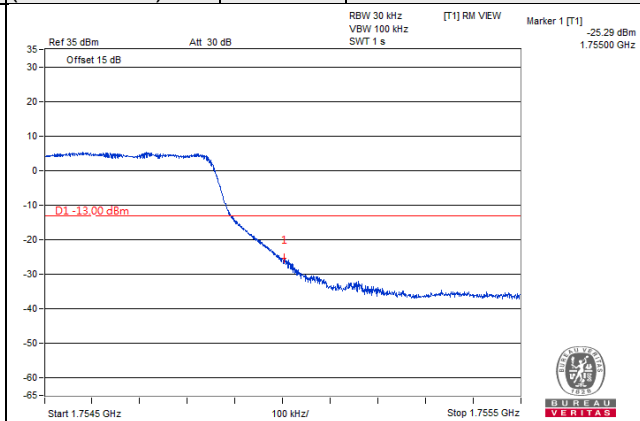
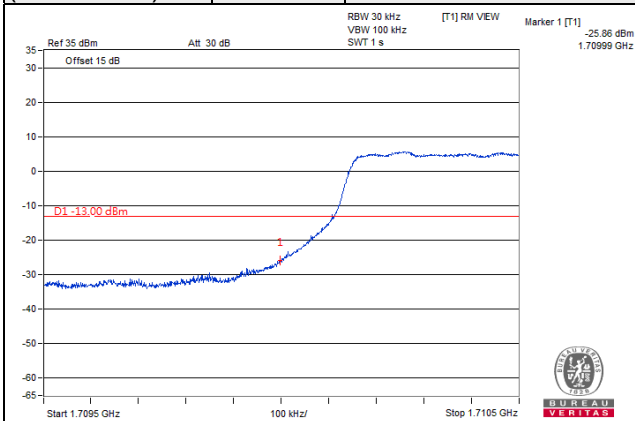
QPSK

15 RB / 0 RB Offset

**Channel 20385
(1753.5MHz)**

QPSK

15 RB / 0 RB Offset



Channel Bandwidth: 5MHz

**Channel 19975
(1712.5MHz)**

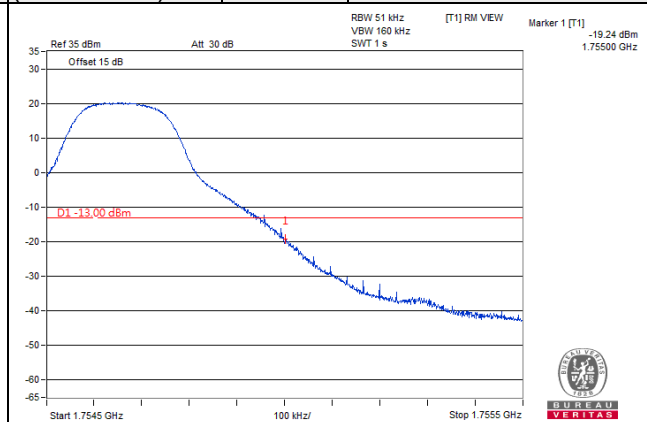
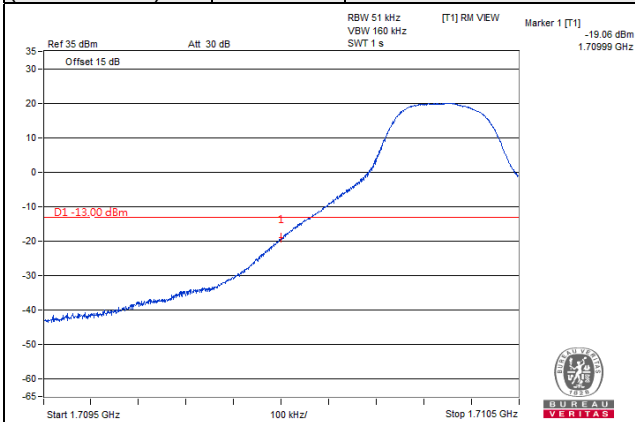
QPSK

1 RB / 0 RB Offset

**Channel 20375
(1752.5MHz)**

QPSK

1 RB / 24 RB Offset



**Channel 19975
(1712.5MHz)**

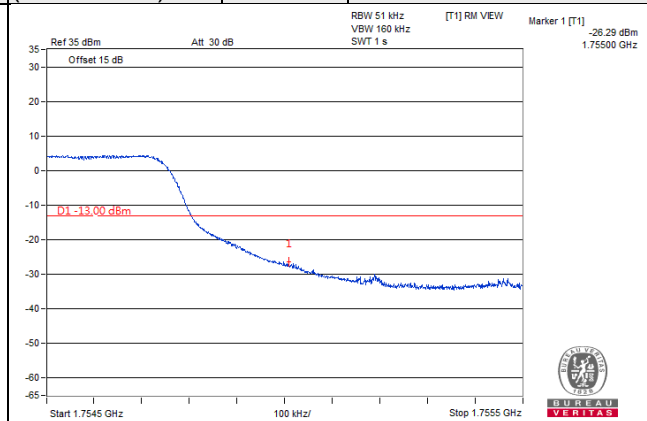
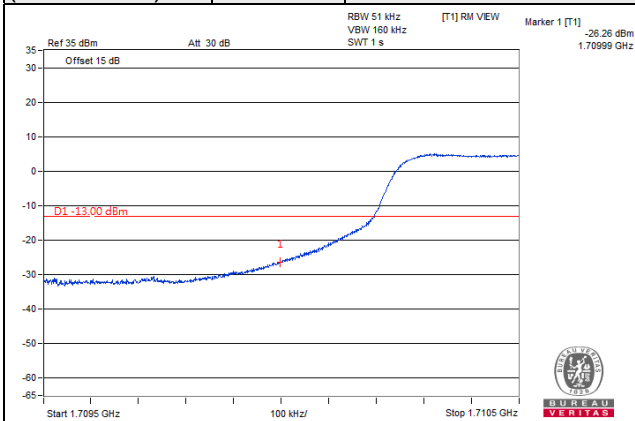
QPSK

25 RB / 0 RB Offset

**Channel 20375
(1752.5MHz)**

QPSK

25 RB / 0 RB Offset



Channel Bandwidth: 10MHz

**Channel 20000
(1715.0MHz)**

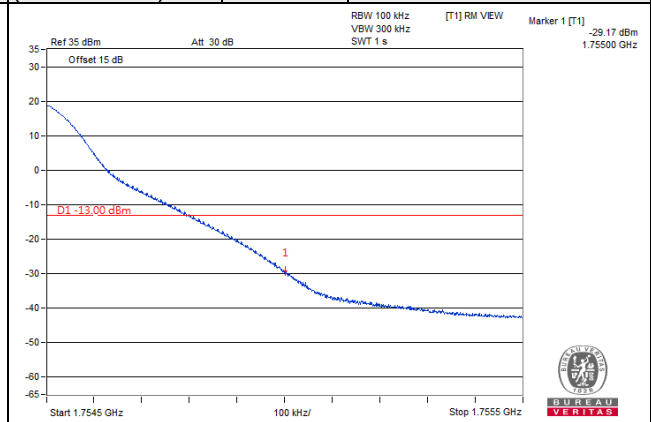
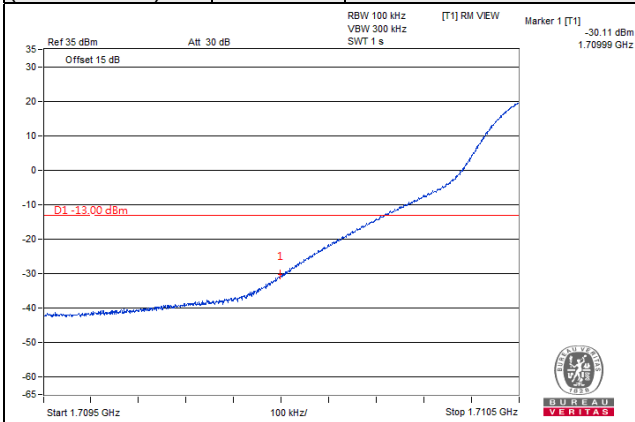
QPSK

1 RB / 0 RB Offset

**Channel 20350
(1750.0MHz)**

QPSK

1 RB / 49 RB Offset



**Channel 20000
(1715.0MHz)**

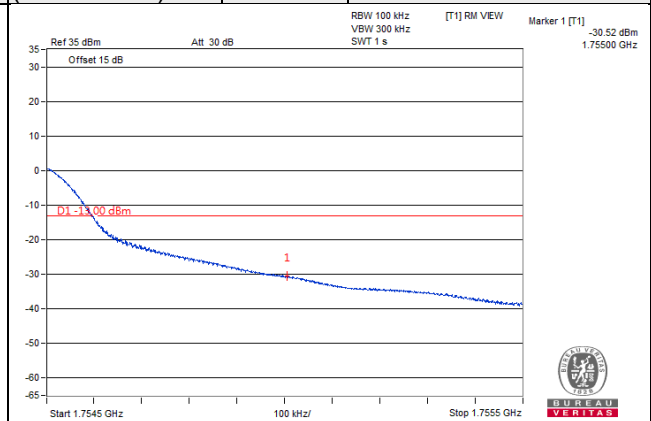
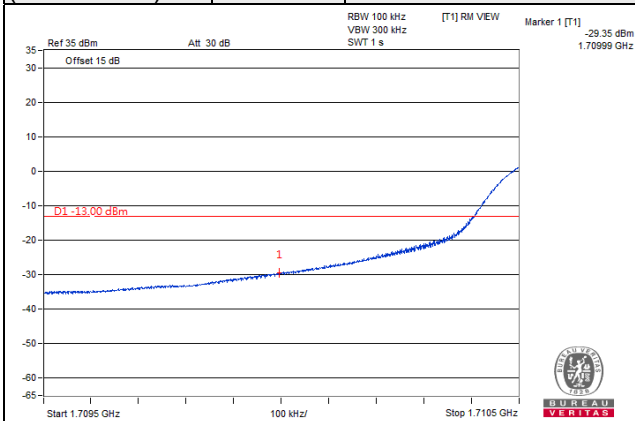
QPSK

50 RB / 0 RB Offset

**Channel 20350
(1750.0MHz)**

QPSK

50 RB / 0 RB Offset



Channel Bandwidth: 15MHz

**Channel 20025
(1717.5MHz)**

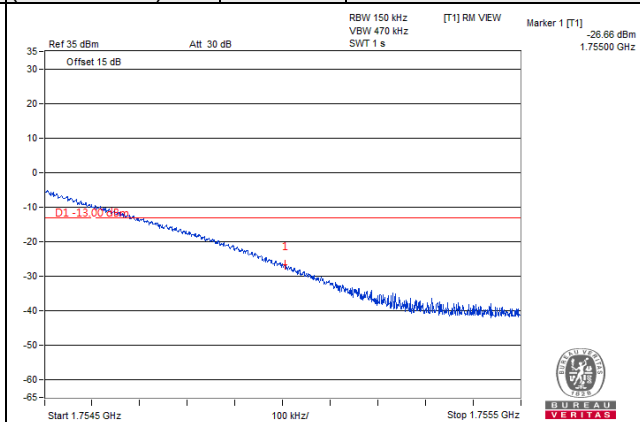
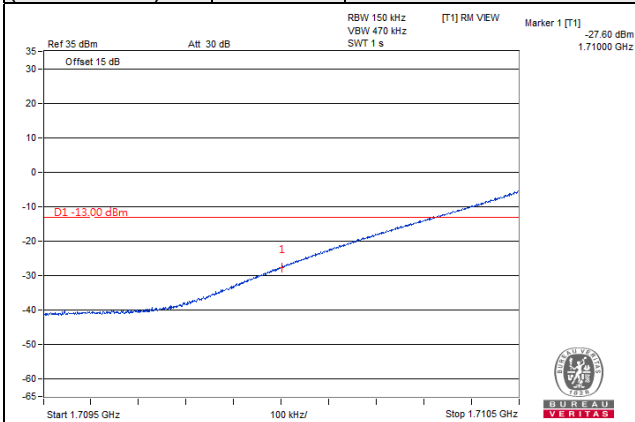
QPSK

1 RB / 0 RB Offset

**Channel 20325
(1747.5MHz)**

QPSK

1 RB / 74 RB Offset



**Channel 20025
(1717.5MHz)**

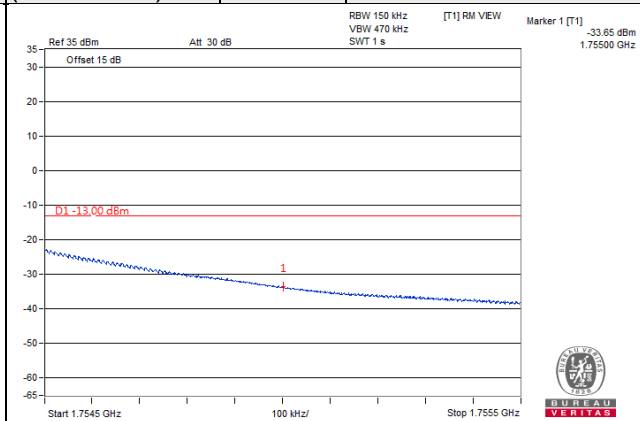
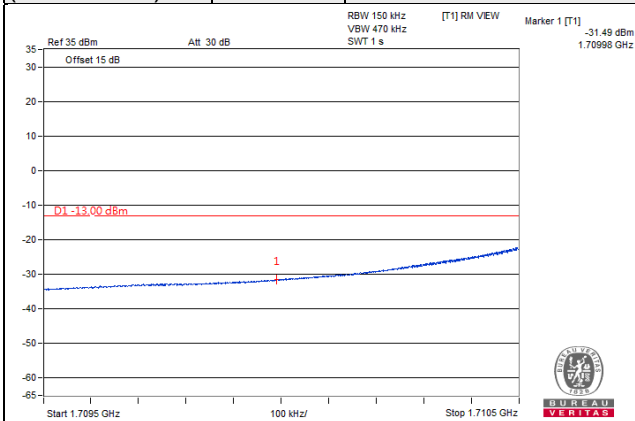
QPSK

75 RB / 0 RB Offset

**Channel 20325
(1747.5MHz)**

QPSK

75 RB / 0 RB Offset



Channel Bandwidth: 20MHz

**Channel 20050
(1720.0MHz)**

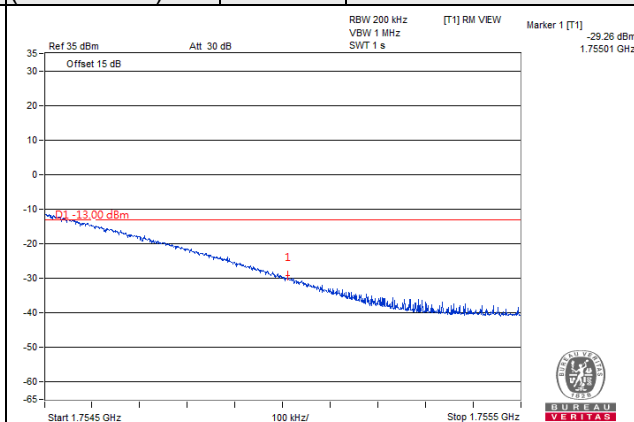
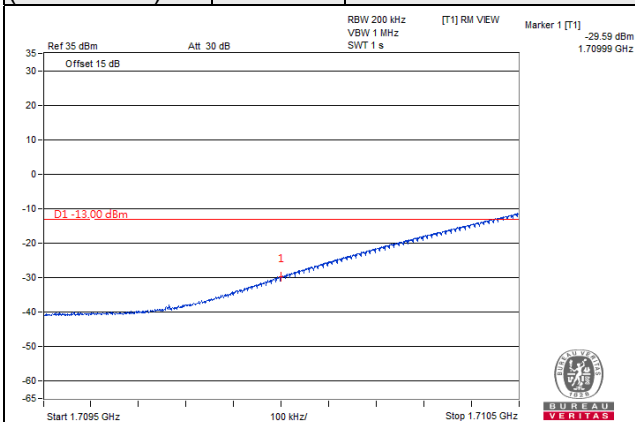
QPSK

1 RB / 0 RB Offset

**Channel 20300
(1745.0MHz)**

QPSK

1 RB / 99 RB Offset



**Channel 20050
(1720.0MHz)**

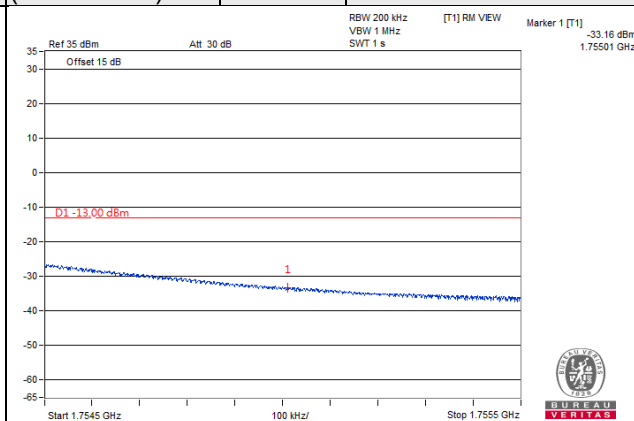
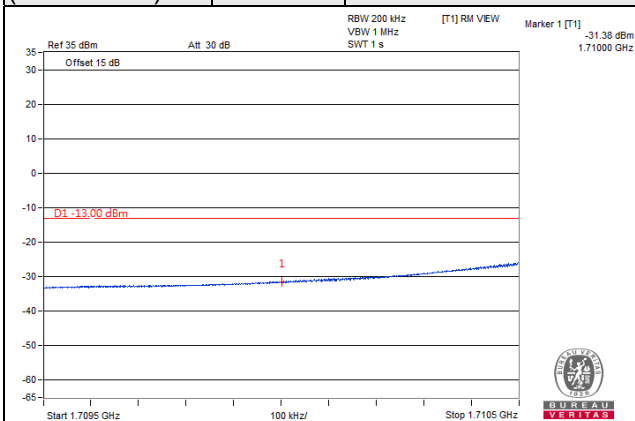
QPSK

100 RB / 0 RB Offset

**Channel 20300
(1745.0MHz)**

QPSK

100 RB / 0 RB Offset



LTE Band 12

Channel Bandwidth: 1.4MHz

Channel 23017
(699.7MHz)

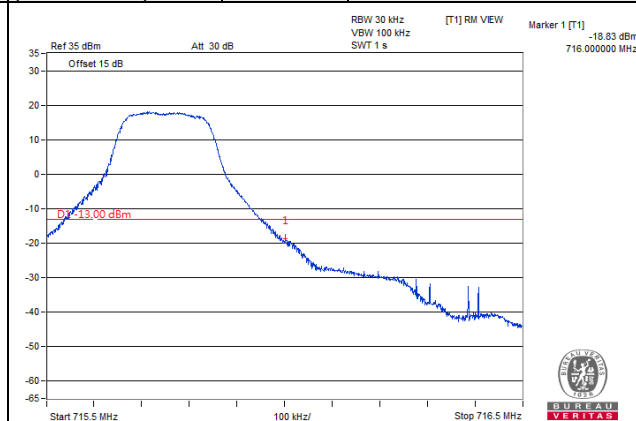
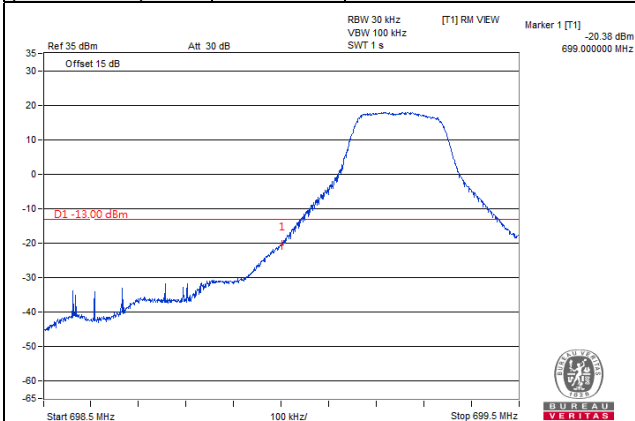
QPSK

1 RB / 0 RB Offset

Channel 23171
(715.3MHz)

QPSK

1 RB / 5 RB Offset



Channel 23017
(699.7MHz)

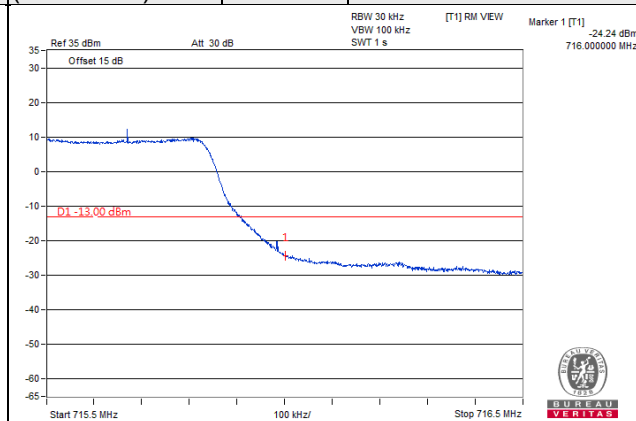
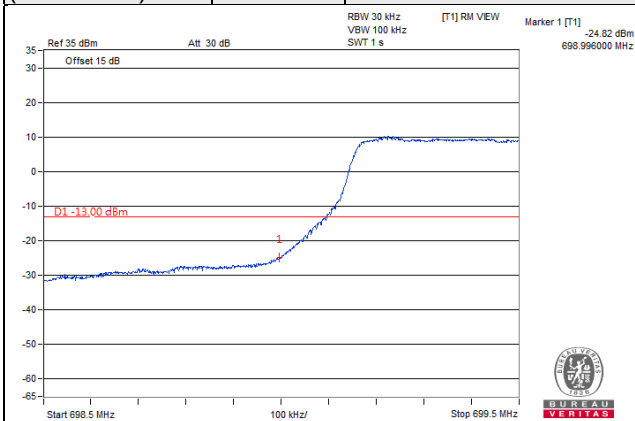
QPSK

6 RB / 0 RB Offset

Channel 23171
(715.3MHz)

QPSK

6 RB / 0 RB Offset



Channel Bandwidth: 3MHz

Channel 23025
(700.5MHz)

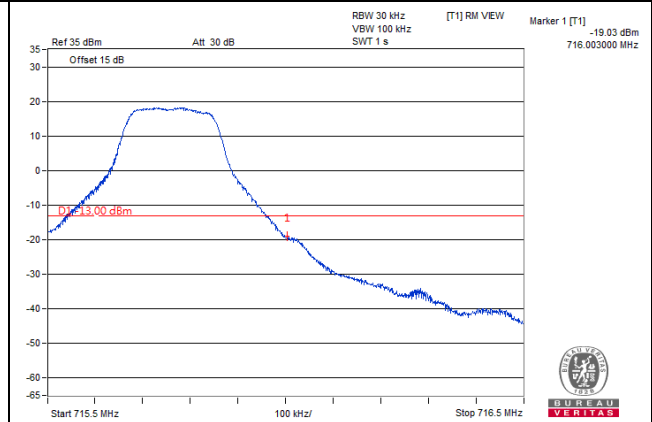
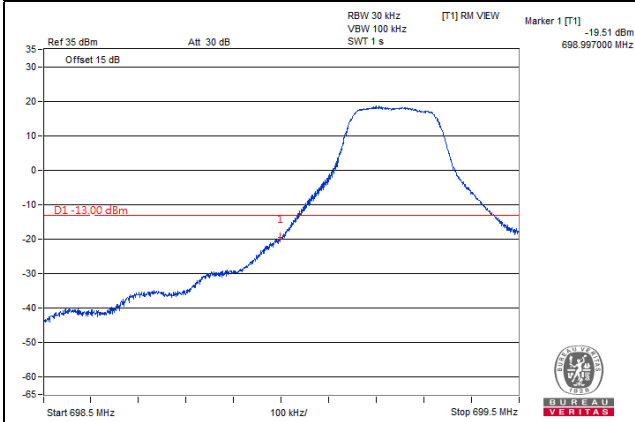
QPSK

1 RB / 0 RB Offset

Channel 23165
(714.5MHz)

QPSK

1 RB / 14RB Offset



Channel 23025
(700.5MHz)

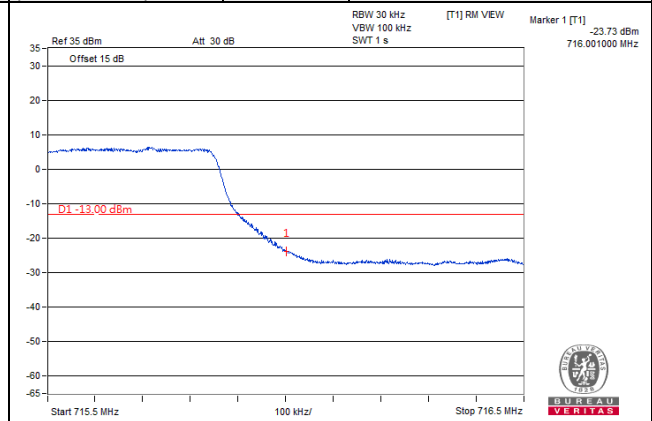
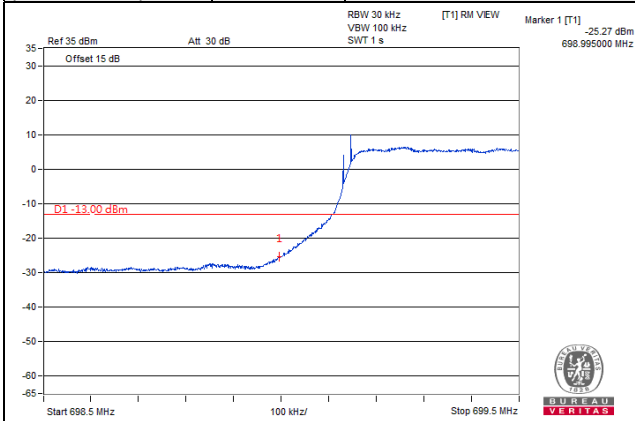
QPSK

15 RB / 0 RB Offset

Channel 23165
(714.5MHz)

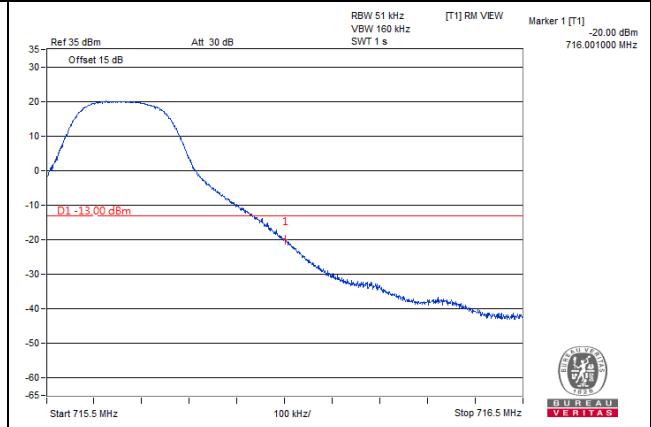
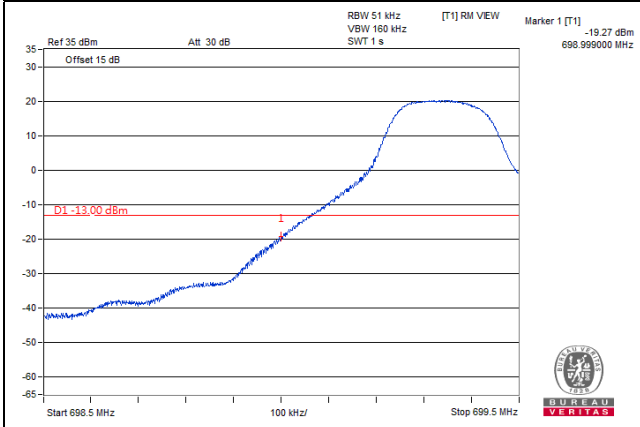
QPSK

15 RB / 0 RB Offset

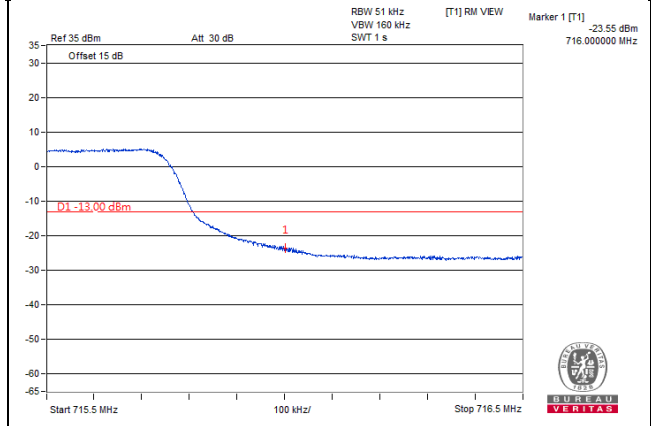
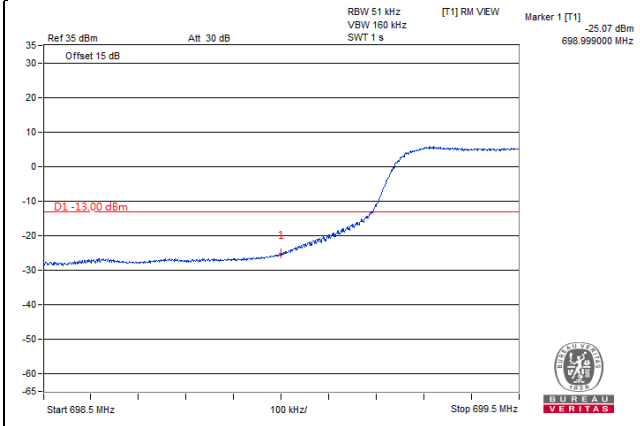


Channel Bandwidth: 5MHz

Channel 23035 (701.5MHz)	QPSK	1 RB / 0 RB Offset	Channel 23155 (713.5MHz)	QPSK	1 RB / 24RB Offset
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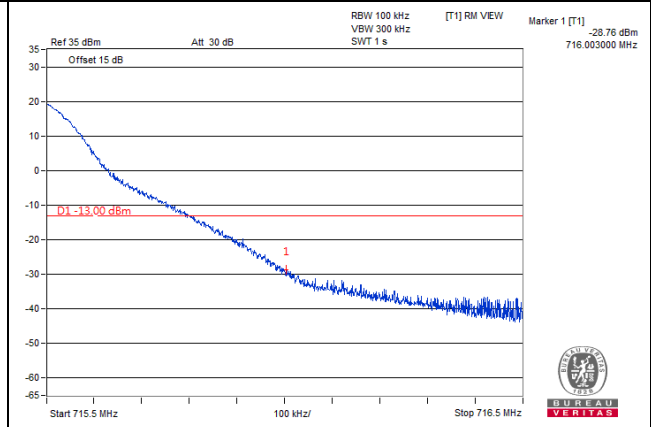
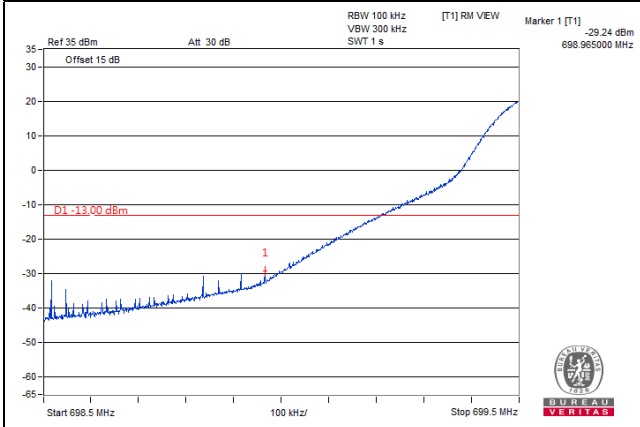


Channel 23035 (701.5MHz)	QPSK	25 RB / 0 RB Offset	Channel 23155 (713.5MHz)	QPSK	25 RB / 0 RB Offset
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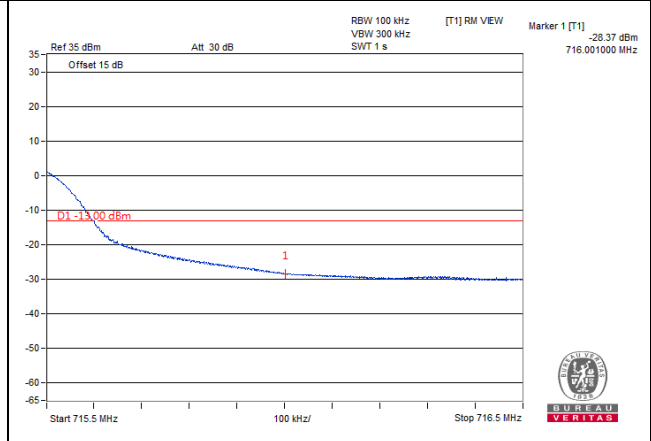
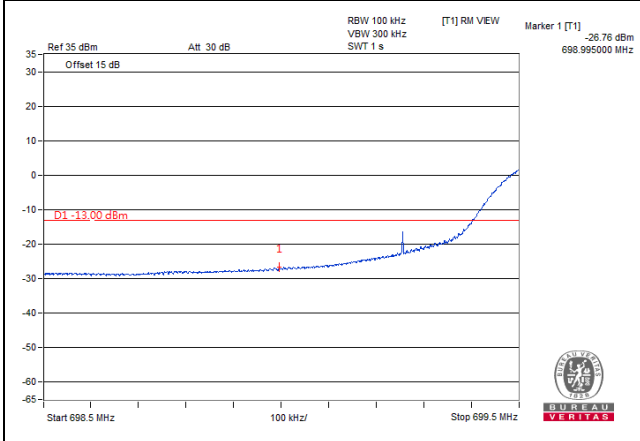


Channel Bandwidth: 10MHz

Channel 23060 (704MHz)	QPSK	1 RB / 0 RB Offset	Channel 23130 (711MHz)	QPSK	1 RB / 24RB Offset
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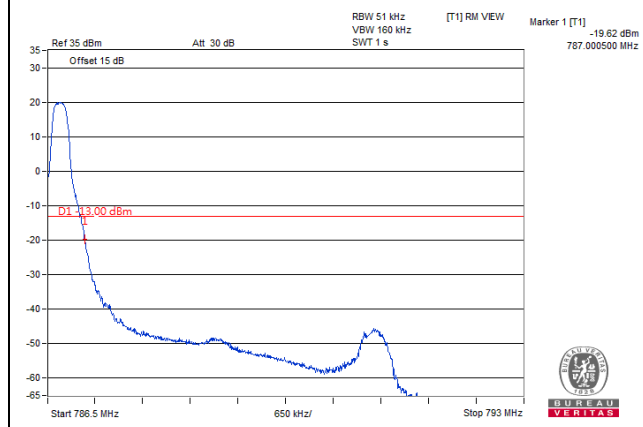
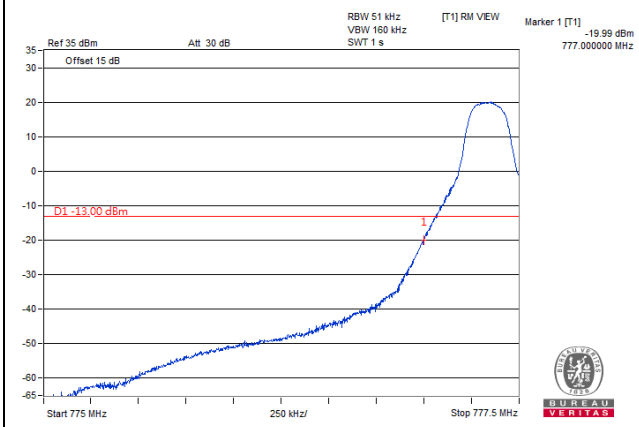
Channel 23060 (704MHz)	QPSK	50 RB / 0 RB Offset	Channel 23130 (711MHz)	QPSK	25 RB / 0 RB Offset
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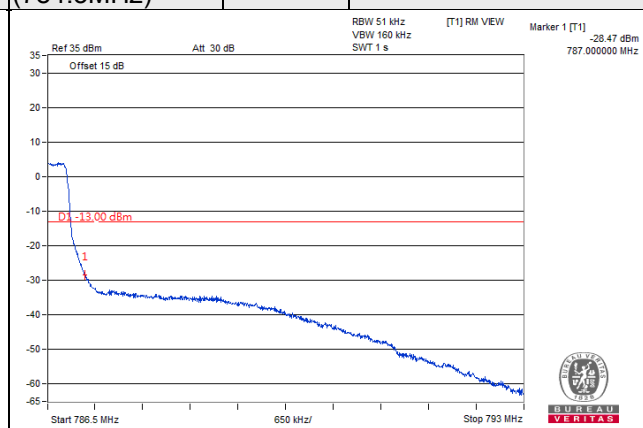
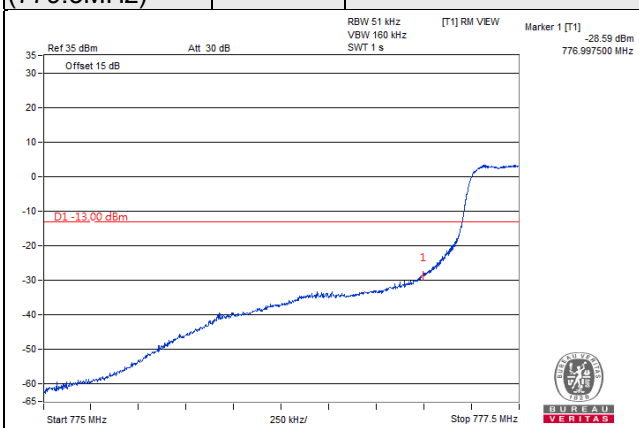
LTE Band 13

Channel Bandwidth: 5MHz

Channel 23205 (779.5MHz)	QPSK	1 RB / 0 RB Offset	Channel 23255 (784.5MHz)	QPSK	1 RB / 24 RB Offset
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Channel 23205 (779.5MHz)	QPSK	25 RB / 0 RB Offset	Channel 23255 (784.5MHz)	QPSK	25 RB / 0 RB Offset
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Channel Bandwidth: 10MHz

Channel 23230
(782.0MHz)

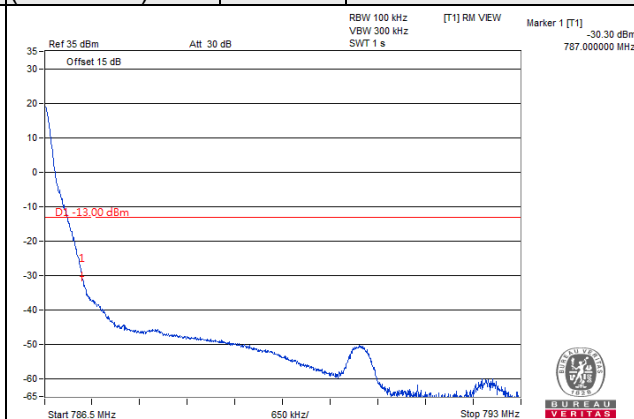
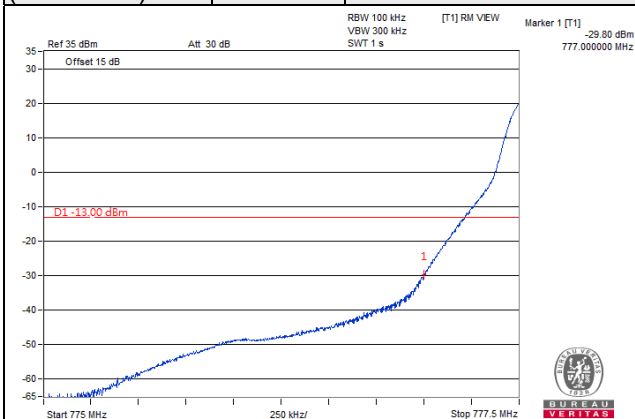
QPSK

1 RB / 0 RB Offset

Channel 23230
(782.0MHz)

QPSK

1 RB / 49 RB Offset



Channel 23230
(782.0MHz)

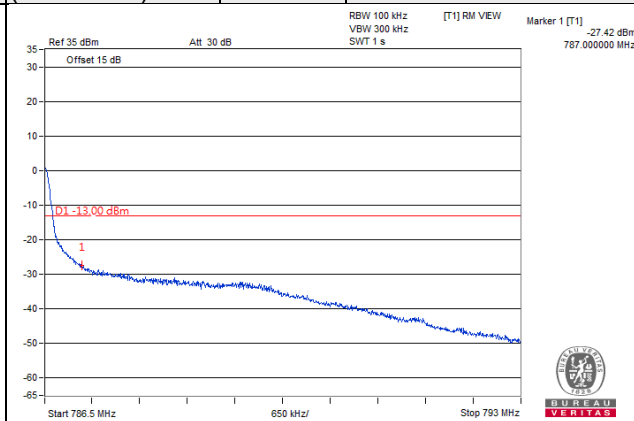
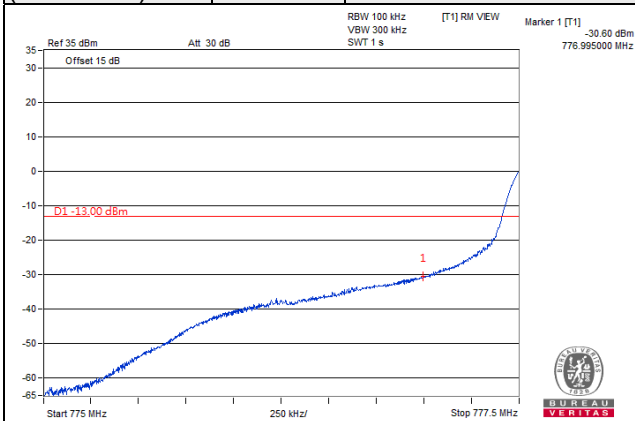
QPSK

50 RB / 0 RB Offset

Channel 23230
(782.0MHz)

QPSK

50 RB / 0 RB Offset



LTE Band 17

Channel Bandwidth: 5MHz

Channel 23755
(706.5MHz)

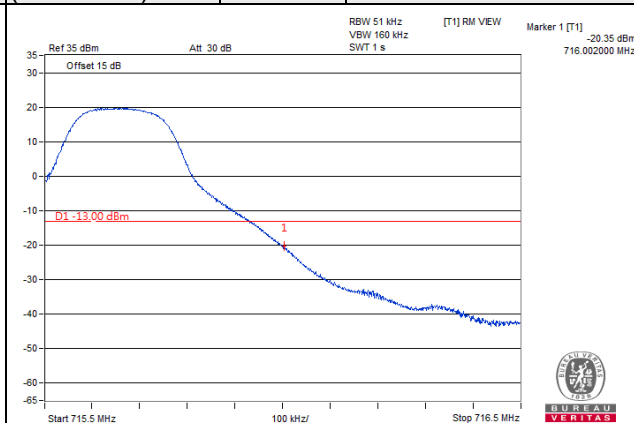
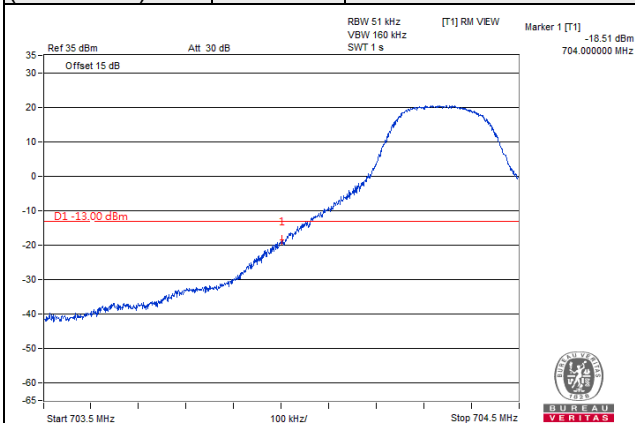
QPSK

1 RB / 0 RB Offset

Channel 23825
(713.5MHz)

QPSK

1 RB / 24 RB Offset



Channel 23755
(706.5MHz)

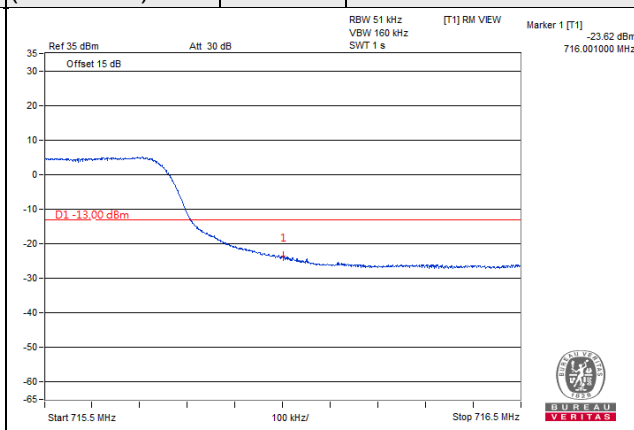
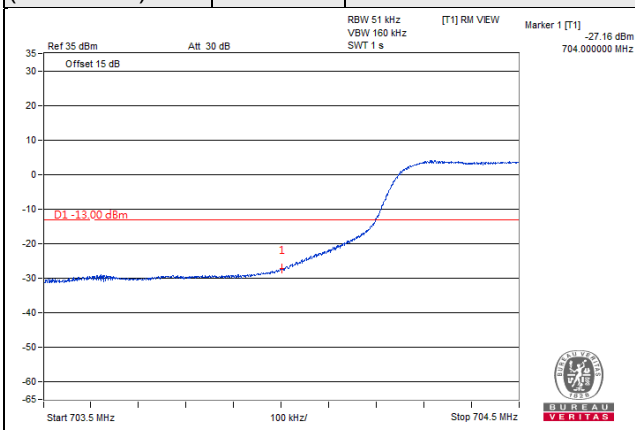
QPSK

25 RB / 0 RB Offset

Channel 23825
(713.5MHz)

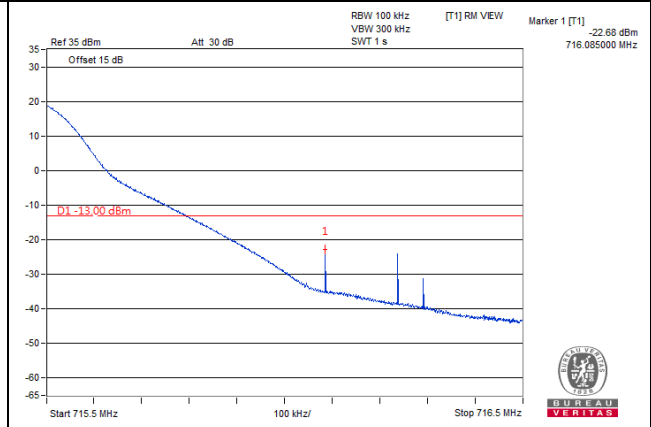
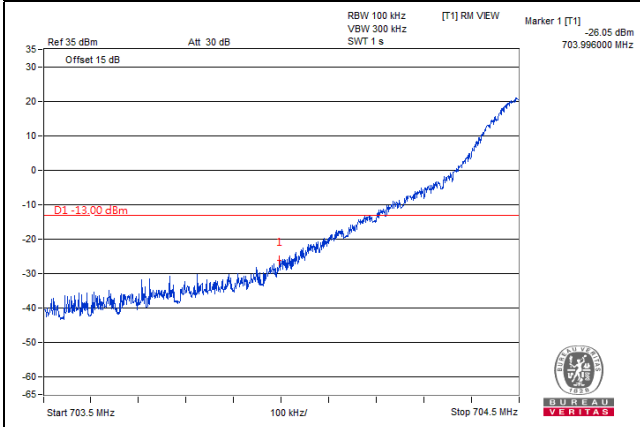
QPSK

25 RB / 0 RB Offset

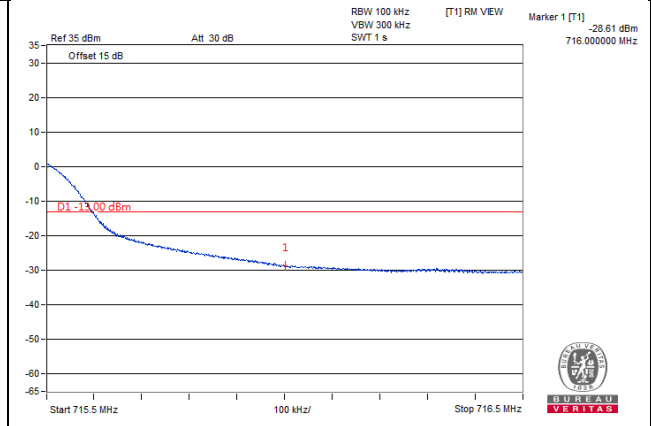
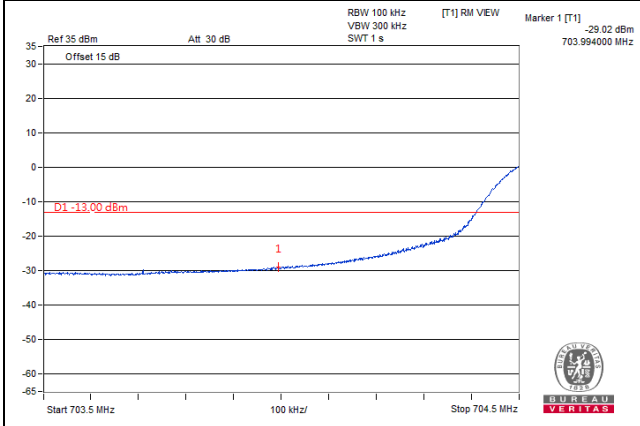


Channel Bandwidth: 10MHz

Channel 23780 (709.0MHz)	QPSK	1 RB / 0 RB Offset	Channel 23800 (711.0MHz)	QPSK	1 RB / 49 RB Offset
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Channel 23780 (709.0MHz)	QPSK	50 RB / 0 RB Offset	Channel 23800 (711.0MHz)	QPSK	50 RB / 0 RB Offset
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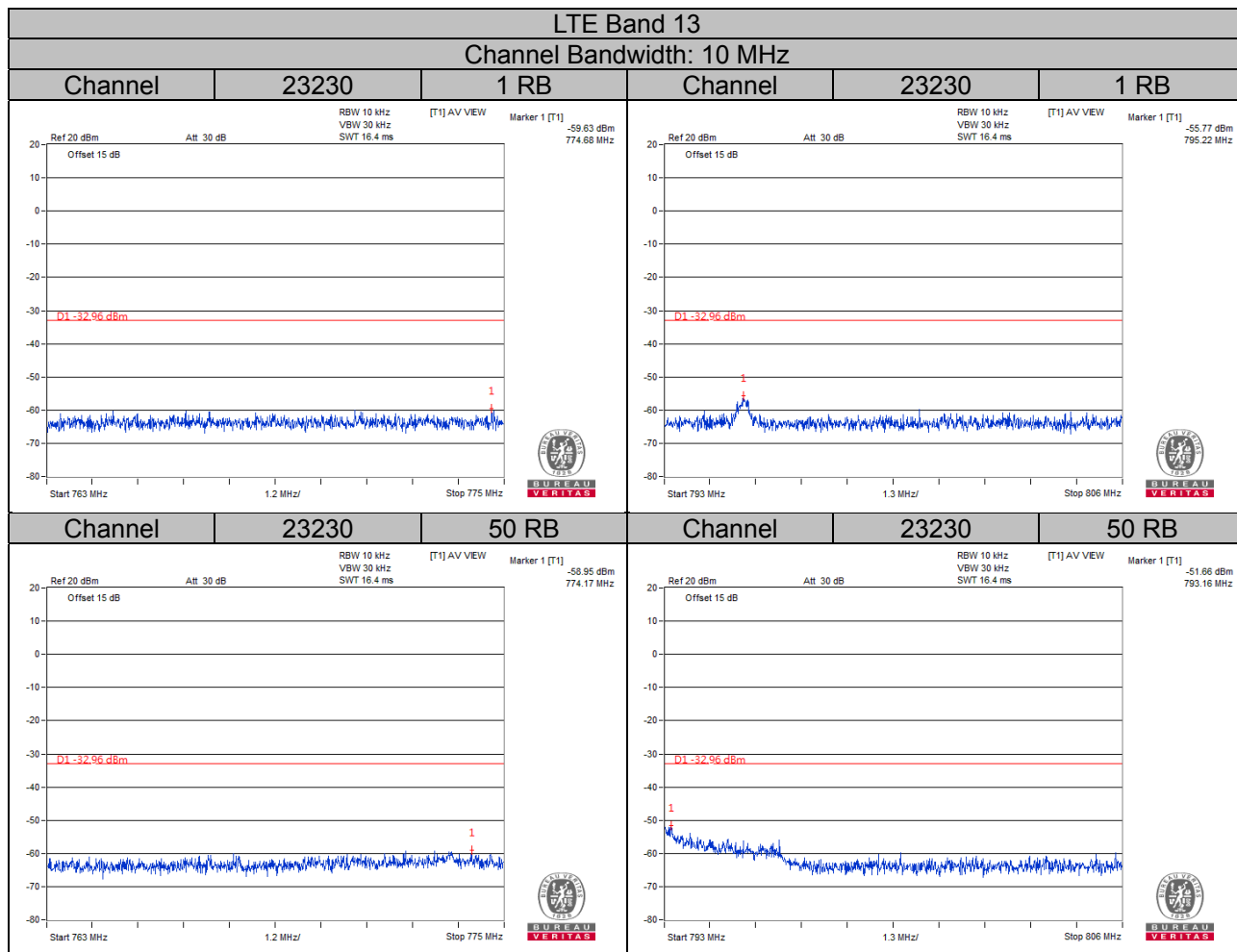
Emission Mask



For the 763 - 775 MHz and 793 - 805 MHz band, the FCC limit is $65 + 10\log(P[\text{watt}])$ in a 6.25 kHz bandwidth. Since it was not possible to set the resolution bandwidth to 6.25 kHz with the available equipment, a bandwidth of 10 kHz was used instead to show compliance. By using a 10 kHz bandwidth on the spectrum analyzer.

$$10\log(10\text{kHz}/6.25\text{kHz}) = 2.04 \text{ dB}$$

$$\text{Limit line} = -35 \text{ dBm} + 2.04 \text{ dB} = -32.96 \text{ dBm}$$



For the 763 - 775 MHz and 793 - 805 MHz band, the FCC limit is $65 + 10\log(P[\text{watt}])$ in a 6.25 kHz bandwidth. Since it was not possible to set the resolution bandwidth to 6.25 kHz with the available equipment, a bandwidth of 10 kHz was used instead to show compliance. By using a 10 kHz bandwidth on the spectrum analyzer.

$$10\log(10\text{kHz}/6.25\text{kHz}) = 2.04 \text{ dB}$$

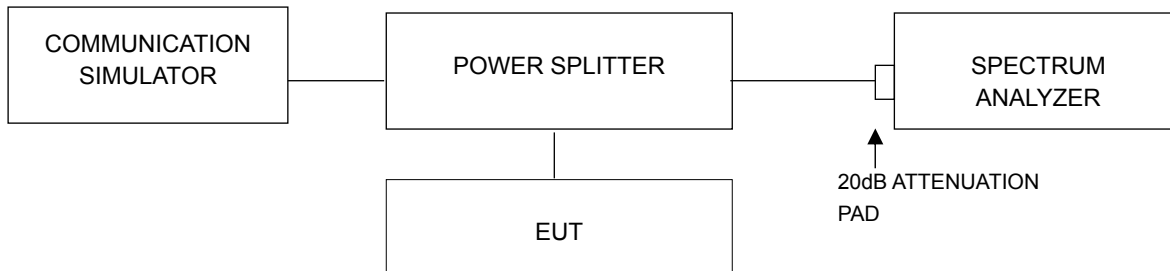
$$\text{Limit line} = -35 \text{ dBm} + 2.04 \text{ dB} = -32.96 \text{ dBm}$$

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

LTE Band 4

LTE Band 4, Channel Bandwidth: 1.4MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
19957	1710.7	4.05	4.86
20175	1732.5	4.51	5.30
20393	1754.3	4.12	4.80

LTE Band 4, Channel Bandwidth: 3MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
19965	1711.5	3.76	4.78
20175	1732.5	4.39	5.28
20385	1753.5	3.90	4.78

LTE Band 4, Channel Bandwidth: 5MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
19975	1712.5	3.71	4.68
20175	1732.5	4.20	5.18
20375	1752.5	3.73	4.84

LTE Band 4, Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
20000	1715.0	3.63	5.01
20175	1732.5	4.12	5.36
20350	1750.0	3.75	5.12

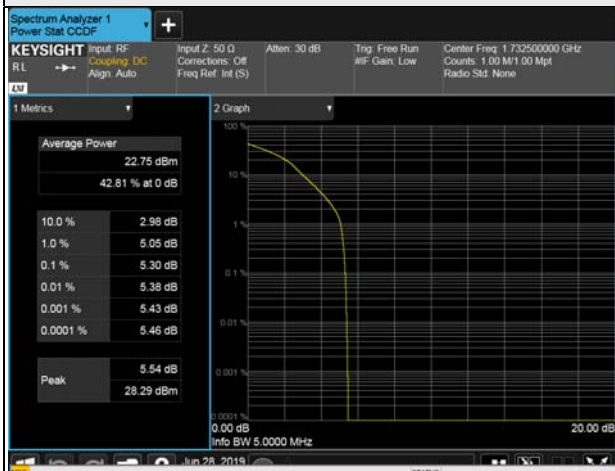
LTE Band 4, Channel Bandwidth: 15MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
20025	1717.5	4.05	5.08
20175	1732.5	4.32	5.58
20325	1747.5	4.43	5.24

LTE Band 4, Channel Bandwidth: 20MHz

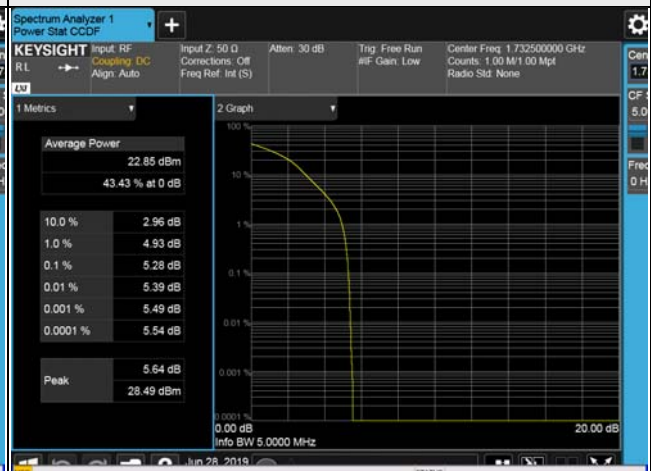
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
20050	1720.0	3.98	4.96
20175	1732.5	4.30	5.39
20300	1745.0	4.35	5.67

Spectrum Plot Of Worst Value

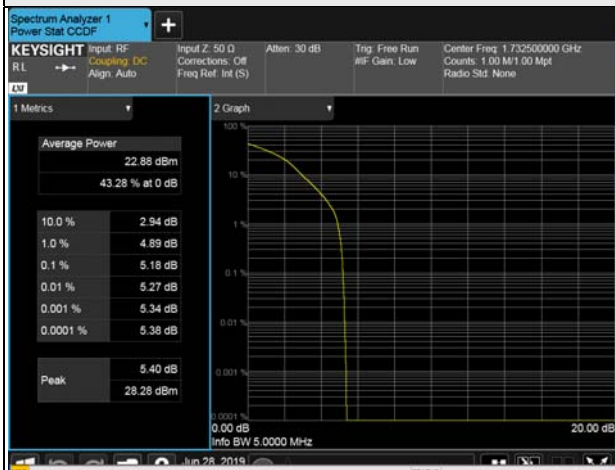
1.4MHz / 16QAM



3MHz / 16QAM



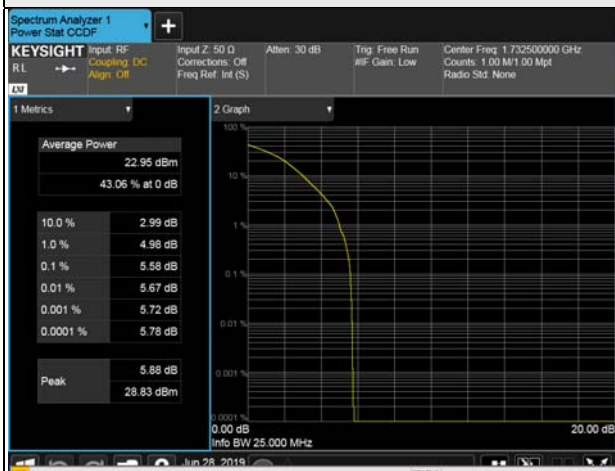
5MHz / 16QAM



10MHz / 16QAM



15MHz / 16QAM



20MHz / 16QAM



LTE Band 12, Channel Bandwidth: 1.4MHz

Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
23017	699.7	4.87	5.65
23095	707.5	4.98	5.69
23173	715.3	4.89	5.54

LTE Band 12, Channel Bandwidth: 3MHz

Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
23025	700.5	4.71	5.61
23095	707.5	4.85	5.66
23165	714.5	4.68	5.54

LTE Band 12, Channel Bandwidth: 5MHz

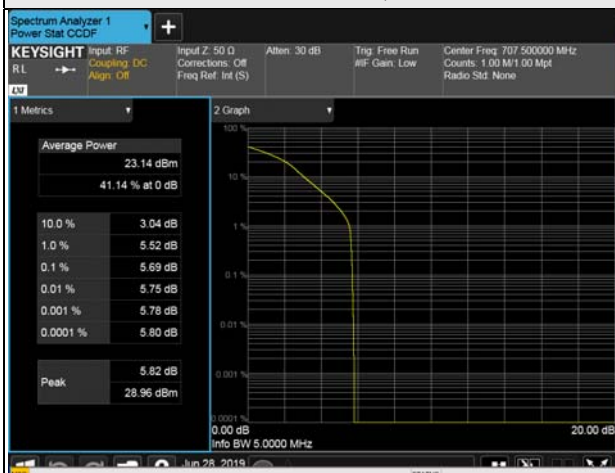
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
23035	701.5	4.59	5.58
23095	707.5	4.72	5.62
23155	713.5	4.77	5.68

LTE Band 12, Channel Bandwidth: 10MHz

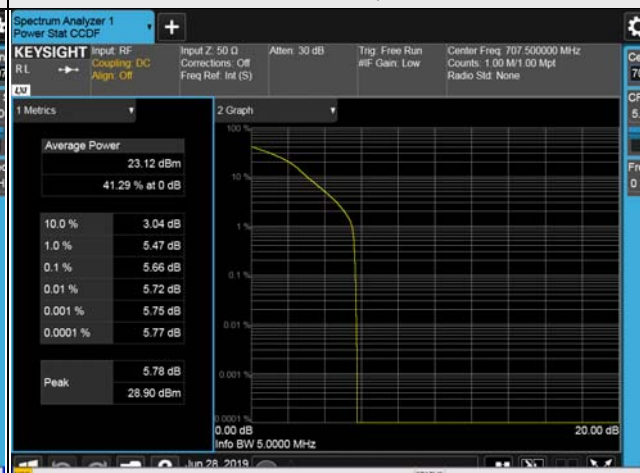
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
23060	704.0	4.51	5.60
23095	707.5	4.47	5.43
23130	711.0	4.70	5.54

Spectrum Plot Of Worst Value

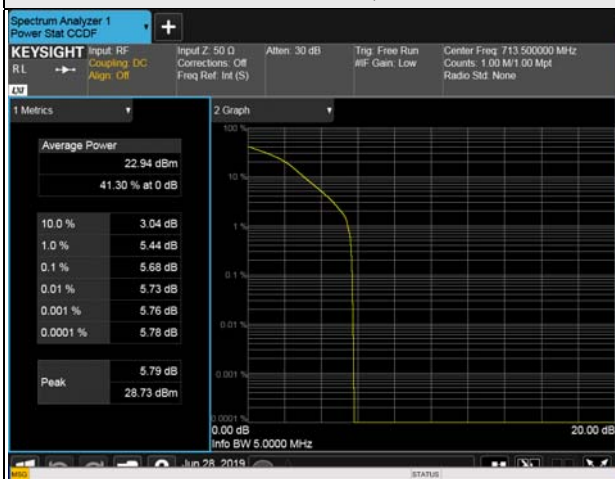
1.4MHz / 16QAM



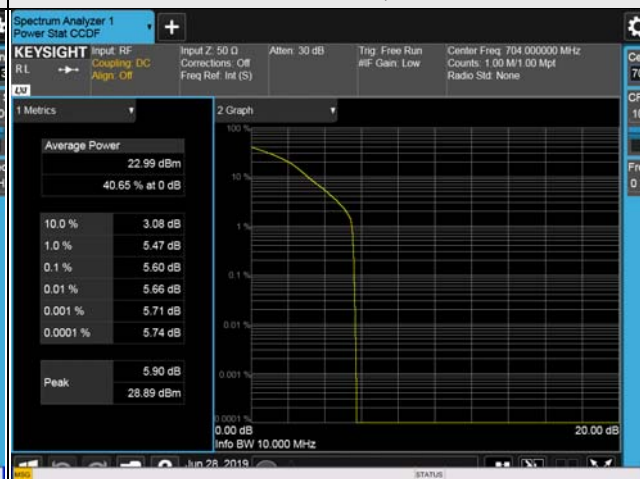
3MHz / 16QAM



5MHz / 16QAM

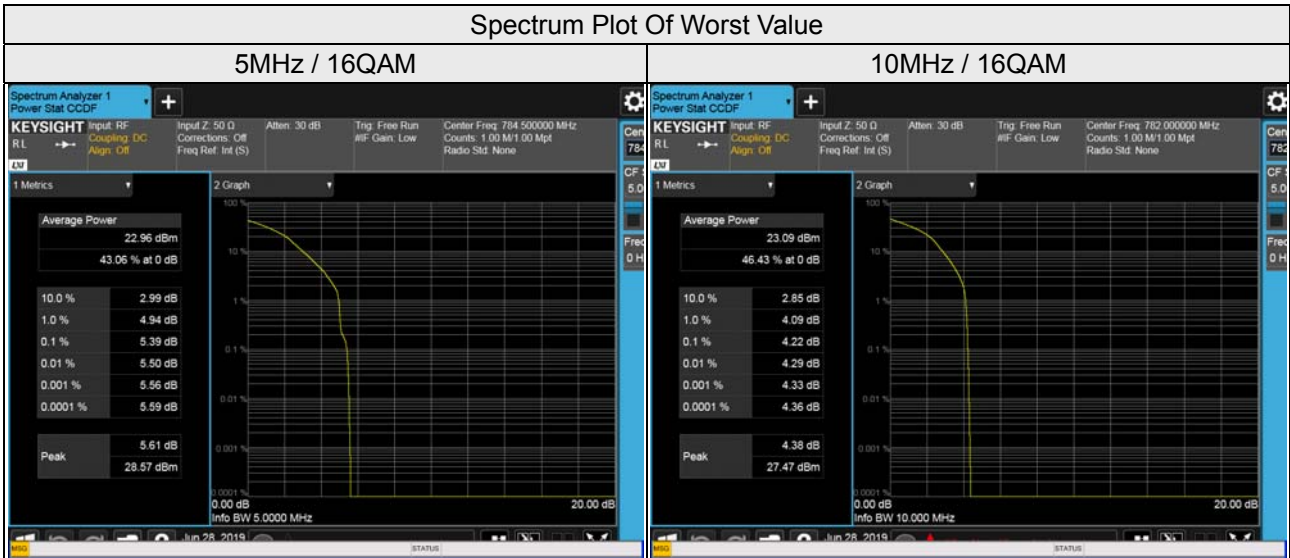


10MHz / 16QAM



LTE Band 13, Channel Bandwidth: 5MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
23205	779.5	3.33	4.19
23230	782.0	3.22	4.36
23255	784.5	4.26	5.39

LTE Band 13, Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
23230	782.0	3.16	4.22



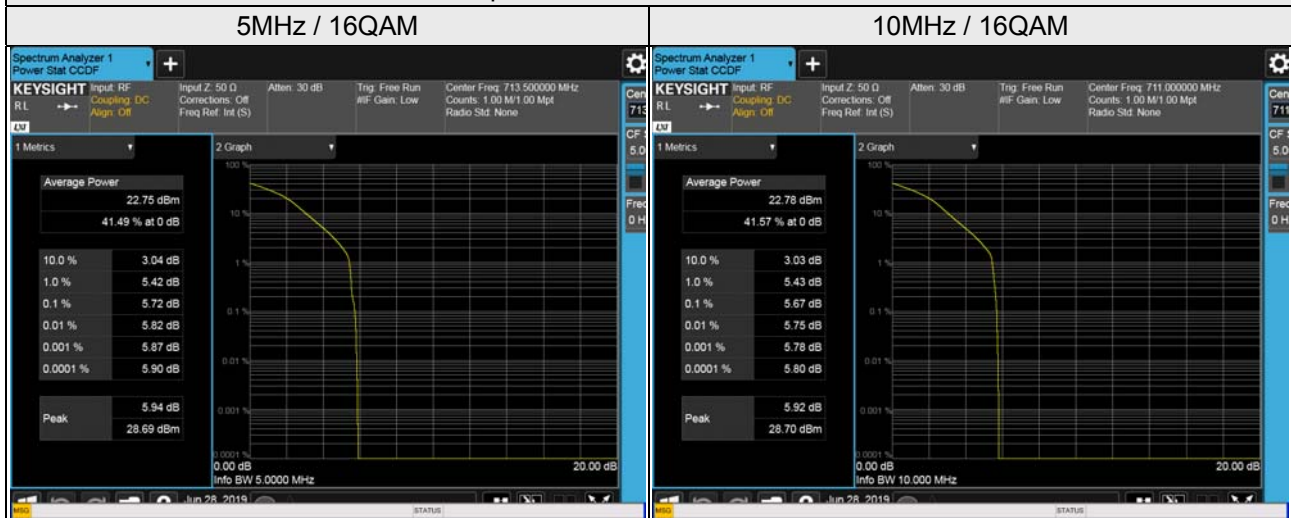
LTE Band 17, Channel Bandwidth: 5MHz

Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
23755	706.5	4.62	5.52
23790	710.0	4.62	5.61
23825	713.5	4.68	5.72

LTE Band 17, Channel Bandwidth: 10MHz

Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
23780	709.0	4.56	5.62
23790	710.0	4.51	5.65
23800	711.0	4.61	5.67

Spectrum Plot Of Worst Value



4.7 Conducted Spurious Emissions

4.7.1 Limits of Conducted Spurious Emissions Measurement

For LTE Band 4, 12

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 -13dBm .

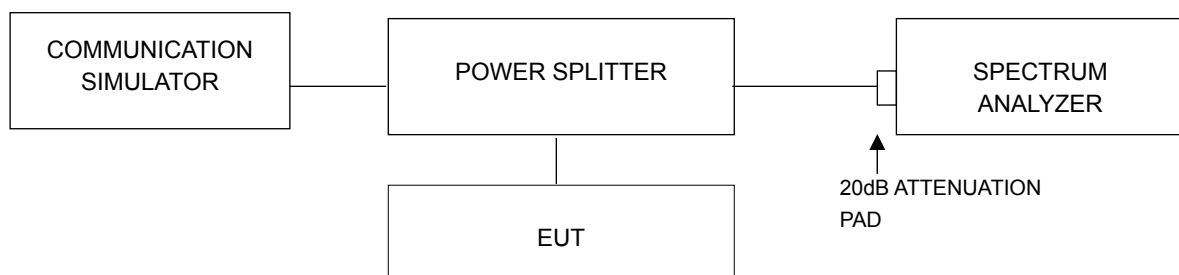
For LTE Band 13

According to FCC 27.53(c)(2) for on any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB.

For LTE Band 17

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.

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 18GHz, it shall be connected to the attenuator with the carried frequency.

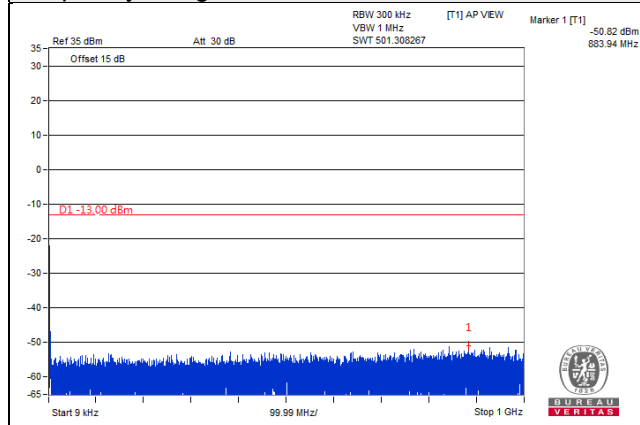
4.7.4 Test Results

LTE Band 4

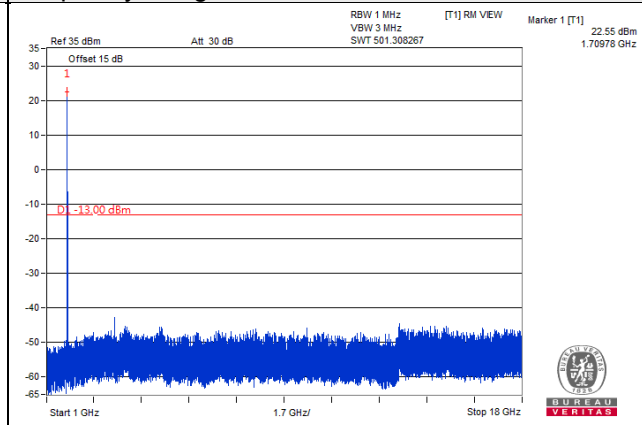
Channel Bandwidth: 1.4MHz

Channel 19957 (1710.7MHz)

Frequency Range : 9kHz~1GHz

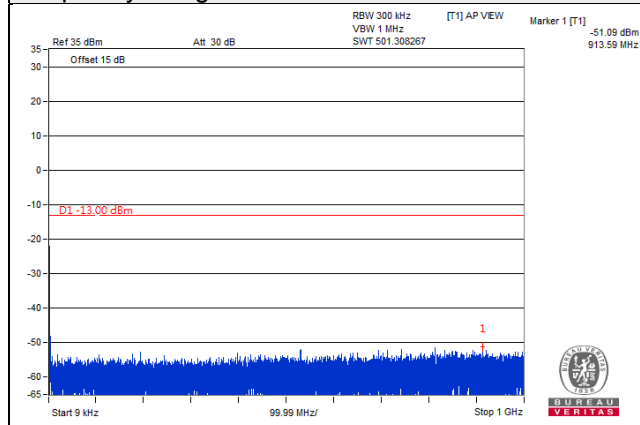


Frequency Range : 1GHz~18GHz

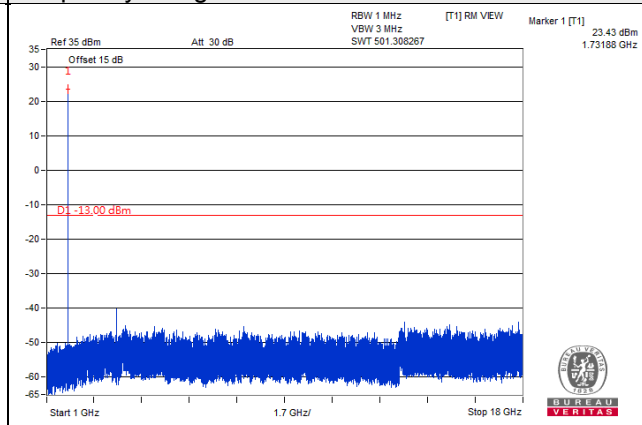


Channel 20175 (1732.5MHz)

Frequency Range : 9kHz~1GHz

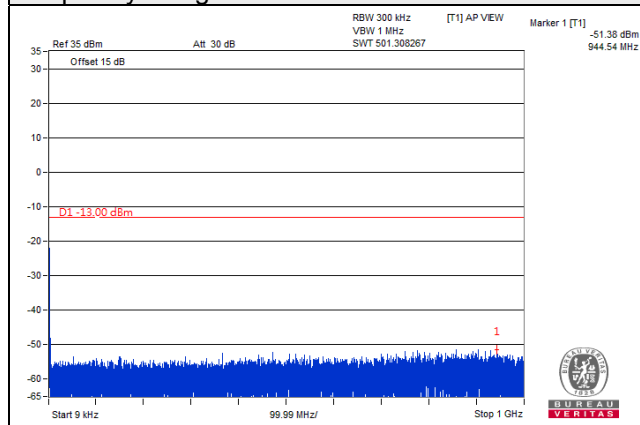


Frequency Range : 1GHz~18GHz

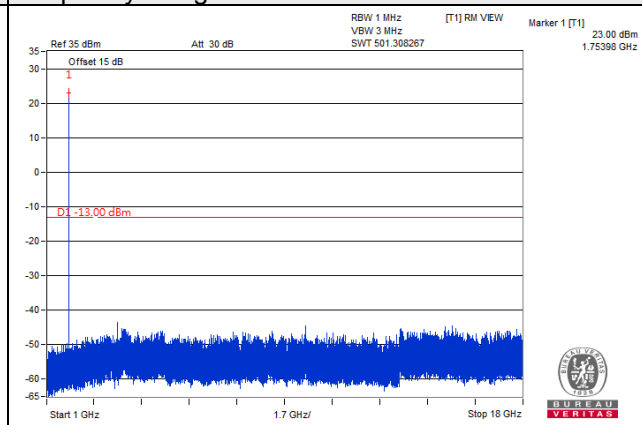


Channel 20393 (1754.3MHz)

Frequency Range : 9kHz~1GHz



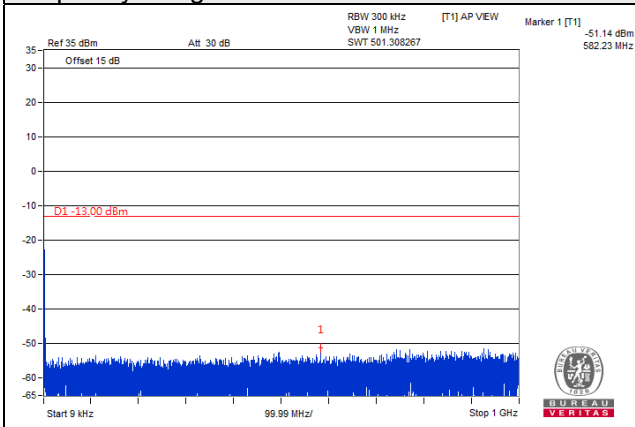
Frequency Range : 1GHz~18GHz



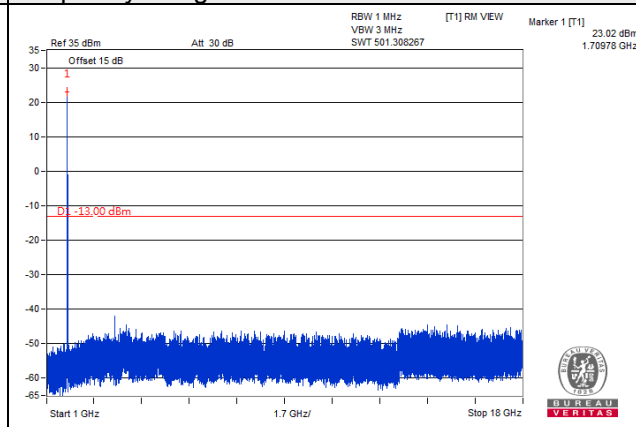
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Bandwidth: 3MHz
 Channel 19965 (1711.5MHz)

Frequency Range : 9kHz~1GHz

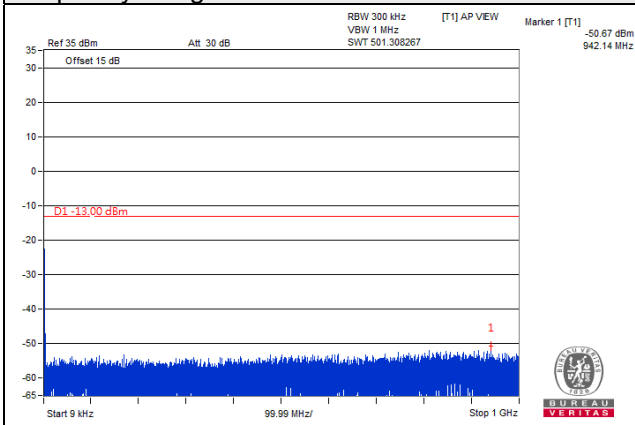


Frequency Range : 1GHz~18GHz

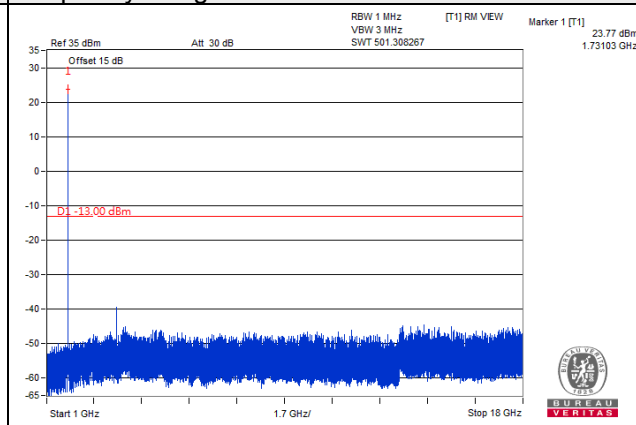


Channel 20175 (1732.5MHz)

Frequency Range : 9kHz~1GHz

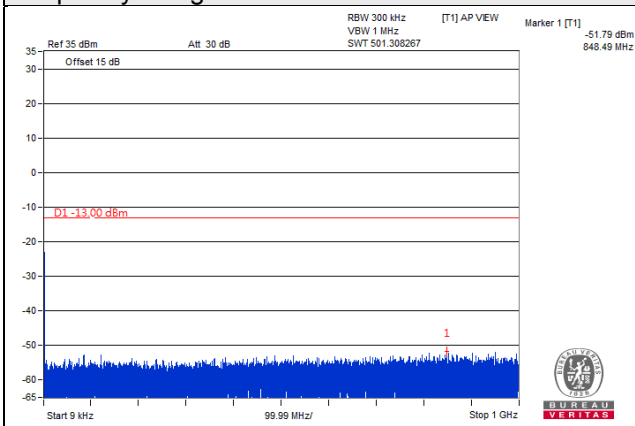


Frequency Range : 1GHz~18GHz

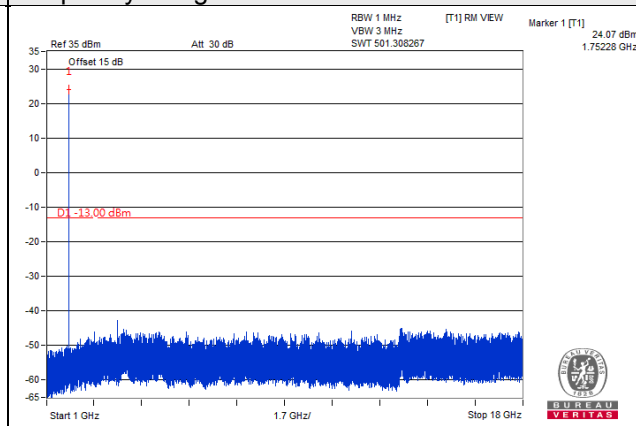


Channel 20385 (1753.5MHz)

Frequency Range : 9kHz~1GHz



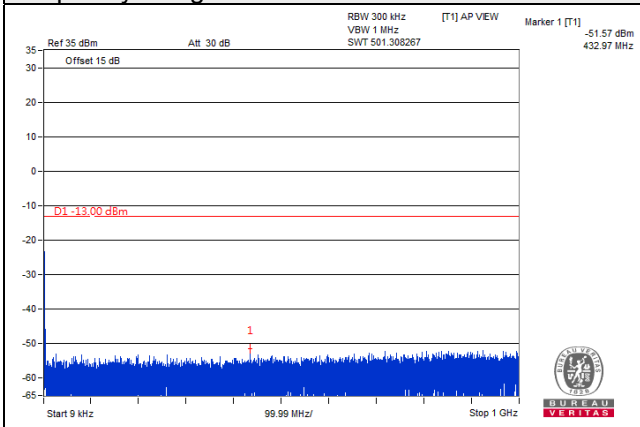
Frequency Range : 1GHz~18GHz



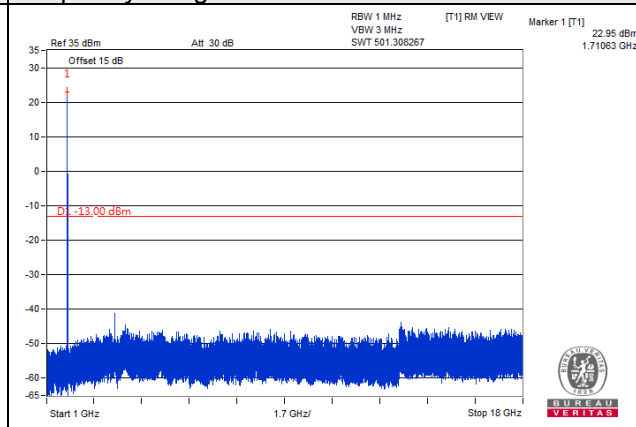
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Bandwidth: 5MHz
 Channel 19975 (1712.5MHz)

Frequency Range : 9kHz~1GHz

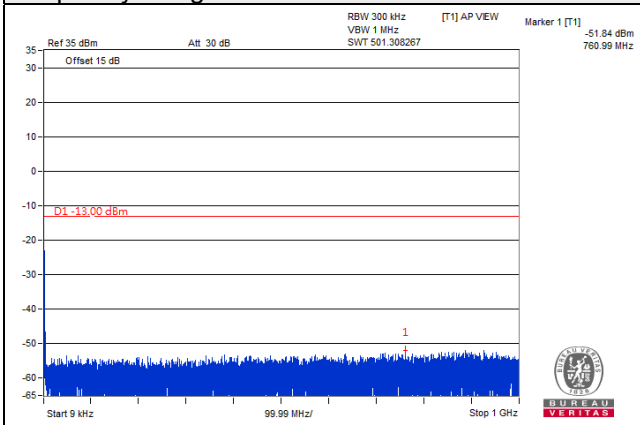


Frequency Range : 1GHz~18GHz

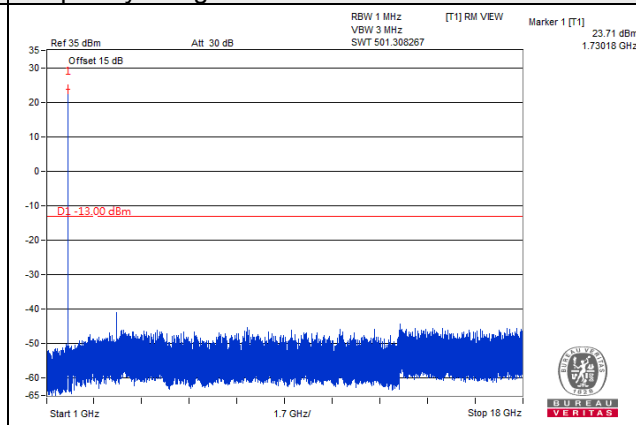


Channel 20175 (1732.5MHz)

Frequency Range : 9kHz~1GHz

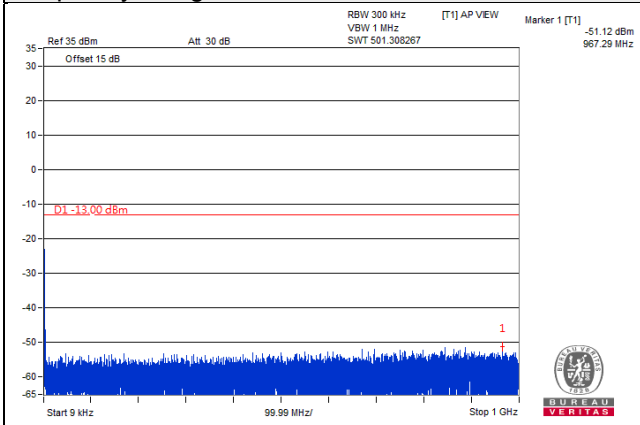


Frequency Range : 1GHz~18GHz

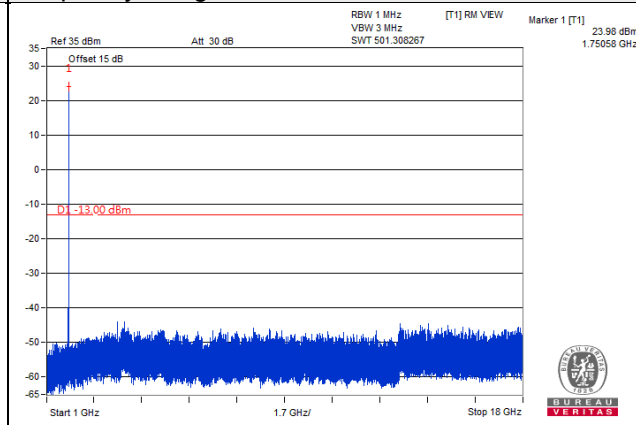


Channel 20375 (1752.5MHz)

Frequency Range : 9kHz~1GHz



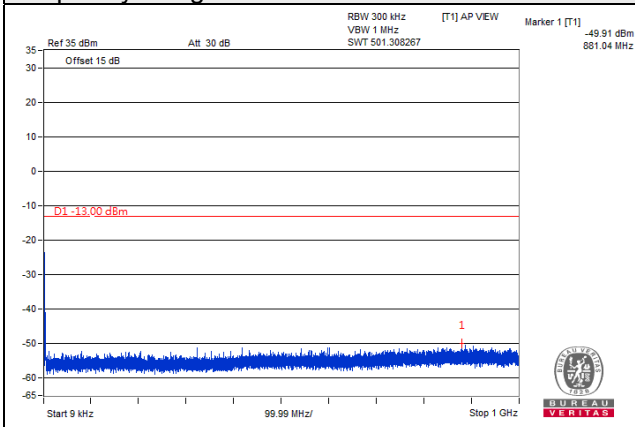
Frequency Range : 1GHz~18GHz



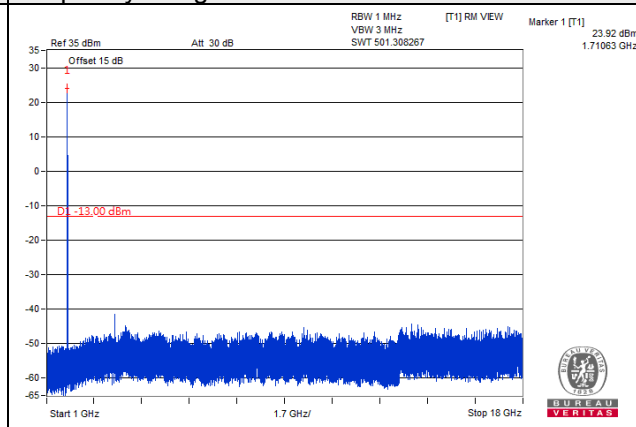
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Bandwidth: 10MHz
 Channel 20000 (1715.0MHz)

Frequency Range : 9kHz~1GHz

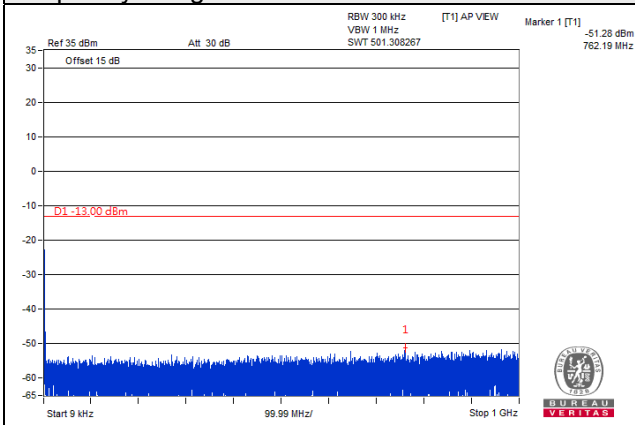


Frequency Range : 1GHz~18GHz

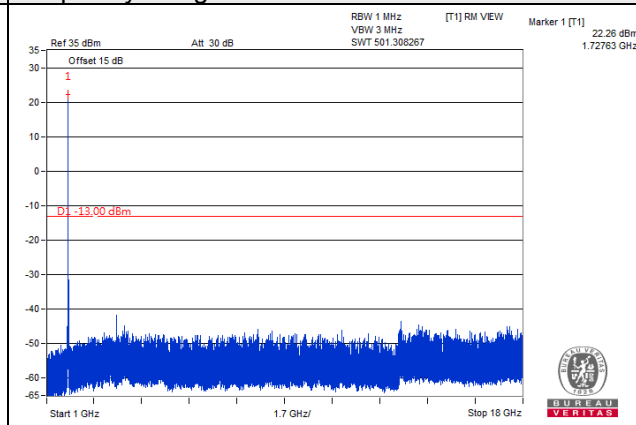


Channel 20175 (1732.5MHz)

Frequency Range : 9kHz~1GHz

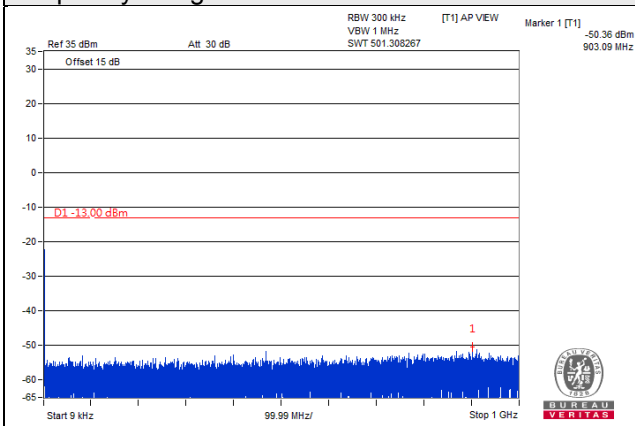


Frequency Range : 1GHz~18GHz

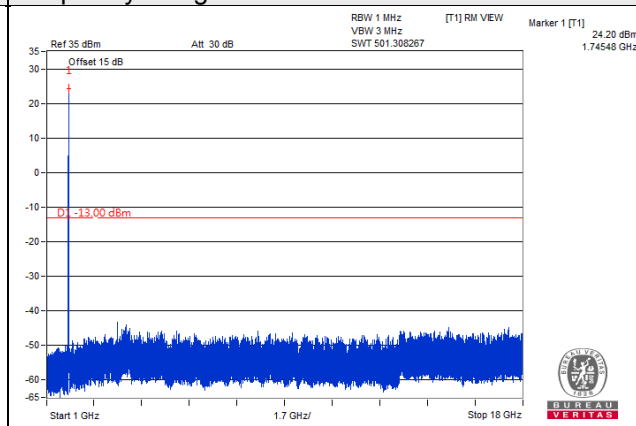


Channel 20350 (1750.0MHz)

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~18GHz

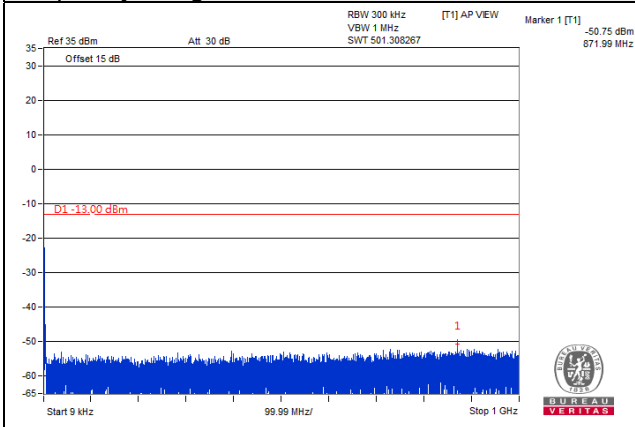


Note: For 9kHz, the signal is from spectrum analyzer.

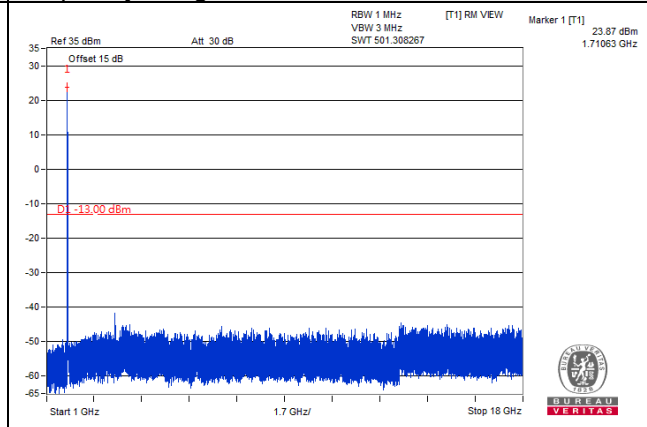
Channel Bandwidth: 15MHz

Channel 20025 (1717.5MHz)

Frequency Range : 9kHz~1GHz

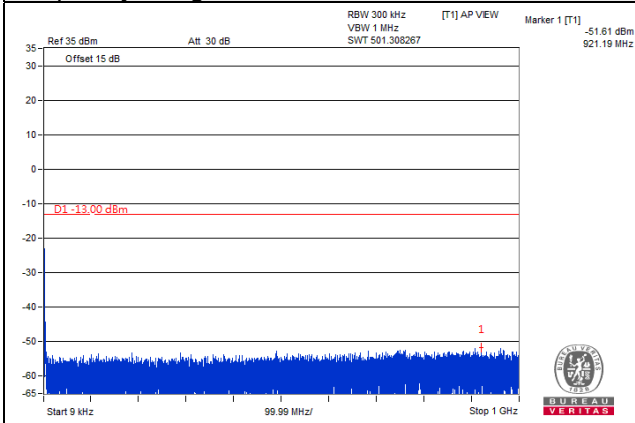


Frequency Range : 1GHz~18GHz

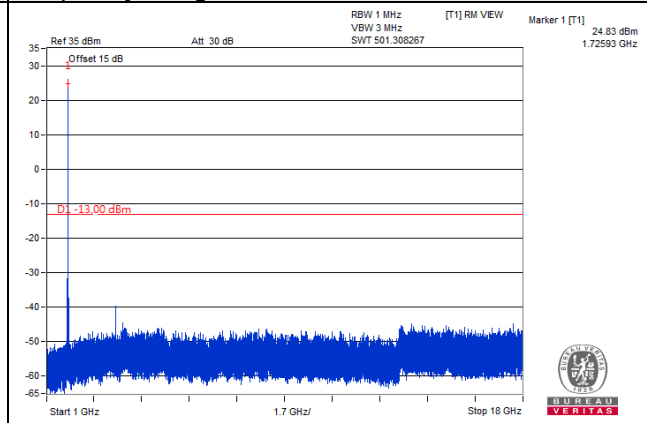


Channel 20175 (1732.5MHz)

Frequency Range : 9kHz~1GHz

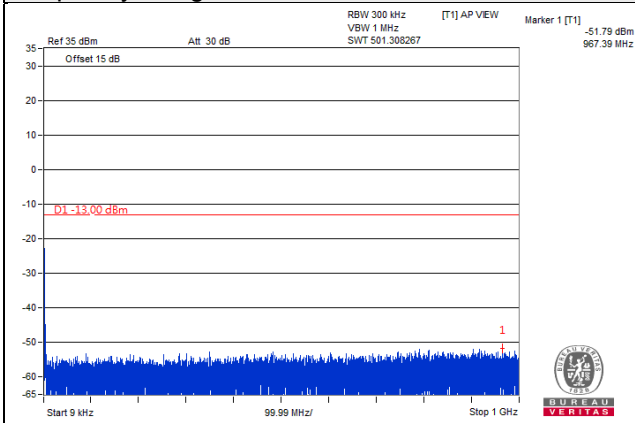


Frequency Range : 1GHz~18GHz

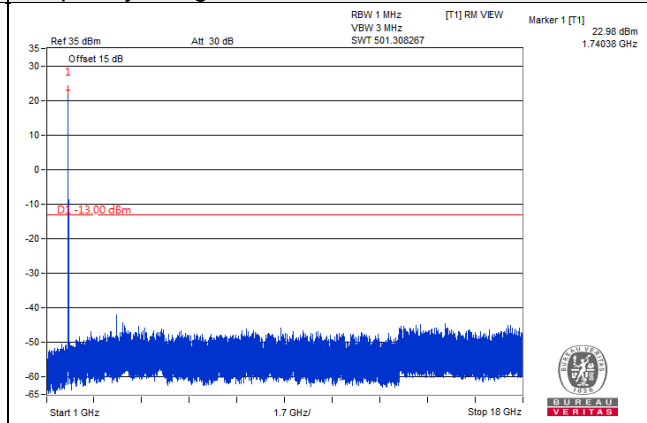


Channel 20325 (1747.5MHz)

Frequency Range : 9kHz~1GHz



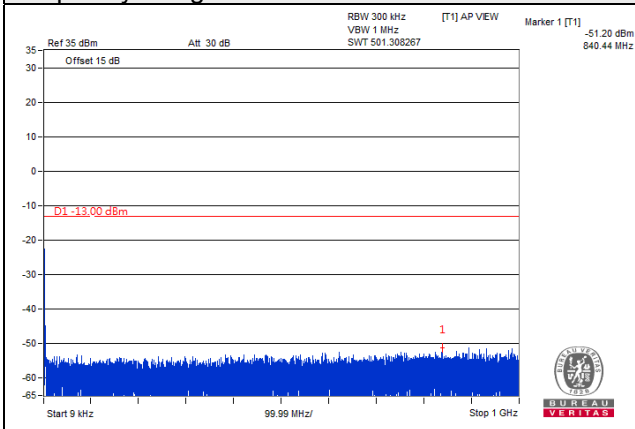
Frequency Range : 1GHz~18GHz



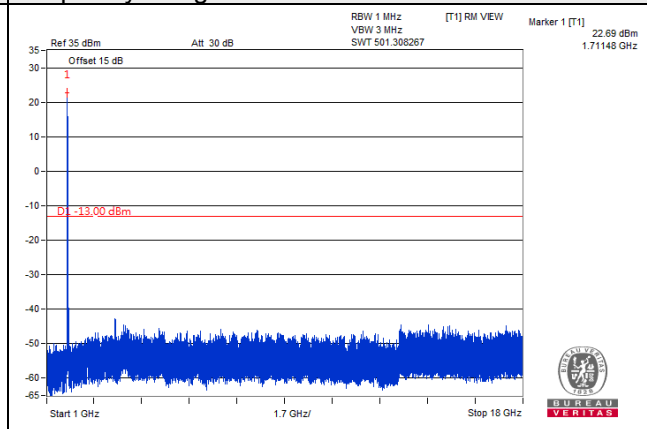
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Bandwidth: 20MHz
Channel 20050 (1720.0MHz)

Frequency Range : 9kHz~1GHz

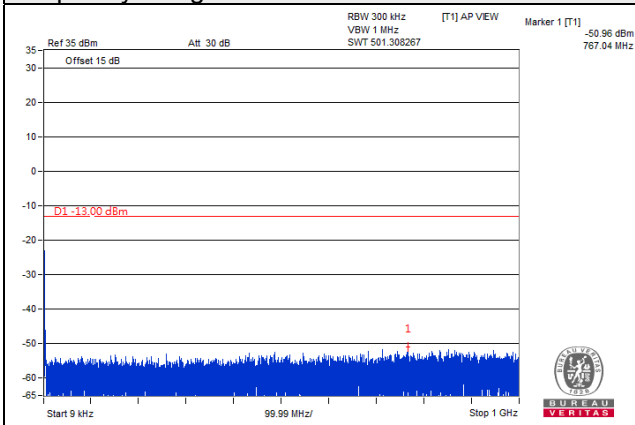


Frequency Range : 1GHz~18GHz

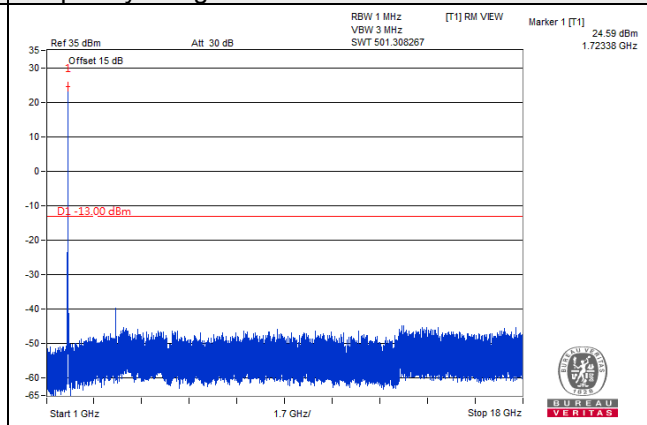


Channel 20175 (1732.5MHz)

Frequency Range : 9kHz~1GHz

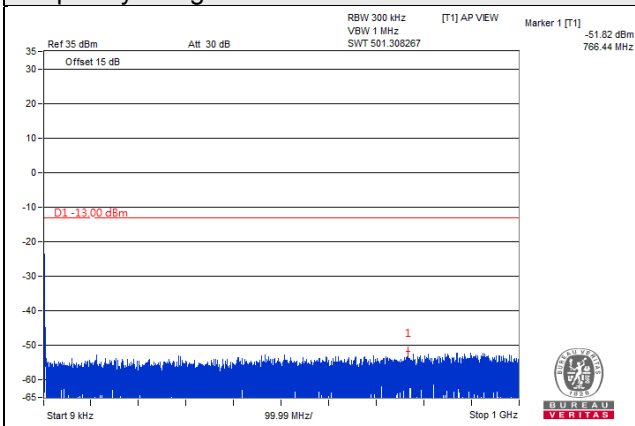


Frequency Range : 1GHz~18GHz

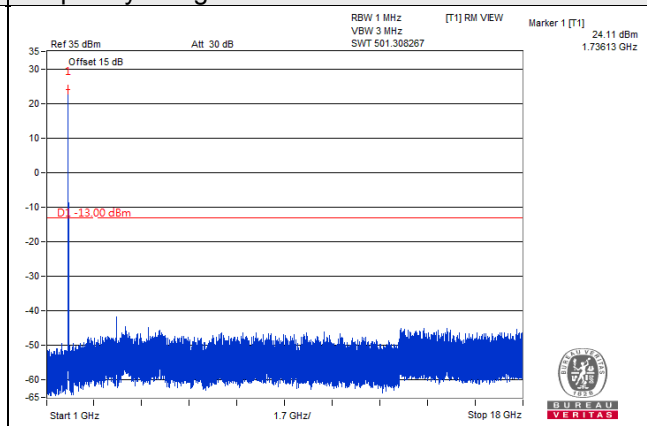


Channel 20300 (1745.0MHz)

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~18GHz



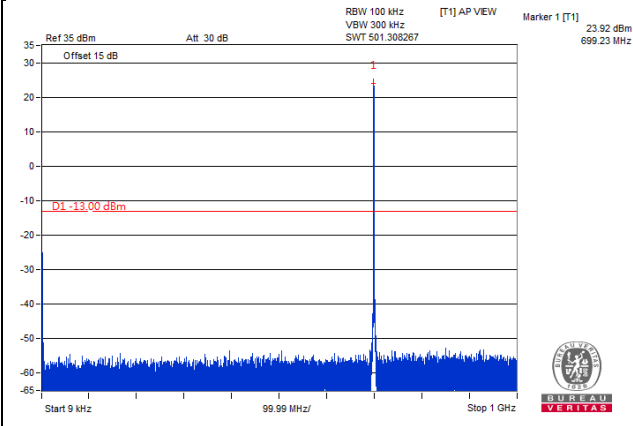
Note: For 9kHz, the signal is from spectrum analyzer.

LTE Band 12

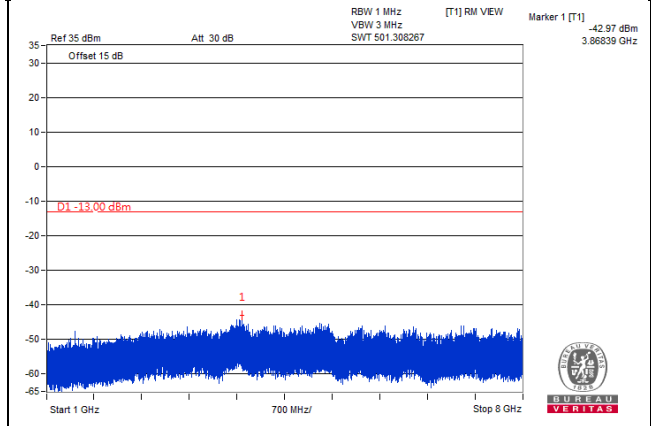
Channel Band width: 1.4MHz

Channel 23017 (699.7MHz)

Frequency Range : 9kHz~1GHz

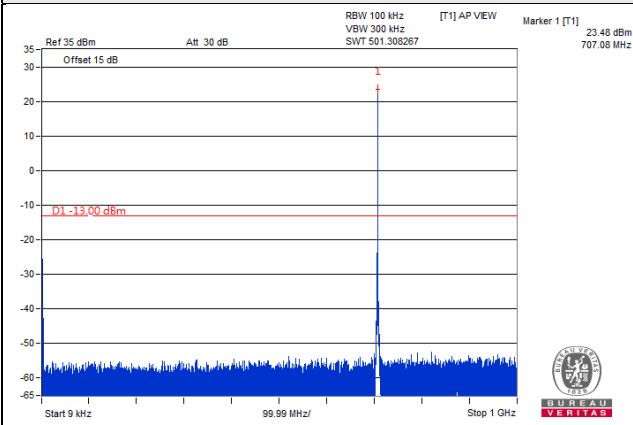


Frequency Range : 1GHz~8GHz

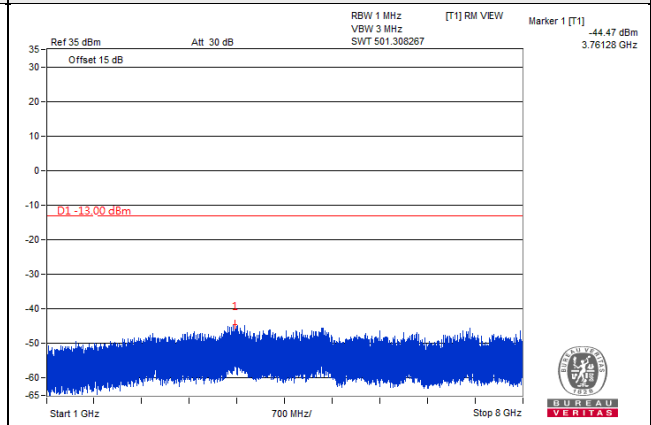


Channel 23095 (707.5MHz)

Frequency Range : 9kHz~1GHz

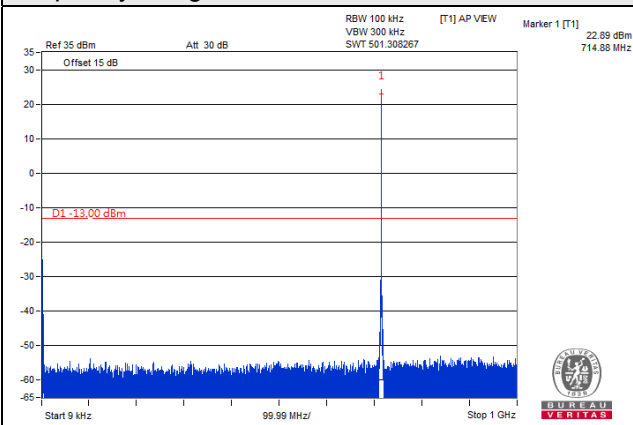


Frequency Range : 1GHz~8GHz

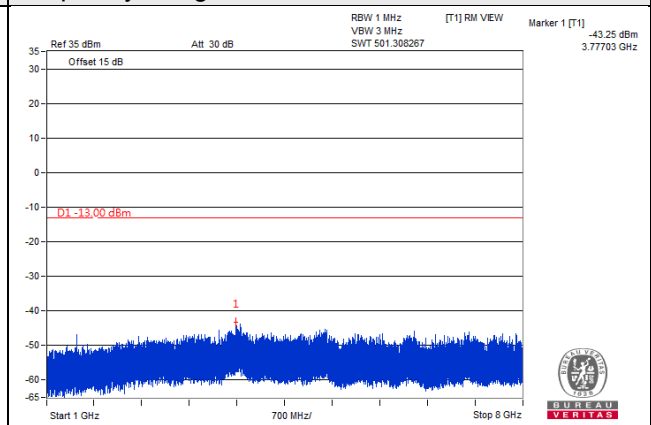


Channel 23173 (715.3MHz)

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~8GHz

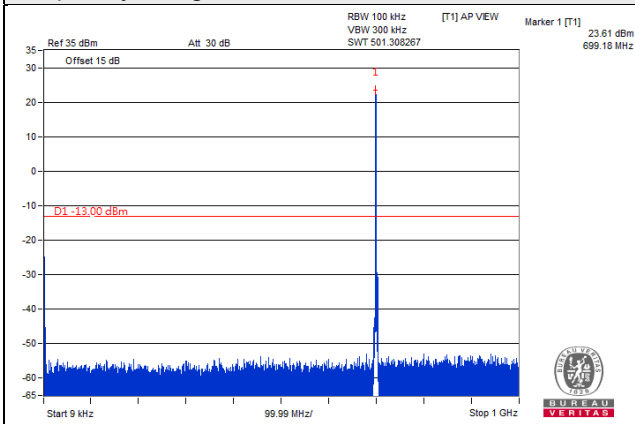


Note: For 9kHz, the signal is from spectrum analyzer.

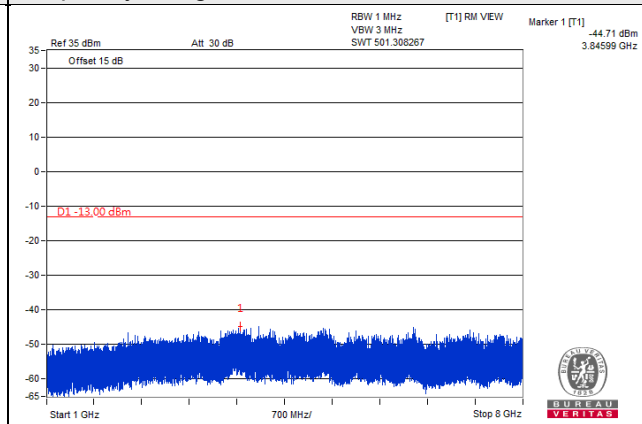
Channel Band width: 3MHz

Channel 23025 (700.5MHz)

Frequency Range : 9kHz~1GHz

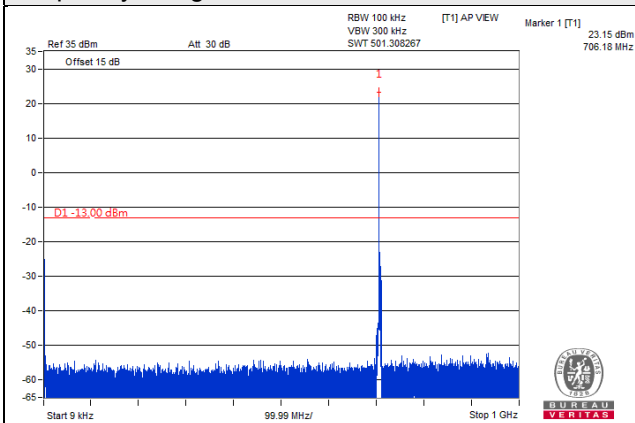


Frequency Range : 1GHz~8GHz

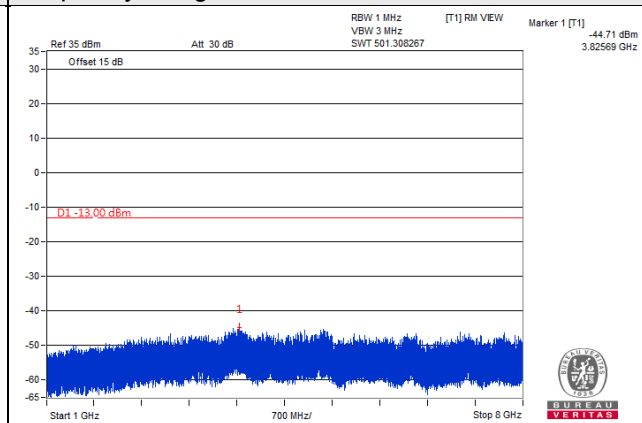


Channel 23095 (707.5MHz)

Frequency Range : 9kHz~1GHz

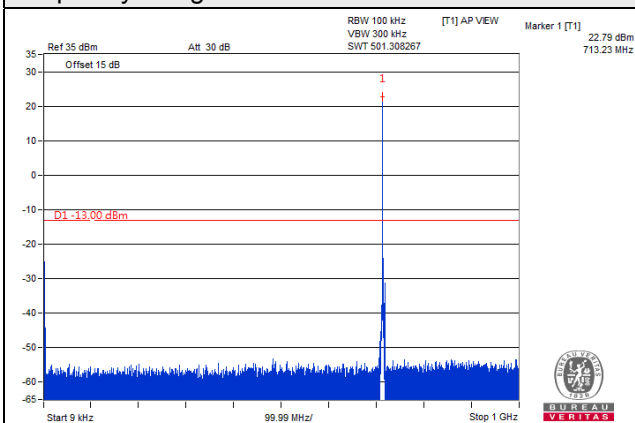


Frequency Range : 1GHz~8GHz

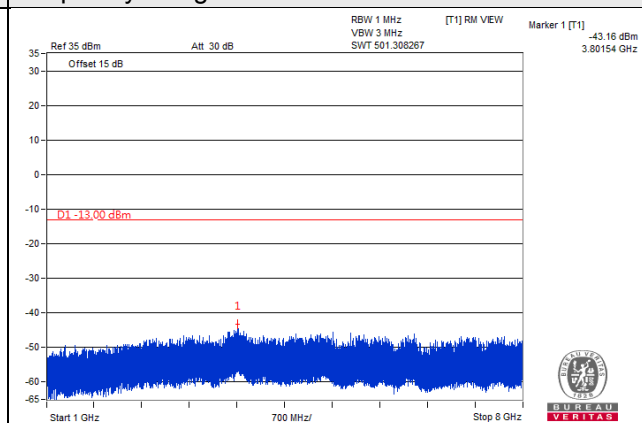


Channel 23165 (714.5MHz)

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~8GHz

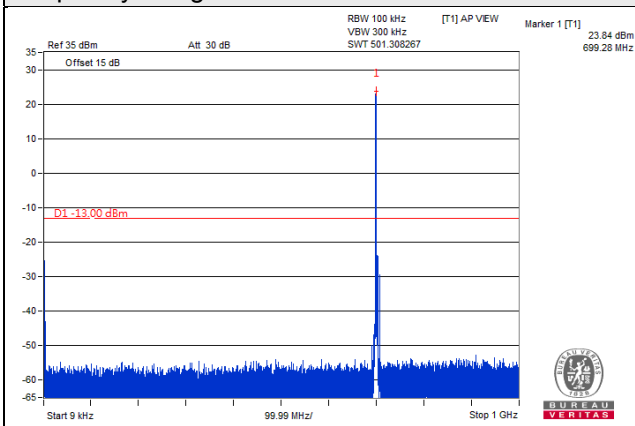


Note: For 9kHz, the signal is from spectrum analyzer.

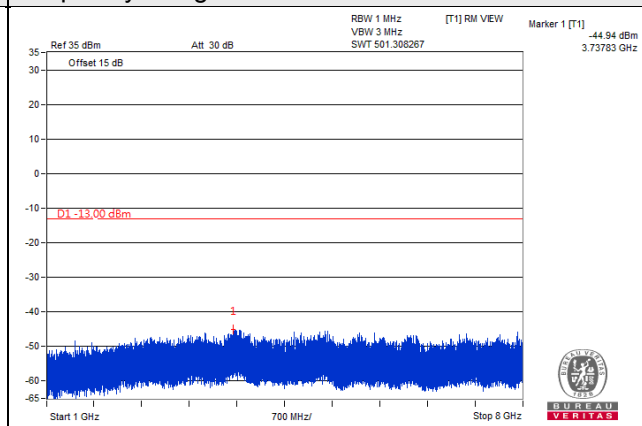
Channel Band width: 5MHz

Channel 23035 (701.5MHz)

Frequency Range : 9kHz~1GHz

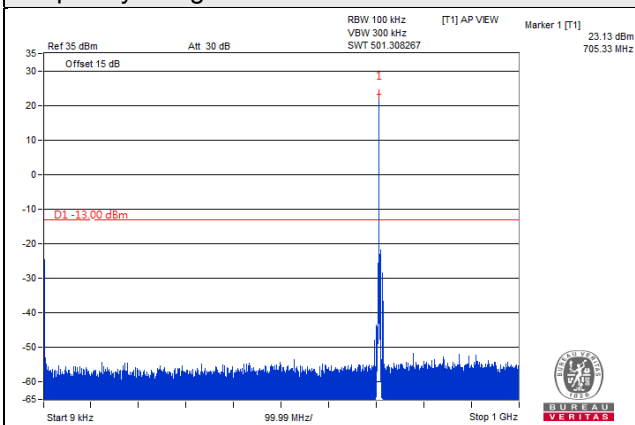


Frequency Range : 1GHz~8GHz

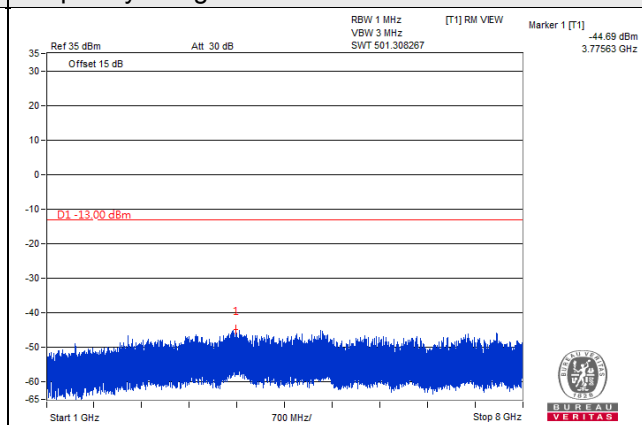


Channel 23095 (707.5MHz)

Frequency Range : 9kHz~1GHz

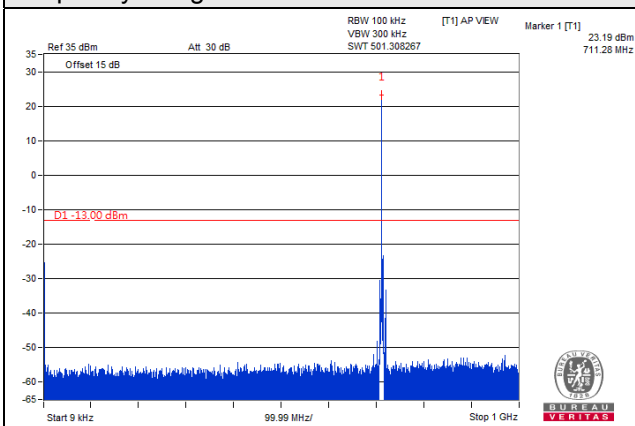


Frequency Range : 1GHz~8GHz

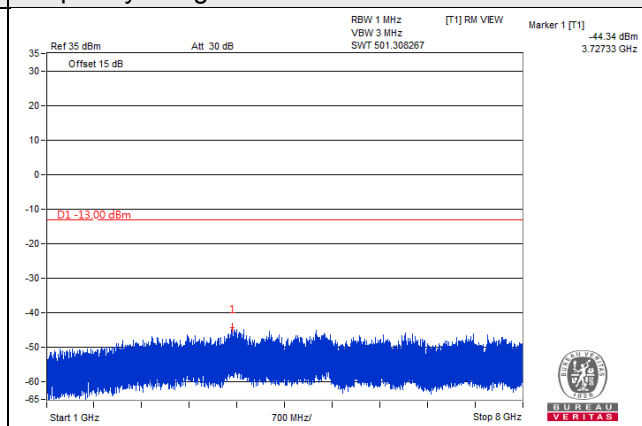


Channel 23155 (713.5MHz)

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~8GHz

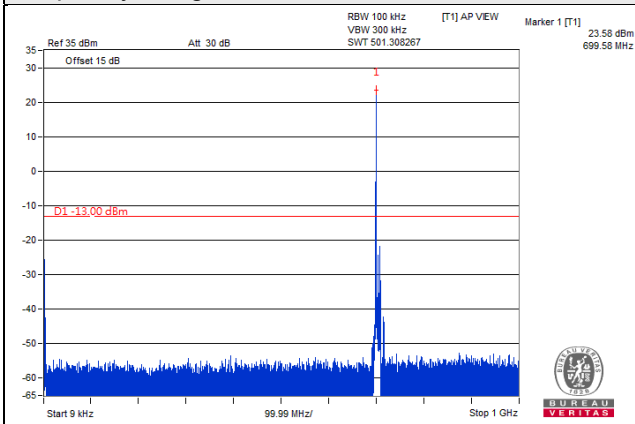


Note: For 9kHz, the signal is from spectrum analyzer.

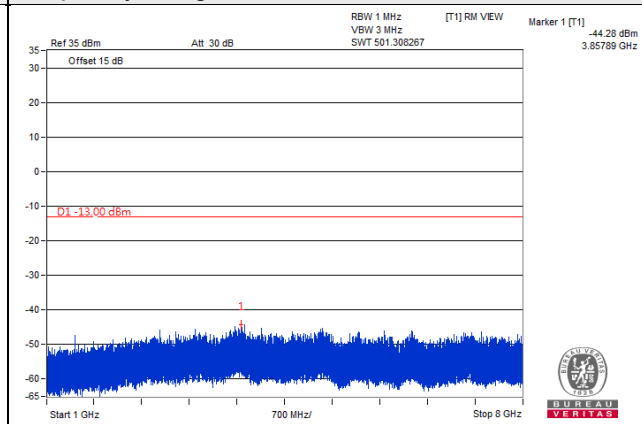
Channel Band width: 10MHz

Channel 23060 (704MHz)

Frequency Range : 9kHz~1GHz

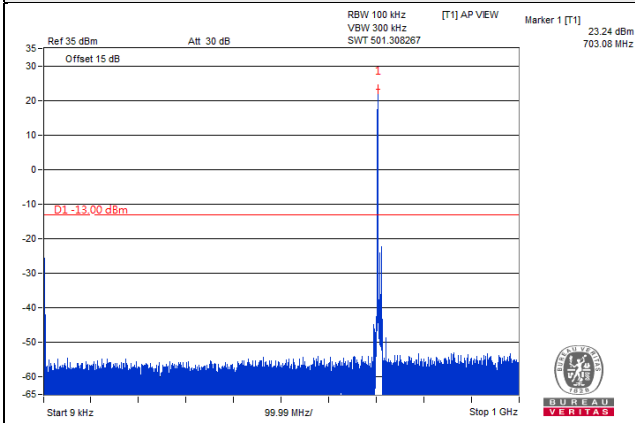


Frequency Range : 1GHz~8GHz

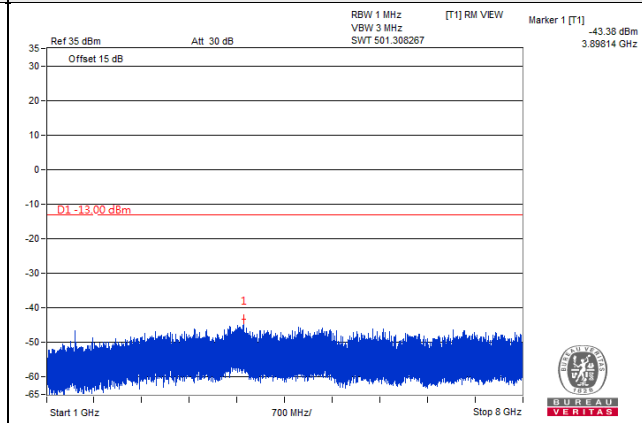


Channel 23095 (707.5MHz)

Frequency Range : 9kHz~1GHz

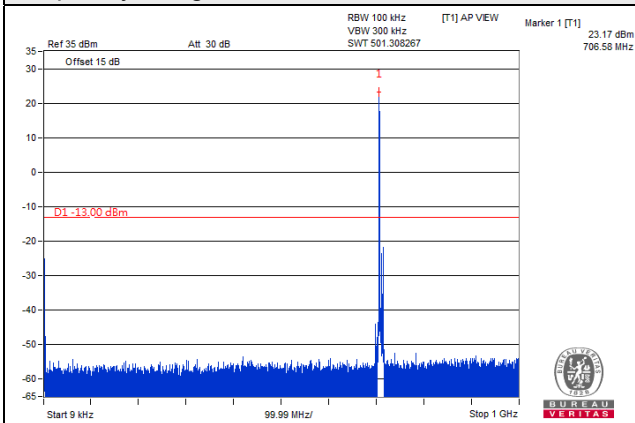


Frequency Range : 1GHz~8GHz

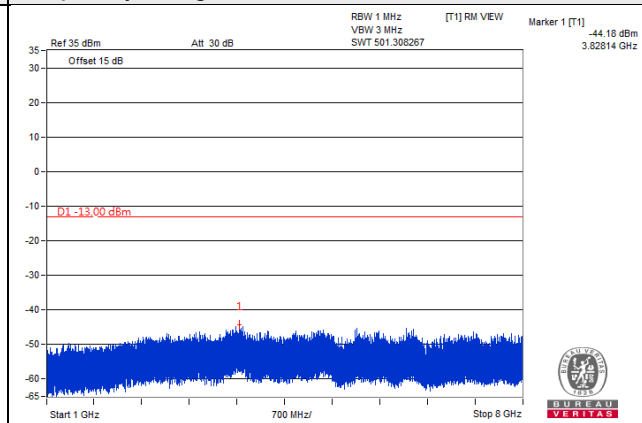


Channel 23130 (711MHz)

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~8GHz



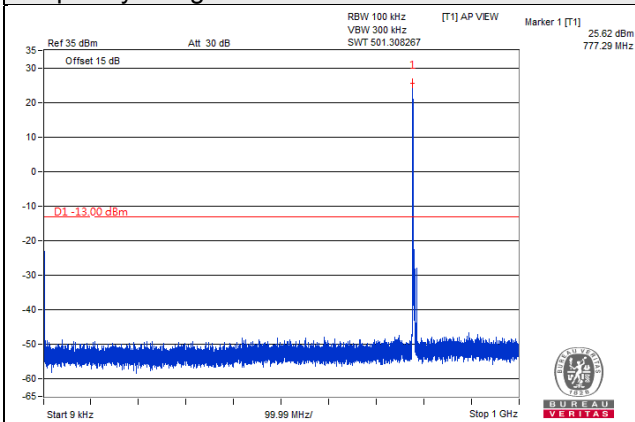
Note: For 9kHz, the signal is from spectrum analyzer.

LTE Band 13

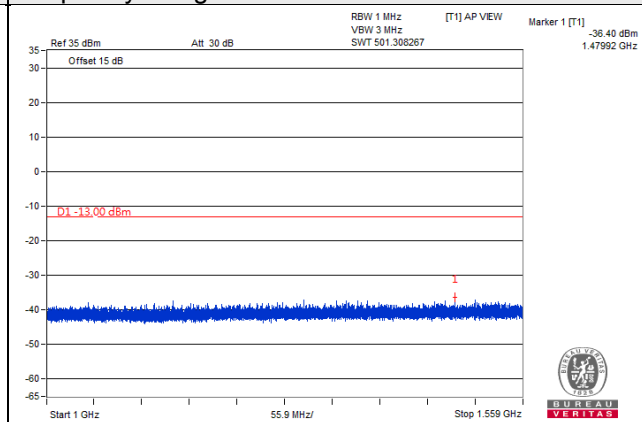
Channel Bandwidth: 5MHz

Channel 23205 (779.5MHz)

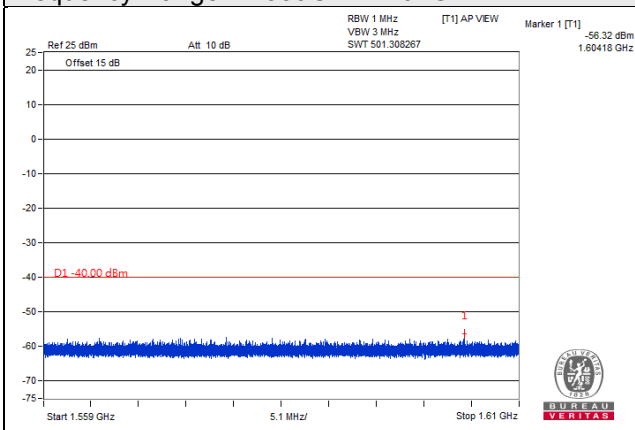
Frequency Range : 9kHz~1GHz



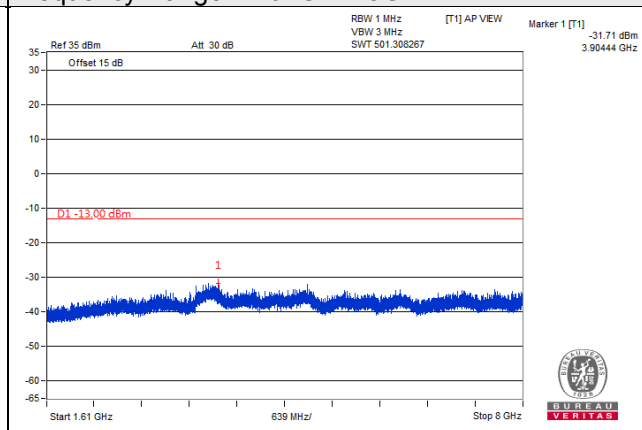
Frequency Range : 1GHz~1.559GHz



Frequency Range : 1.559GHz~1.61GHz



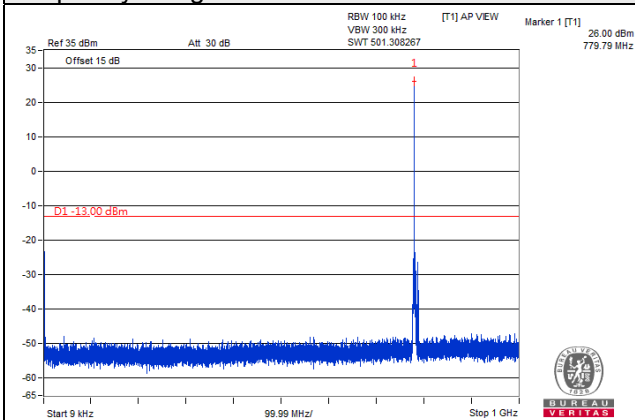
Frequency Range : 1.61GHz~8GHz



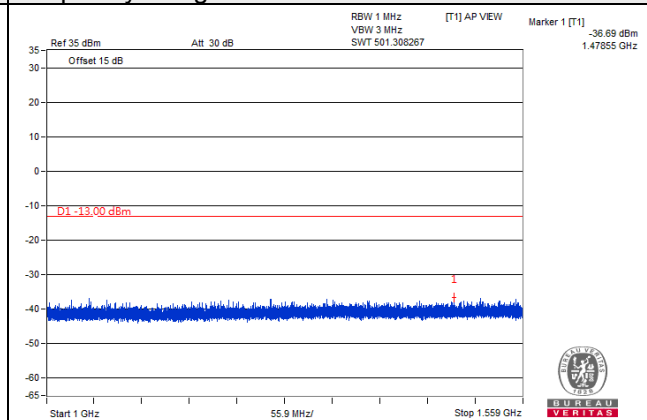
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Bandwidth: 5MHz
 Channel 23230 (782.0MHz)

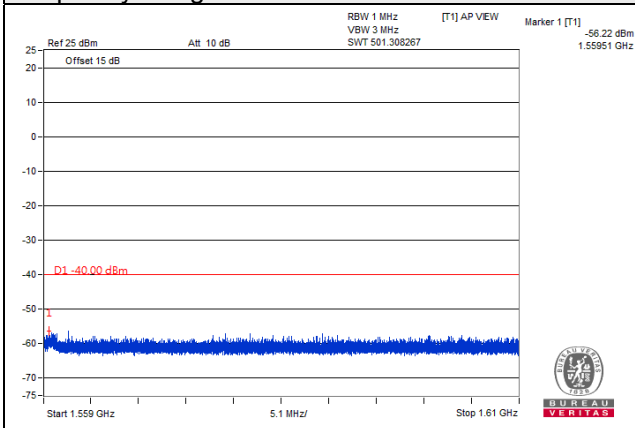
Frequency Range : 9kHz~1GHz



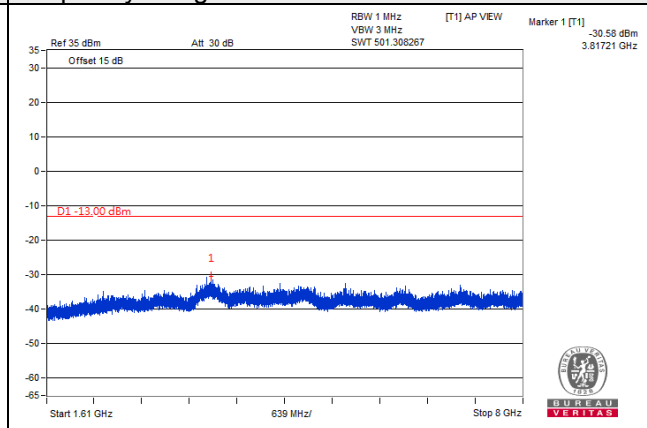
Frequency Range : 1GHz~1.559GHz



Frequency Range : 1.559GHz~1.61GHz



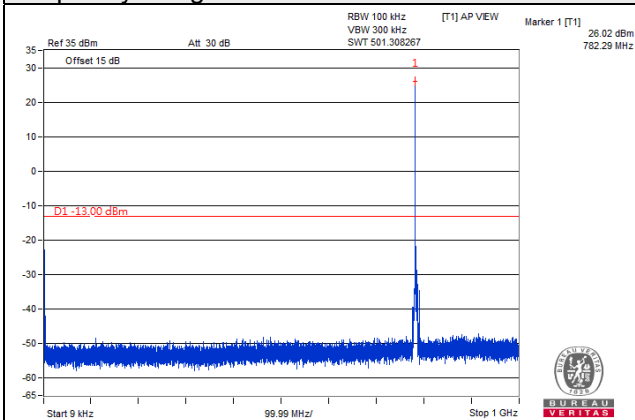
Frequency Range : 1.61GHz~8GHz



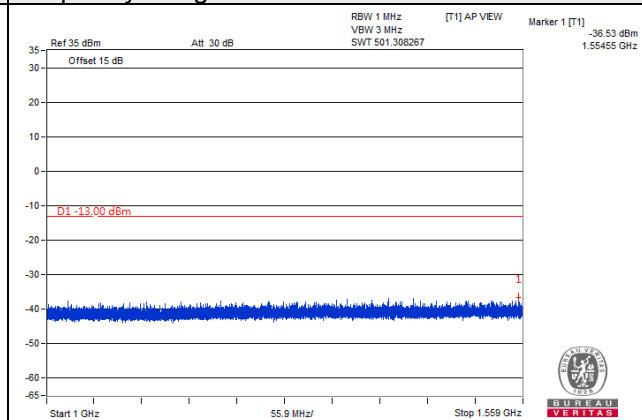
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Bandwidth: 5MHz
 Channel 23255 (784.5MHz)

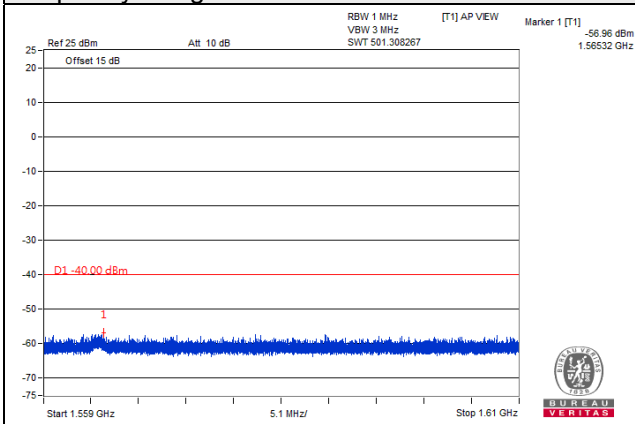
Frequency Range : 9kHz~1GHz



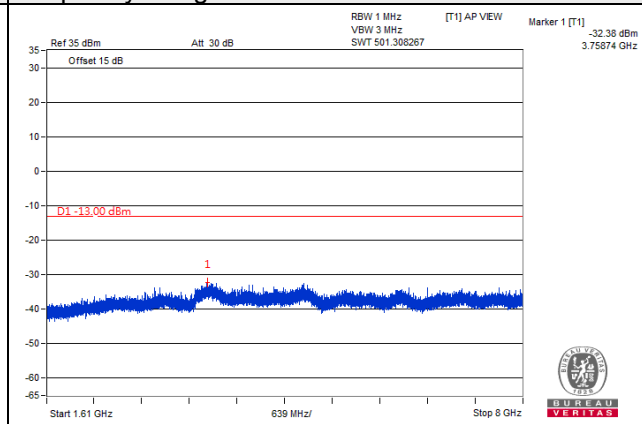
Frequency Range : 1GHz~1.559GHz



Frequency Range : 1.559GHz~1.61GHz



Frequency Range : 1.61GHz~8GHz

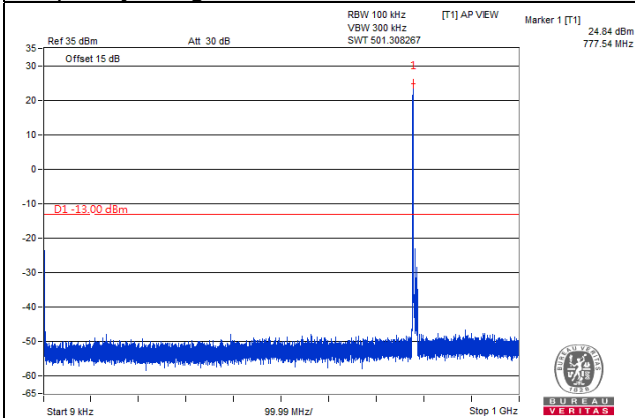


Note: For 9kHz, the signal is from spectrum analyzer.

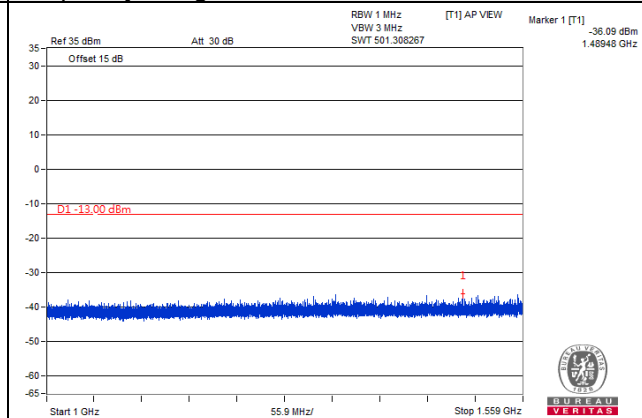
Channel Bandwidth: 10MHz

Channel 23230 (782.0MHz)

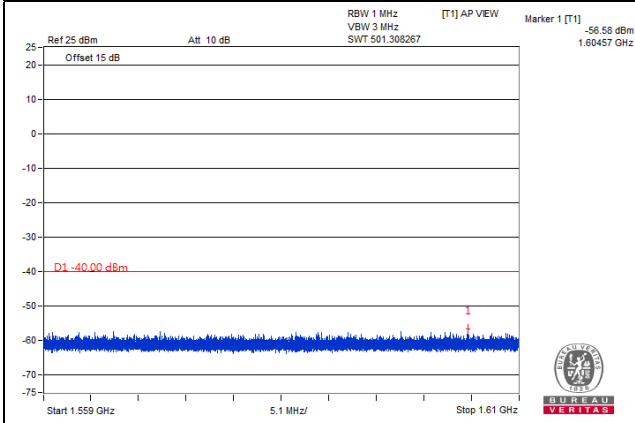
Frequency Range : 9kHz~1GHz



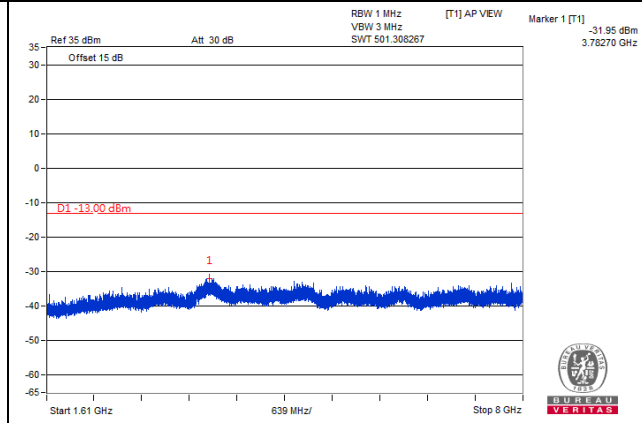
Frequency Range : 1GHz~1.559GHz



Frequency Range : 1.559GHz~1.61GHz



Frequency Range : 1.61GHz~8GHz



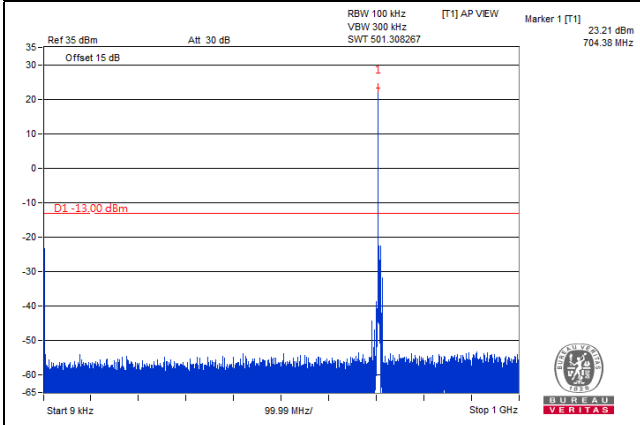
Note: For 9kHz, the signal is from spectrum analyzer.

LTE Band 17

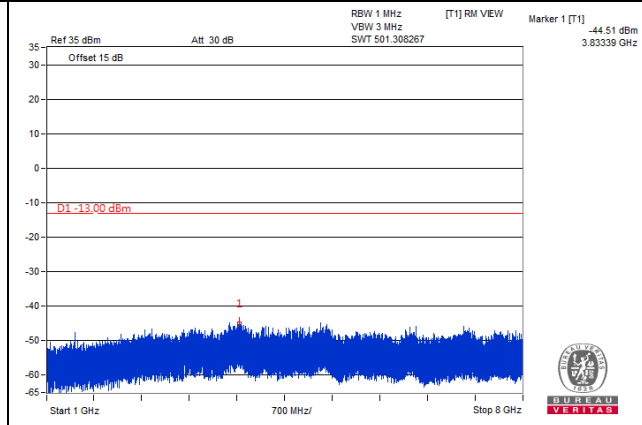
Channel Bandwidth: 5MHz

Channel 23755 (706.5MHz)

Frequency Range : 9kHz~1GHz

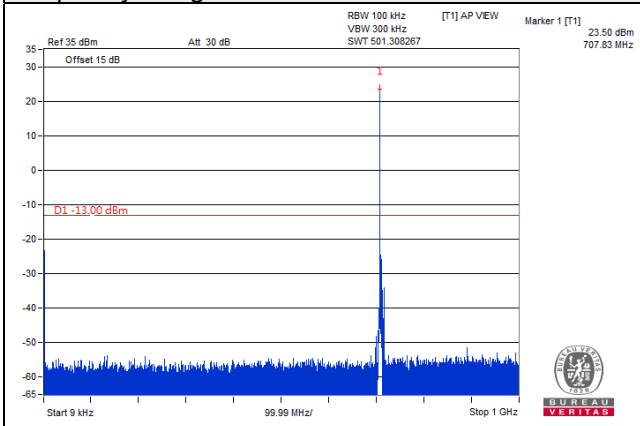


Frequency Range : 1GHz~8GHz

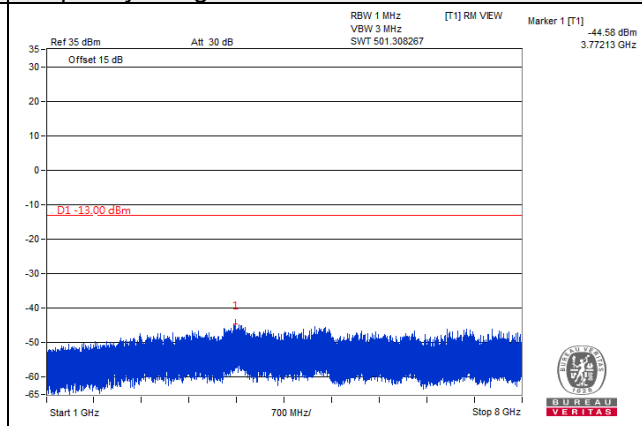


Channel 23790 (710.0MHz)

Frequency Range : 9kHz~1GHz

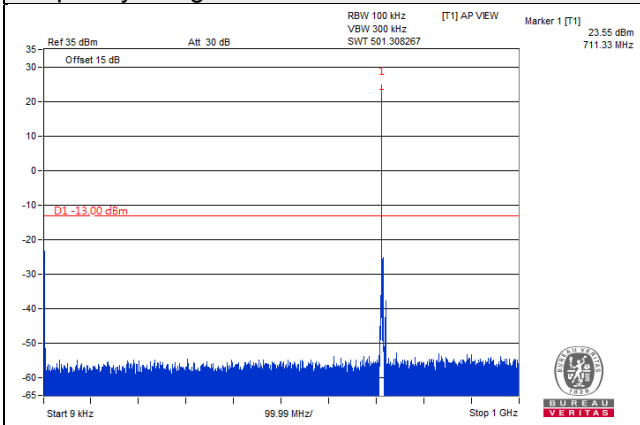


Frequency Range : 1GHz~8GHz

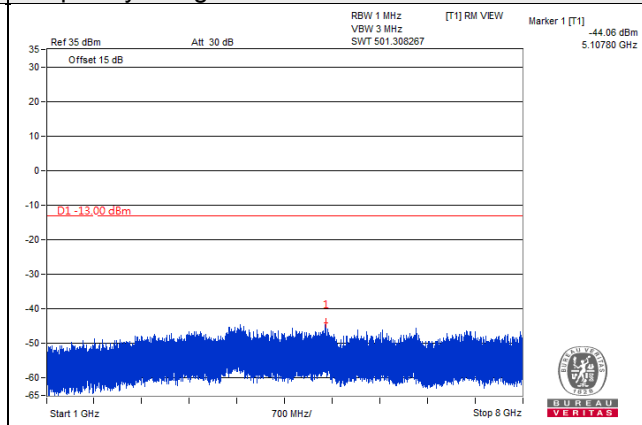


Channel 23825 (713.5MHz)

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~8GHz

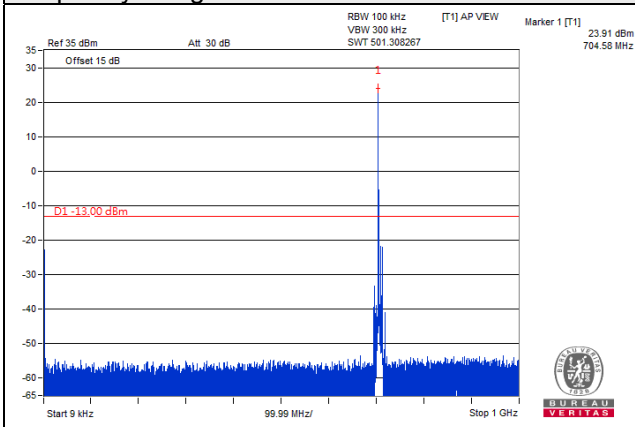


Note: For 9kHz, the signal is from spectrum analyzer.

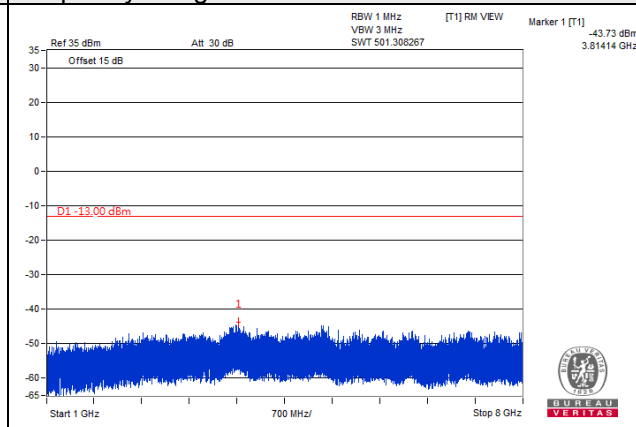
Channel Bandwidth: 10MHz

Channel 23780 (709.0MHz)

Frequency Range : 9kHz~1GHz

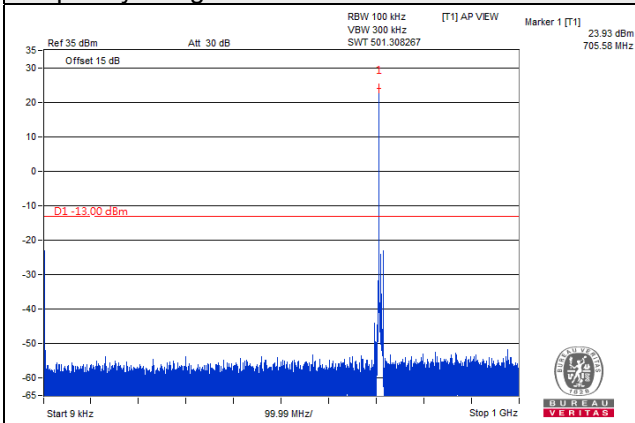


Frequency Range : 1GHz~8GHz

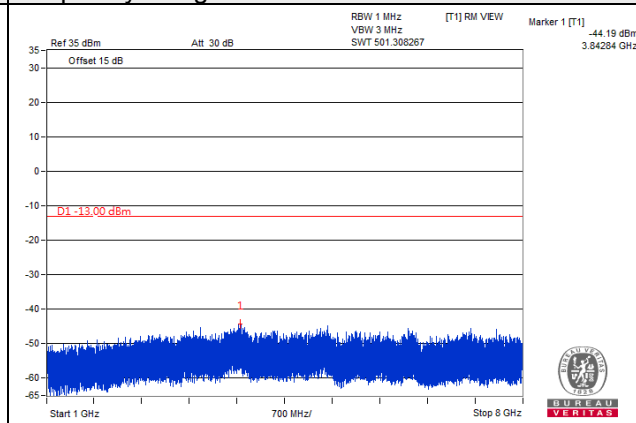


Channel 23790 (710.0MHz)

Frequency Range : 9kHz~1GHz

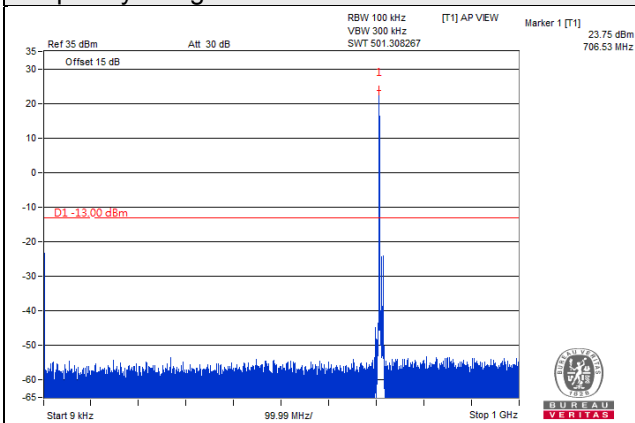


Frequency Range : 1GHz~8GHz

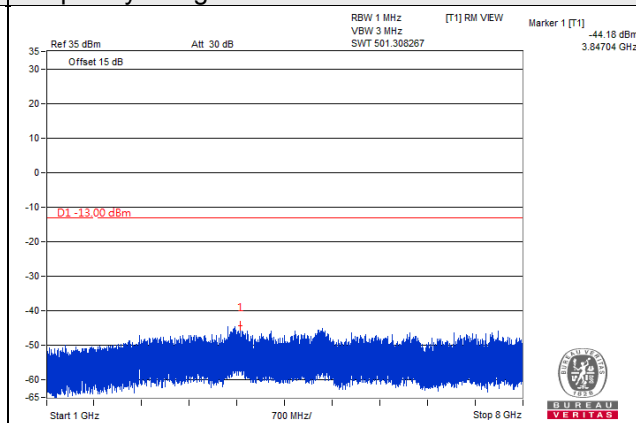


Channel 23800 (711.0MHz)

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~8GHz



Note: For 9kHz, the signal is from spectrum analyzer.

4.8 Radiated Emission Measurement

4.8.1 Limits of Radiated Emission Measurement

For 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 13

According to FCC 27.53(c)(2) for on any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log(P)$ dB. For operations in the 775-788 MHz, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz. The limit of emissions is equal to -40 dBm

For LTE Band 17

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.

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. $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution antenna}.$

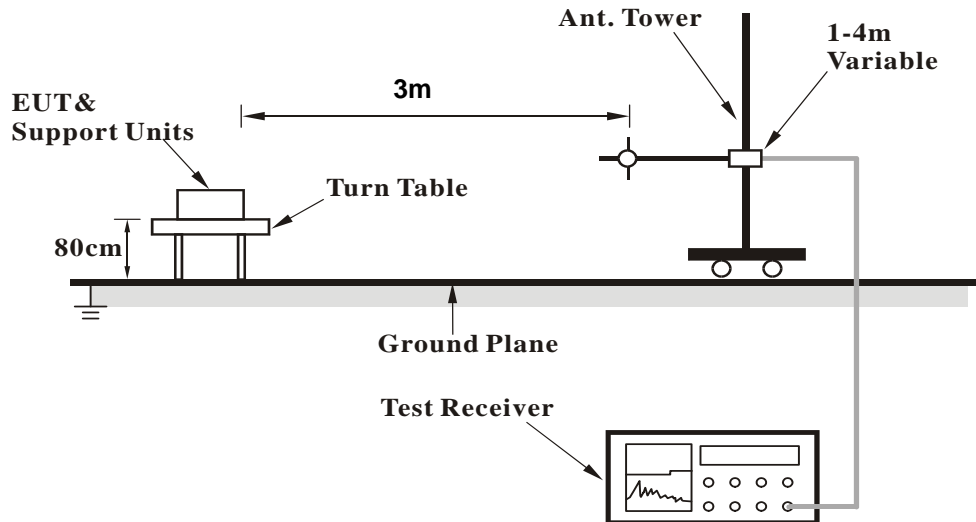
Note: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

4.8.3 Deviation from Test Standard

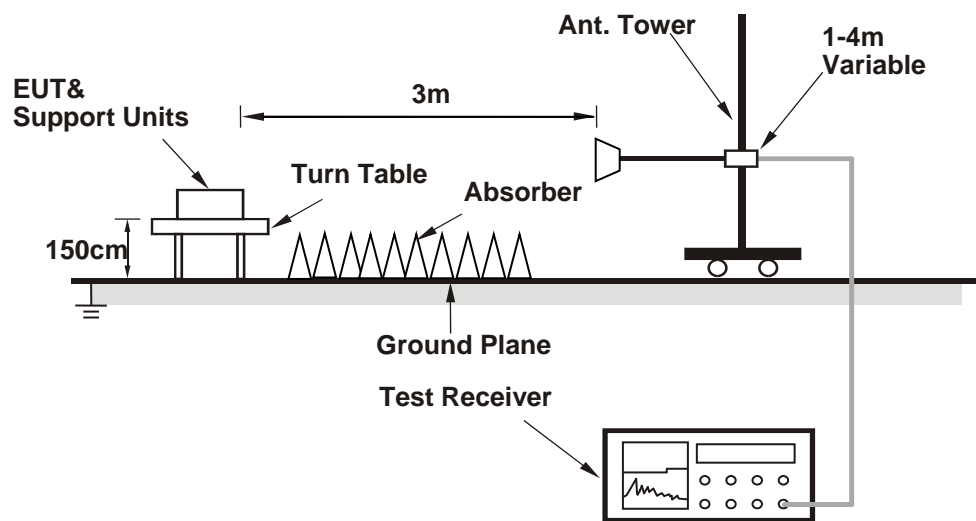
No deviation.

4.8.4 Test Setup

For Radiated emission 30MHz to 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

Below 1GHz

LTE Band 4

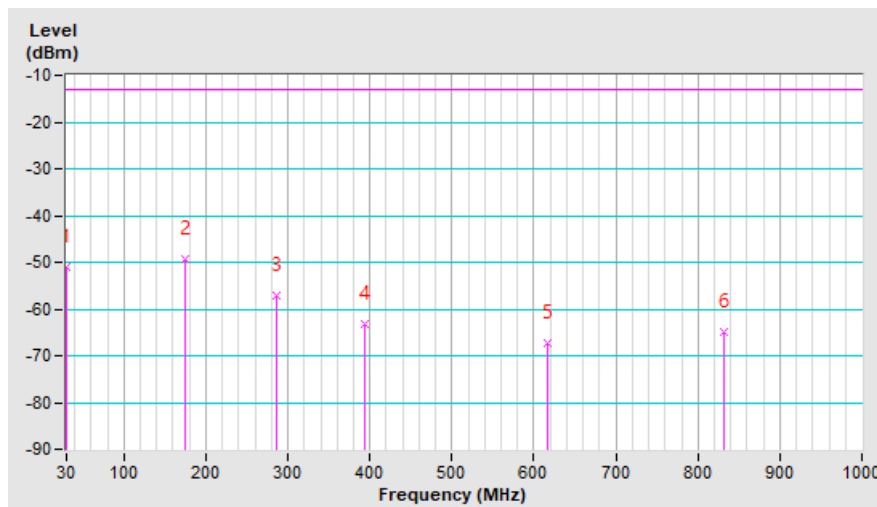
Channel Bandwidth: 1.4MHz

Mode	TX channel 19957 (1710.7MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 68%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	-54.9	-31.5	-19.4	-50.9	-13.0	-37.9
2	175.50	-41.8	-46.6	-2.8	-49.4	-13.0	-36.4
3	286.08	-53.2	-55.3	-1.7	-57.0	-13.0	-44.0
4	392.78	-62.6	-66.4	3.3	-63.1	-13.0	-50.1
5	615.88	-69.3	-71.1	3.7	-67.4	-13.0	-54.4
6	831.22	-71.8	-68.8	3.9	-64.9	-13.0	-51.9

Remarks:

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



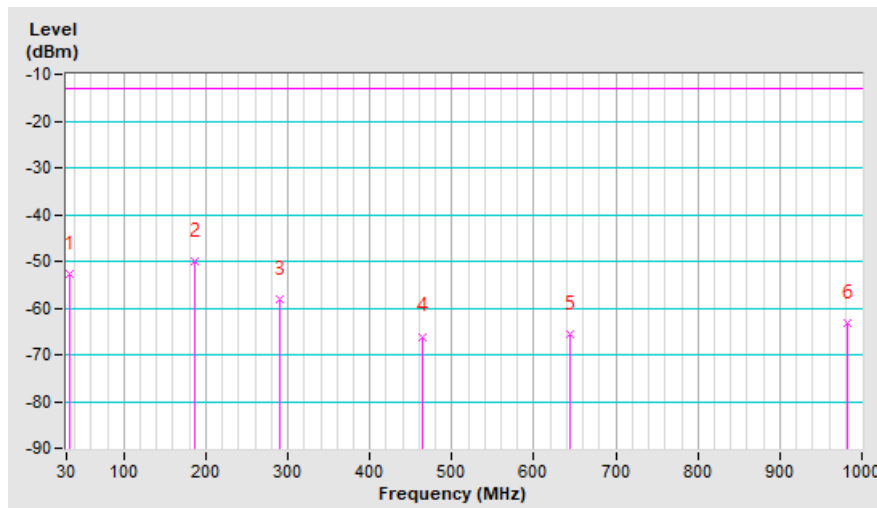
Mode	TX channel 19957 (1710.7MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

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	-42.0	-35.5	-17.1	-52.6	-13.0	-39.6
2	187.14	-47.5	-47.2	-2.7	-49.9	-13.0	-36.9
3	289.96	-59.3	-56.5	-1.7	-58.2	-13.0	-45.2
4	464.56	-66.0	-69.6	3.5	-66.1	-13.0	-53.1
5	644.98	-71.1	-69.4	3.7	-65.7	-13.0	-52.7
6	982.54	-72.5	-66.6	3.5	-63.1	-13.0	-50.1

Remarks:

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



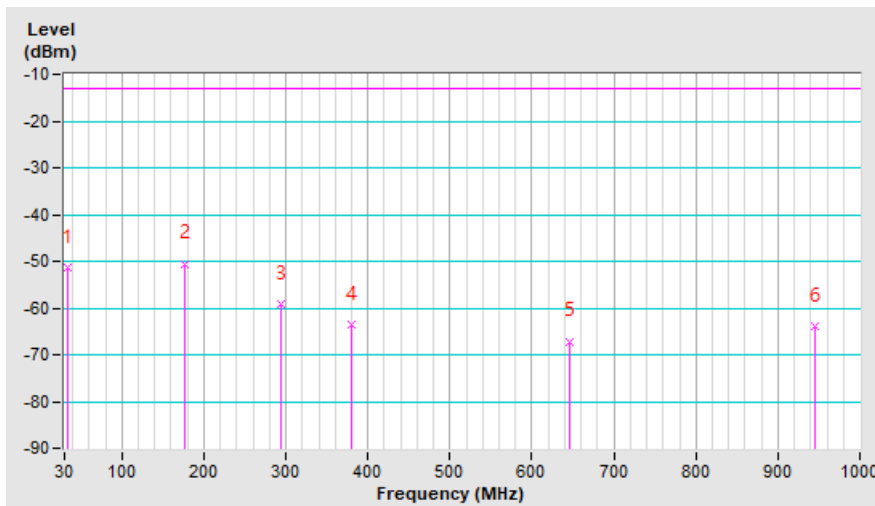
Channel Bandwidth: 5MHz

Mode	TX channel 19975 (1712.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 68%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	33.88	-54.4	-34.4	-17.1	-51.5	-13.0	-38.5
2	177.44	-42.6	-47.5	-3.0	-50.5	-13.0	-37.5
3	293.84	-56.1	-57.5	-1.8	-59.3	-13.0	-46.3
4	379.20	-62.0	-67.2	3.6	-63.6	-13.0	-50.6
5	646.92	-69.2	-70.8	3.7	-67.1	-13.0	-54.1
6	945.68	-72.3	-67.8	3.8	-64.0	-13.0	-51.0

Remarks:

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

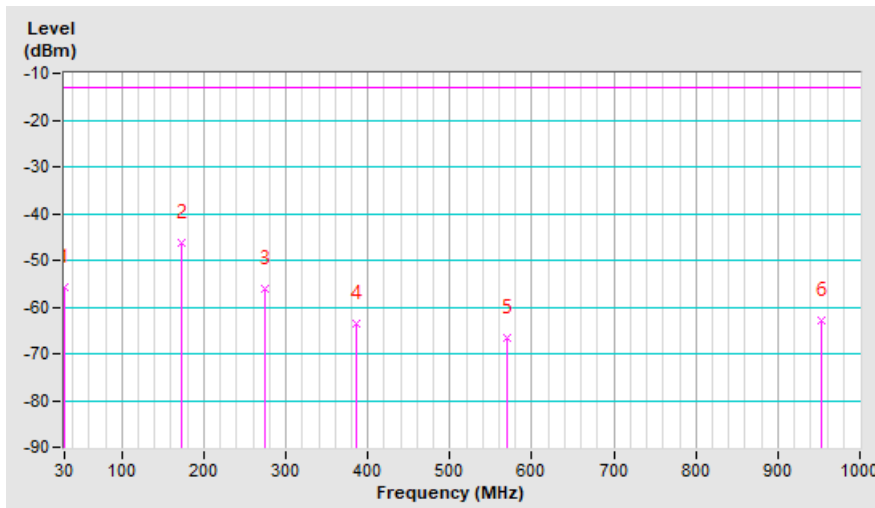


Mode	TX channel 19975 (1712.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

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	-45.9	-36.4	-19.4	-55.8	-13.0	-42.8
2	173.56	-42.7	-43.5	-2.8	-46.3	-13.0	-33.3
3	274.44	-58.9	-54.5	-1.6	-56.1	-13.0	-43.1
4	385.02	-63.0	-66.9	3.5	-63.4	-13.0	-50.4
5	569.32	-68.3	-70.3	3.8	-66.5	-13.0	-53.5
6	953.44	-72.4	-66.8	3.8	-63.0	-13.0	-50.0

Remarks:

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



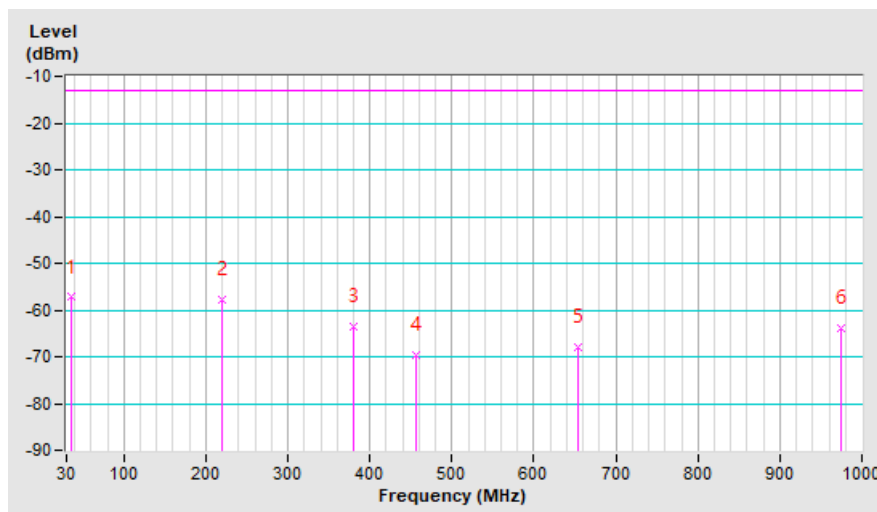
Channel Bandwidth: 20MHz

Mode	TX channel 20050 (1720.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 68%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	-60.8	-41.4	-15.9	-57.3	-13.0	-44.3
2	220.12	-49.6	-55.8	-1.9	-57.7	-13.0	-44.7
3	379.20	-62.0	-67.2	3.6	-63.6	-13.0	-50.6
4	456.80	-69.7	-73.3	3.5	-69.8	-13.0	-56.8
5	654.68	-70.1	-71.5	3.6	-67.9	-13.0	-54.9
6	974.78	-72.8	-67.5	3.6	-63.9	-13.0	-50.9

Remarks:

- Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
- Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

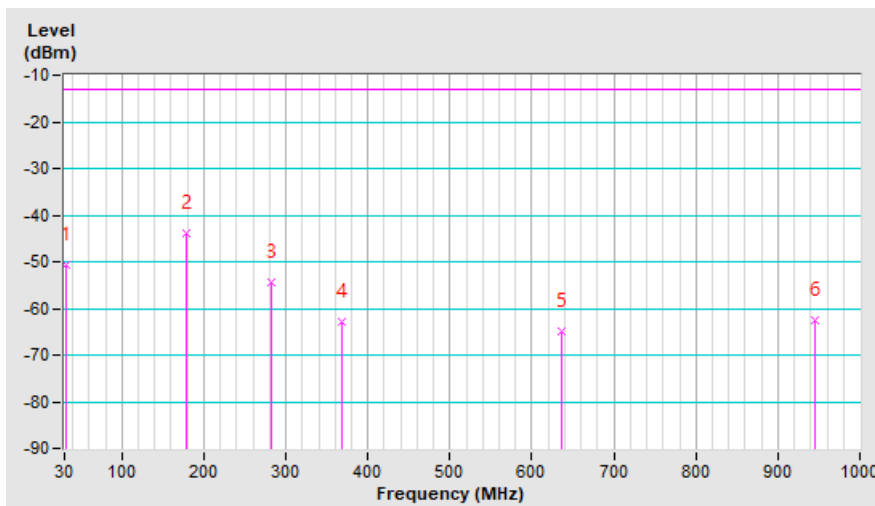


Mode	TX channel 20050 (1720.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

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	31.94	-40.1	-32.3	-18.3	-50.6	-13.0	-37.6
2	179.38	-40.6	-41.1	-2.9	-44.0	-13.0	-31.0
3	282.20	-57.3	-52.8	-1.7	-54.5	-13.0	-41.5
4	367.56	-62.6	-66.8	3.8	-63.0	-13.0	-50.0
5	635.28	-69.6	-68.5	3.7	-64.8	-13.0	-51.8
6	945.68	-71.9	-66.4	3.8	-62.6	-13.0	-49.6

Remarks:

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



LTE Band 12

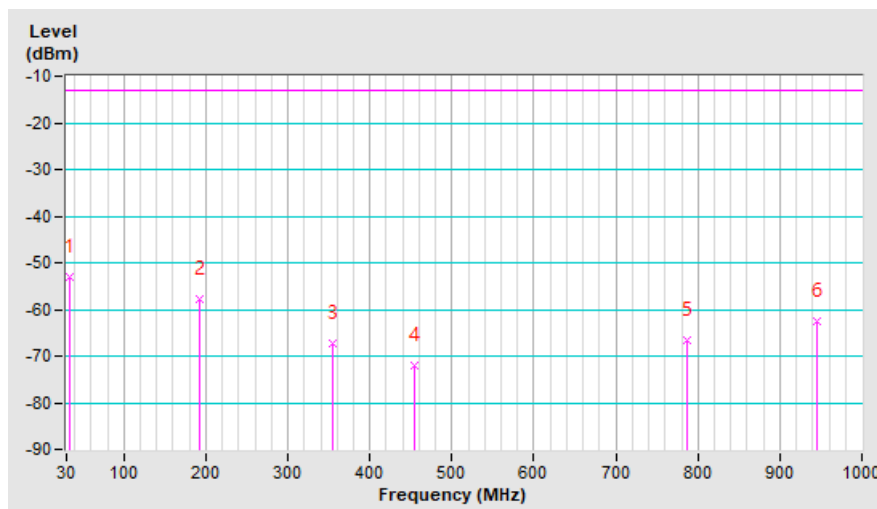
Channel Bandwidth: 1.4MHz

Mode	TX channel 23017 (699.7MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 68%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	33.88	-53.8	-35.9	-17.1	-53.0	-13.0	-40.0
2	192.96	-47.2	-55.1	-2.6	-57.7	-13.0	-44.7
3	353.98	-62.0	-71.2	3.9	-67.3	-13.0	-54.3
4	454.86	-69.9	-75.6	3.5	-72.1	-13.0	-59.1
5	786.60	-69.6	-70.6	4.0	-66.6	-13.0	-53.6
6	945.68	-68.5	-66.2	3.8	-62.4	-13.0	-49.4

Remarks:

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

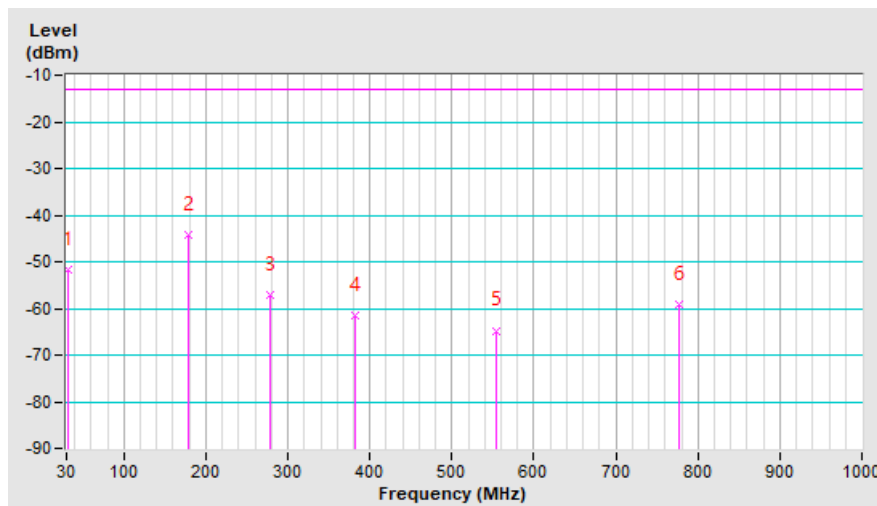


Mode	TX channel 23017 (699.7MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

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	-39.1	-33.5	-18.3	-51.8	-13.0	-38.8
2	179.38	-38.8	-41.4	-2.9	-44.3	-13.0	-31.3
3	278.32	-58.2	-55.5	-1.6	-57.1	-13.0	-44.1
4	381.14	-58.6	-65.0	3.6	-61.4	-13.0	-48.4
5	553.80	-64.2	-68.4	3.7	-64.7	-13.0	-51.7
6	776.90	-64.0	-63.0	4.0	-59.0	-13.0	-46.0

Remarks:

- Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
- Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



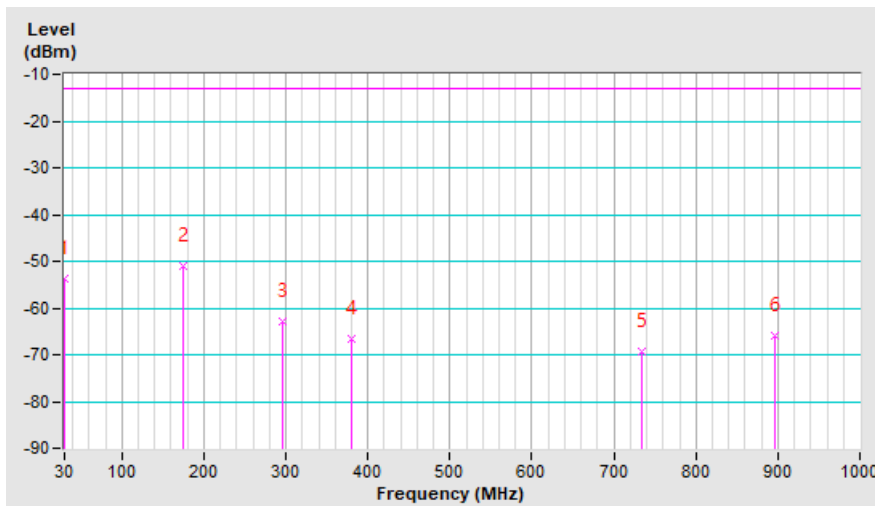
Channel Bandwidth: 5MHz

Mode	TX channel 23035 (701.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 68%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	-55.6	-34.3	-19.4	-53.7	-13.0	-40.7
2	175.50	-41.1	-48.1	-2.8	-50.9	-13.0	-37.9
3	295.78	-57.8	-61.0	-1.8	-62.8	-13.0	-49.8
4	379.20	-63.0	-70.3	3.6	-66.7	-13.0	-53.7
5	734.22	-71.2	-72.9	3.7	-69.2	-13.0	-56.2
6	897.18	-71.3	-69.5	3.5	-66.0	-13.0	-53.0

Remarks:

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

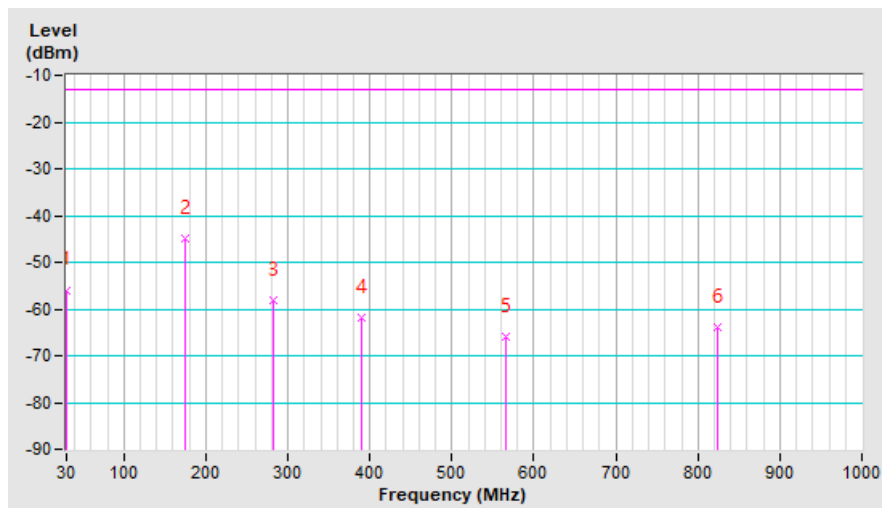


Mode	TX channel 23035 (701.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

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	30.00	-43.8	-36.5	-19.4	-55.9	-13.0	-42.9
2	175.50	-38.9	-42.0	-2.8	-44.8	-13.0	-31.8
3	282.20	-58.9	-56.5	-1.7	-58.2	-13.0	-45.2
4	388.90	-59.2	-65.4	3.4	-62.0	-13.0	-49.0
5	565.44	-65.5	-69.8	3.8	-66.0	-13.0	-53.0
6	823.46	-69.3	-67.9	3.9	-64.0	-13.0	-51.0

Remarks:

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



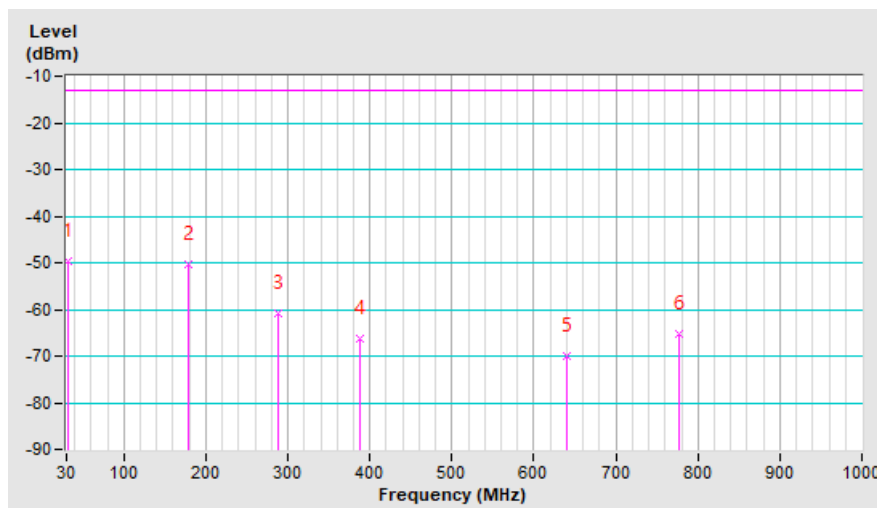
Channel Bandwidth: 10MHz

Mode	TX channel 23060 (704MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 68%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	31.94	-51.0	-31.4	-18.3	-49.7	-13.0	-36.7
2	179.38	-40.2	-47.4	-2.9	-50.3	-13.0	-37.3
3	288.02	-55.2	-59.2	-1.8	-61.0	-13.0	-48.0
4	386.96	-63.5	-69.9	3.5	-66.4	-13.0	-53.4
5	641.10	-70.0	-73.6	3.6	-70.0	-13.0	-57.0
6	776.90	-68.2	-69.4	4.0	-65.4	-13.0	-52.4

Remarks:

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

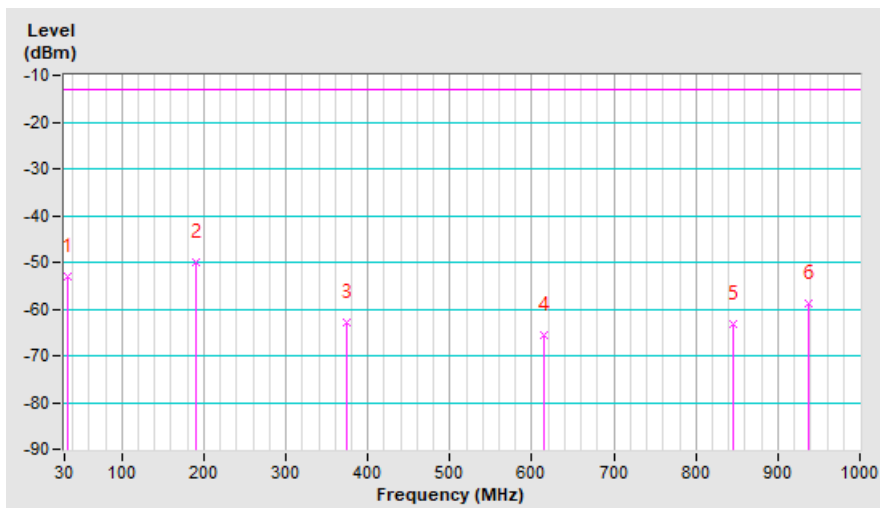


Mode	TX channel 23060 (704MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

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	33.88	-40.1	-35.8	-17.1	-52.9	-13.0	-39.9
2	191.02	-46.1	-47.4	-2.7	-50.1	-13.0	-37.1
3	373.38	-60.3	-66.5	3.7	-62.8	-13.0	-49.8
4	613.94	-68.4	-69.4	3.7	-65.7	-13.0	-52.7
5	844.80	-68.3	-66.9	3.6	-63.3	-13.0	-50.3
6	937.92	-65.8	-62.7	3.8	-58.9	-13.0	-45.9

Remarks:

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



LTE Band 13

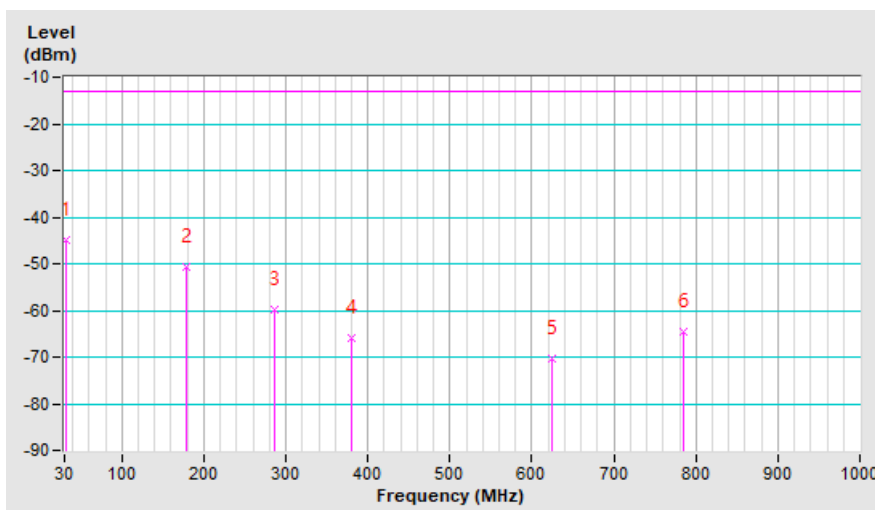
Channel Bandwidth: 5MHz

Mode	TX channel 23205 (779.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 68%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	31.94	-46.0	-26.5	-18.3	-44.8	-13.0	-31.8
2	179.38	-40.7	-47.8	-2.9	-50.7	-13.0	-37.7
3	286.08	-54.0	-58.2	-1.7	-59.9	-13.0	-46.9
4	379.20	-62.2	-69.6	3.6	-66.0	-13.0	-53.0
5	623.64	-70.0	-73.9	3.7	-70.2	-13.0	-57.2
6	784.66	-67.6	-68.6	4.0	-64.6	-13.0	-51.6

Remarks:

- Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
- Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

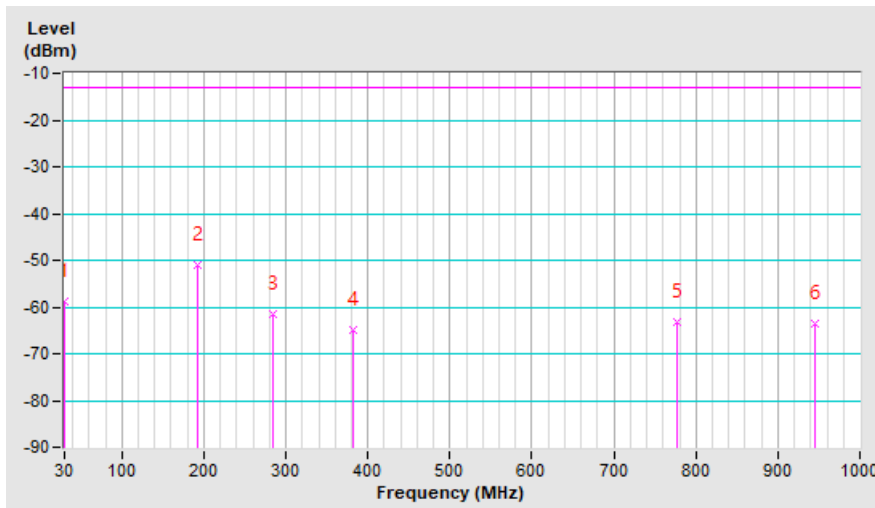


Mode	TX channel 23205 (779.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

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	30.00	-46.7	-39.3	-19.4	-58.7	-13.0	-45.7
2	192.96	-47.4	-48.4	-2.6	-51.0	-13.0	-38.0
3	284.14	-61.8	-59.8	-1.6	-61.4	-13.0	-48.4
4	381.14	-62.2	-68.5	3.6	-64.9	-13.0	-51.9
5	776.90	-68.2	-67.3	4.0	-63.3	-13.0	-50.3
6	945.68	-70.5	-67.2	3.8	-63.4	-13.0	-50.4

Remarks:

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



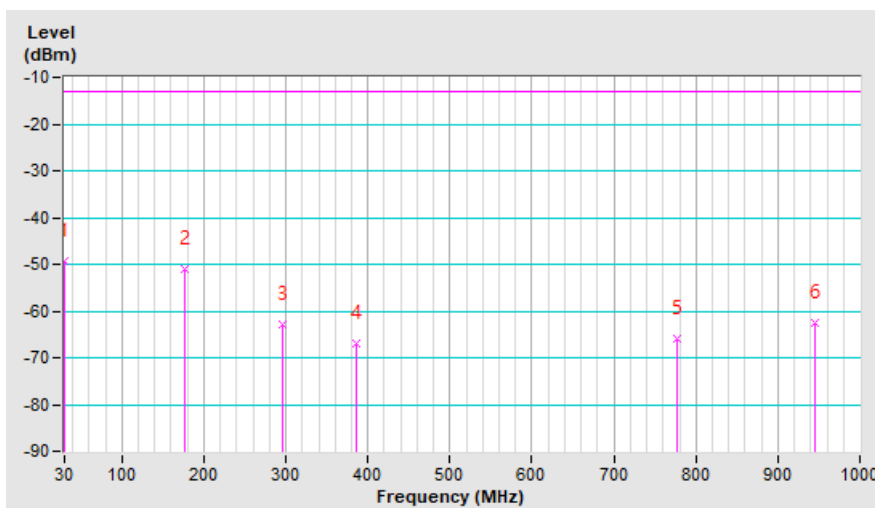
Channel Bandwidth: 10MHz

Mode	TX channel 23230 (782.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 68%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	-51.2	-30.0	-19.4	-49.4	-13.0	-36.4
2	177.44	-41.0	-48.0	-3.0	-51.0	-13.0	-38.0
3	295.78	-57.8	-61.0	-1.8	-62.8	-13.0	-49.8
4	385.02	-63.8	-70.3	3.5	-66.8	-13.0	-53.8
5	776.90	-68.5	-69.8	4.0	-65.8	-13.0	-52.8
6	945.68	-68.7	-66.3	3.8	-62.5	-13.0	-49.5

Remarks:

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

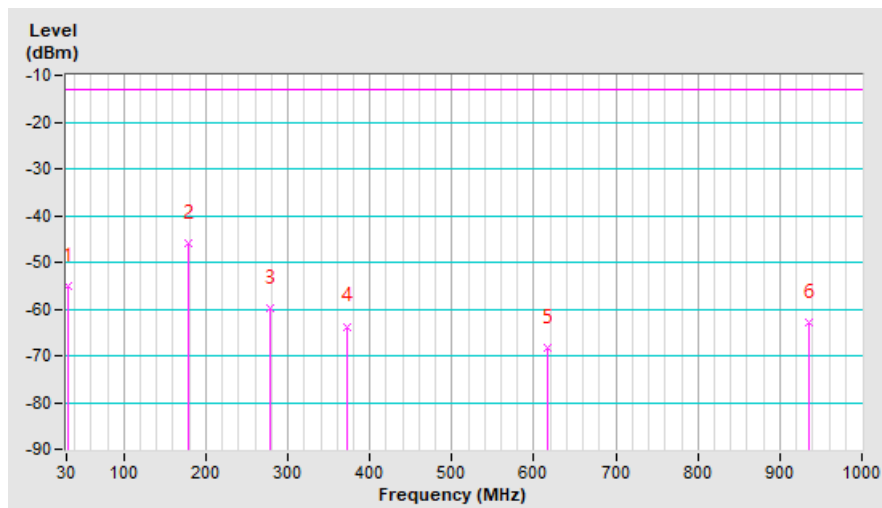


Mode	TX channel 23230 (782.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

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	-42.4	-36.7	-18.3	-55.0	-13.0	-42.0
2	179.38	-40.6	-43.2	-2.9	-46.1	-13.0	-33.1
3	278.32	-60.9	-58.1	-1.6	-59.7	-13.0	-46.7
4	371.44	-61.2	-67.6	3.9	-63.7	-13.0	-50.7
5	615.88	-71.0	-72.0	3.7	-68.3	-13.0	-55.3
6	935.98	-69.7	-66.6	3.7	-62.9	-13.0	-49.9

Remarks:

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



LTE Band 17

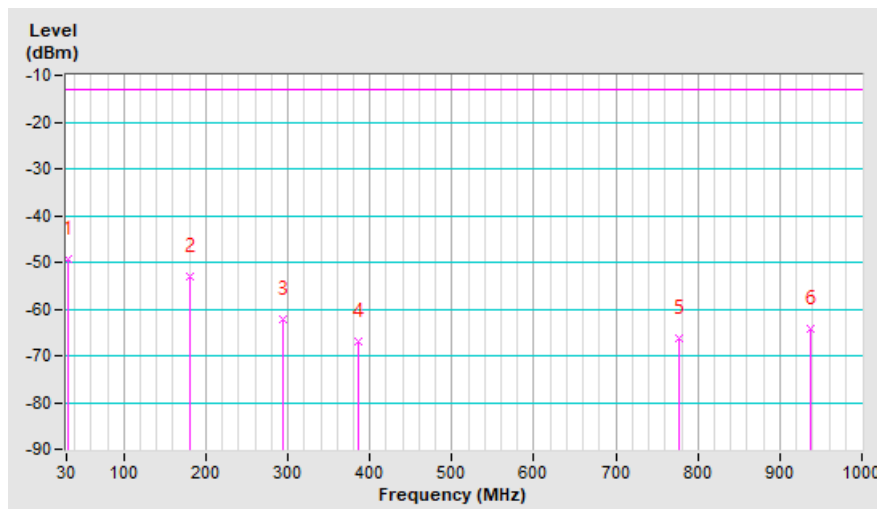
Channel Bandwidth: 5MHz

Mode	TX channel 23755 (706.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 68%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	31.94	-50.5	-30.9	-18.3	-49.2	-13.0	-36.2
2	181.32	-42.5	-49.9	-3.0	-52.9	-13.0	-39.9
3	293.84	-56.9	-60.4	-1.8	-62.2	-13.0	-49.2
4	385.02	-64.0	-70.5	3.5	-67.0	-13.0	-54.0
5	776.90	-69.2	-70.4	4.0	-66.4	-13.0	-53.4
6	937.92	-70.6	-68.2	3.8	-64.4	-13.0	-51.4

Remarks:

- Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
- Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

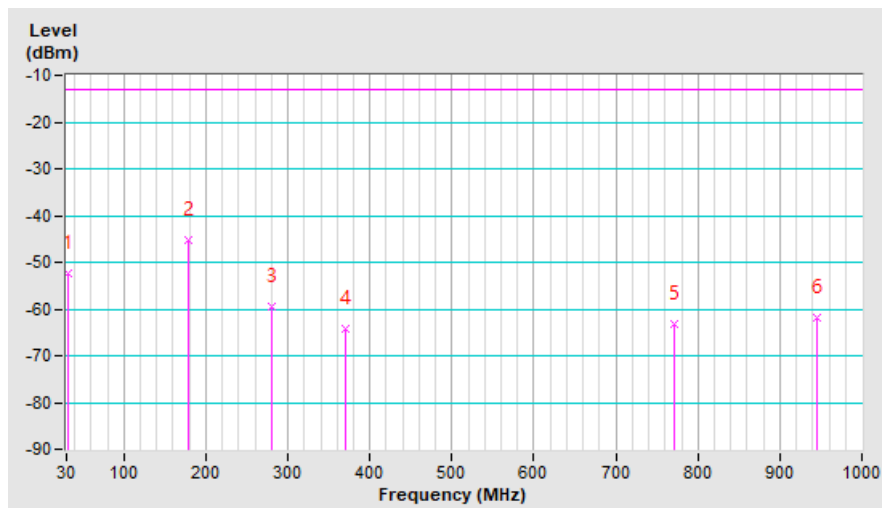


Mode	TX channel 23755 (706.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

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	-39.9	-34.2	-18.3	-52.5	-13.0	-39.5
2	179.38	-39.8	-42.4	-2.9	-45.3	-13.0	-32.3
3	280.26	-60.6	-58.0	-1.6	-59.6	-13.0	-46.6
4	369.50	-61.8	-68.2	3.9	-64.3	-13.0	-51.3
5	771.08	-68.0	-67.2	3.9	-63.3	-13.0	-50.3
6	945.68	-69.0	-65.6	3.8	-61.8	-13.0	-48.8

Remarks:

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



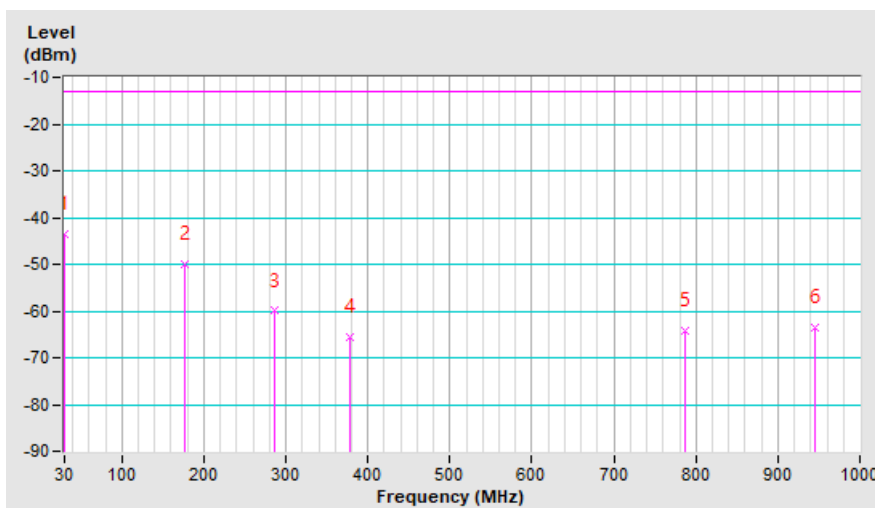
Channel Bandwidth: 10MHz

Mode	TX channel 23780 (710.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 68%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	-45.5	-24.2	-19.4	-43.6	-13.0	-30.6
2	177.44	-39.8	-46.9	-3.0	-49.9	-13.0	-36.9
3	286.08	-54.0	-58.3	-1.7	-60.0	-13.0	-47.0
4	377.26	-61.9	-69.3	3.6	-65.7	-13.0	-52.7
5	786.60	-67.1	-68.1	4.0	-64.1	-13.0	-51.1
6	945.68	-69.9	-67.5	3.8	-63.7	-13.0	-50.7

Remarks:

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

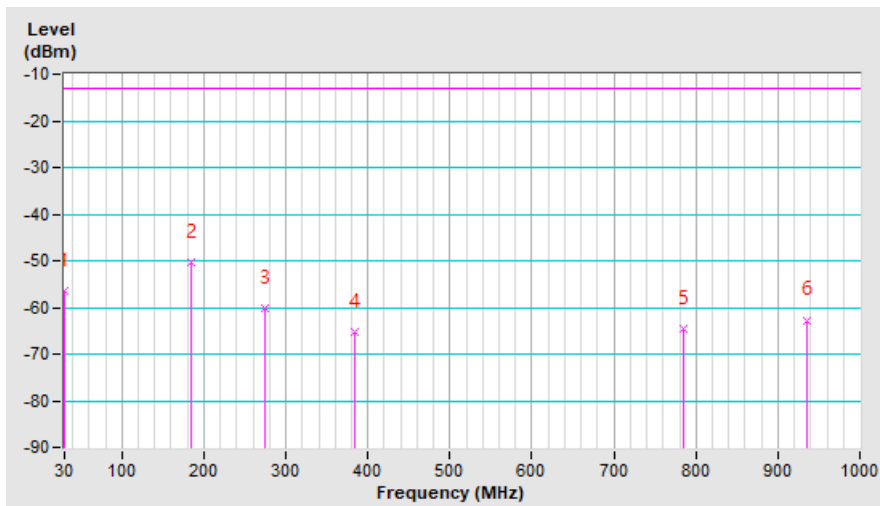


Mode	TX channel 23780 (710.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

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	30.00	-44.2	-36.9	-19.4	-56.3	-13.0	-43.3
2	185.20	-45.2	-47.4	-2.8	-50.2	-13.0	-37.2
3	274.44	-60.9	-58.6	-1.6	-60.2	-13.0	-47.2
4	383.08	-62.8	-68.9	3.5	-65.4	-13.0	-52.4
5	784.66	-69.5	-68.7	4.0	-64.7	-13.0	-51.7
6	935.98	-69.5	-66.4	3.7	-62.7	-13.0	-49.7

Remarks:

1. Output Power (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: 1.4MHz

Mode	TX channel 19957 (1710.7MHz)	Frequency Range	1GHz~18GHz
Environmental Conditions	24deg. C, 68%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	3421.40	-58.0	-49.4	1.3	-48.1	-13.0	-35.1

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	-59.2	-51.1	1.3	-49.8	-13.0	-36.8

Remarks:

1. Output Power (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	24deg. C, 68%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	3465.00	-57.7	-49.3	1.4	-47.9	-13.0	-34.9

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	-59.5	-51.7	1.4	-50.3	-13.0	-37.3

Remarks:

1. Output Power (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	24deg. C, 68%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	3508.60	-57.5	-49.2	1.4	-47.8	-13.0	-34.8
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	-60.0	-52.3	1.4	-50.9	-13.0	-37.9

Remarks:

1. Output Power (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	1GHz~18GHz
Environmental Conditions	24deg. C, 68%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	3425.00	-57.8	-49.2	1.3	-47.9	-13.0	-34.9
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	-59.2	-51.1	1.3	-49.8	-13.0	-36.8

Remarks:

1. Output Power (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	24deg. C, 68%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	3465.00	-57.9	-49.5	1.4	-48.1	-13.0	-35.1
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	-59.5	-51.7	1.4	-50.3	-13.0	-37.3

Remarks:

1. Output Power (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	24deg. C, 68%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	3505.00	-57.3	-49.1	1.5	-47.6	-13.0	-34.6
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	-59.3	-51.7	1.5	-50.2	-13.0	-37.2

Remarks:

1. Output Power (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	1GHz~18GHz
Environmental Conditions	24deg. C, 68%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	3440.00	-57.6	-49.1	1.3	-47.8	-13.0	-34.8
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	-59.4	-51.4	1.3	-50.1	-13.0	-37.1

Remarks:

1. Output Power (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	24deg. C, 68%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	3465.00	-57.4	-49.0	1.4	-47.6	-13.0	-34.6
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	-59.2	-51.4	1.4	-50.0	-13.0	-37.0

Remarks:

1. Output Power (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	24deg. C, 68%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	3490.00	-57.9	-49.7	1.5	-48.2	-13.0	-35.2
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	-59.7	-52.1	1.5	-50.6	-13.0	-37.6

Remarks:

1. Output Power (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~8GHz
Environmental Conditions	24deg. C, 68%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	1399.40	-56.9	-50.6	0.9	-49.7	-13.0	-36.7
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	-59.5	-54.4	0.9	-53.5	-13.0	-40.5

Remarks:

1. Output Power (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~8GHz
Environmental Conditions	24deg. C, 68%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	1415.00	-56.8	-50.2	0.9	-49.3	-13.0	-36.3
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	-60.1	-54.8	0.9	-53.9	-13.0	-40.9

Remarks:

1. Output Power (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~8GHz
Environmental Conditions	24deg. C, 68%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	1430.60	-56.8	-50.0	1.0	-49.0	-13.0	-36.0
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	-60.2	-54.7	1.0	-53.7	-13.0	-40.7

Remarks:

1. Output Power (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	1GHz~8GHz
Environmental Conditions	24deg. C, 68%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	1403.00	-57.0	-50.7	0.9	-49.8	-13.0	-36.8
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	-60.2	-55.1	0.9	-54.2	-13.0	-41.2

Remarks:

1. Output Power (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~8GHz
Environmental Conditions	24deg. C, 68%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	1415.00	-56.7	-50.1	0.9	-49.2	-13.0	-36.2
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	-59.9	-54.5	0.9	-53.6	-13.0	-40.6

Remarks:

1. Output Power (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~8GHz
Environmental Conditions	24deg. C, 68%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	1427.00	-56.4	-49.7	1.0	-48.7	-13.0	-35.7
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	-60.5	-55.0	1.0	-54.0	-13.0	-41.0

Remarks:

1. Output Power (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	1GHz~8GHz
Environmental Conditions	24deg. C, 68%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	1408.00	-57.0	-50.5	0.9	-49.6	-13.0	-36.6
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	-60.0	-54.8	0.9	-53.9	-13.0	-40.9

Remarks:

1. Output Power (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~8GHz
Environmental Conditions	24deg. C, 68%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	1415.00	-56.2	-49.7	0.9	-48.8	-13.0	-35.8
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	-59.8	-54.4	0.9	-53.5	-13.0	-40.5

Remarks:

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

Mode	TX channel 23130 (711MHz)	Frequency Range	1GHz~8GHz
Environmental Conditions	24deg. C, 68%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	1422.00	-56.3	-49.8	1.0	-48.8	-13.0	-35.8
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	-60.2	-54.8	1.0	-53.8	-13.0	-40.8

Remarks:

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

LTE Band 13

Channel Bandwidth: 5MHz

Mode	TX channel 23205 (779.5MHz)	Frequency Range	1GHz~8GHz
Environmental Conditions	24deg. C, 68%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	1559.00	-57.8	-50.0	1.3	-48.7	-40.0	-8.7
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	1559.00	-61.8	-54.9	1.3	-53.6	-40.0	-13.6

Remarks:

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

Mode	TX channel 23230 (782.0MHz)	Frequency Range	1GHz~8GHz
Environmental Conditions	24deg. C, 68%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	1564.00	-57.4	-49.6	1.2	-48.4	-40.0	-8.4
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	1564.00	-61.5	-54.6	1.2	-53.4	-40.0	-13.4

Remarks:

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

Mode	TX channel 23255 (784.5MHz)	Frequency Range	1GHz~8GHz
Environmental Conditions	24deg. C, 68%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	1569.00	-56.8	-49.0	1.2	-47.8	-40.0	-7.8
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	1569.00	-61.6	-54.7	1.2	-53.5	-40.0	-13.5

Remarks:

1. Output Power (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 23230 (782.0MHz)	Frequency Range	1GHz~8GHz
Environmental Conditions	24deg. C, 68%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	1564.00	-57.2	-49.4	1.2	-48.2	-40.0	-8.2
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	1564.00	-62.1	-55.2	1.2	-54.0	-40.0	-14.0

Remarks:

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

LTE Band 17

Channel Bandwidth: 5MHz

Mode	TX channel 23755 (706.5MHz)	Frequency Range	1GHz~8GHz
Environmental Conditions	24deg. C, 68%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	1413.00	-52.2	-45.8	0.9	-44.9	-13.0	-31.9
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	1413.00	-60.6	-55.3	0.9	-54.4	-13.0	-41.4

Remarks:

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

Mode	TX channel 23790 (710.0MHz)	Frequency Range	1GHz~8GHz
Environmental Conditions	24deg. C, 68%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	1420.00	-52.4	-45.8	0.9	-44.9	-13.0	-31.9
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	1420.00	-60.4	-54.9	0.9	-54.0	-13.0	-41.0

Remarks:

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

Mode	TX channel 23825 (713.5MHz)	Frequency Range	1GHz~8GHz
Environmental Conditions	24deg. C, 68%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	1427.00	-52.5	-45.9	1.0	-44.9	-13.0	-31.9
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	-60.1	-54.6	1.0	-53.6	-13.0	-40.6

Remarks:

1. Output Power (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 23780 (709.0MHz)	Frequency Range	1GHz~8GHz
Environmental Conditions	24deg. C, 68%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	1418.00	-51.8	-45.3	0.9	-44.4	-13.0	-31.4
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	1418.00	-61.1	-55.7	0.9	-54.8	-13.0	-41.8

Remarks:

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

Mode	TX channel 23790 (710.0MHz)	Frequency Range	1GHz~8GHz
Environmental Conditions	24deg. C, 68%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	1420.00	-52.2	-45.6	0.9	-44.7	-13.0	-31.7
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	1420.00	-60.5	-55.0	0.9	-54.1	-13.0	-41.1

Remarks:

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

Mode	TX channel 23800 (711.0MHz)	Frequency Range	1GHz~8GHz
Environmental Conditions	24deg. C, 68%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	1422.00	-52.6	-46.1	1.0	-45.1	-13.0	-32.1
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	-60.8	-55.3	1.0	-54.3	-13.0	-41.3

Remarks:

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

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