

FCC Test Report (Part 27)

Report No.: RF180102C33C-31

FCC ID: PZWBHT1700QG

Model: BHT-1700QWBG-2

Series Model: BHT-1700QWBG-1 (Refer to item 3.1 for the more details)

Received Date: Jan. 02, 2018

Test Date: Jul. 16 ~ Jul. 26, 2018

Issued Date: Aug. 07, 2018

Applicant: DENSO WAVE INCORPORATED

Address: 1, Yoshiike, Kusagi, Agui-cho, Chita-gun, Aichi, 470-2297 Japan

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

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

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



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Table of Contents

Release Control Record	4
1 Certificate of Conformity	5
2 Summary of Test Results	6
2.1 Measurement Uncertainty	6
2.2 Test Site and Instruments	7
3 General Information	8
3.1 General Description of EUT	8
3.2 Configuration of System under Test	11
3.2.1 Description of Support Units	11
3.3 Test Mode Applicability and Tested Channel Detail	12
3.4 EUT Operating Conditions	18
3.5 General Description of Applied Standards	18
4 Test Types and Results	19
4.1 Output Power Measurement	19
4.1.1 Limits of Output Power Measurement	19
4.1.2 Test Procedures	19
4.1.3 Test Setup	20
4.1.4 Test Results	21
4.2 Modulation Characteristics Measurement	54
4.2.1 Limits of Modulation Characteristics	54
4.2.2 Test Procedure	54
4.2.3 Test Setup	54
4.2.4 Test Results	55
4.3 Frequency Stability Measurement	57
4.3.1 Limits of Frequency Stability Measurement	57
4.3.2 Test Procedure	57
4.3.3 Test Setup	57
4.3.4 Test Results	58
4.4 Emission Bandwidth Measurement	59
4.4.1 Limits of Emission Bandwidth Measurement	59
4.4.2 Test Procedure	59
4.4.3 Test Setup	59
4.4.4 Test Result	60
4.5 Channel Edge Measurement	68
4.5.1 Limits of Band Edge Measurement	68
4.5.2 Test Setup	68
4.5.3 Test Procedures	69
4.5.4 Test Results	70
4.6 Peak to Average Ratio	84
4.6.1 Limits of Peak to Average Ratio Measurement	84
4.6.2 Test Setup	84
4.6.3 Test Procedures	84
4.6.4 Test Results	85
4.7 Conducted Spurious Emissions	92
4.7.1 Limits of Conducted Spurious Emissions Measurement	92
4.7.2 Test Setup	92
4.7.3 Test Procedure	92
4.7.4 Test Results	93
4.8 Radiated Emission Measurement	133
4.8.1 Limits of Radiated Emission Measurement	133
4.8.2 Test Procedure	134
4.8.3 Deviation from Test Standard	134
4.8.4 Test Setup	135

4.8.5 Test Results	136
5 Pictures of Test Arrangements.....	176
Appendix – Information on the Testing Laboratories	177

Release Control Record

Issue No.	Description	Date Issued
RF180102C33C-31	Original release	Aug. 07, 2018

1 Certificate of Conformity

Product: Barcode Handy Terminal, 2D Code Handy Terminal

Brand: DENSO

Model: BHT-1700QWBG-2

Series Model: BHT-1700QWBG-1 (Refer to item 3.1 for the more details)

Sample Status: Engineering sample

Applicant: DENSO WAVE INCORPORATED

Test Date: Jul. 16 ~ Jul. 26, 2018

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:** Aug. 07, 2018
Pettie Chen / Senior Specialist

Approved by : Bruce Chen , **Date:** Aug. 07, 2018
Bruce Chen / Project Engineer

2 Summary of Test Results

Applied Standard: FCC Part 27 & Part 2						
FCC Clause				Test Item	Result	Remarks
WCDMA Band 4 / LTE Band 4	LTE Band 12	LTE Band 13	LTE Band 17			
2.1046 27.50 (d)(4)	2.1046 27.50 (b)(10)	2.1046 27.50 (b)(10)	2.1046 27.50 (c)(10)	Equivalent Isotropically Radiated Power	Pass	Meet the requirement of limit.
----	----	----	----	Peak To Average Ratio	Pass	Meet the requirement of limit.
2.1055 27.54	2.1055 27.54	2.1055 27.54	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 -30.4dB at 1420.00MHz.

2.1 Measurement Uncertainty

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

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

2.2 Test Site and Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver KEYSIGHT	N9038A	MY55420137	Apr. 11, 2018	Apr. 10, 2019
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	May 29, 2018	May 28, 2019
BILOG Antenna SCHWARZBECK	VULB9168	9168-148	Dec. 11, 2017	Dec. 10, 2018
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-1169	Dec. 12, 2017	Dec. 11, 2018
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Dec. 01, 2017	Nov. 30, 2018
Loop Antenna EMCI	EM-6879	269	Aug. 11, 2017	Aug. 10, 2018
Preamplifier Agilent (Below 1GHz)	8447D	2944A10638	Aug. 08, 2017	Aug. 07, 2018
Preamplifier Agilent (Above 1GHz)	8449B	3008A01638	Feb. 22, 2018	Feb. 21, 2019
RF signal cable HUBER+SUHNER&EMCI	SUCOFLEX 104 & EMC104-SM-SM8000	CABLE-CH9-02 (248780+171006)	Jan. 15, 2018	Jan. 14, 2019
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-(250795/4)	Aug. 08, 2017	Aug. 07, 2018
RF signal cable Woken	8D-FB	Cable-CH9-01	Aug. 01, 2017	Jul. 31, 2018
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
Turn Table Controller BV ADT	SC100	SC93021702	NA	NA
Temperature And Humidity Chamber TERCHY	HRM-120RF	931022	Nov. 20, 2017	Nov. 19, 2018
JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA
Radio Communication Analyzer	MT8821C	6261786083	Dec. 21, 2017	Dec. 20, 2018

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

3 General Information

3.1 General Description of EUT

Product	Barcode Handy Terminal, 2D Code Handy Terminal		
Brand	DENSO		
Model	BHT-1700QWBG-2		
Series Model	BHT-1700QWBG-1		
Model Difference	Refer to Note		
Sample Status	Engineering sample		
Power Supply Rating	3.7Vdc (battery) 12Vdc (Cradle)		
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

Max. EIRP Power			QPSK	16QAM
	LTE Band 4	Channel Bandwidth 1.4MHz	141.254mW (21.5dBm)	125.893mW (21.0dBm)
		Channel Bandwidth 3MHz	177.828mW (22.5dBm)	141.254mW (21.5dBm)
		Channel Bandwidth 5MHz	165.959mW (22.2dBm)	131.826mW (21.2dBm)
		Channel Bandwidth 10MHz	234.423mW (22.7dBm)	147.911mW (21.7dBm)
		Channel Bandwidth 15MHz	186.209mW (22.5dBm)	141.254mW (21.5dBm)
		Channel Bandwidth 20MHz	186.209mW (22.5dBm)	141.254mW (21.5dBm)
Max. ERP Power	LTE Band 12	Channel Bandwidth 1.4MHz	223.872mW (23.5dBm)	177.828mW (22.5dBm)
		Channel Bandwidth 3MHz	213.796mW (23.3dBm)	165.959mW (22.2dBm)
		Channel Bandwidth 5MHz	218.776mW (23.4dBm)	177.828mW (22.5dBm)
		Channel Bandwidth 10MHz	218.776mW (23.4dBm)	177.828mW (22.5dBm)
	LTE Band 13	Channel Bandwidth 5MHz	331.131mW (25.2dBm)	263.027mW (24.2dBm)
		Channel Bandwidth 10MHz	309.030mW (24.9dBm)	251.187mW (24.0dBm)
	LTE Band 17	Channel Bandwidth 5MHz	371.535mW (25.7dBm)	295.121mW (24.7dBm)
		Channel Bandwidth 10MHz	331.131mW (25.2dBm)	269.153mW (24.3dBm)
Emission Designator			QPSK	16QAM
	LTE Band 4	Channel Bandwidth 1.4MHz	1M09G7D	1M09D7W
		Channel Bandwidth 3MHz	2M69G7D	2M69D7W
		Channel Bandwidth 5MHz	4M48G7D	4M48D7W
		Channel Bandwidth 10MHz	8M96G7D	8M93D7W
		Channel Bandwidth 15MHz	13M4G7D	13M4D7W
		Channel Bandwidth 20MHz	18M0G7D	17M9D7W
	LTE Band 12	Channel Bandwidth 1.4MHz	1M10G7D	1M10D7W
		Channel Bandwidth 3MHz	2M69G7D	2M69D7W
		Channel Bandwidth 5MHz	4M47G7D	4M47D7W
		Channel Bandwidth 10MHz	8M98G7D	8M95D7W
	LTE Band 13	Channel Bandwidth 5MHz	4M46G7D	4M48D7W
		Channel Bandwidth 10MHz	8M90G7D	8M93D7W
	LTE Band 17	Channel Bandwidth 5MHz	4M48G7D	4M48D7W
		Channel Bandwidth 10MHz	8M93G7D	8M93D7W
Antenna Connector	Refer to Note as below			
Antenna Connector	NA			
Accessory Device	Refer to Note as below			
Data Cable Supplied	Refer to Note as below			

Note:

1. All models are listed as below.

Model Name	base module	CPU	Software	LCD	WLAN / WWAN / NFC					
			OS	4"	WLAN	GPS	LTE	LTE Antenna type	Docomo IoT	NFC
BHT-1700QWBG-2	4inch WLAN/BT+LTE(USA)	MSM8909	Android	○	○	○	○	USA	○	○
BHT-1700QWBG-1	4inch WLAN/BT+LTE(USA)	MSM8909	Android	○	○	○	○	USA	○	

Model Name	Audio				Sensor	Reading		keyboard
	speaker	Main MIC	Sub MIC	Receiver	IR Reader	2D	Camera (rear)	10Key
BHT-1700QWBG-2	○	○	○	○	○	○	○	○
BHT-1700QWBG-1	○	○	○	○	○	○		○

*Model: BHT-1700QWBG-2 was chosen for the final tests.

*NFC Limited module (Brand: DENSO, Model: DWI002, FCC ID: PZWDWI002) collocated in EUT (model: BHT-1700QWBG-2).

2. The EUT with follow antennas gain is listed as table below.

Ant. No.	Band	Brand	Antenna Type	Antenna Gain	Connecter Type
1 (Main_TX)	LTE Band 4	WHAYU	PIFA	1.11	Metal shrapnel
	LTE Band 12		PIFA	-2.42	Metal shrapnel
	LTE Band 13		PIFA	-0.03	Metal shrapnel
	LTE Band 17		PIFA	-2.42	Metal shrapnel
2 (Aux._RX)	LTE Band 4		PIFA	0.52	Metal shrapnel
	LTE Band 12		PIFA	0.80	Metal shrapnel
	LTE Band 13		PIFA	1.1	Metal shrapnel
	LTE Band 17		PIFA	0.8	Metal shrapnel

3. The EUT consumes power from the following battery.

Battery 1 (For BHT-1700 Used)	
Brand	DENSO
Model	BT-110LA
Rating	2300mAh, 3.7Vdc, 8.5Wh

Battery 2 (For BHT-1700 Used)	
Brand	DENSO
Model	BT-110L
Rating	3450mAh, 3.7Vdc, 12.8Wh

*After pre-testing, battery 1 was the worst case for the final tests.

4. The client provides the following cradles for tests. (Support unit only)

LAN Cradle (For BHT-1700 Used) (Support unit)	
Brand	DENSO
Model	CU-BL-17
Output Power	12Vdc, 4.16A, 50W

USB Cradle (For BHT-1700 Used) (Support unit)	
Brand	DENSO
Model	CU-BU1-17
Output Power	12Vdc, 4.16A, 50W

Adapter for cradle (Support unit)	
Brand	FSP GROUP INC.
Model	FSP050-DBAE1
Input Power	100-240Vac, 1.5A, 50/60Hz
Output Power	12Vdc, 4.16A, 50W
Power Line	1.2m non-shielded DC cable with 1 core attached on adapter

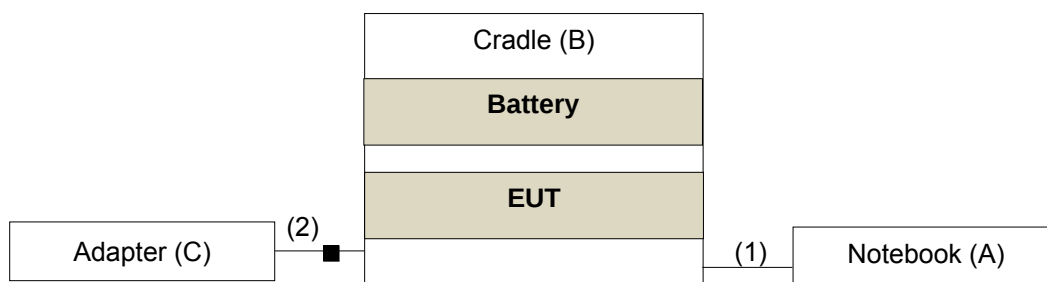
*After pre-testing, USB cradle was the worst case for the final tests.

3.2 Configuration of System under Test

Radiated Spurious Emissions (Frequency range above 1GHz)



Radiated Spurious Emissions (Frequency range below 1GHz)



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.	Notebook	DELL	E5430	2RL3YW1	FCC DoC Approved	-
B.	Cradle	DENSO	CU-BU1-17	NA	NA	Provided by manufacturer
C.	Adapter	FSP GROUP INC.	FSP050-DBAE1	NA	NA	Provided by manufacturer

Note: All power cords of the above support units are non-shielded (1.8m).

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	USB cable	1	0.5	Y	0	-
2.	DC cable	1	1.2	N	1	Provided by manufacturer

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 X-plane (Radiated Spurious Emissions (Frequency range above 1GHz)) & Z-plane (Radiated Spurious Emissions (Frequency range below 1GHz)). 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	19957 to 20393	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
		19965 to 20385	19965(1711.5MHz)	3MHz	QPSK	1 RB / 0 RB Offset
		19975 to 20375	19975(1712.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		20000 to 20350	20000(1715.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset
		20025 to 20325	20025(1717.5MHz)	15MHz	QPSK	1 RB / 0 RB Offset
		20050 to 20300	20050(1720.0MHz)	20MHz	QPSK	1 RB / 0 RB Offset
-	Radiated Emission Above 1GHz	19957 to 20393	19957(1710.7MHz), 20175(1732.5MHz), 20393(1754.3MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
		19965 to 20385	19965(1711.5MHz), 20175(1732.5MHz), 20385(1753.5MHz)	3MHz	QPSK	1 RB / 0 RB Offset
		19975 to 20375	19975(1712.5MHz), 20175(1732.5MHz), 20375(1752.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		20000 to 20350	20000(1715.0MHz), 20175(1732.5MHz), 20350(1750.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset
		20025 to 20325	20025(1717.5MHz), 20175(1732.5MHz), 20325(1747.5MHz)	15MHz	QPSK	1 RB / 0 RB Offset
		20050 to 20300	20050(1720.0MHz), 20175(1732.5MHz), 20300(1745.0MHz)	20MHz	QPSK	1 RB / 0 RB Offset

LTE Band 12

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	ERP	23017 to 23171	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 23171	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 23171	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 23171	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 23171	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 23171	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 23171	23017(699.7MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
		23025 to 23165	23025(700.5MHz)	3MHz	QPSK	1 RB / 0 RB Offset
		23035 to 23155	23035(701.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		23060 to 23130	23060(704.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset
-	Radiated Emission Above 1GHz	23017 to 23171	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

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	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	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:

- For radiated emission below 1GHz, low, mid and high channels were pre-tested in chamber with 1.4MHz mode. Low channel on mode A was found to be the worst case and therefore had been chosen for all final tests.
- 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, 66%RH	120Vac, 60Hz	Han Wu
Modulation characteristics	24deg. C, 64%RH	120Vac, 60Hz	James Yang
Frequency Stability	24deg. C, 64%RH	120Vac, 60Hz	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, 66%RH 25deg. C, 65%RH	120Vac, 60Hz	Han Wu Greg Lin

3.4 EUT Operating Conditions

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

3.5 General Description of Applied Standards

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

FCC 47 CFR Part 2

FCC 47 CFR Part 27

KDB 971168 D01 Power Meas License Digital Systems v03r01

ANSI/TIA/EIA-603-E 2016

ANSI 63.26-2015

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

4 Test Types and Results

4.1 Output Power Measurement

4.1.1 Limits of Output Power Measurement

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

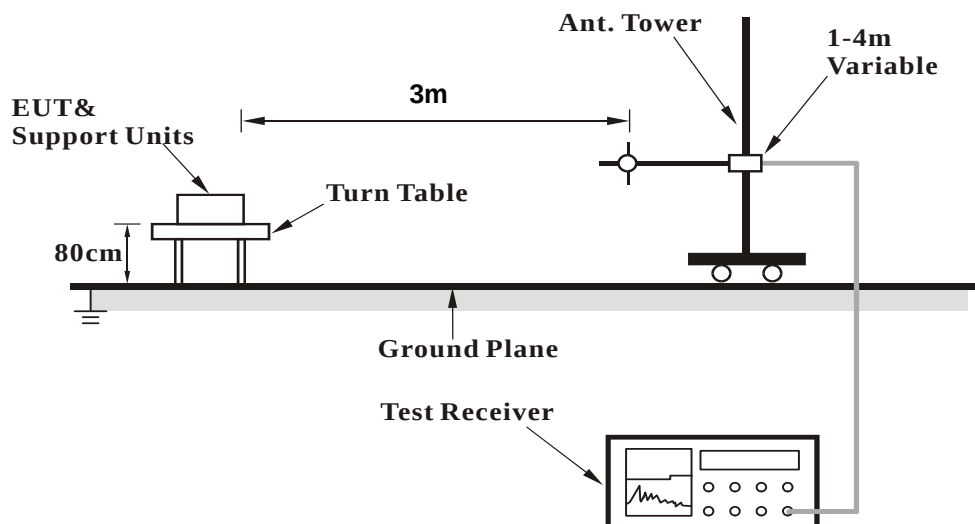
Conducted Power Measurement:

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.

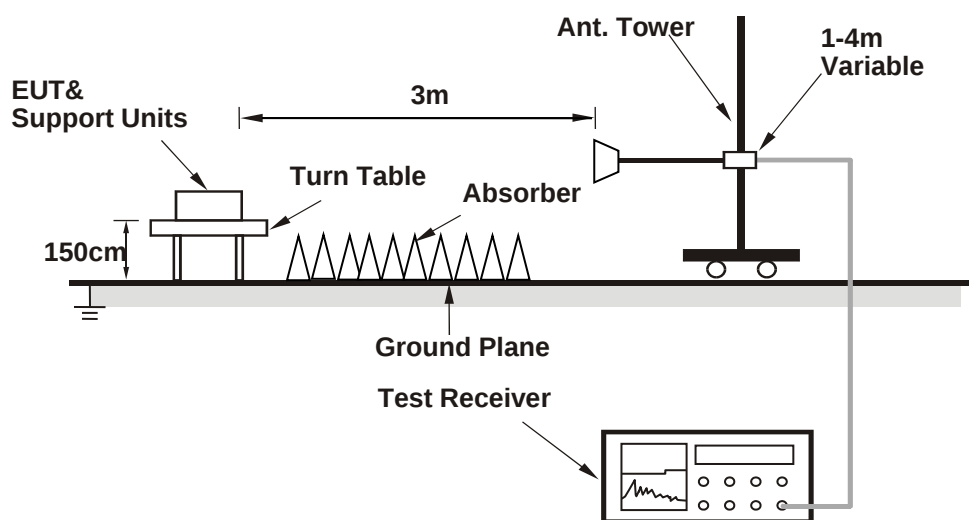
4.1.3 Test Setup

EIRP / ERP MEASUREMENT:

For Radiated Emission below or equal 1GHz

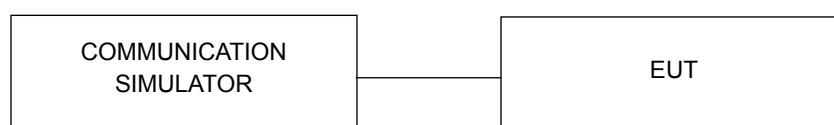


For Radiated Emission above 1GHz



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		20050	20175	20300
		Frequency (MHz)		1720	1732.5	1745
20M	QPSK	1	0	23.17	23.95	23.44
		1	50	23.04	23.82	23.31
		1	99	23.01	23.79	23.28
		50	0	22.14	22.92	22.41
		50	25	22.11	22.89	22.38
		50	50	22.06	22.84	22.33
		100	0	22.10	22.88	22.37
	16QAM	1	0	22.12	22.95	22.44
		1	50	21.96	22.72	22.22
		1	99	22.01	22.76	22.25
		50	0	21.10	21.84	21.38
		50	25	21.09	21.85	21.28
		50	50	21.01	21.82	21.31
		100	0	21.05	21.79	21.28

LTE Band 4						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20025	20175	20325
		Frequency (MHz)		1717.5	1732.5	1747.5
15M	QPSK	1	0	23.08	23.94	23.44
		1	37	22.97	23.78	23.31
		1	74	22.97	23.74	23.19
		36	0	22.08	22.84	22.35
		36	19	22.07	22.82	22.37
		36	39	22.05	22.78	22.26
		75	0	22.08	22.85	22.37
	16QAM	1	0	22.06	22.82	22.33
		1	37	21.92	22.75	22.29
		1	74	21.88	22.70	22.26
		36	0	21.03	21.87	21.26
		36	19	20.94	21.74	21.35
		36	39	20.95	21.70	21.22
		75	0	21.00	21.74	21.25

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	22.65	22.68	22.61
		1	24	22.64	22.67	22.60
		1	49	22.58	22.61	22.54
		25	0	21.70	21.73	21.66
		25	12	21.68	21.71	21.64
		25	25	21.58	21.61	21.54
		50	0	21.60	21.63	21.56
	16QAM	1	0	21.96	22.78	22.25
		1	24	21.89	22.58	22.02
		1	49	21.85	22.67	22.08
		25	0	20.97	21.73	21.31
		25	12	20.88	21.80	21.20
		25	25	21.02	21.56	21.21
		50	0	20.98	21.66	21.31

LTE Band 4						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		19975	20175	20375
		Frequency (MHz)		1712.5	1732.5	1752.5
5M	QPSK	1	0	23.05	23.76	22.59
		1	12	22.90	23.73	22.55
		1	24	22.98	23.67	22.48
		12	0	22.08	22.76	21.63
		12	6	21.94	22.79	21.58
		12	13	22.03	22.75	21.45
		25	0	21.87	22.71	21.45
	16QAM	1	0	21.87	22.65	22.30
		1	12	21.85	22.60	22.10
		1	24	21.79	22.66	22.01
		12	0	20.97	21.81	21.19
		12	6	20.95	21.70	21.15
		12	13	20.84	21.67	21.16
		25	0	21.00	21.78	21.25

LTE Band 4						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		19965	20175	20385
		Frequency (MHz)		1711.5	1732.5	1753.5
3M	QPSK	1	0	23.00	23.72	23.27
		1	7	22.91	23.65	23.13
		1	14	22.90	23.66	23.19
		8	0	21.93	22.82	22.37
		8	3	21.97	22.73	22.25
		8	7	21.92	22.77	22.24
		15	0	22.09	22.69	22.26
	16QAM	1	0	21.92	22.77	22.25
		1	7	21.92	22.60	22.28
		1	14	21.88	22.63	22.10
		8	0	20.89	21.82	21.18
		8	3	20.91	21.82	21.22
		8	7	20.94	21.79	21.11
		15	0	20.84	21.79	21.28

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	22.98	23.83	23.31
		1	2	22.81	23.65	23.29
		1	5	22.86	23.55	23.13
		3	0	23.00	23.79	23.28
		3	1	22.95	23.72	23.30
		3	3	22.92	23.79	23.19
		6	0	22.01	22.67	22.27
	16QAM	1	0	22.13	22.79	22.25
		1	2	21.90	22.55	22.06
		1	5	21.89	22.66	22.12
		3	0	22.03	22.80	22.21
		3	1	21.80	22.77	22.17
		3	3	21.96	22.72	22.10
		6	0	21.04	21.69	21.15

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	23.49	23.51	23.63
		1	24	23.54	23.56	23.68
		1	49	23.75	23.77	23.89
		25	0	22.50	22.52	22.64
		25	12	22.54	22.56	22.68
		25	25	22.57	22.59	22.71
		50	0	22.60	22.62	22.74
	16QAM	1	0	22.40	22.48	22.53
		1	24	22.49	22.53	22.60
		1	49	22.73	22.68	22.84
		25	0	21.43	21.47	21.58
		25	12	21.49	21.48	21.58
		25	25	21.57	21.51	21.62
		50	0	21.54	21.57	21.67

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	23.37	23.50	22.46
		1	12	23.33	23.36	22.59
		1	24	23.64	23.74	22.41
		12	0	22.43	22.39	21.57
		12	6	22.35	22.39	21.59
		12	13	22.54	22.44	21.52
		25	0	22.54	22.55	21.41
	16QAM	1	0	22.20	22.34	22.51
		1	12	22.40	22.36	22.54
		1	24	22.59	22.53	22.69
		12	0	21.30	21.30	21.42
		12	6	21.39	21.37	21.45
		12	13	21.31	21.43	21.53
		25	0	21.34	21.48	21.70

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	23.31	23.45	23.57
		1	7	23.49	23.47	23.60
		1	14	23.70	23.72	23.74
		8	0	22.44	22.38	22.59
		8	3	22.49	22.36	22.63
		8	7	22.41	22.38	22.58
		15	0	22.45	22.45	22.65
	16QAM	1	0	22.38	22.33	22.35
		1	7	22.34	22.38	22.64
		1	14	22.59	22.50	22.72
		8	0	21.24	21.23	21.56
		8	3	21.41	21.34	21.43
		8	7	21.48	21.46	21.51
		15	0	21.44	21.38	21.59

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	23.35	23.28	23.51
		1	2	23.51	23.41	23.55
		1	5	23.63	23.67	23.77
		3	0	23.44	23.45	23.53
		3	1	23.40	23.38	23.50
		3	3	23.42	23.46	23.63
		6	0	22.59	22.42	22.67
	16QAM	1	0	22.30	22.42	22.40
		1	2	22.30	22.26	22.48
		1	5	22.56	22.65	22.69
		3	0	22.31	22.43	22.47
		3	1	22.35	22.42	22.46
		3	3	22.33	22.40	22.44
		6	0	21.47	21.47	21.52

LTE Band 13						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		-	23230	-
		Frequency (MHz)		-	782	-
10M	QPSK	1	0	-	23.73	-
		1	24	-	23.75	-
		1	49	-	23.55	-
		25	0	-	22.63	-
		25	12	-	22.56	-
		25	25	-	22.52	-
		50	0	-	22.57	-
	16QAM	1	0	-	22.73	-
		1	24	-	22.65	-
		1	49	-	22.52	-
		25	0	-	21.61	-
		25	12	-	21.51	-
		25	25	-	21.48	-
		50	0	-	21.52	-

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	23.45	23.59	23.43
		1	12	23.56	23.64	23.46
		1	24	23.29	23.41	23.17
		12	0	22.28	22.39	22.23
		12	6	22.43	22.52	22.35
		12	13	22.27	22.41	22.25
		25	0	22.39	22.47	22.30
	16QAM	1	0	22.48	22.63	22.45
		1	12	22.57	22.53	22.49
		1	24	22.36	22.39	22.21
		12	0	21.22	21.49	21.18
		12	6	21.36	21.36	21.30
		12	13	21.25	21.37	21.20
		25	0	21.35	21.41	21.27

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	23.44	23.52	23.49
		1	24	23.50	23.58	23.55
		1	49	23.48	23.56	23.53
		25	0	22.56	22.64	22.61
		25	12	22.54	22.62	22.59
		25	25	22.60	22.68	22.65
		50	0	22.49	22.57	22.54
	16QAM	1	0	22.40	22.52	22.49
		1	24	22.44	22.52	22.47
		1	49	22.45	22.55	22.48
		25	0	21.51	21.56	21.53
		25	12	21.44	21.62	21.55
		25	25	21.50	21.66	21.63
		50	0	21.48	21.48	21.52

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	23.34	23.33	22.49
		1	12	23.36	23.54	22.50
		1	24	23.40	23.48	22.45
		12	0	22.43	22.53	21.59
		12	6	22.33	22.51	21.53
		12	13	22.46	22.57	21.52
		25	0	22.37	22.49	21.49
	16QAM	1	0	22.25	22.40	22.33
		1	12	22.30	22.41	22.36
		1	24	22.30	22.50	22.41
		12	0	21.45	21.51	21.53
		12	6	21.33	21.44	21.52
		12	13	21.45	21.43	21.40
		25	0	21.37	21.35	21.35

EIRP/ERP 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	-17.2	20.8	0.7	21.5	30.0	-8.5
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	1710.70	-20.8	17.0	0.7	17.7	30.0	-12.3

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	-17.6	20.8	0.6	21.4	30.0	-8.6
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	1732.50	-21.4	16.9	0.6	17.5	30.0	-12.5

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	-18.1	20.7	0.5	21.2	30.0	-8.8
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	1754.30	-21.4	17.5	0.5	18.0	30.0	-12.0

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	-17.1	20.9	0.7	21.6	30.0	-8.4
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	1711.50	-20.8	17.0	0.7	17.7	30.0	-12.3

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	-17.3	21.1	0.6	21.7	30.0	-8.3
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	-21.0	17.3	0.6	17.9	30.0	-12.1

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	-16.8	22.0	0.5	22.5	30.0	-7.5
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	-21.0	17.9	0.5	18.4	30.0	-11.6

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	-17.0	21.1	0.7	21.8	30.0	-8.2
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	1712.50	-20.7	17.2	0.7	17.9	30.0	-12.1

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	-16.8	21.6	0.6	22.2	30.0	-7.8
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	-20.3	18.0	0.6	18.6	30.0	-11.4

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	-17.5	21.3	0.5	21.8	30.0	-8.2
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	1752.50	-21.0	17.8	0.5	18.3	30.0	-11.7

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	-16.6	21.5	0.7	22.2	30.0	-7.8
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	-20.5	17.4	0.7	18.1	30.0	-11.9

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	-17.4	21.0	0.6	21.6	30.0	-8.4
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	-20.3	18.0	0.6	18.6	30.0	-11.4

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	-16.6	22.2	0.5	22.7	30.0	-7.3
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	1750.00	-20.1	18.7	0.5	19.2	30.0	-10.8

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	-16.7	21.4	0.7	22.1	30.0	-7.9
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	1717.50	-20.4	17.6	0.7	18.3	30.0	-11.7

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	-16.5	21.9	0.6	22.5	30.0	-7.5
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	-20.8	17.5	0.6	18.1	30.0	-11.9

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	-17.1	21.6	0.5	22.1	30.0	-7.9
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	-20.6	18.1	0.5	18.6	30.0	-11.4

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	-16.5	21.7	0.7	22.4	30.0	-7.6
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	-20.5	17.5	0.7	18.2	30.0	-11.8

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	-17.3	21.1	0.6	21.7	30.0	-8.3
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	-20.2	18.1	0.6	18.7	30.0	-11.3

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	-16.7	22.0	0.5	22.5	30.0	-7.5
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	1745.00	-20.4	18.3	0.5	18.8	30.0	-11.2

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	-5.4	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	699.70	-19.4	8.1	3.5	11.6	34.8	-23.2

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	-4.8	20.0	3.5	23.5	34.8	-11.3
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	707.50	-18.8	9.0	3.5	12.5	34.8	-22.3

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	-5.6	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	715.30	-19.3	8.3	3.5	11.8	34.8	-23.0

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	-5.6	18.9	3.5	22.4	34.8	-12.4
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	700.50	-19.6	8.0	3.5	11.5	34.8	-23.3

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	-4.9	19.8	3.5	23.3	34.8	-11.5
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	-18.9	8.9	3.5	12.4	34.8	-22.4

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	-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	714.50	-19.4	8.2	3.5	11.7	34.8	-23.1

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	-5.5	19.1	3.4	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	701.50	-19.7	8.0	3.4	11.4	34.8	-23.4

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	-4.9	19.9	3.5	23.4	34.8	-11.4
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	707.50	-18.9	8.9	3.5	12.4	34.8	-22.4

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	-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)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	713.50	-19.6	8.1	3.5	11.6	34.8	-23.2

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	-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	704.00	-19.5	8.1	3.5	11.6	34.8	-23.2

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	-4.9	19.9	3.5	23.4	34.8	-11.4
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	-18.9	8.9	3.5	12.4	34.8	-22.4

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	-5.9	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	711.00	-19.3	8.3	3.5	11.8	34.8	-23.0

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	-6.1	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	779.50	-15.6	12.5	4.0	16.5	34.8	-18.3

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	-5.4	20.6	4.0	24.6	34.8	-10.2
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	782.00	-14.7	13.2	4.0	17.2	34.8	-17.6

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	-4.9	21.2	4.0	25.2	34.8	-9.6
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	784.50	-14.4	13.5	4.0	17.5	34.8	-17.3

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	-5.1	20.9	4.0	24.9	34.8	-9.9
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	-14.5	13.4	4.0	17.4	34.8	-17.4

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	-3.1	21.6	3.5	25.1	34.8	-9.7
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	706.50	-15.5	12.1	3.5	15.6	34.8	-19.2

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	-2.7	22.2	3.5	25.7	34.8	-9.1
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	710.00	-15.1	12.5	3.5	16.0	34.8	-18.8

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	-2.9	22.1	3.5	25.6	34.8	-9.2
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	713.50	-15.3	12.4	3.5	15.9	34.8	-18.9

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	-3.4	21.3	3.5	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	709.00	-16.1	11.5	3.5	15.0	34.8	-19.8

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	-3.2	21.7	3.5	25.2	34.8	-9.6
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	710.00	-15.6	12.0	3.5	15.5	34.8	-19.3

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	-3.3	21.7	3.5	25.2	34.8	-9.6
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	711.00	-15.8	11.8	3.5	15.3	34.8	-19.5

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	-18.2	19.8	0.7	20.5	30.0	-9.5
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	1710.70	-21.5	16.3	0.7	17.0	30.0	-13.0

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	-18.0	20.4	0.6	21.0	30.0	-9.0
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	-22.4	15.9	0.6	16.5	30.0	-13.5

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	-19.1	19.7	0.5	20.2	30.0	-9.8
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	1754.30	-22.4	16.5	0.5	17.0	30.0	-13.0

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	-18.1	19.9	0.7	20.6	30.0	-9.4
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	1711.50	-21.6	16.2	0.7	16.9	30.0	-13.1

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	-18.2	20.2	0.6	20.8	30.0	-9.2
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	-21.1	17.2	0.6	17.8	30.0	-12.2

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	-17.8	21.0	0.5	21.5	30.0	-8.5
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	-21.8	17.0	0.5	17.5	30.0	-12.5

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	-17.9	20.2	0.7	20.9	30.0	-9.1
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	1712.50	-21.7	16.2	0.7	16.9	30.0	-13.1

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	-17.8	20.6	0.6	21.2	30.0	-8.8
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	-21.4	16.9	0.6	17.5	30.0	-12.5

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	-18.6	20.2	0.5	20.7	30.0	-9.3
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	1752.50	-22.2	16.6	0.5	17.1	30.0	-12.9

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	-17.6	20.5	0.7	21.2	30.0	-8.8
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	-21.6	16.3	0.7	17.0	30.0	-13.0

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	-18.4	20.0	0.6	20.6	30.0	-9.4
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	-21.2	17.1	0.6	17.7	30.0	-12.3

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	-17.6	21.2	0.5	21.7	30.0	-8.3
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	1750.00	-21.3	17.5	0.5	18.0	30.0	-12.0

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	-17.8	20.3	0.7	21.0	30.0	-9.0
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	1717.50	-21.4	16.6	0.7	17.3	30.0	-12.7

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	-17.5	20.9	0.6	21.5	30.0	-8.5
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	-21.9	16.4	0.6	17.0	30.0	-13.0

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	-18.1	20.6	0.5	21.1	30.0	-8.9
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	-21.5	17.2	0.5	17.7	30.0	-12.3

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	-17.5	20.7	0.7	21.4	30.0	-8.6
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	-21.6	16.4	0.7	17.1	30.0	-12.9

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	-18.3	20.1	0.6	20.7	30.0	-9.3
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	-21.2	17.1	0.6	17.7	30.0	-12.3

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	-17.7	21.0	0.5	21.5	30.0	-8.5
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	1745.00	-21.2	17.5	0.5	18.0	30.0	-12.0

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	-6.5	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	699.70	-19.5	8.0	3.5	11.5	34.8	-23.3

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	-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	707.50	-19.8	8.0	3.5	11.5	34.8	-23.3

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	-6.6	18.4	3.5	21.9	34.8	-12.9
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	715.30	-20.2	7.4	3.5	10.9	34.8	-23.9

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	-6.6	17.9	3.5	21.4	34.8	-13.4
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	700.50	-20.1	7.5	3.5	11.0	34.8	-23.8

MODE		TX channel 23095					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	707.50	-6.1	18.7	3.5	22.2	34.8	-12.6
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	707.50	-19.1	8.7	3.5	12.2	34.8	-22.6

MODE		TX channel 23165					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	714.50	-6.7	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	714.50	-20.5	7.1	3.5	10.6	34.8	-24.2

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	-6.5	18.1	3.4	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	701.50	-20.6	7.1	3.4	10.5	34.8	-24.3

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	-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)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	707.50	-19.6	8.1	3.5	11.6	34.8	-23.2

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	-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)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	713.50	-20.4	7.3	3.5	10.8	34.8	-24.0

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	-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	704.00	-20.5	7.1	3.5	10.6	34.8	-24.2

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	-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	707.50	-19.8	8.0	3.5	11.5	34.8	-23.3

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	-6.9	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	711.00	-19.3	8.3	3.5	11.8	34.8	-23.0

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	-7.1	18.9	4.0	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	779.50	-16.2	11.9	4.0	15.9	34.8	-18.9

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	-6.4	19.6	4.0	23.6	34.8	-11.2
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	782.00	-15.2	12.6	4.0	16.6	34.8	-18.2

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	-5.9	20.2	4.0	24.2	34.8	-10.6
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	784.50	-15.7	12.2	4.0	16.2	34.8	-18.6

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	-6.0	20.0	4.0	24.0	34.8	-10.8
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	-14.9	13.0	4.0	17.0	34.8	-17.8

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	-4.2	20.5	3.5	24.0	34.8	-10.8
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	706.50	-16.5	11.1	3.5	14.6	34.8	-20.2

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	-3.7	21.2	3.5	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	710.00	-16.2	11.4	3.5	14.9	34.8	-19.9

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	-3.9	21.1	3.5	24.6	34.8	-10.2
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	713.50	-16.4	11.3	3.5	14.8	34.8	-20.0

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	-4.2	20.5	3.5	24.0	34.8	-10.8
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	709.00	-17.1	10.5	3.5	14.0	34.8	-20.8

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	-4.2	20.7	3.5	24.2	34.8	-10.6
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	710.00	-16.1	11.5	3.5	15.0	34.8	-19.8

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	-4.2	20.8	3.5	24.3	34.8	-10.5
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	711.00	-16.8	10.8	3.5	14.3	34.8	-20.5

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

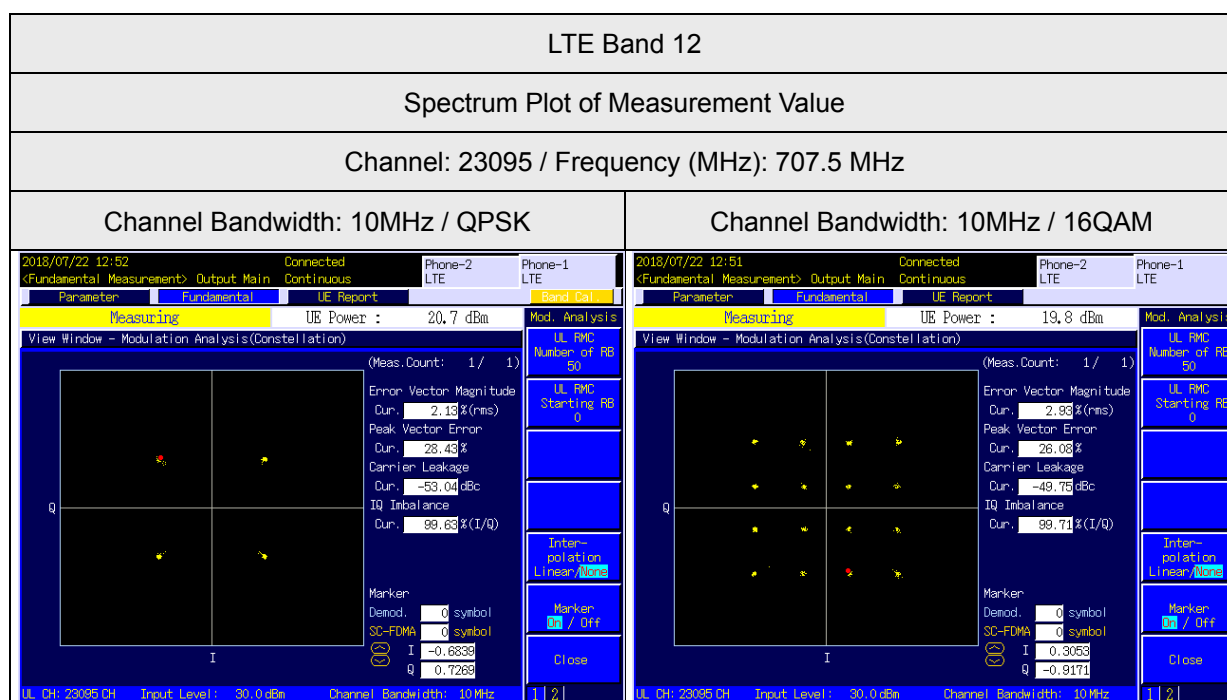
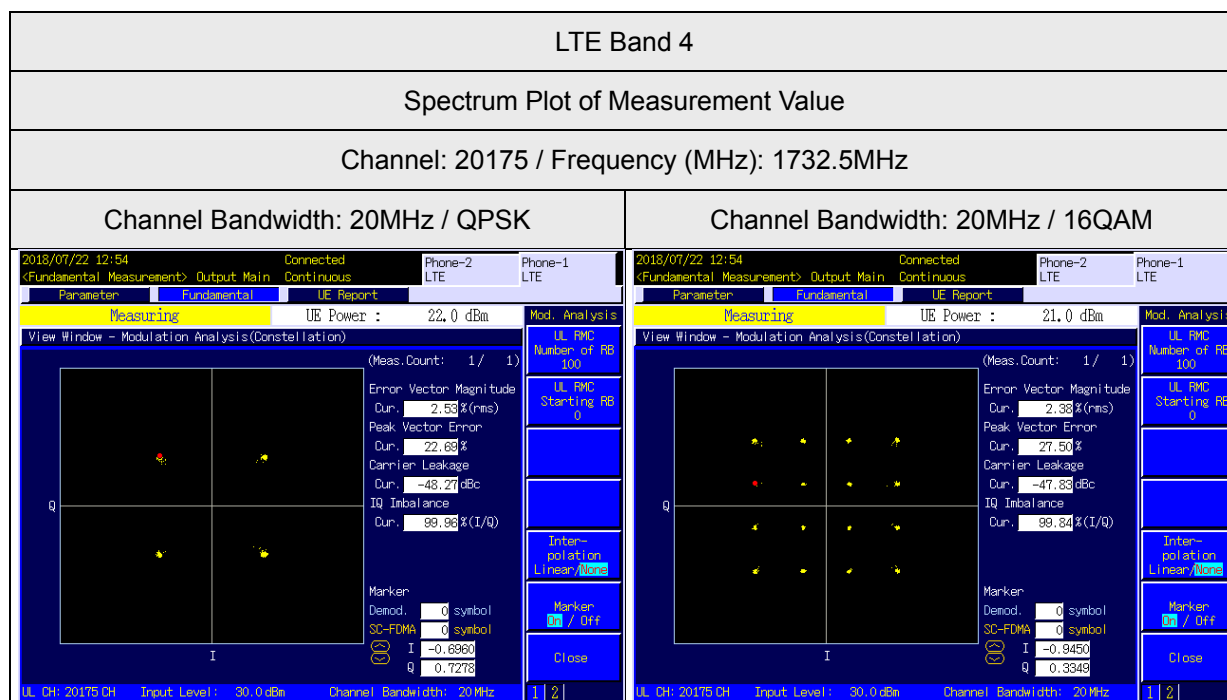
4.2.2 Test Procedure

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



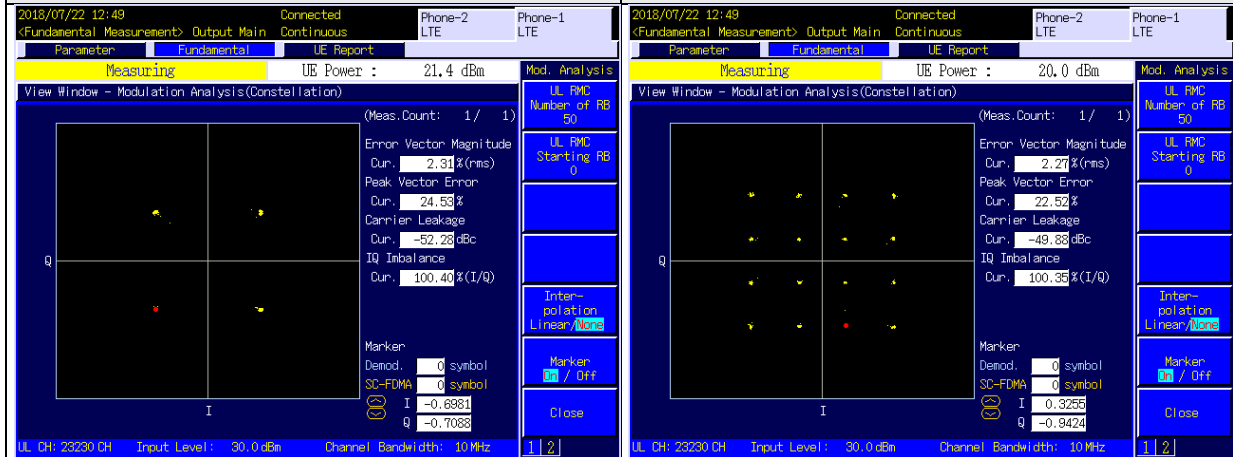
LTE Band 13

Spectrum Plot of Measurement Value

Channel: 23230 / Frequency (MHz): 782.0MHz

Channel Bandwidth: 10MHz / QPSK

Channel Bandwidth: 10MHz / 16QAM



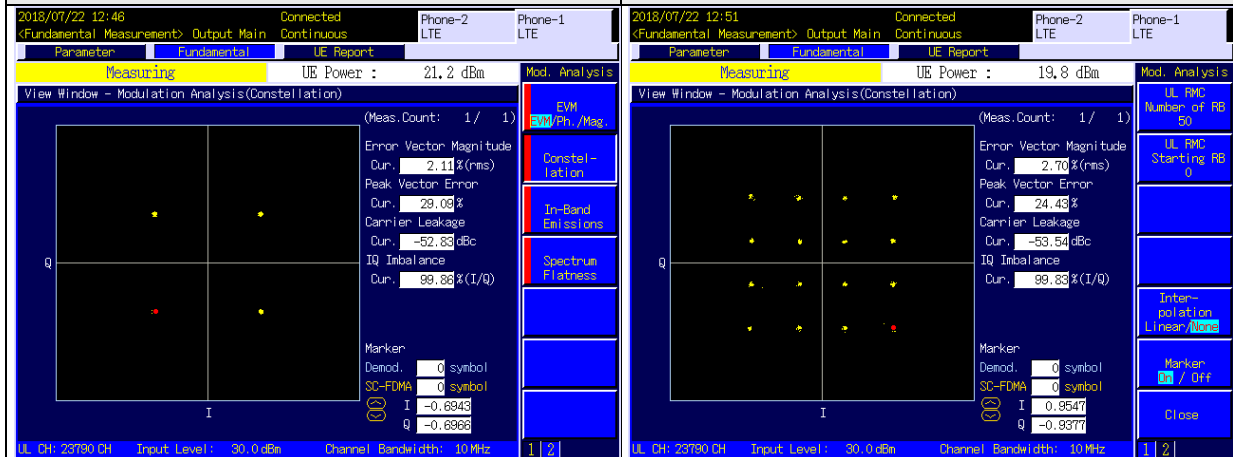
LTE Band 17

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

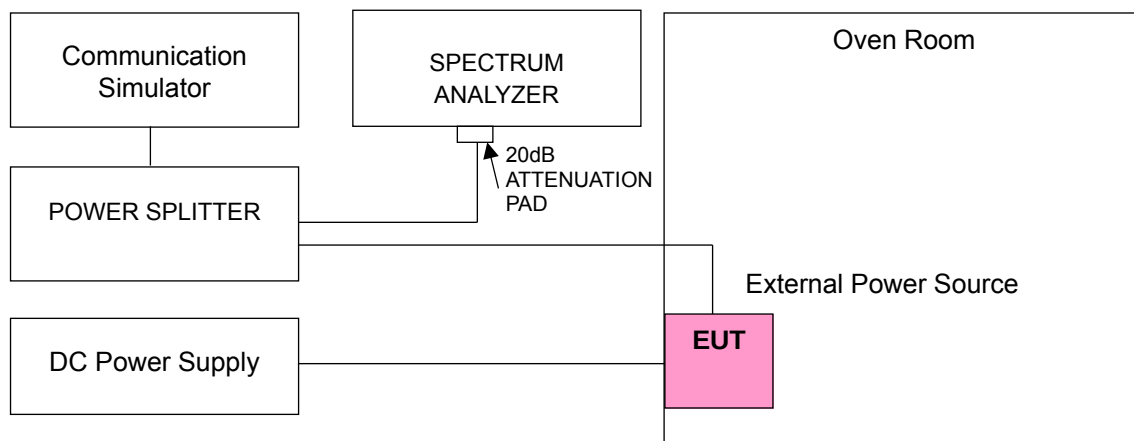
According to the FCC part 2.1055 shall be tested the frequency stability. The rule is defined that "The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block." The test extreme voltage is according to the 2.1055(d)(1) Vary primary 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)	Frequency Error (ppm)				Limit (ppm)
	LTE Band 4	LTE Band 12	LTE Band 13	LTE Band 17	
4.2	0.02830	0.06270	0.02447	0.04363	2.5
3.7	0.01167	0.02364	0.04503	0.01442	2.5
3.4	0.06250	0.03930	0.02064	0.04152	2.5

Note: The applicant defined the normal working voltage is from 3.4Vdc to 4.2Vdc.

Frequency Error vs. Temperature

Voltage (Volts)	Frequency Error (ppm)				Limit (ppm)
	LTE Band 4	LTE Band 12	LTE Band 13	LTE Band 17	
50	0.01886	0.03922	0.00571	0.01888	2.5
40	0.09480	0.01262	0.05487	0.01107	2.5
30	0.12685	0.00614	0.03191	0.03188	2.5
20	0.01167	0.02364	0.04503	0.01442	2.5
10	0.04516	0.02538	0.03794	0.04185	2.5
0	0.11990	0.06483	0.01685	0.01931	2.5
-10	0.04517	0.03482	0.02349	0.00430	2.5
-20	0.10010	0.02224	0.01602	0.05292	2.5
-30	0.00184	0.00629	0.00591	0.04823	2.5

4.4 Emission Bandwidth Measurement

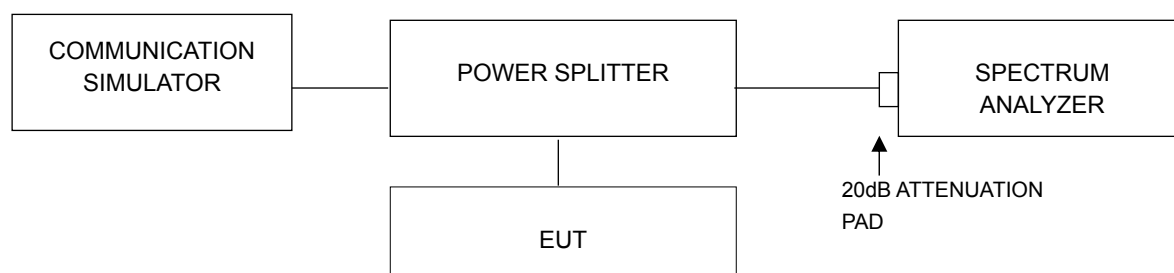
4.4.1 Limits of Emission Bandwidth Measurement

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

4.4.2 Test Procedure

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

4.4.3 Test Setup



4.4.4 Test Result

LTE Band 4

Channel Bandwidth: 1.4MHz					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		Occupied Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
19957	1710.7	1.291	1.298	1.09	1.09
20175	1732.5	1.270	1.277	1.09	1.09
20393	1754.3	1.305	1.307	1.09	1.09

Channel Bandwidth: 3MHz					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		Occupied Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
19965	1711.5	2.979	2.953	2.68	2.68
20175	1732.5	2.948	2.981	2.69	2.69
20385	1753.5	2.958	2.983	2.69	2.69

Channel Bandwidth: 5MHz					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		Occupied Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
19975	1712.5	4.897	4.926	4.48	4.48
20175	1732.5	4.932	4.953	4.48	4.48
20375	1752.5	4.940	4.941	4.48	4.48

Channel Bandwidth: 10MHz					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		Occupied Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
20000	1715.0	9.766	9.741	8.96	8.93
20175	1732.5	9.713	9.611	8.90	8.93
20350	1750.0	9.762	9.648	8.93	8.93

Channel Bandwidth: 15MHz					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		Occupied Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
20025	1717.5	14.417	14.514	13.40	13.43
20175	1732.5	14.527	14.490	13.43	13.40
20325	1747.5	14.537	14.608	13.43	13.40

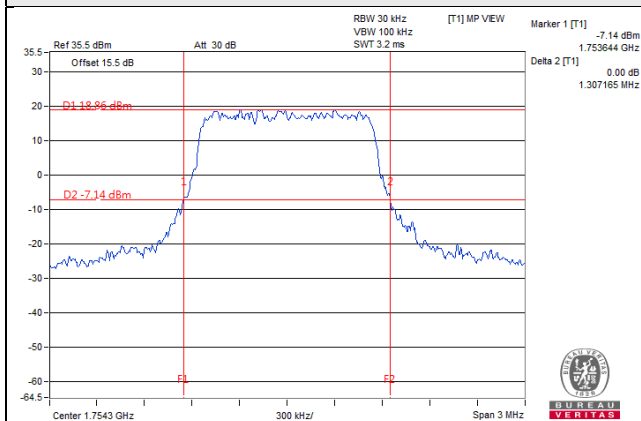
Channel Bandwidth: 20MHz

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		Occupied Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
20050	1720.0	19.528	19.524	17.80	17.86
20175	1732.5	19.599	19.591	17.93	17.93
20300	1745.0	19.599	19.515	18.00	17.93

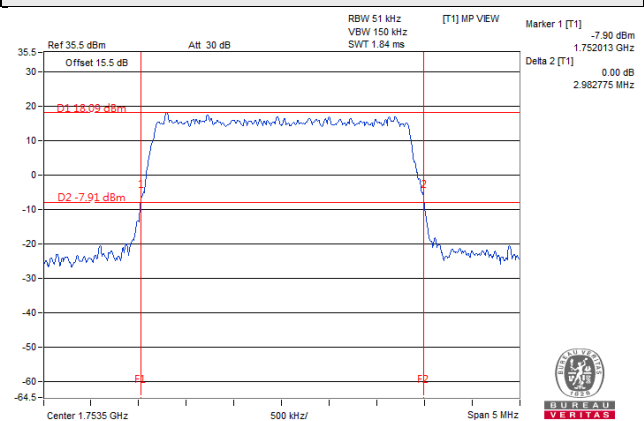
26dBc Bandwidth

Spectrum Plot of Worst Value

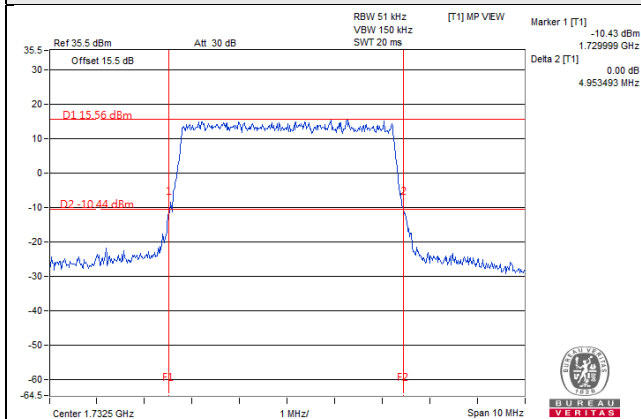
1.4MHz / 16QAM



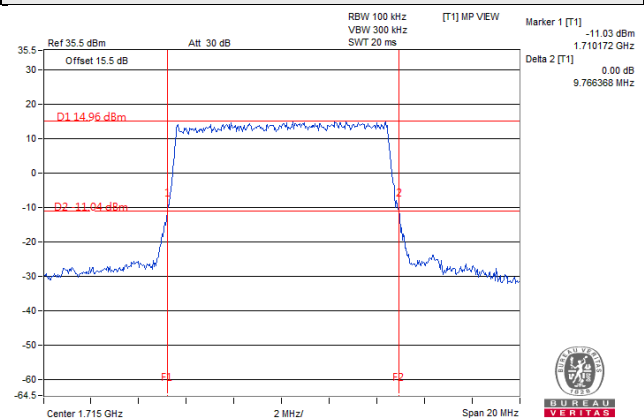
3MHz / 16QAM



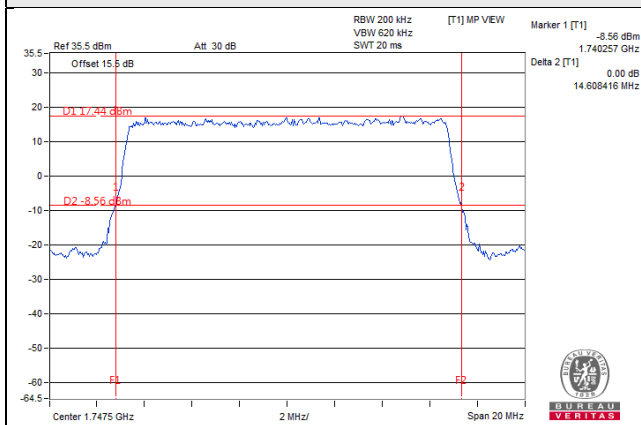
5MHz / 16QAM



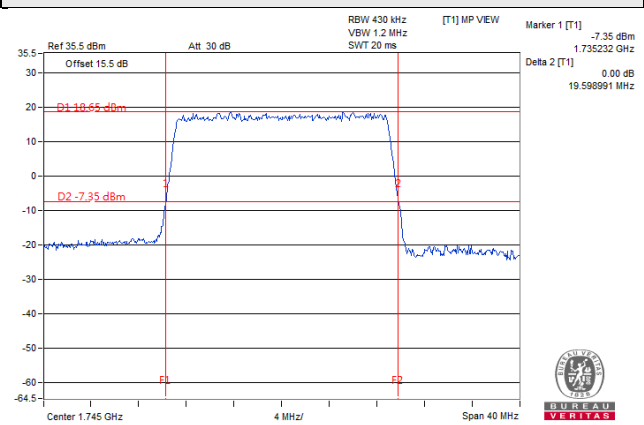
10MHz / QPSK



15MHz / 16QAM



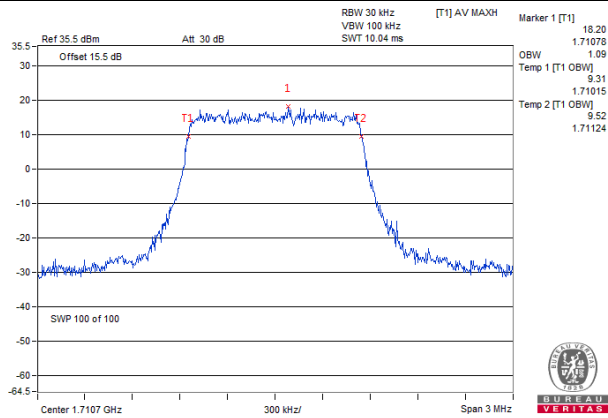
20MHz / QPSK



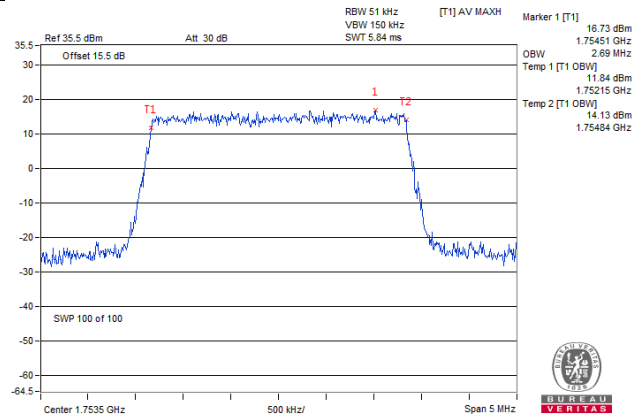
Occupied Bandwidth

Spectrum Plot of Worst Value

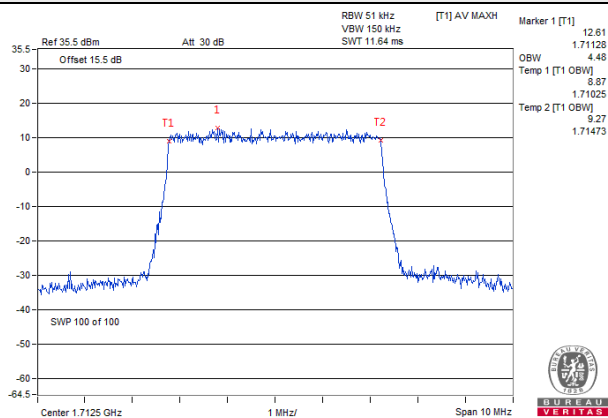
1.4MHz / 16QAM



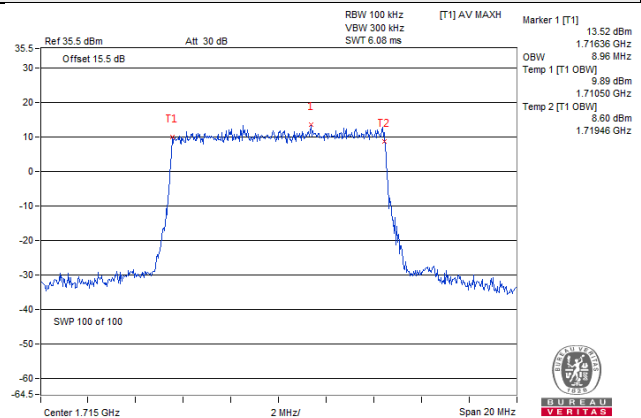
3MHz / QPSK



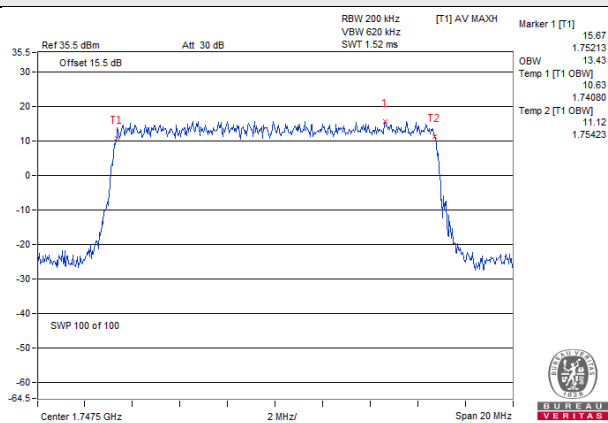
5MHz / QPSK



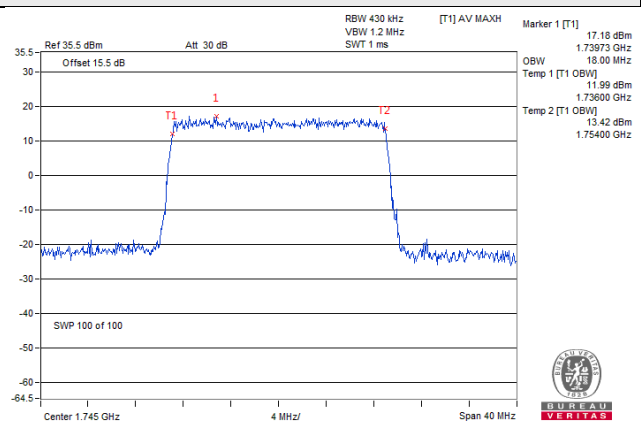
10MHz / QPSK



15MHz / QPSK



20MHz / QPSK



LTE Band 12

Channel Bandwidth: 1.4MHz					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		Occupied Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
23017	699.7	1.282	1.228	1.09	1.09
23095	707.5	1.295	1.290	1.10	1.10
23173	715.3	1.303	1.290	1.09	1.10

Channel Bandwidth: 3MHz					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		Occupied Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
23025	700.5	2.946	2.969	2.69	2.68
23095	707.5	2.956	2.961	2.69	2.69
23165	714.5	2.987	2.970	2.69	2.69

Channel Bandwidth: 5MHz					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		Occupied Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
23035	701.5	4.923	4.928	4.47	4.47
23095	707.5	4.944	4.953	4.47	4.47
23155	713.5	4.955	4.959	4.47	4.47

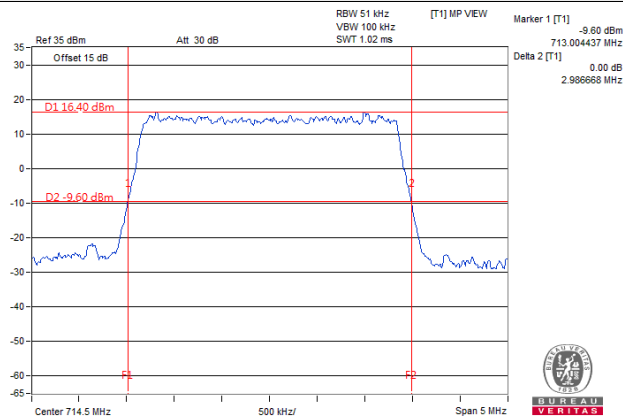
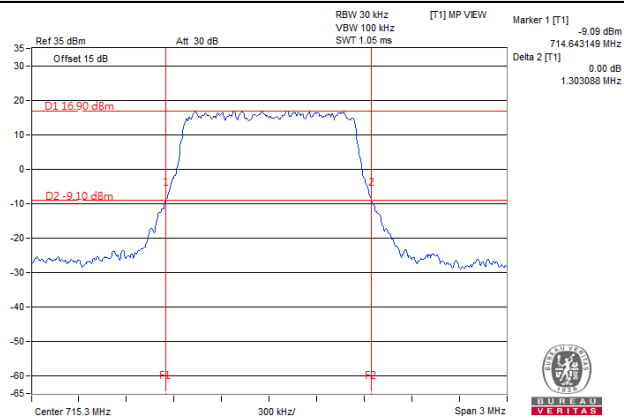
Channel Bandwidth: 10MHz					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		Occupied Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
23060	704	9.656	9.601	8.98	8.92
23095	707.5	9.628	9.746	8.95	8.95
23130	711	9.719	9.644	8.95	8.92

26dBc Bandwidth

Spectrum Plot of Worst Value

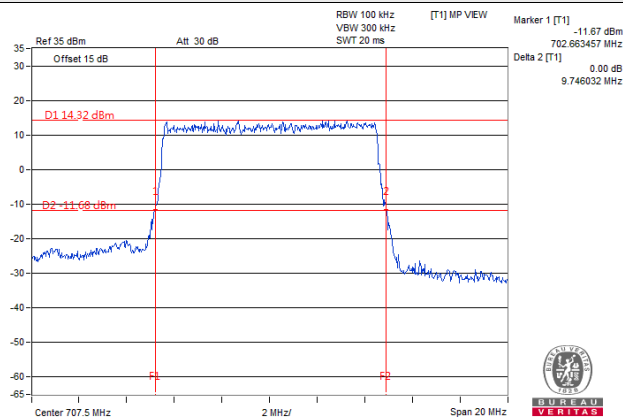
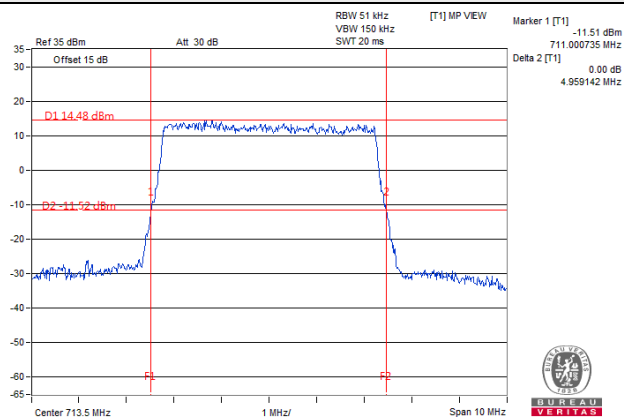
1.4MHz / QPSK

3MHz / QPSK



5MHz / 16QAM

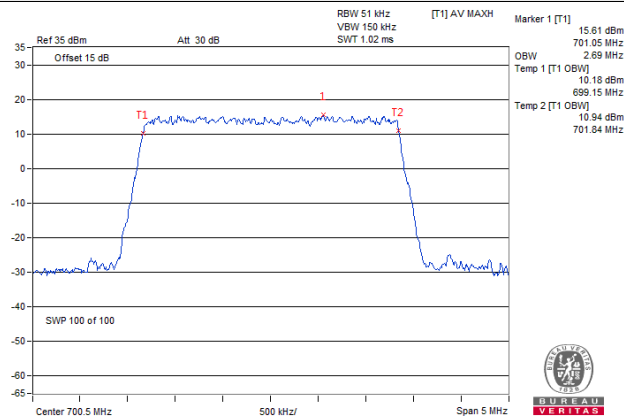
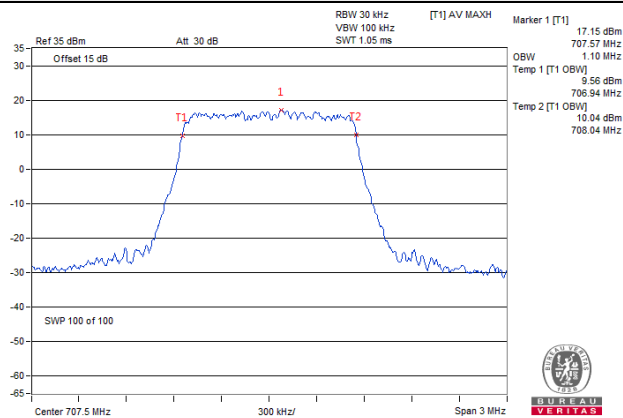
10MHz / 16QAM



Occupied Bandwidth Spectrum Plot of Worst Value

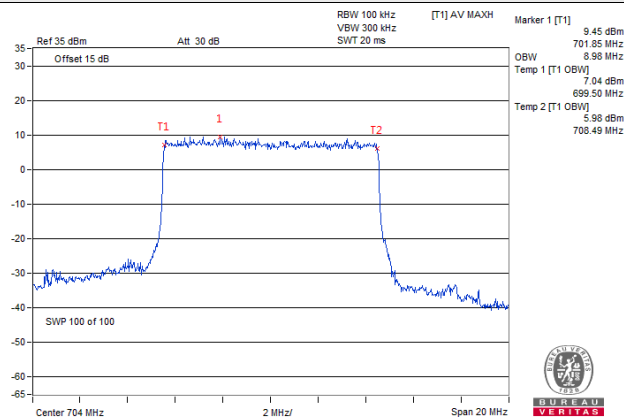
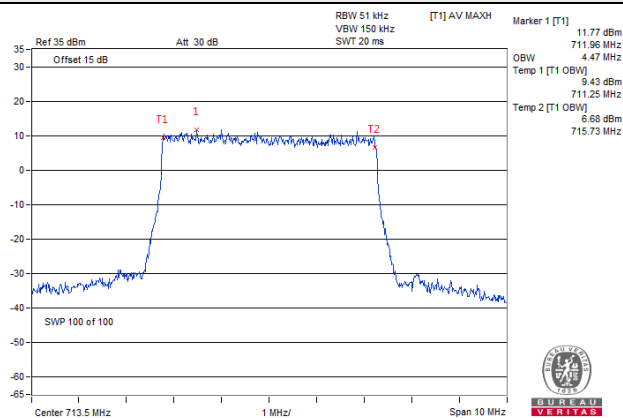
1.4MHz / QPSK

3MHz / QPSK



5MHz / 16QAM

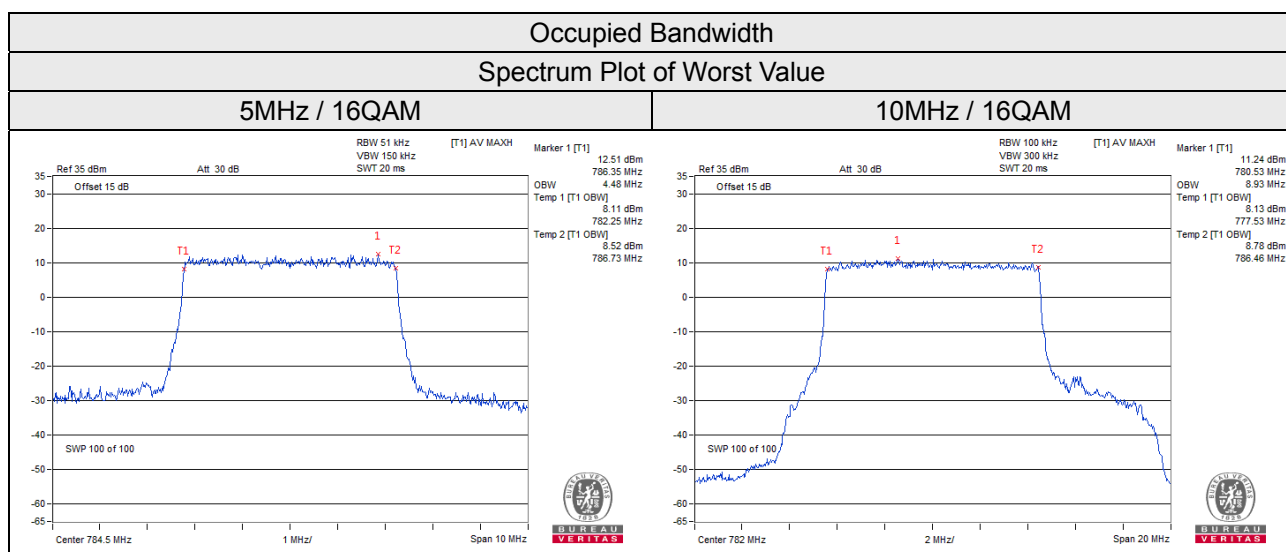
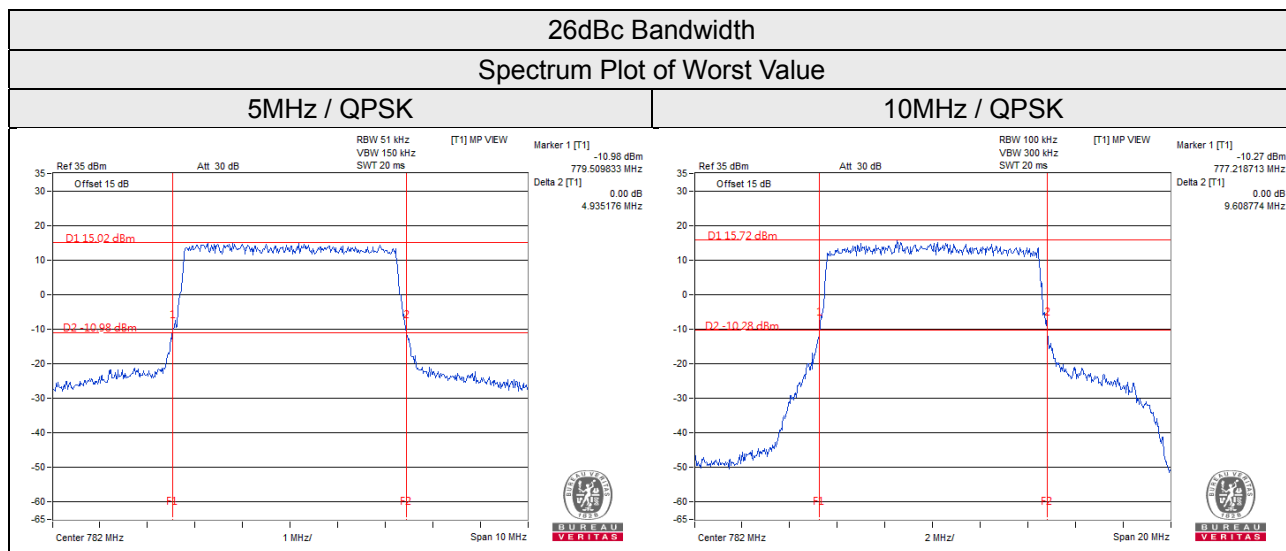
10MHz / QPSK



LTE Band 13

Channel Bandwidth: 5MHz					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		Occupied Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
23205	779.5	4.898	4.898	4.46	4.46
23230	782.0	4.935	4.931	4.46	4.48
23255	784.5	4.898	4.941	4.46	4.48

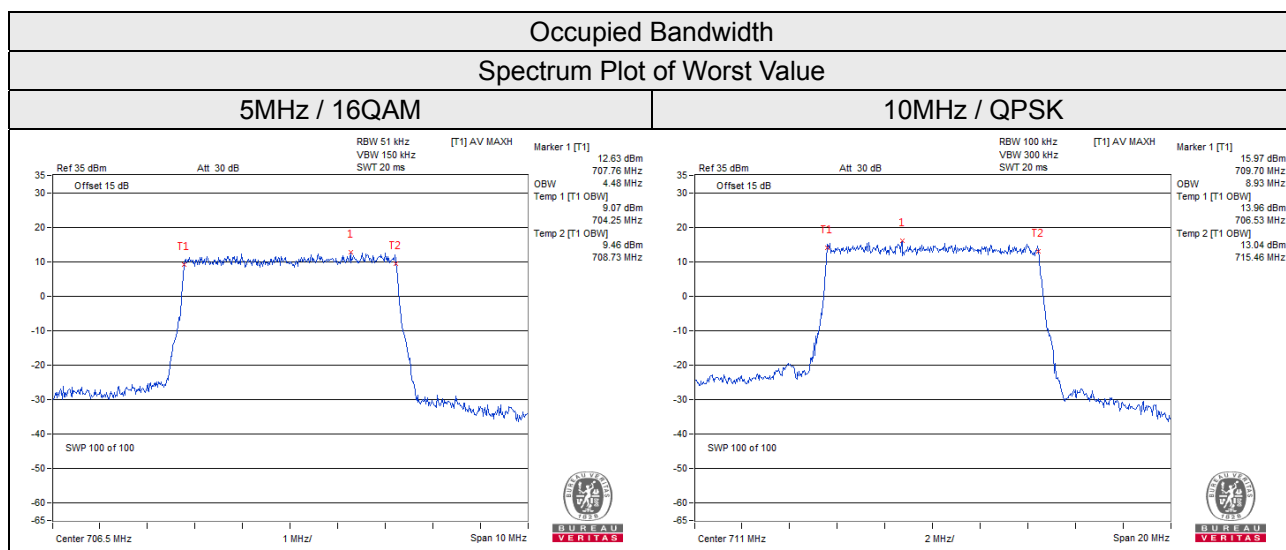
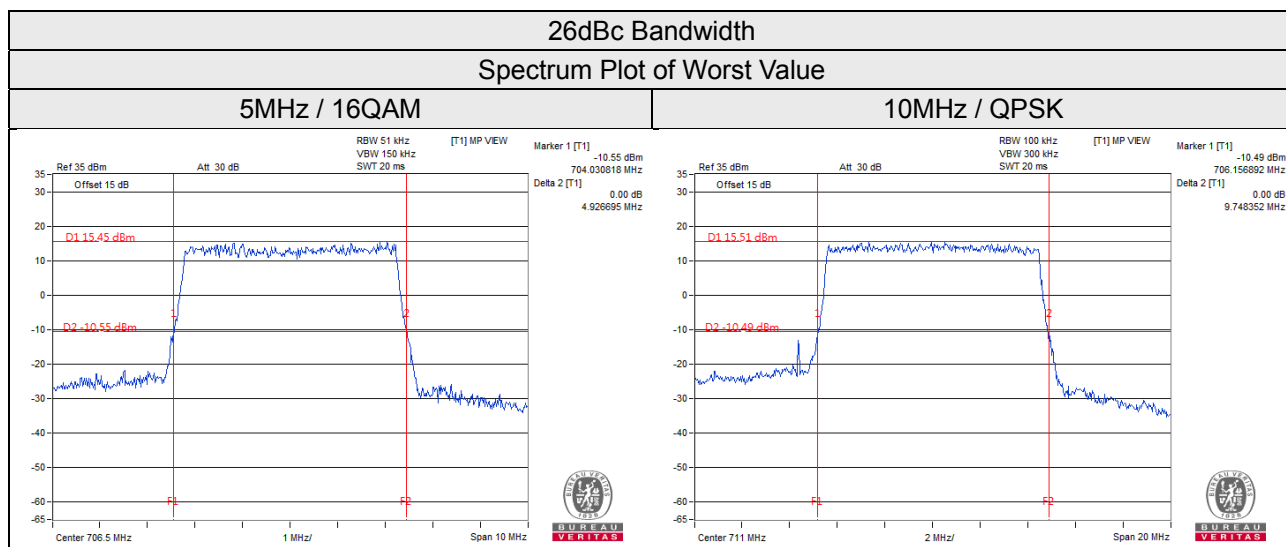
Channel Bandwidth: 10MHz					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		Occupied Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
23230	782.0	9.609	9.593	8.90	8.93



LTE Band 17

Channel Bandwidth: 5MHz					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		Occupied Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
23755	706.5	4.884	4.927	4.46	4.48
23790	710.0	4.925	4.840	4.46	4.46
23825	713.5	4.884	4.895	4.48	4.48

Channel Bandwidth: 10MHz					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)		Occupied Bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
23780	709.0	9.699	9.602	8.93	8.93
23790	710.0	9.584	9.668	8.93	8.93
23800	711.0	9.748	9.536	8.93	8.93



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.

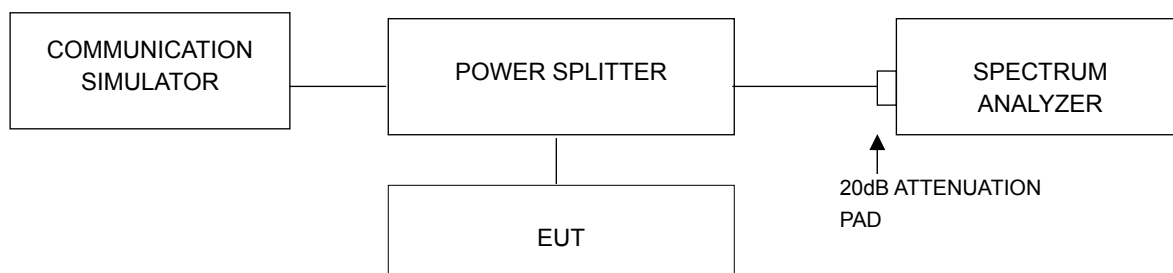
For LTE Band 13

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

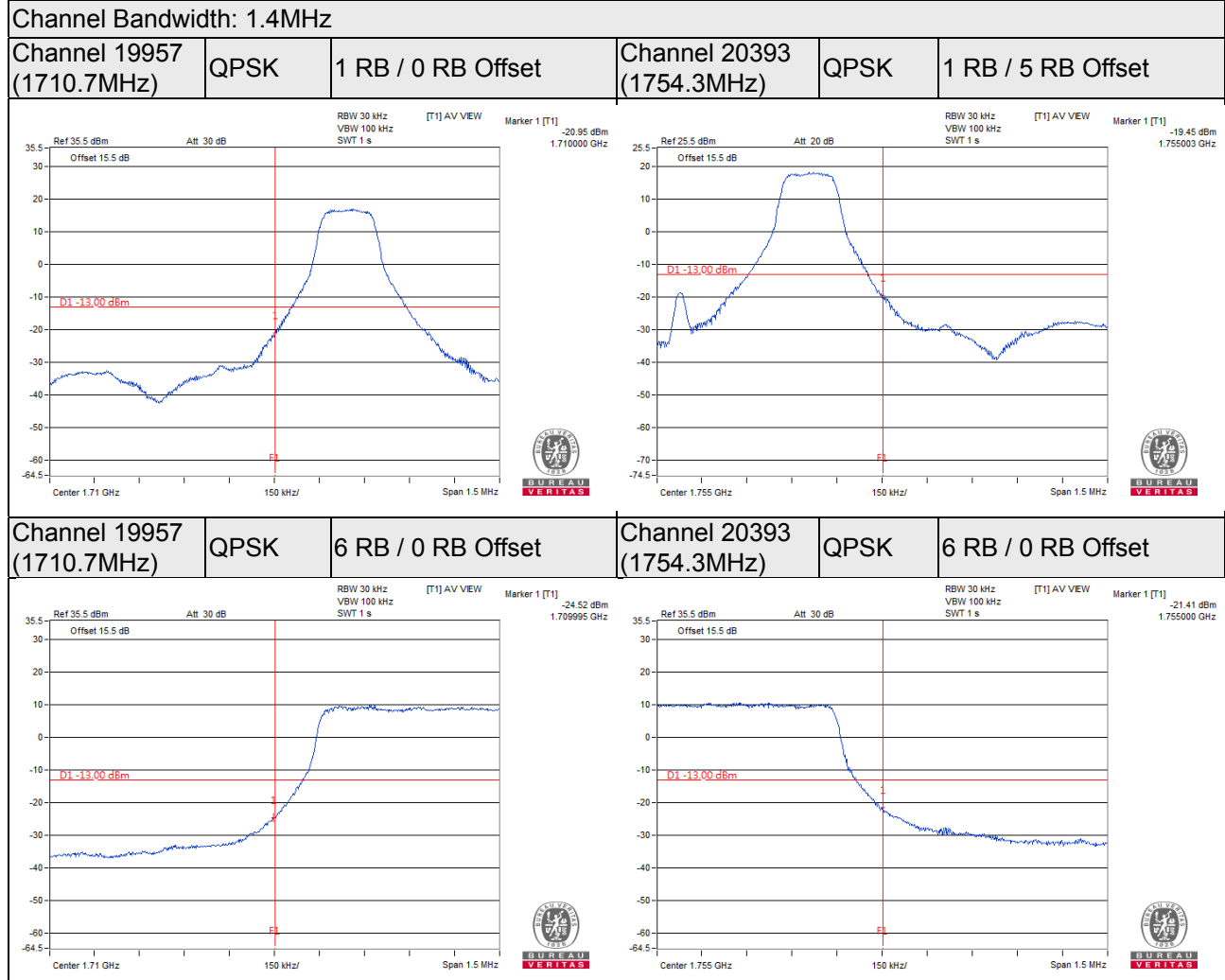


4.5.3 Test Procedures

- 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 = 30kHz and VBW = 100kHz (Channel Bandwidth: 1.4MHz and 3MHz), RBW = 51kHz and VBW = 150kHz (Channel Bandwidth: 5MHz), RBW = 100kHz and VBW = 300kHz (Channel Bandwidth: 10MHz), RBW = 200kHz and VBW = 620kHz (Channel Bandwidth: 15MHz) and RBW = 430kHz and VBW = 1.2MHz (Channel Bandwidth: 20MHz).
- c. Record the max trace plot into the test report.

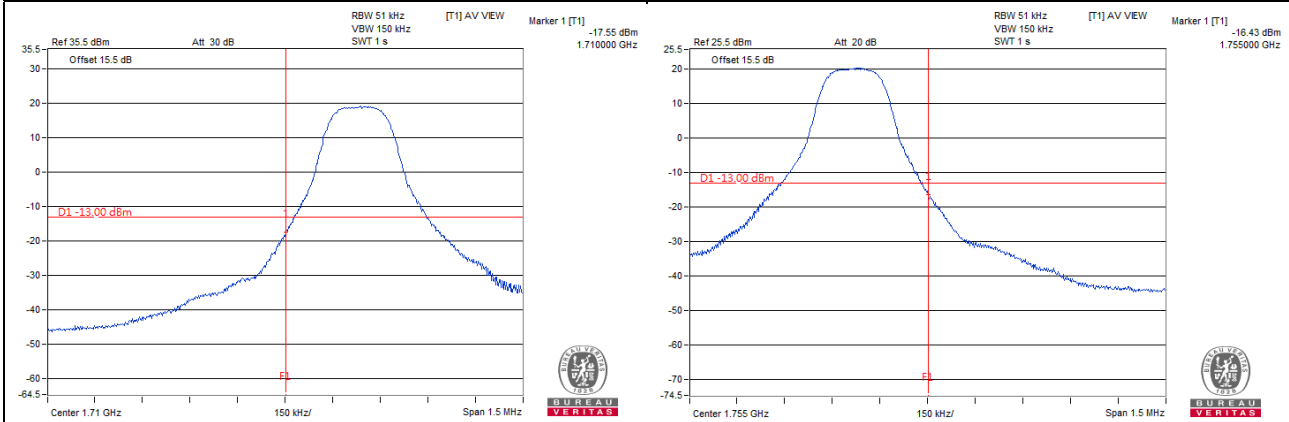
4.5.4 Test Results

LTE Band 4

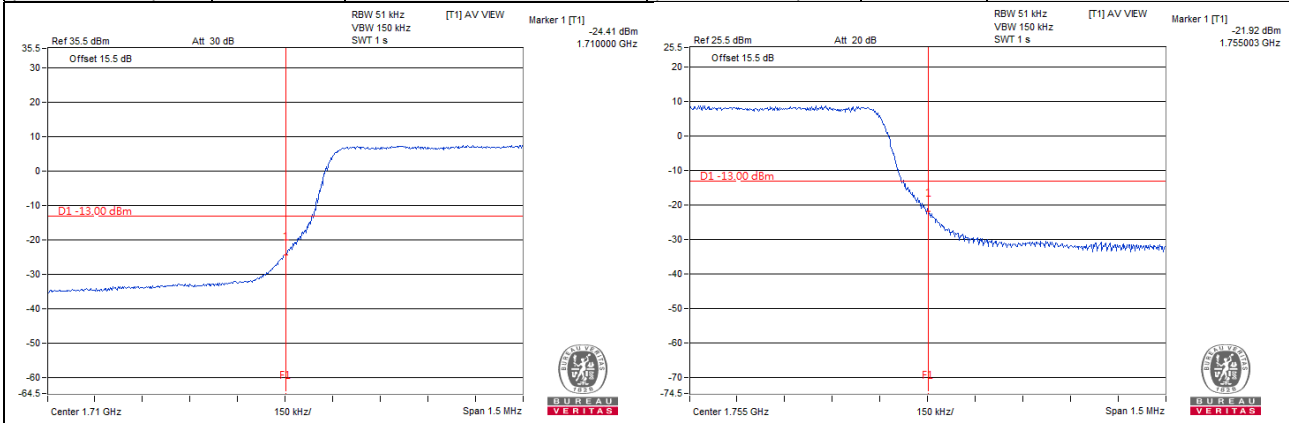


Channel Bandwidth: 3MHz

Channel 19965 (1711.5MHz)	QPSK	1 RB / 0 RB Offset	Channel 20385 (1753.5MHz)	QPSK	1 RB / 14 RB Offset
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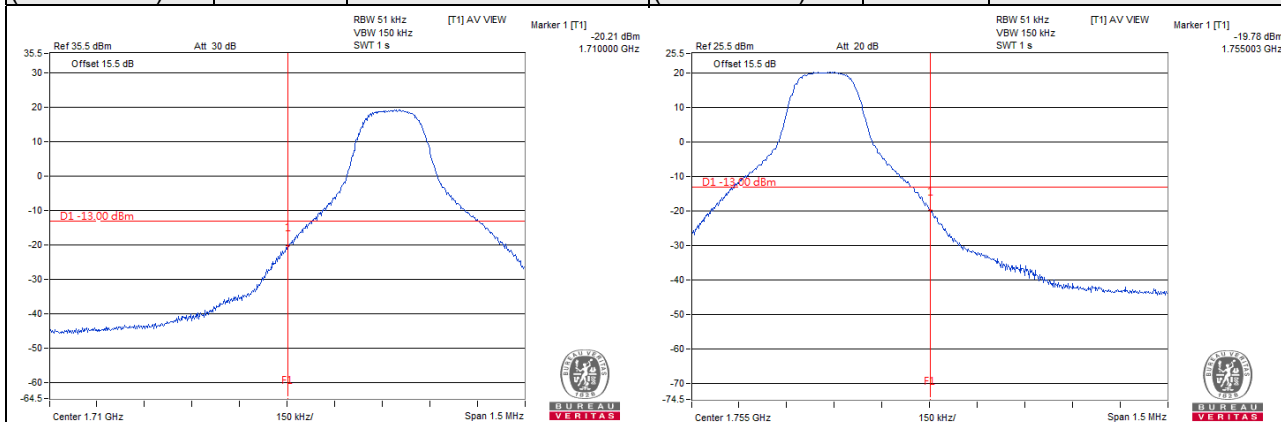


Channel 19965 (1711.5MHz)	QPSK	15 RB / 0 RB Offset	Channel 20385 (1753.5MHz)	QPSK	15 RB / 0 RB Offset
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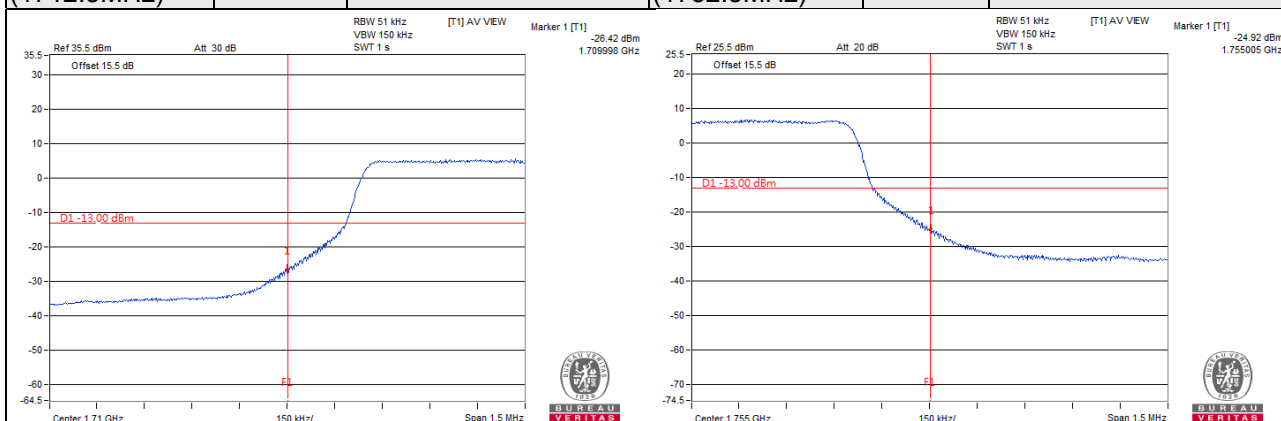


Channel Bandwidth: 5MHz

Channel 19975 (1712.5MHz)	QPSK	1 RB / 0 RB Offset	Channel 20375 (1752.5MHz)	QPSK	1 RB / 24 RB Offset
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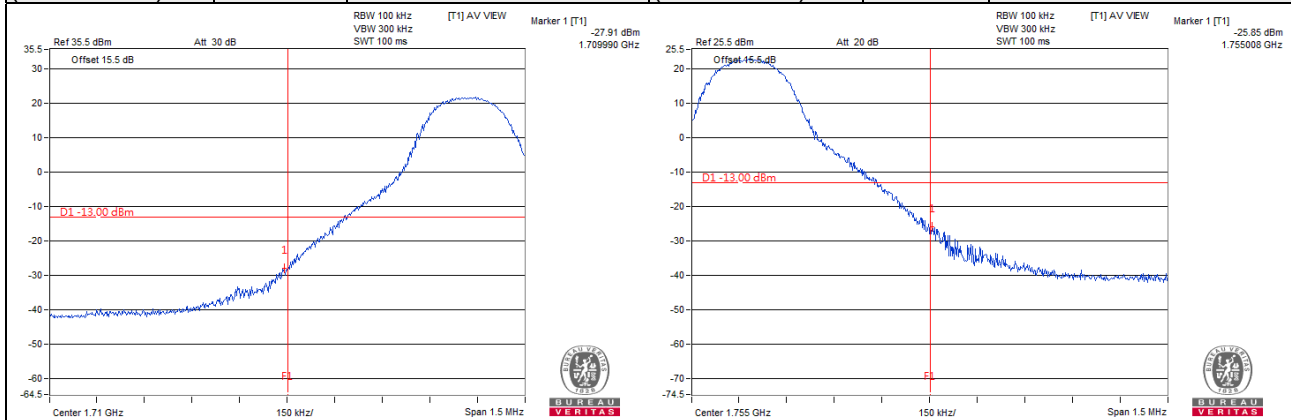


Channel 19975 (1712.5MHz)	QPSK	25 RB / 0 RB Offset	Channel 20375 (1752.5MHz)	QPSK	25 RB / 0 RB Offset
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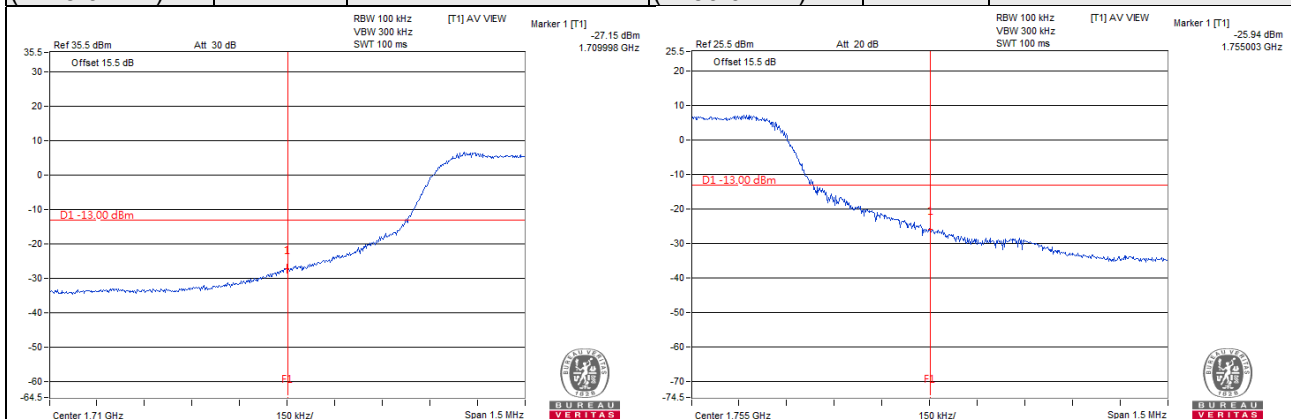


Channel Bandwidth: 10MHz

Channel 20000 (1715.0MHz)	QPSK	1 RB / 0 RB Offset	Channel 20350 (1750.0MHz)	QPSK	1 RB / 49 RB Offset
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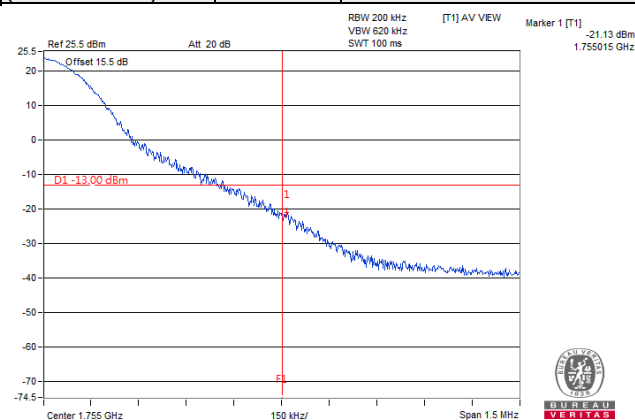
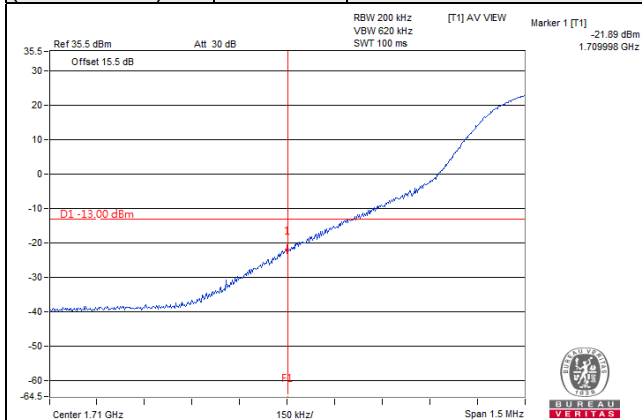


Channel 20000 (1715.0MHz)	QPSK	50 RB / 0 RB Offset	Channel 20350 (1750.0MHz)	QPSK	50 RB / 0 RB Offset
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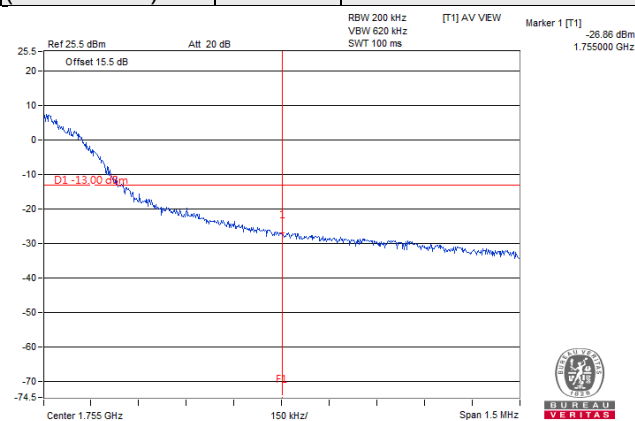
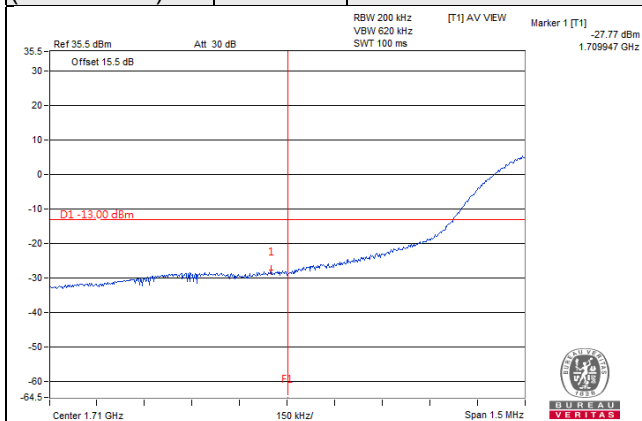


Channel Bandwidth: 15MHz

Channel 20025 (1717.5MHz)	QPSK	1 RB / 0 RB Offset	Channel 20325 (1747.5MHz)	QPSK	1 RB / 74 RB Offset
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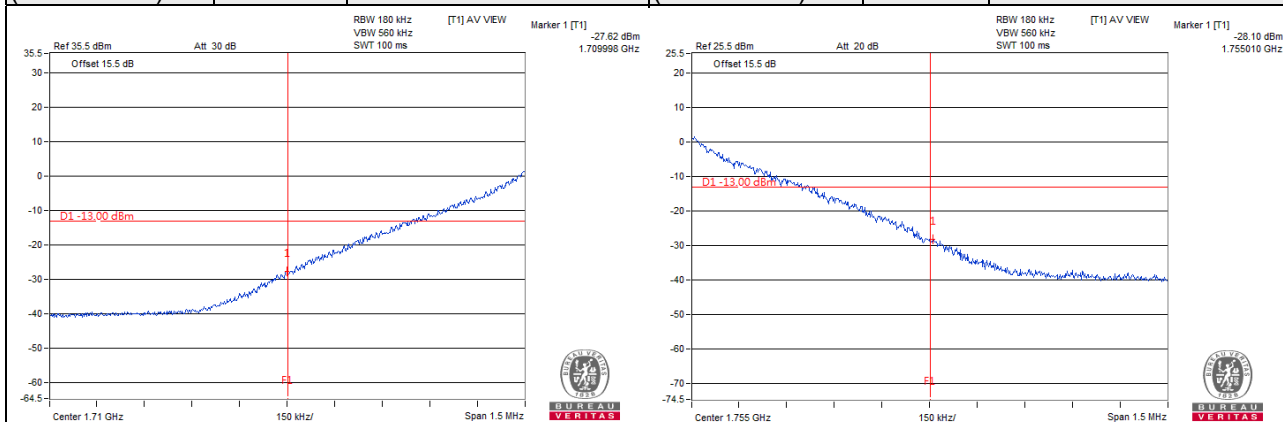


Channel 20025 (1717.5MHz)	QPSK	75 RB / 0 RB Offset	Channel 20325 (1747.5MHz)	QPSK	75 RB / 0 RB Offset
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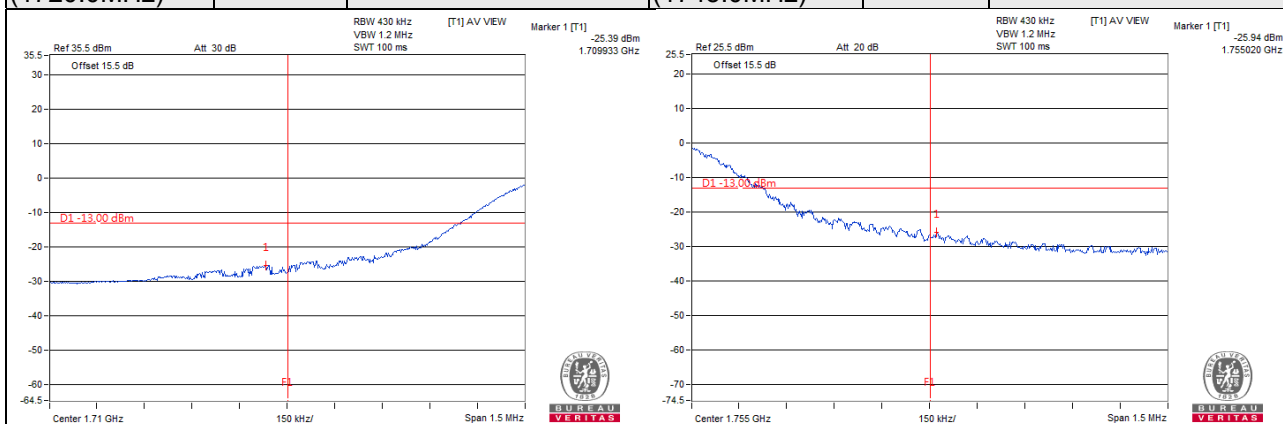


Channel Bandwidth: 20MHz

Channel 20050 (1720.0MHz)	QPSK	1 RB / 0 RB Offset	Channel 20300 (1745.0MHz)	QPSK	1 RB / 99 RB Offset
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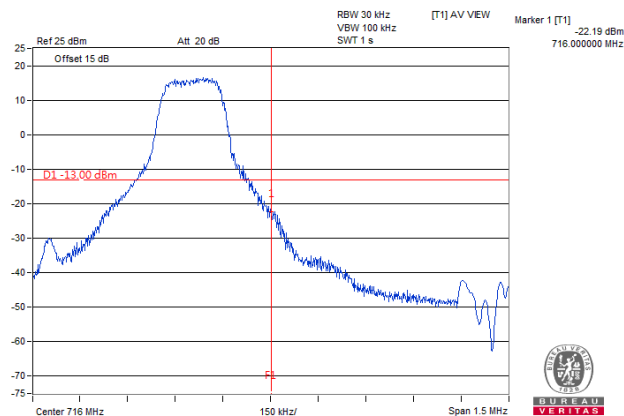
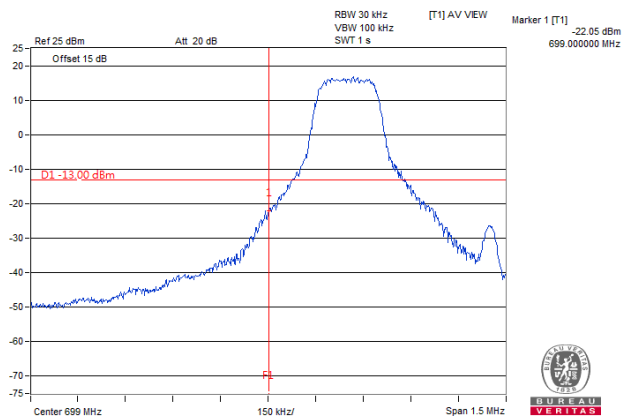
Channel 20050 (1720.0MHz)	QPSK	100 RB / 0 RB Offset	Channel 20300 (1745.0MHz)	QPSK	100 RB / 0 RB Offset
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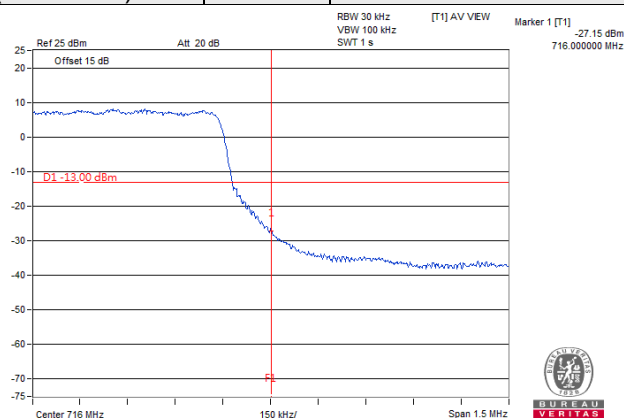
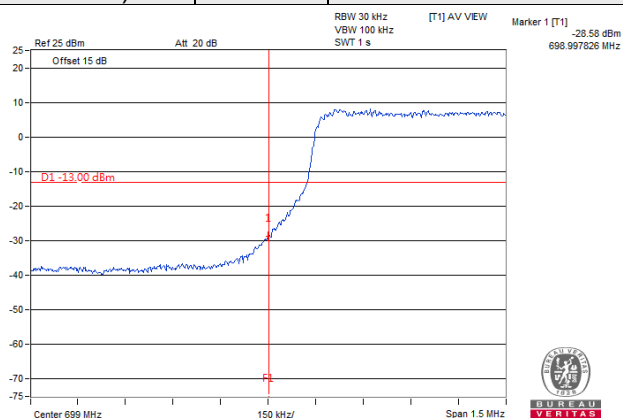
LTE Band 12

Channel Bandwidth: 1.4MHz

Channel 23017 (699.7MHz)	QPSK	1 RB / 0 RB Offset	Channel 23171 (715.3MHz)	QPSK	1 RB / 5 RB Offset
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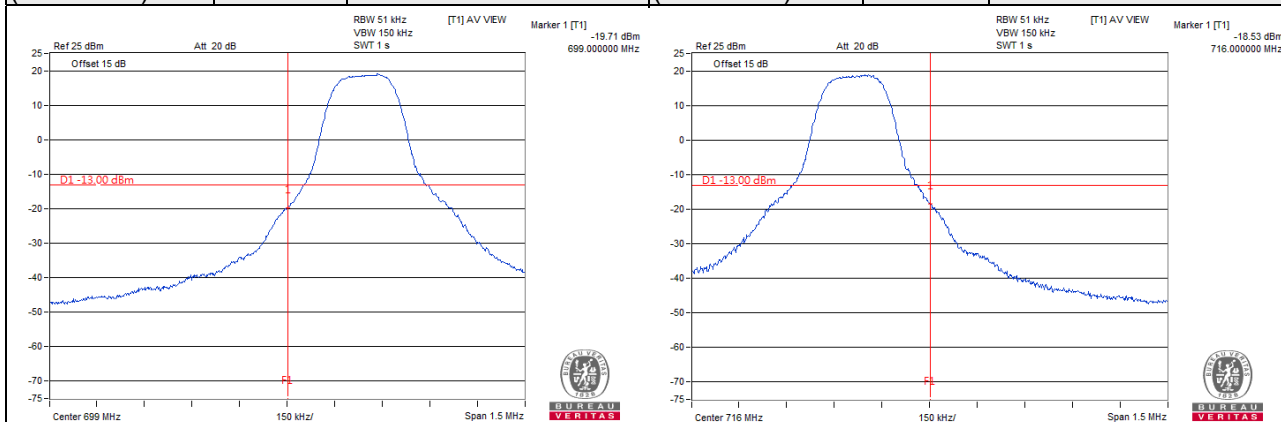


Channel 23017 (699.7MHz)	QPSK	6 RB / 0 RB Offset	Channel 23171 (715.3MHz)	QPSK	6 RB / 0 RB Offset
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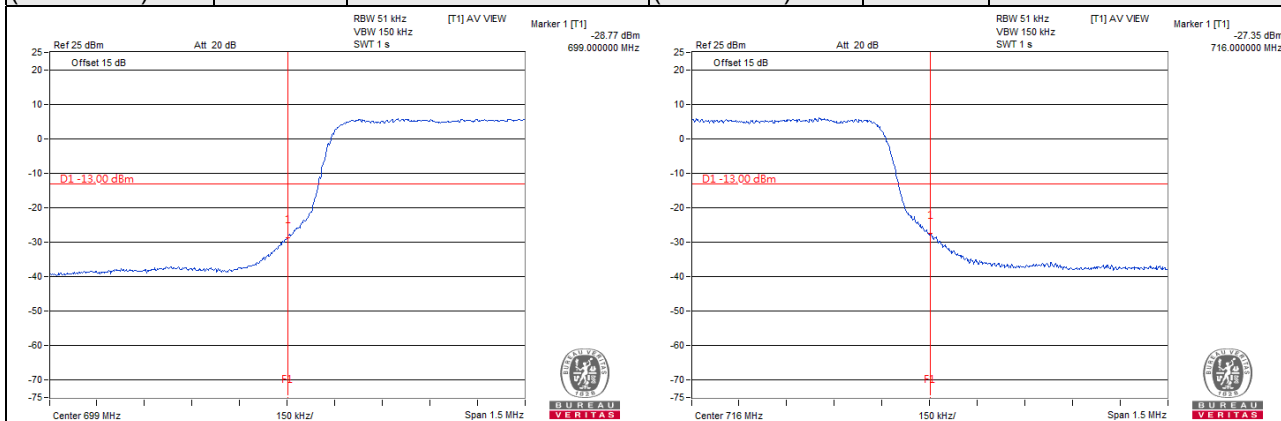


Channel Bandwidth: 3MHz

Channel 23025 (700.5MHz)	QPSK	1 RB / 0 RB Offset	Channel 23165 (714.5MHz)	QPSK	1 RB / 14RB Offset
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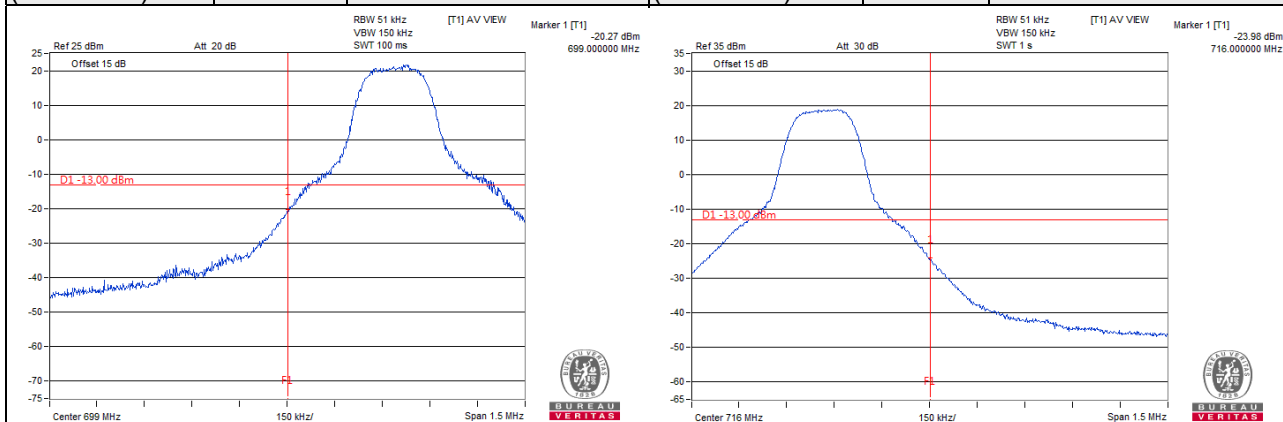


Channel 23025 (700.5MHz)	QPSK	15 RB / 0 RB Offset	Channel 23165 (714.5MHz)	QPSK	15 RB / 0 RB Offset
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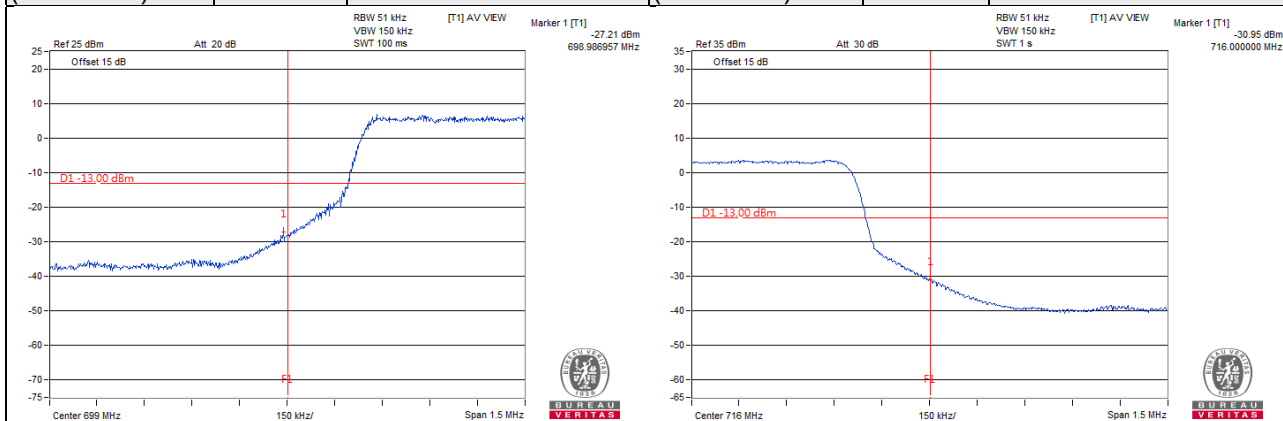


Channel Bandwidth: 5MHz

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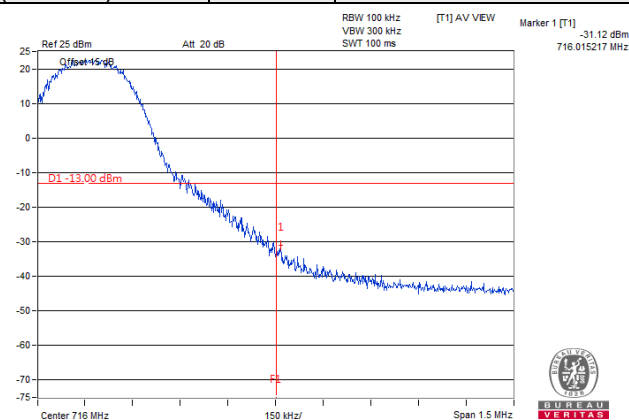
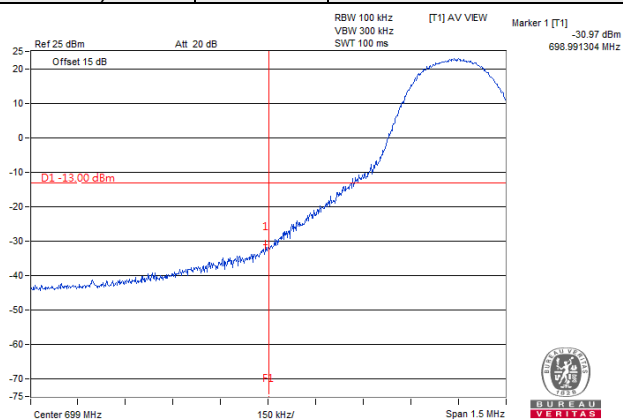


Channel 23035 (701.5MHz)	QPSK	25 RB / 0 RB Offset	Channel 23155 (713.5MHz)	QPSK	25 RB / 0 RB Offset
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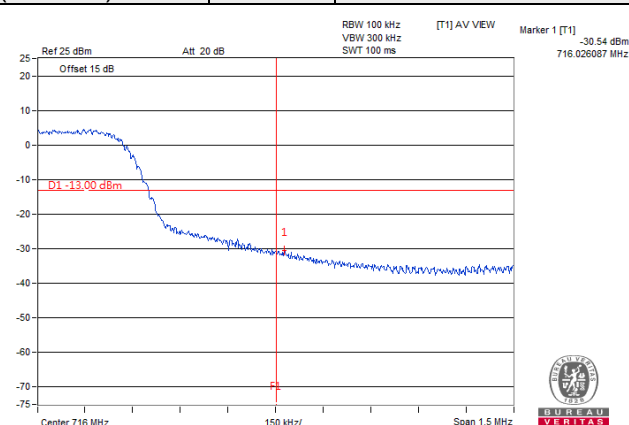
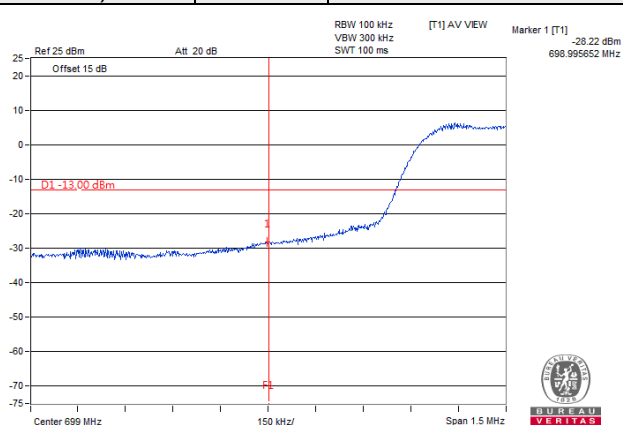


Channel Bandwidth: 10MHz

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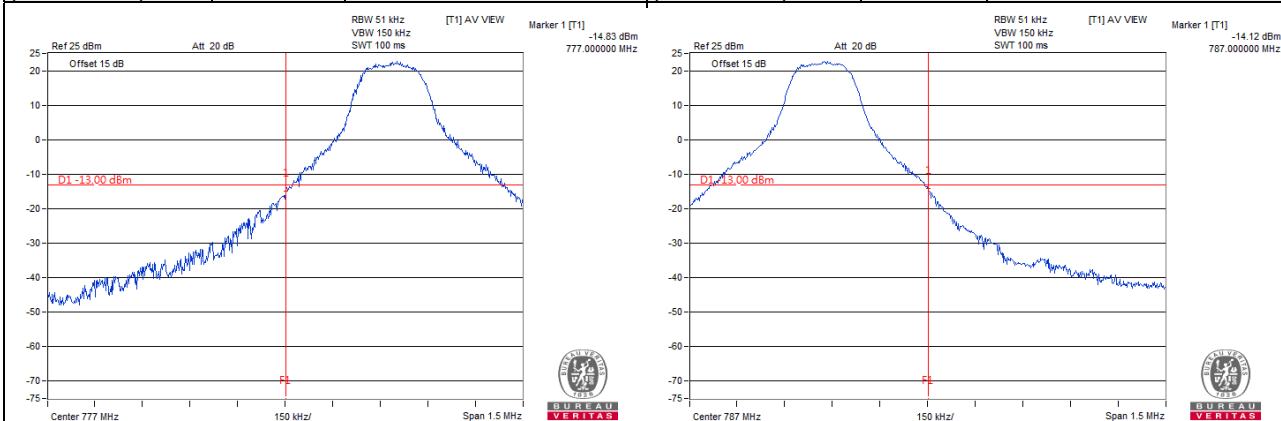
Channel 23060 (704MHz)	QPSK	50 RB / 0 RB Offset	Channel 23130 (711MHz)	QPSK	25 RB / 0 RB Offset
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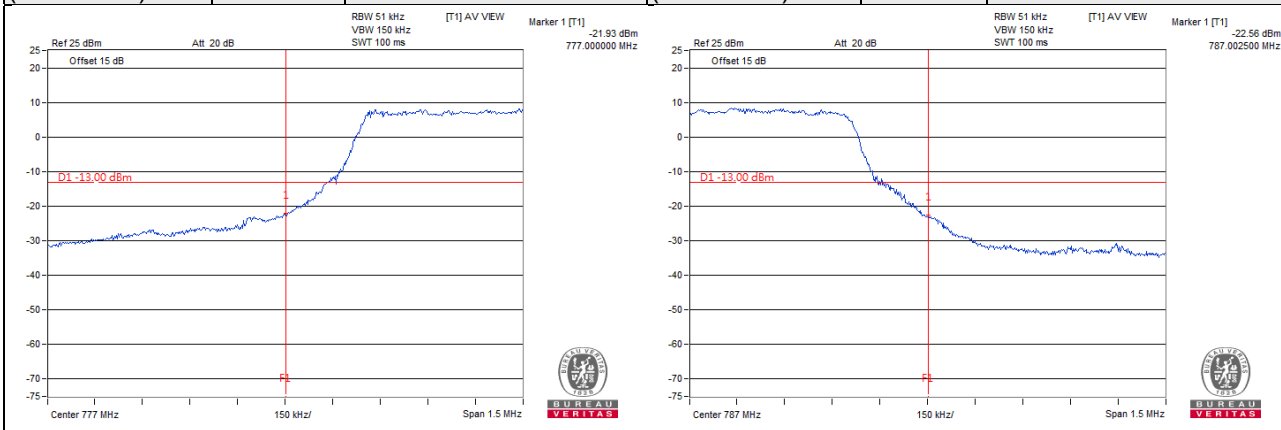
LTE Band 13

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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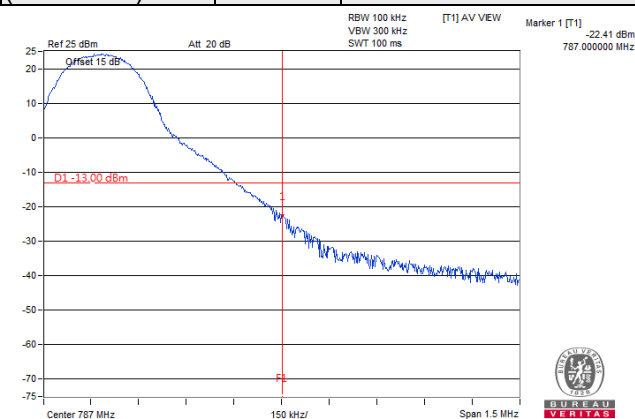
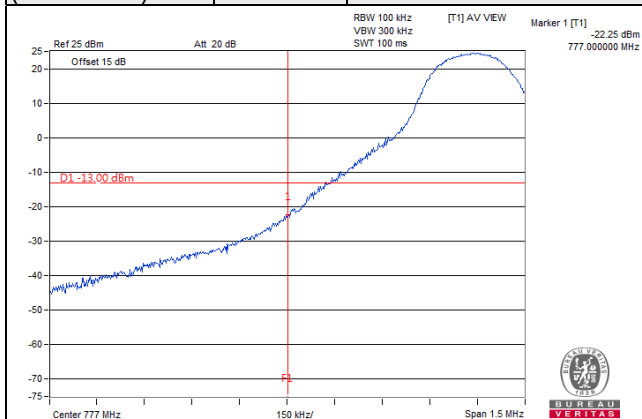


Channel 23205 (779.5MHz)	QPSK	25 RB / 0 RB Offset	Channel 23255 (784.5MHz)	QPSK	25 RB / 0 RB Offset
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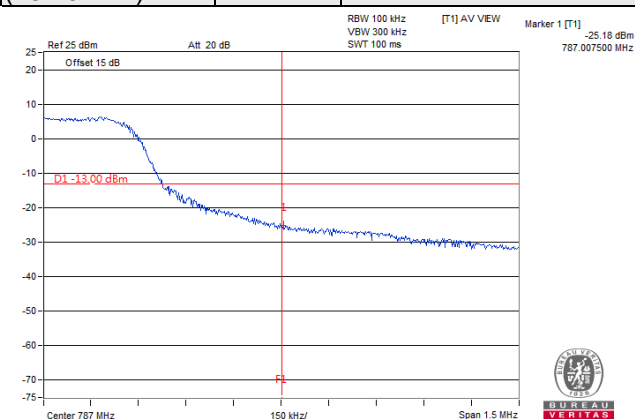
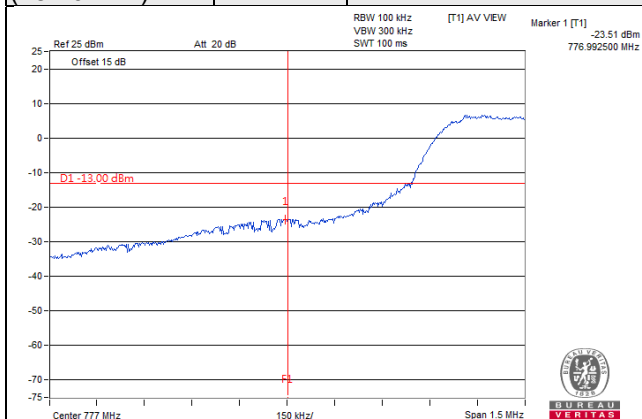


Channel Bandwidth: 10MHz

Channel 23230 (782.0MHz)	QPSK	1 RB / 0 RB Offset	Channel 23230 (782.0MHz)	QPSK	1 RB / 49 RB Offset
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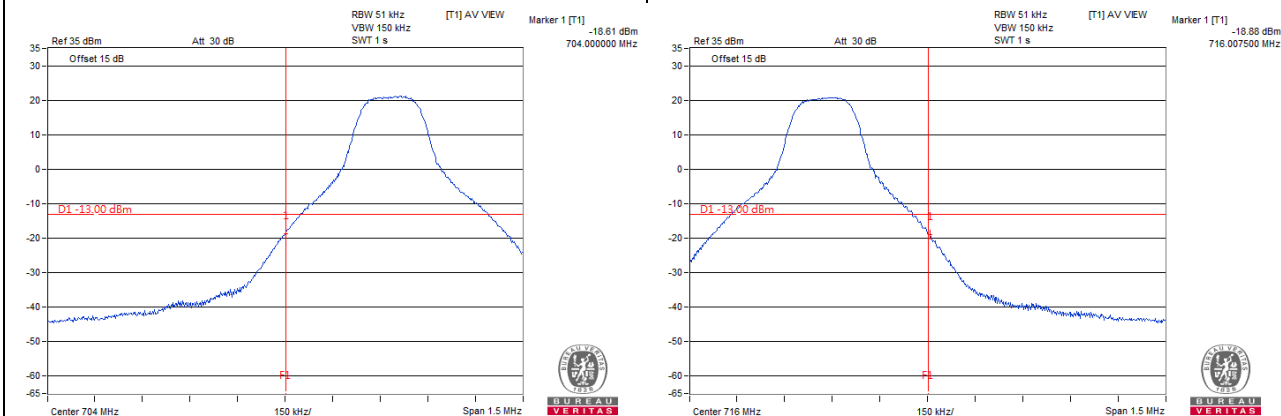
Channel 23230 (782.0MHz)	QPSK	50 RB / 0 RB Offset	Channel 23230 (782.0MHz)	QPSK	50 RB / 0 RB Offset
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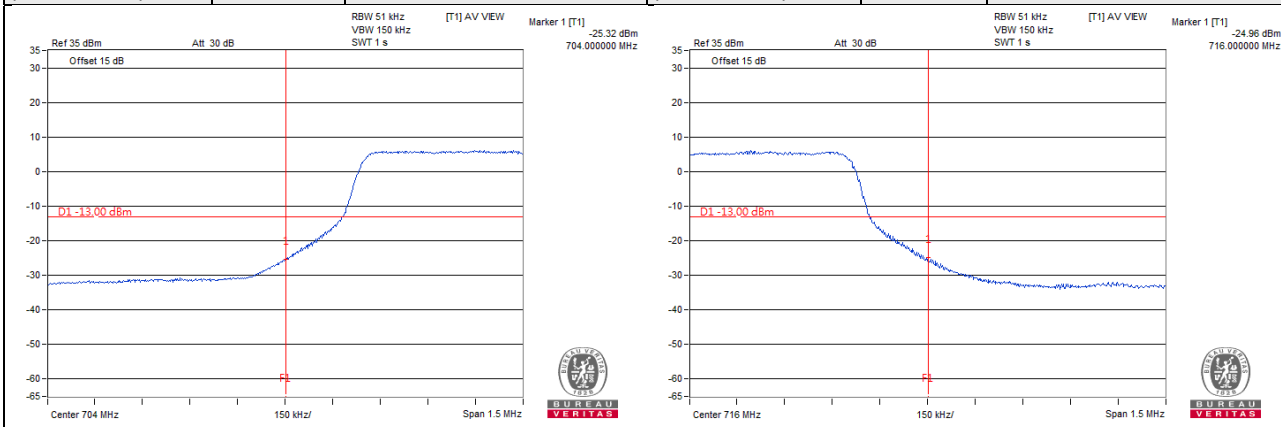
LTE Band 17

Channel Bandwidth: 5MHz

Channel 23755 (706.5MHz)	QPSK	1 RB / 0 RB Offset	Channel 23825 (713.5MHz)	QPSK	1 RB / 24 RB Offset
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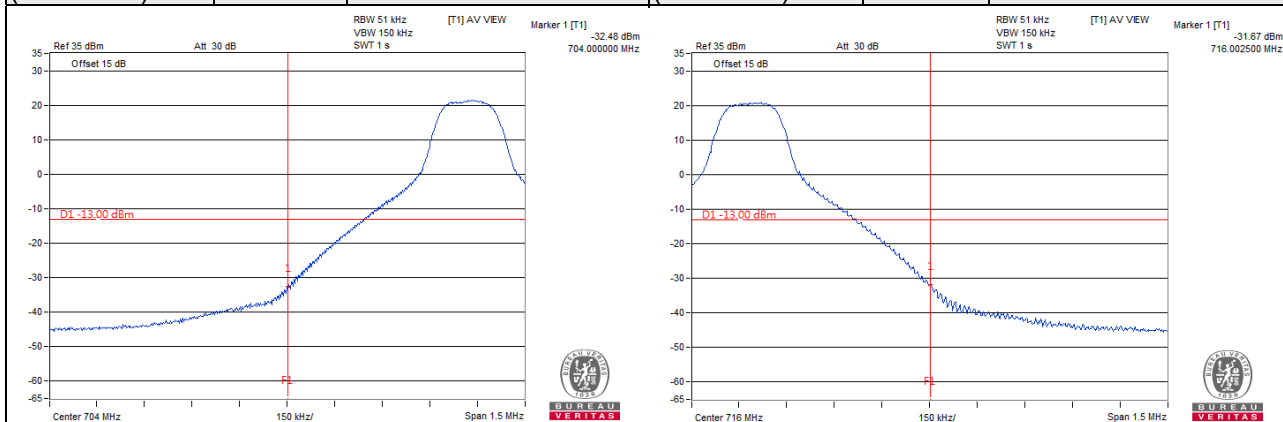


Channel 23755 (706.5MHz)	QPSK	25 RB / 0 RB Offset	Channel 23825 (713.5MHz)	QPSK	25 RB / 0 RB Offset
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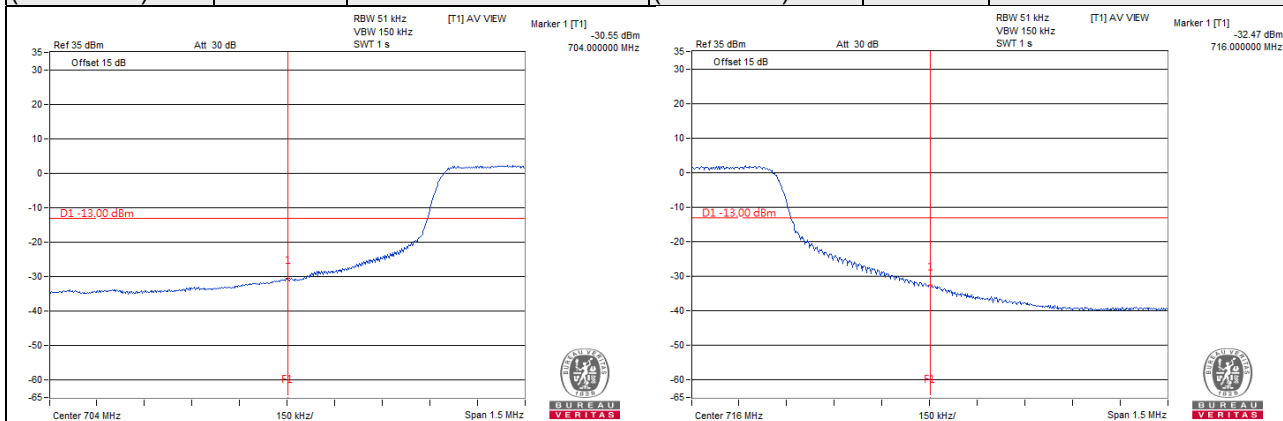


Channel Bandwidth: 10MHz

Channel 23780 (709.0MHz)	QPSK	1 RB / 0 RB Offset	Channel 23790 (711.0MHz)	QPSK	1 RB / 49 RB Offset
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Channel 23780 (709.0MHz)	QPSK	50 RB / 0 RB Offset	Channel 23790 (711.0MHz)	QPSK	50 RB / 0 RB Offset
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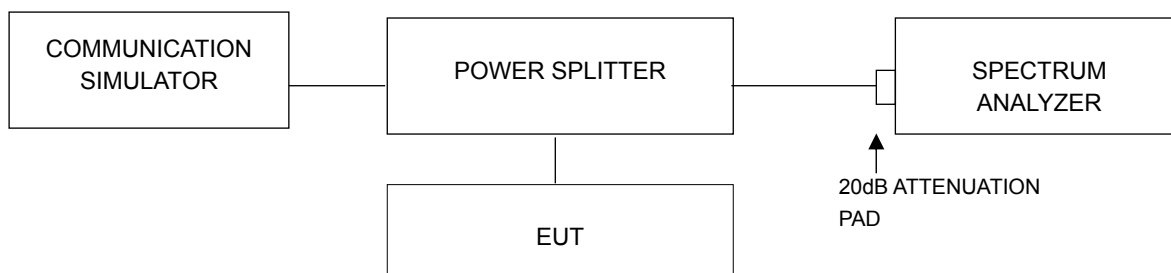


4.6 Peak to Average Ratio

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	5.17	5.13
20175	1732.5	4.93	4.83
20393	1754.3	4.81	4.74

LTE Band 4, Channel Bandwidth: 3MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
19965	1711.5	5.25	5.26
20175	1732.5	4.99	5.00
20385	1753.5	4.93	4.97

LTE Band 4, Channel Bandwidth: 5MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
19975	1712.5	5.20	5.21
20175	1732.5	5.02	5.00
20375	1752.5	4.97	4.98

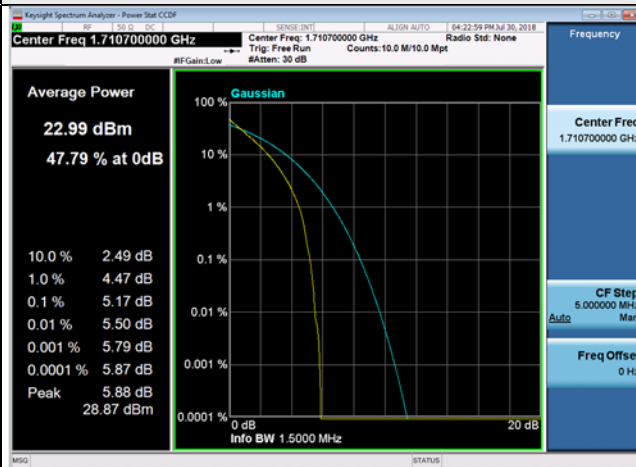
LTE Band 4, Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
20000	1715.0	5.18	5.19
20175	1732.5	5.00	5.02
20350	1750.0	5.06	5.09

LTE Band 4, Channel Bandwidth: 15MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
20025	1717.5	5.06	5.04
20175	1732.5	4.87	4.99
20325	1747.5	5.08	5.08

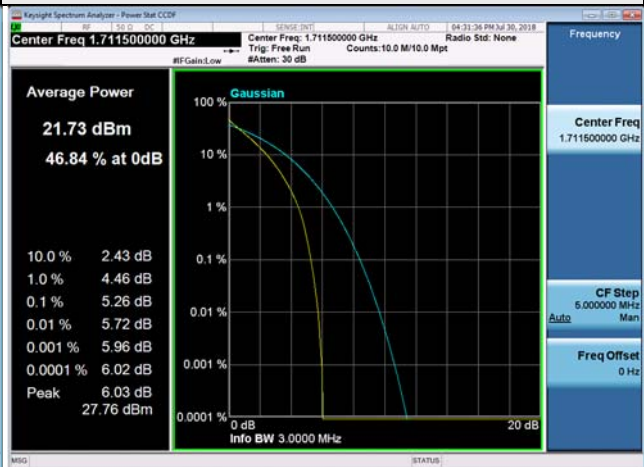
LTE Band 4, Channel Bandwidth: 20MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
20050	1720.0	4.92	4.92
20175	1732.5	5.12	4.95
20300	1745.0	5.06	5.07

Spectrum Plot Of Worst Value

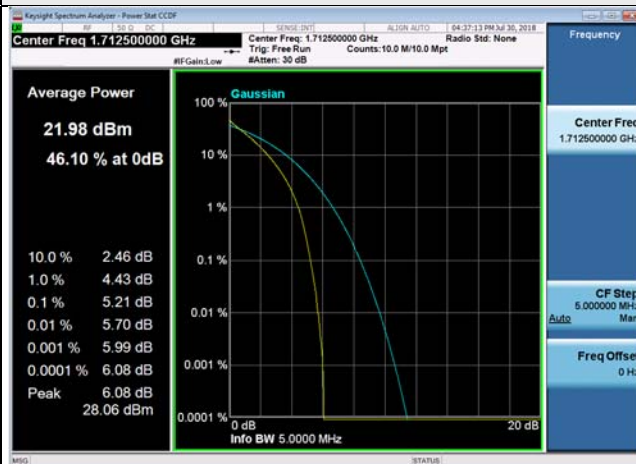
1.4MHz / QPSK



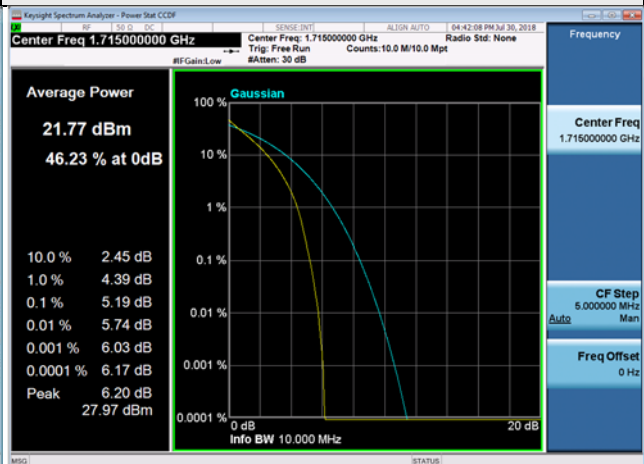
3MHz / 16QAM



5MHz / 16QAM



10MHz / 16QAM



15MHz / 16QAM



20MHz / QPSK



LTE Band 12, Channel Bandwidth: 1.4MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
23017	699.7	5.23	5.16
23095	707.5	5.37	5.34
23173	715.3	5.23	5.25

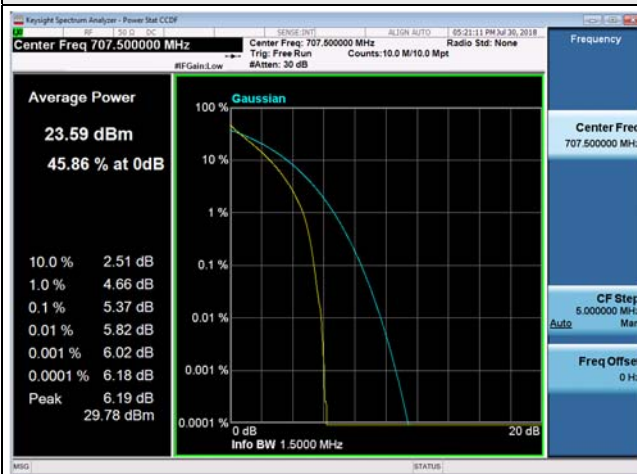
LTE Band 12, Channel Bandwidth: 3MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
23025	700.5	5.17	5.25
23095	707.5	5.43	5.43
23165	714.5	5.30	5.24

LTE Band 12, Channel Bandwidth: 5MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
23035	701.5	5.25	5.28
23095	707.5	5.38	5.38
23155	713.5	5.27	5.28

LTE Band 12, Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
23060	704.0	5.45	5.43
23095	707.5	5.35	5.31
23130	711.0	5.15	5.14

Spectrum Plot Of Worst Value

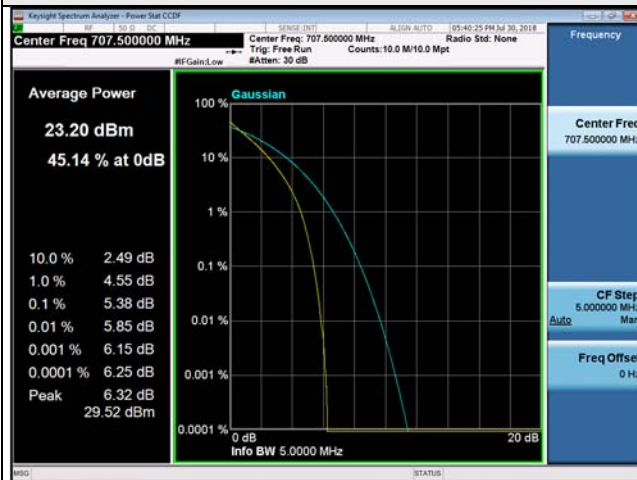
1.4MHz / QPSK



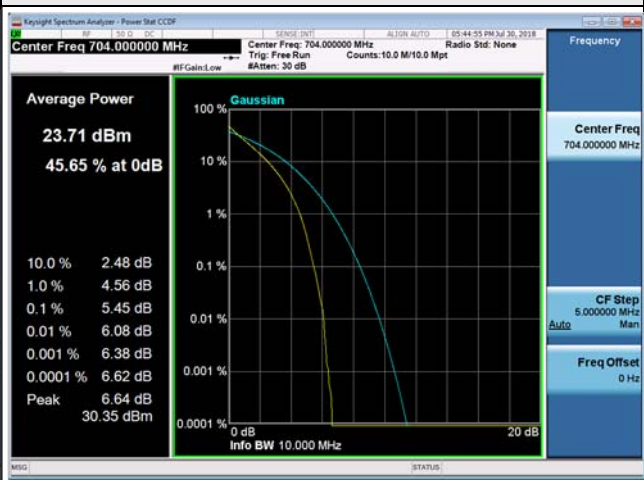
3MHz / QPSK



5MHz / 16QAM



10MHz / QPSK



LTE Band 13, Channel Bandwidth: 5MHz

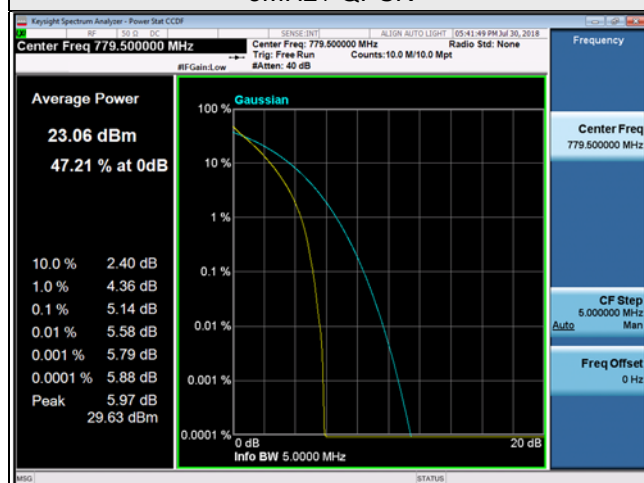
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
23205	779.5	5.14	5.13
23230	782.0	4.96	4.99
23255	784.5	5.12	5.12

LTE Band 13, Channel Bandwidth: 10MHz

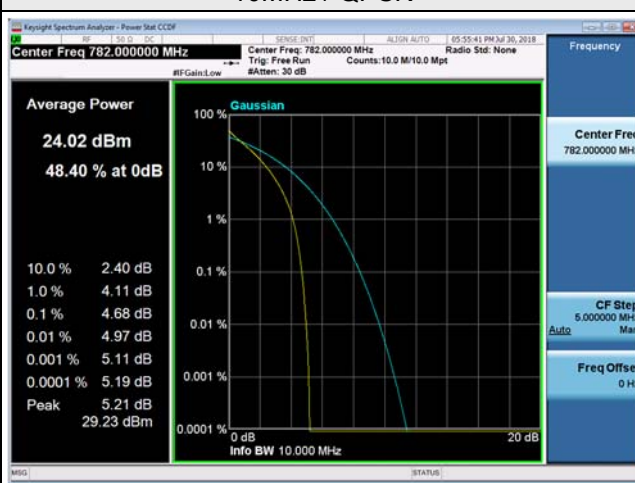
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
23230	782.0	4.68	4.63

Spectrum Plot Of Worst Value

5MHz / QPSK



10MHz / QPSK



LTE Band 17, Channel Bandwidth: 5MHz

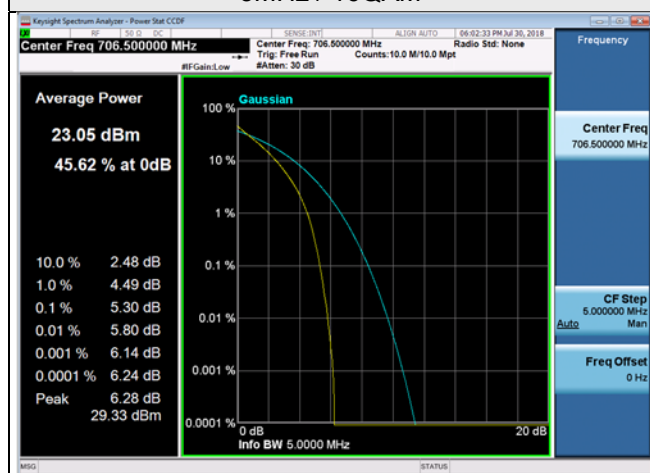
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
23755	706.5	5.28	5.30
23790	710.0	5.24	5.15
23825	713.5	5.17	5.14

LTE Band 17, Channel Bandwidth: 10MHz

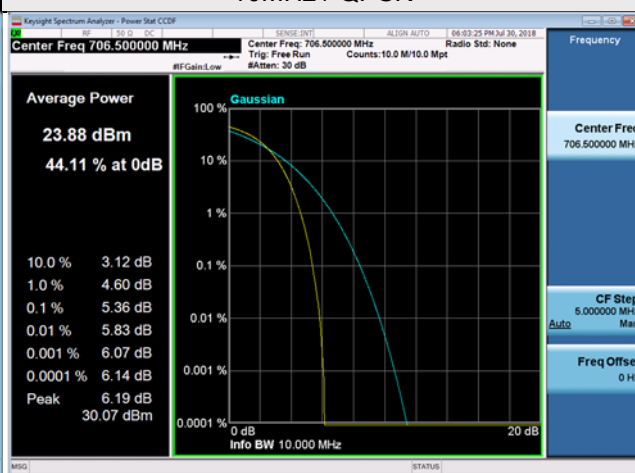
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
23780	709.0	5.10	5.06
23790	710.0	5.36	5.06
23800	711.0	5.03	5.03

Spectrum Plot Of Worst Value

5MHz / 16QAM



10MHz / QPSK



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 .

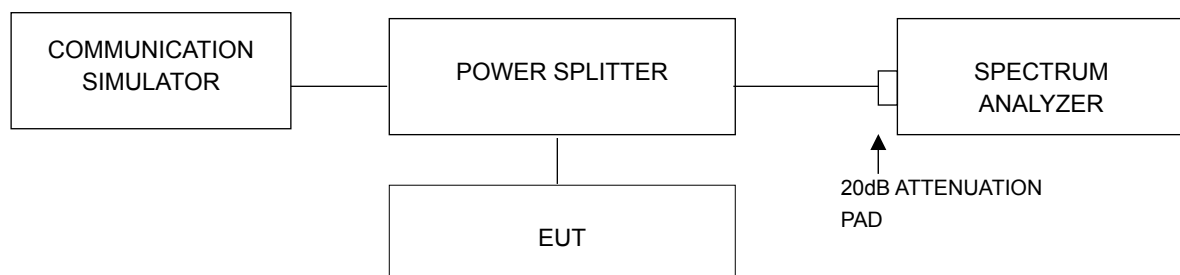
For LTE Band 13

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 26.5GHz, it shall be connected to the attenuator with the carried frequency.

4.7.4 Test Results

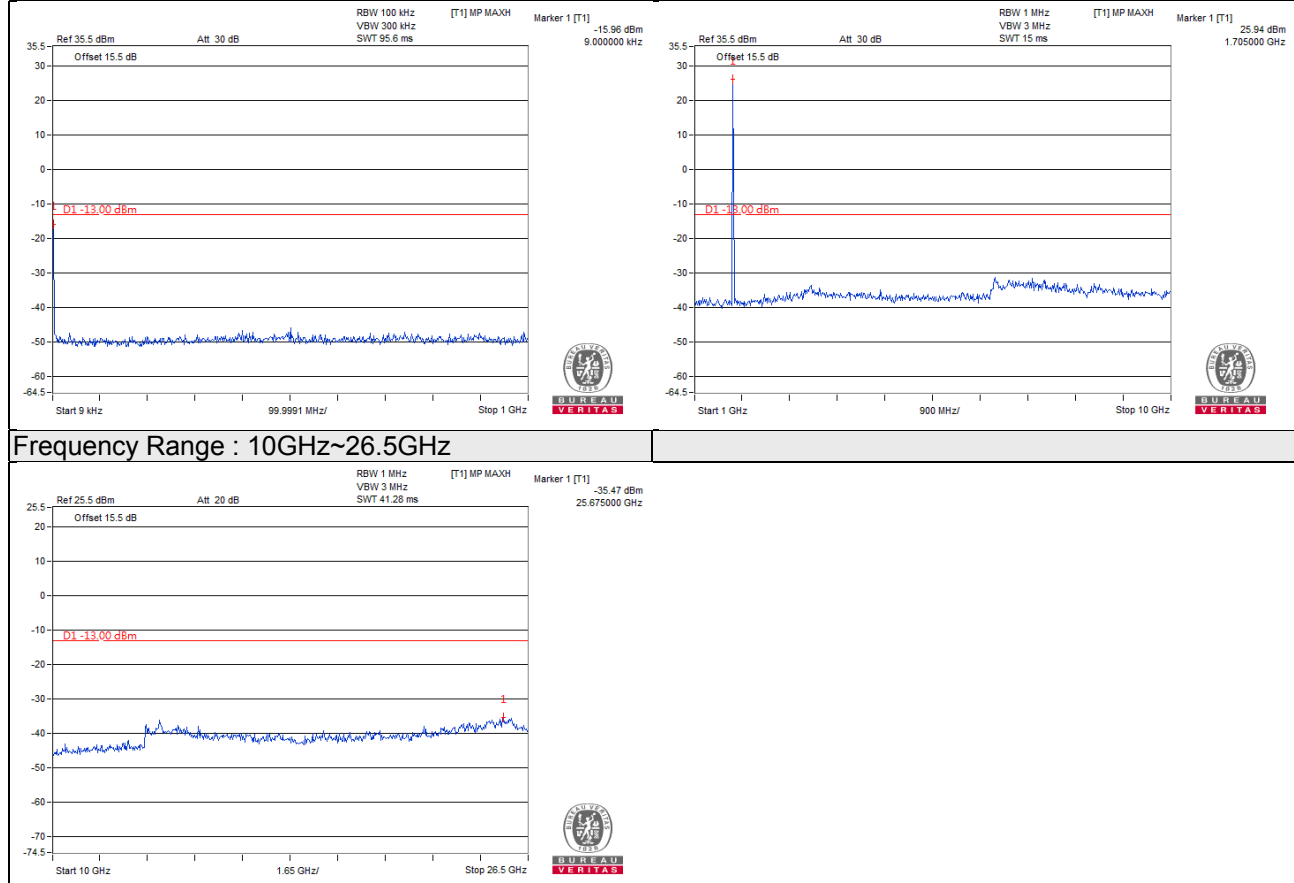
LTE Band 4

Channel Bandwidth: 1.4MHz

Channel 19957 (1710.7MHz)

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



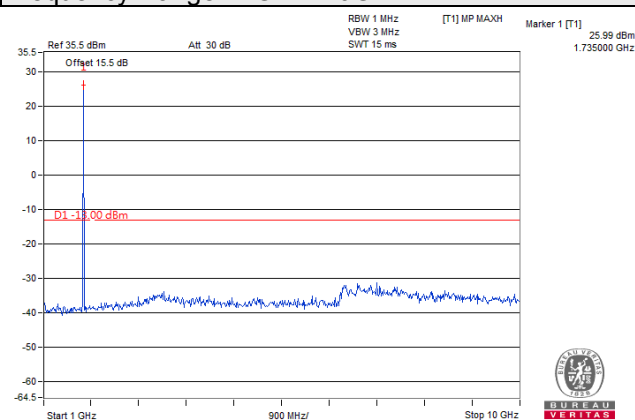
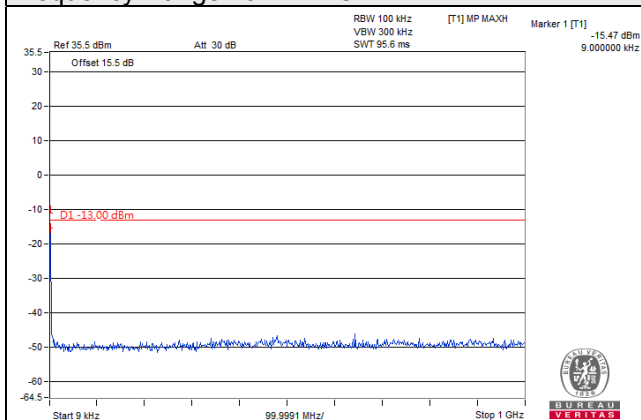
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Bandwidth: 1.4MHz

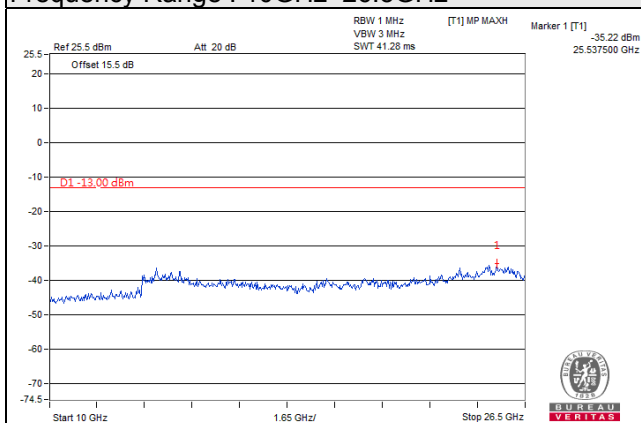
Channel 20175 (1732.5MHz)

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz



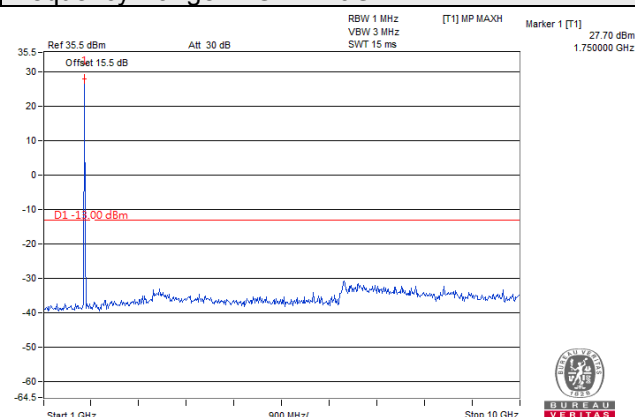
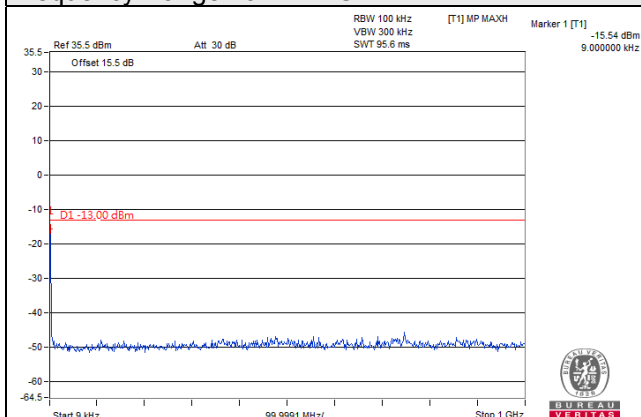
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Bandwidth: 1.4MHz

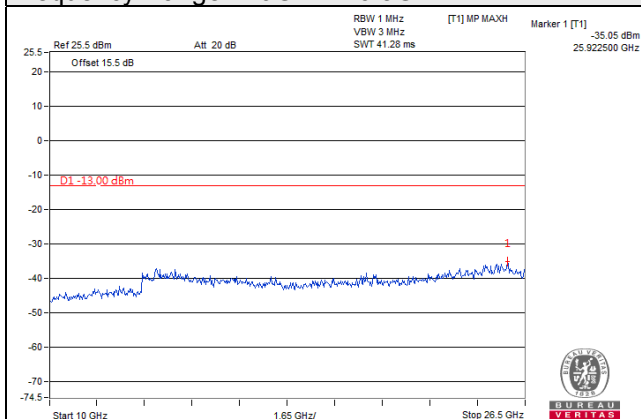
Channel 20393 (1754.3MHz)

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz

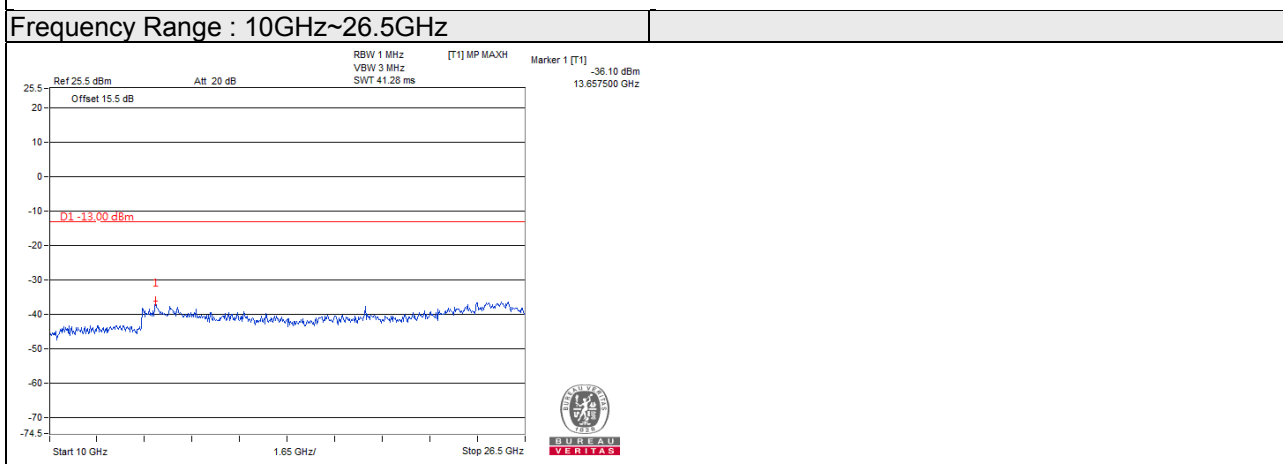
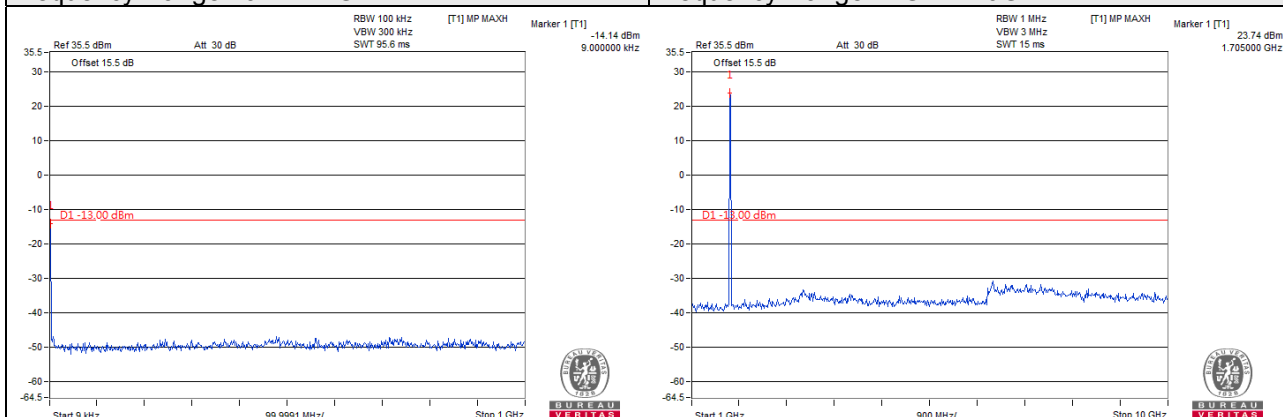


Frequency Range : 10GHz~26.5GHz



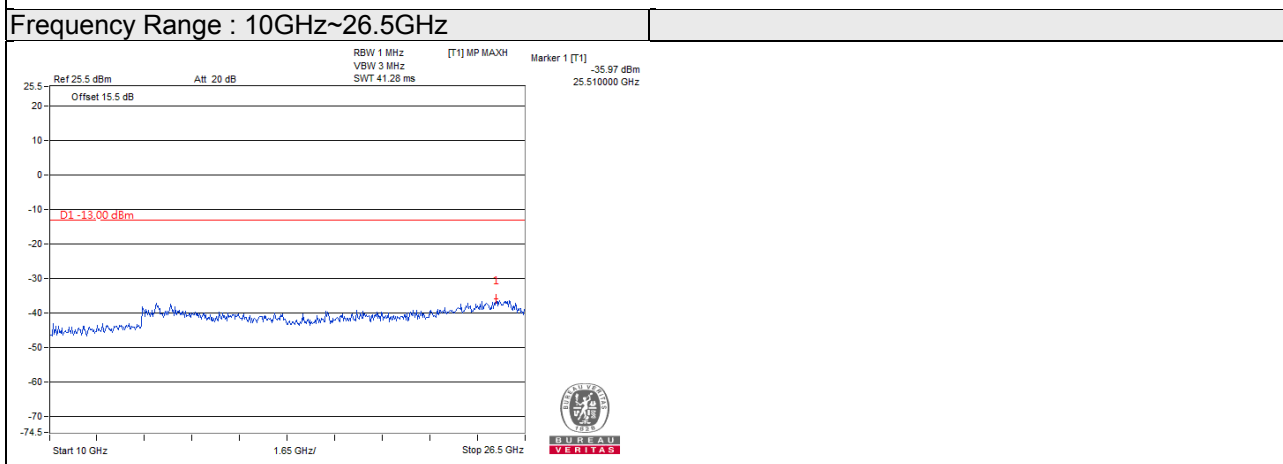
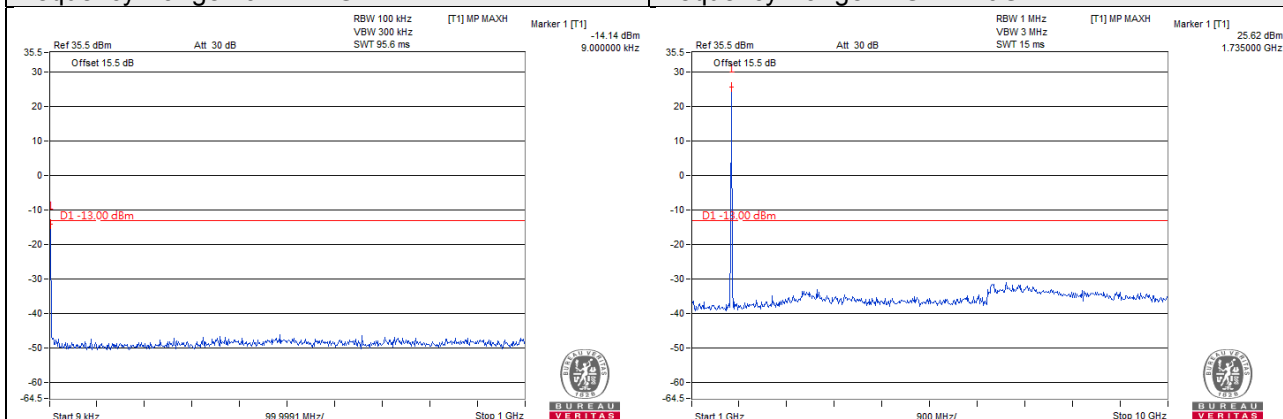
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Bandwidth: 3MHz	
Channel 19965 (1711.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz



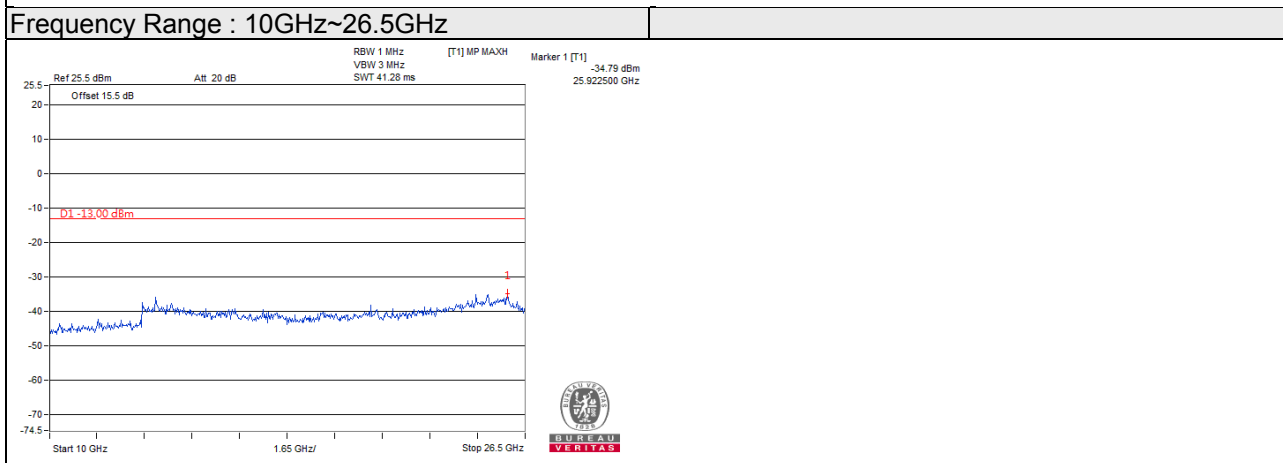
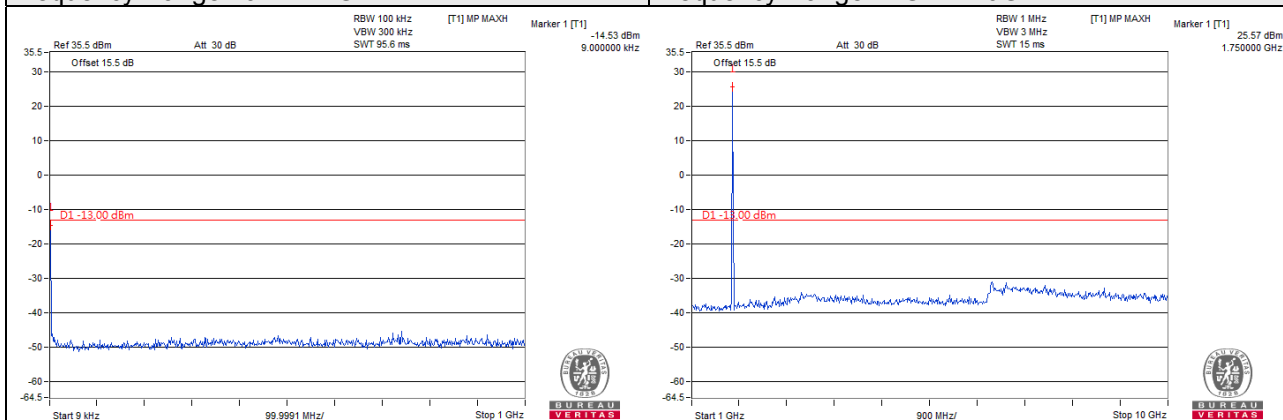
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Bandwidth: 3MHz	
Channel 20175 (1732.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz



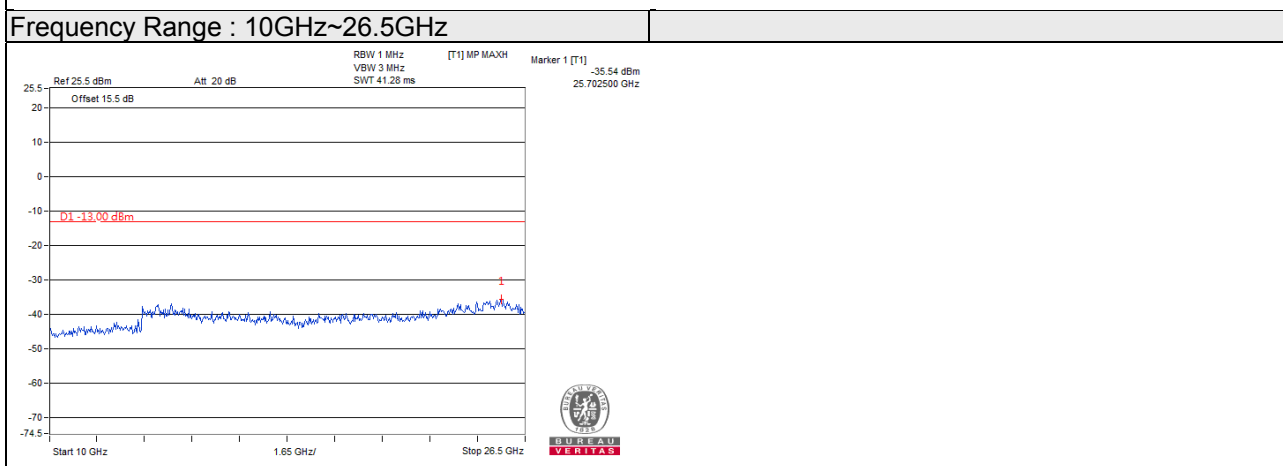
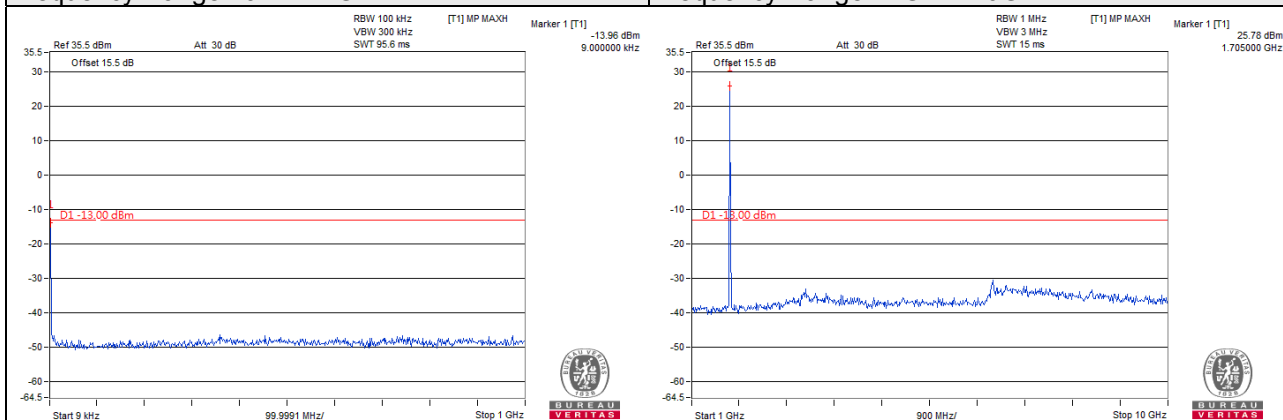
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Bandwidth: 3MHz	
Channel 20385 (1753.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz



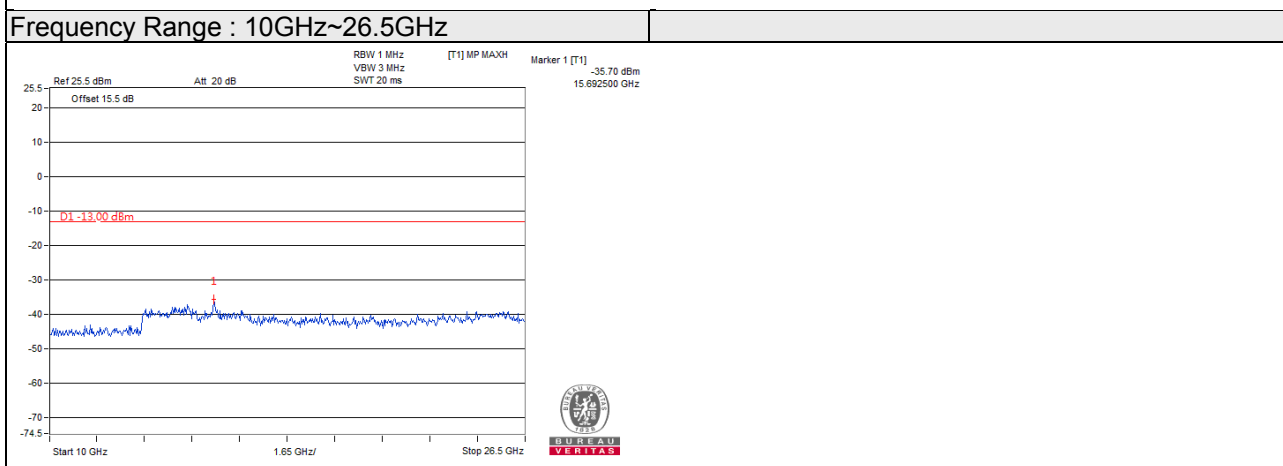
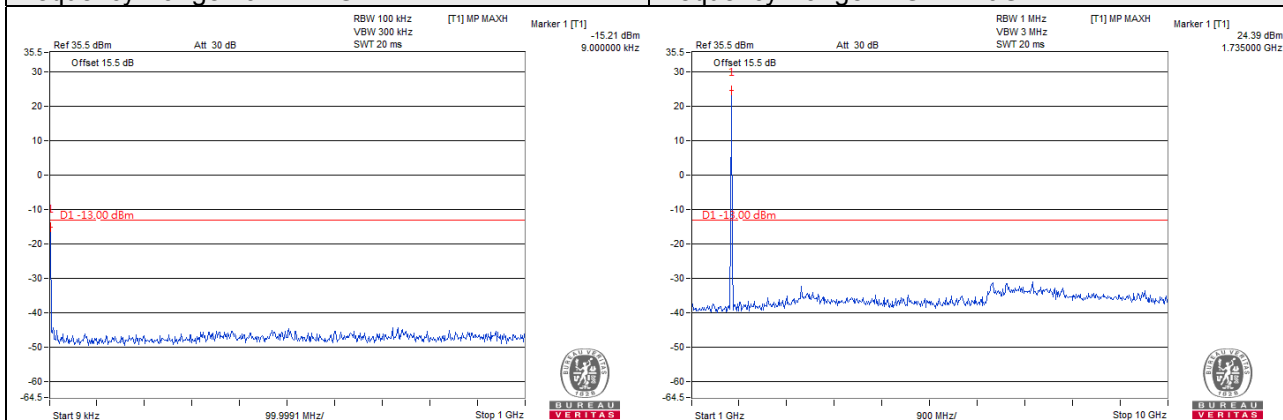
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Bandwidth: 5MHz	
Channel 19975 (1712.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz



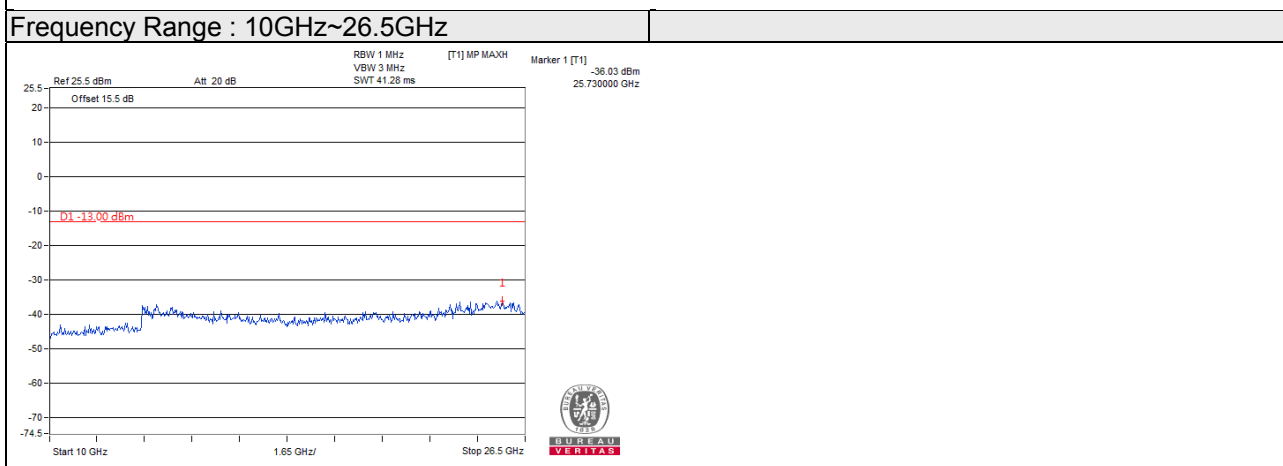
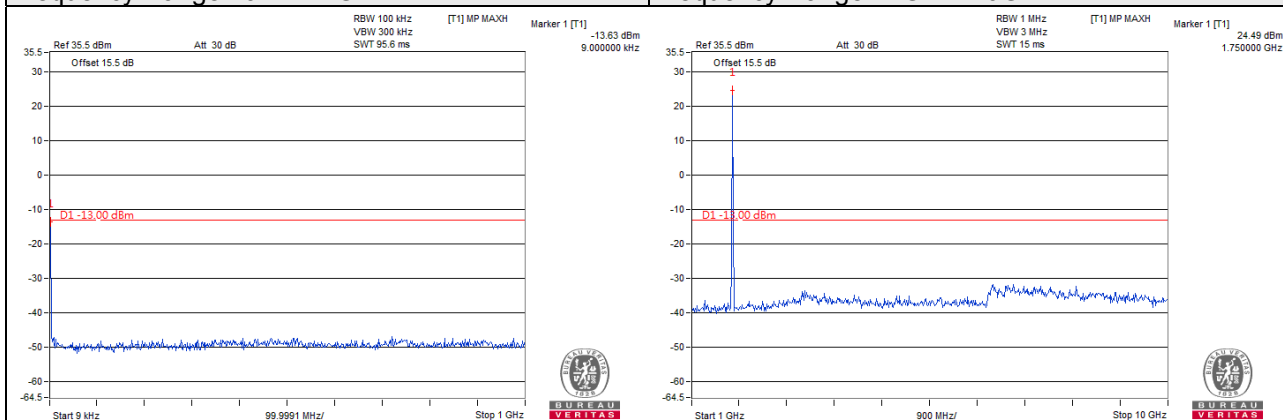
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Bandwidth: 5MHz	
Channel 20175 (1732.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz



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

Channel Bandwidth: 5MHz	
Channel 20375 (1752.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz



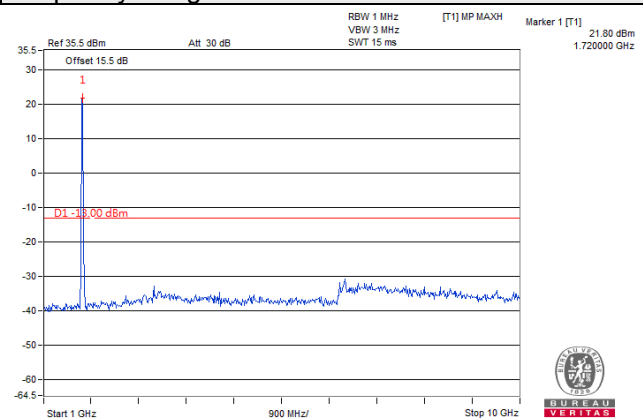
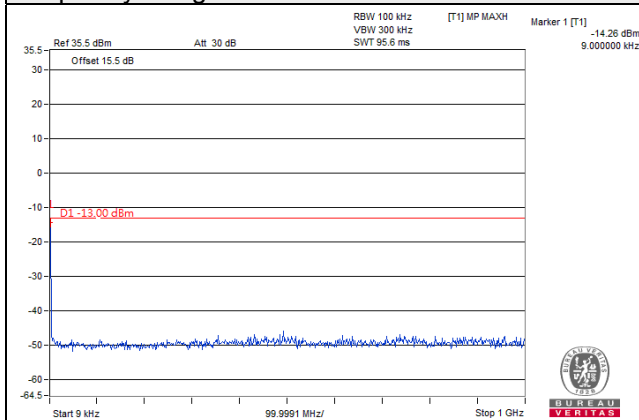
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Bandwidth: 10MHz

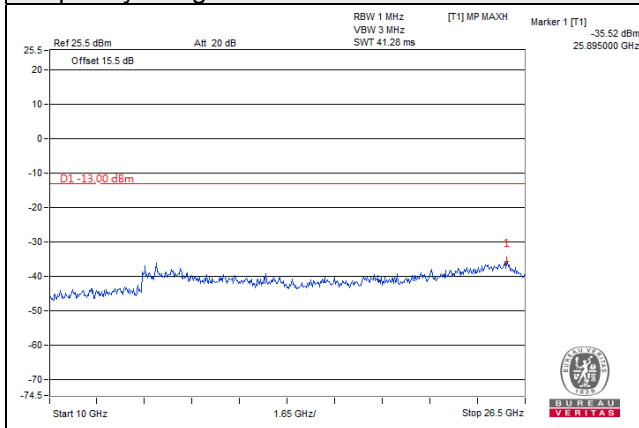
Channel 20000 (1715.0MHz)

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz

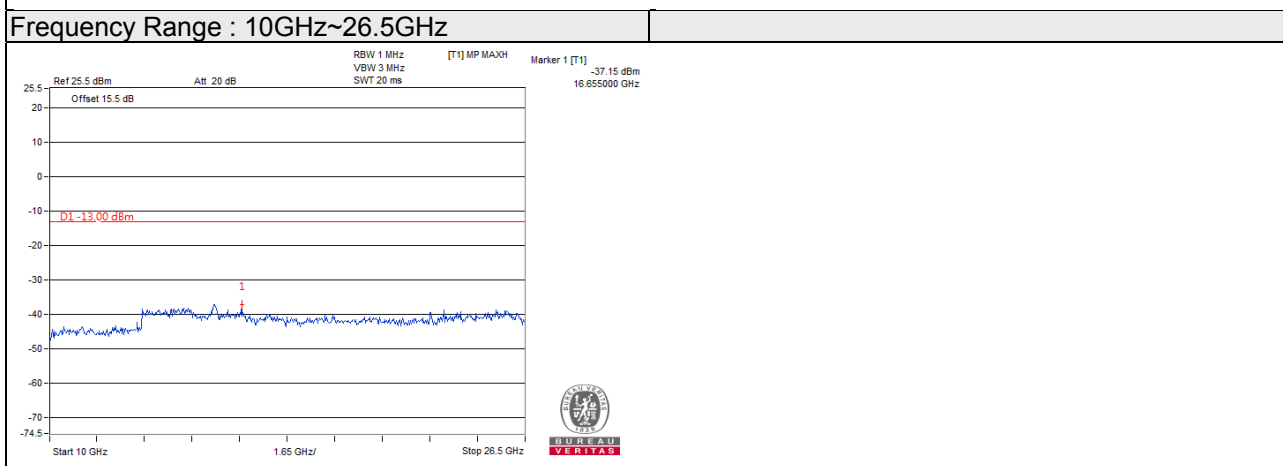
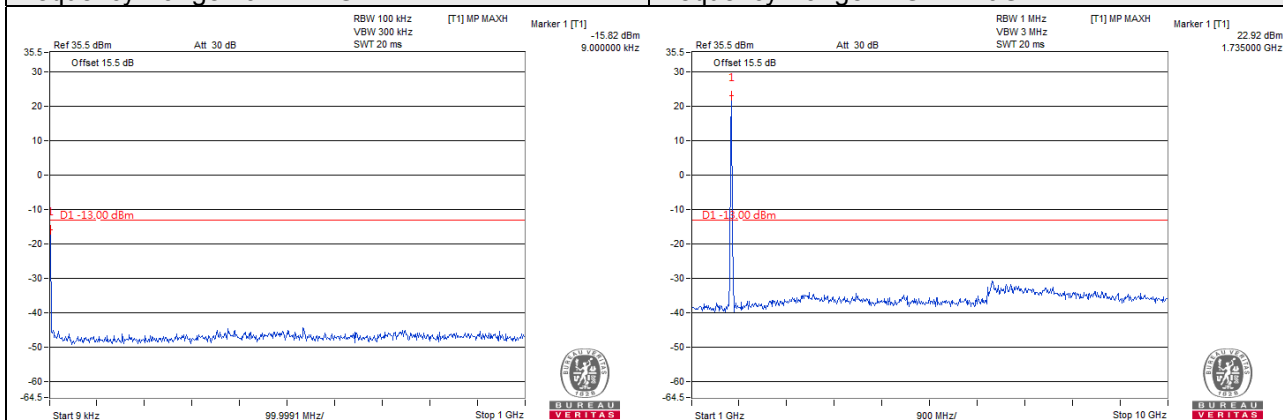


Frequency Range : 10GHz~26.5GHz



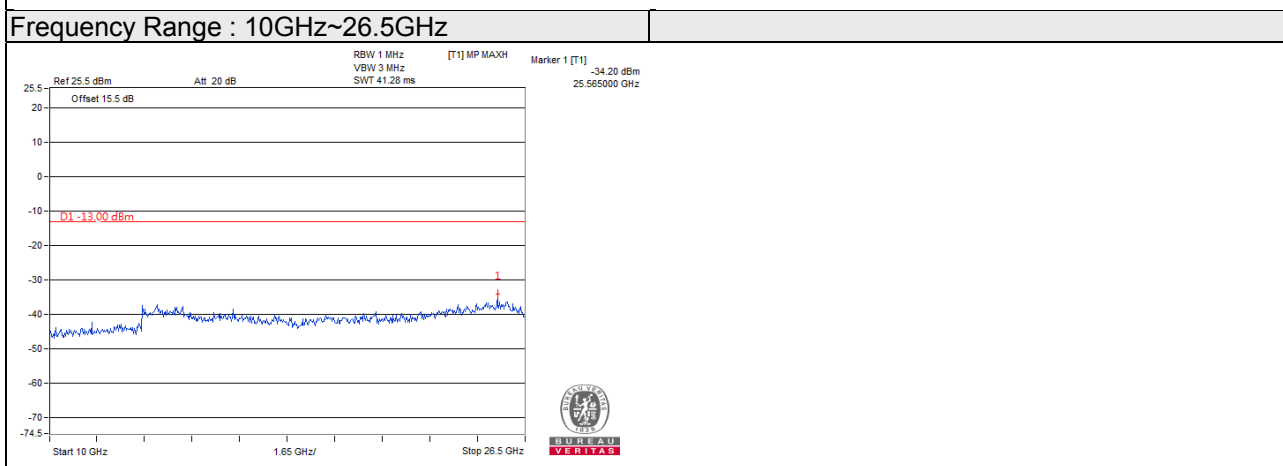
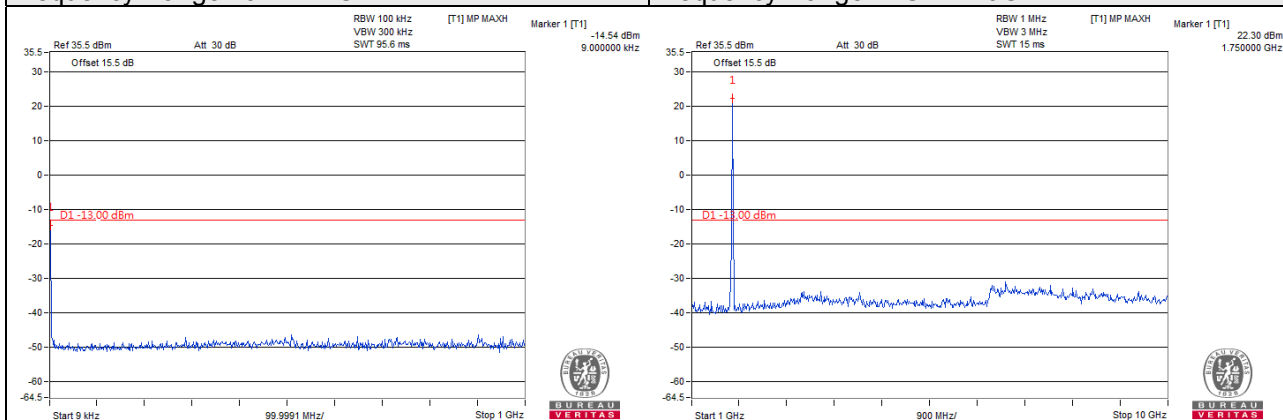
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Bandwidth: 10MHz	
Channel 20175 (1732.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz



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

Channel Bandwidth: 10MHz	
Channel 20350 (1750.0MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz



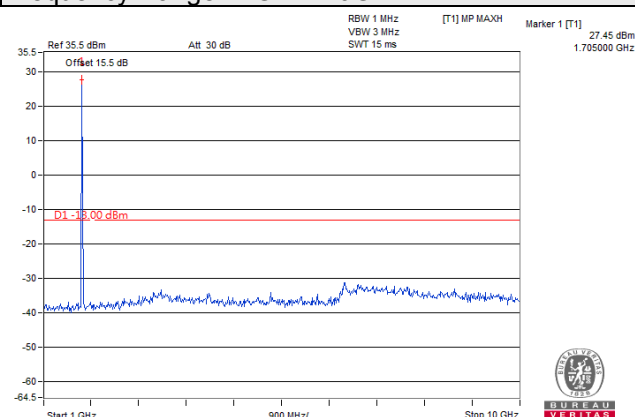
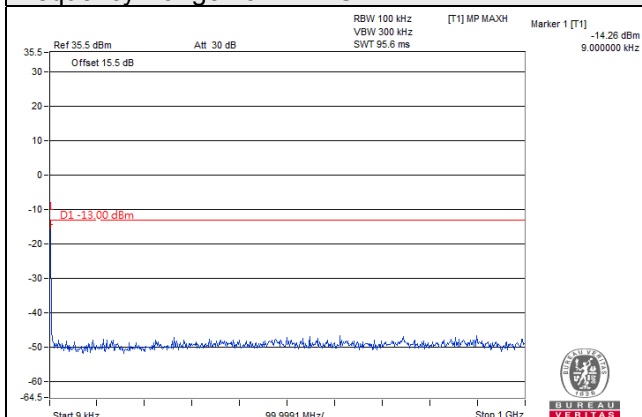
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Bandwidth: 15MHz

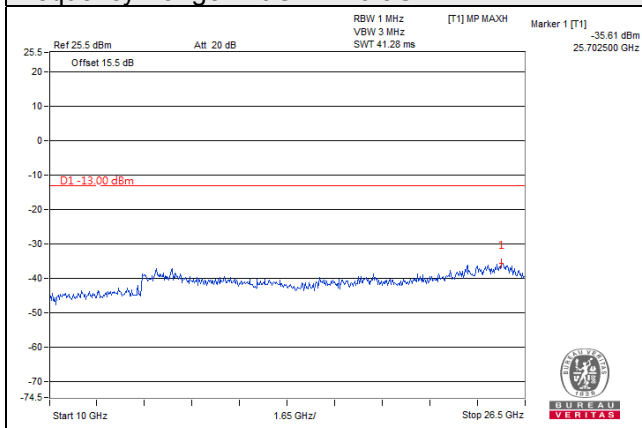
Channel 20025 (1717.5MHz)

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz

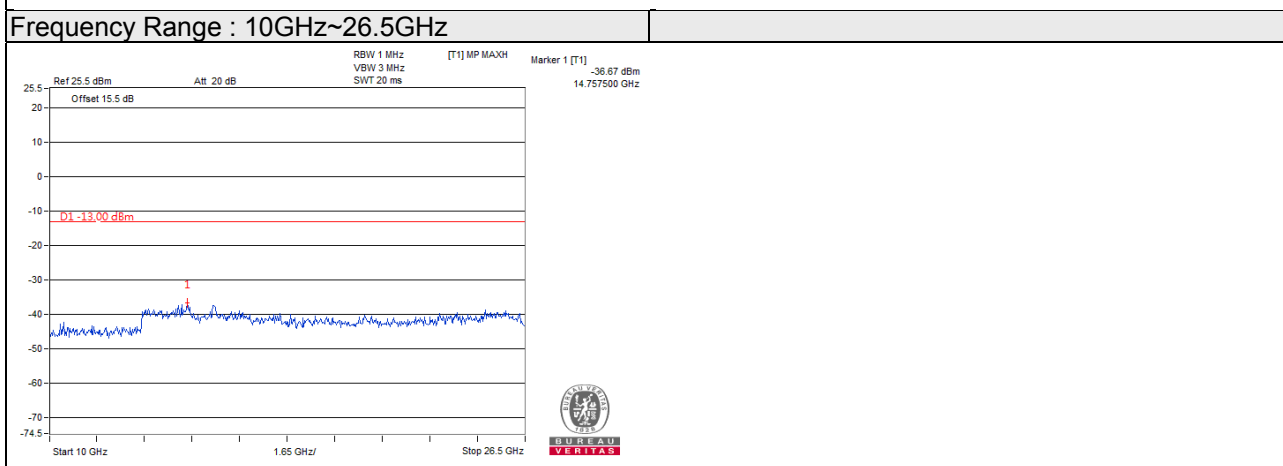
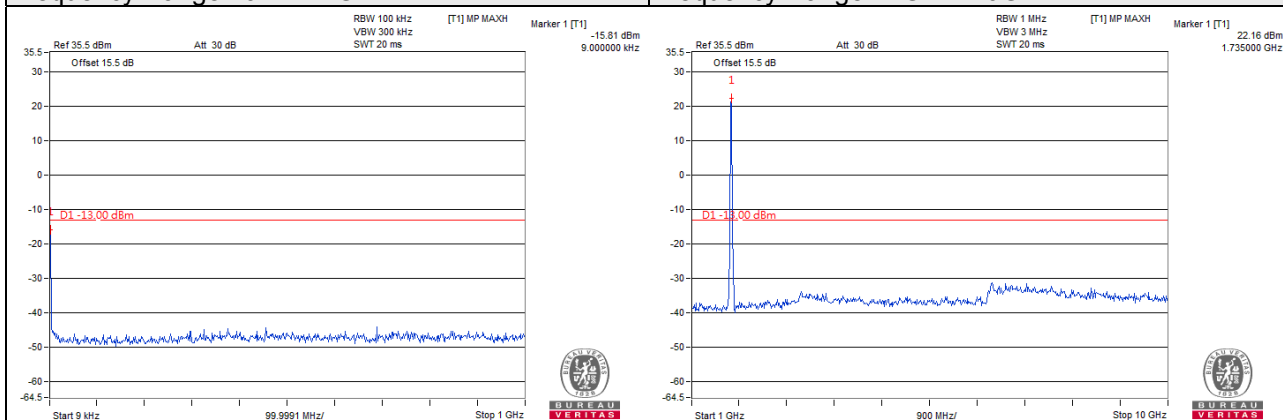


Frequency Range : 10GHz~26.5GHz



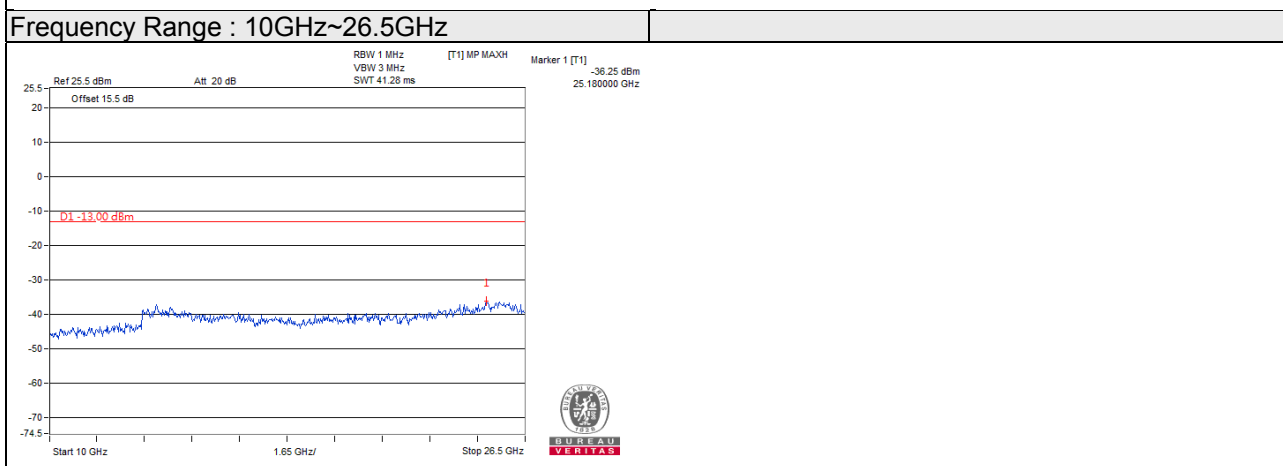
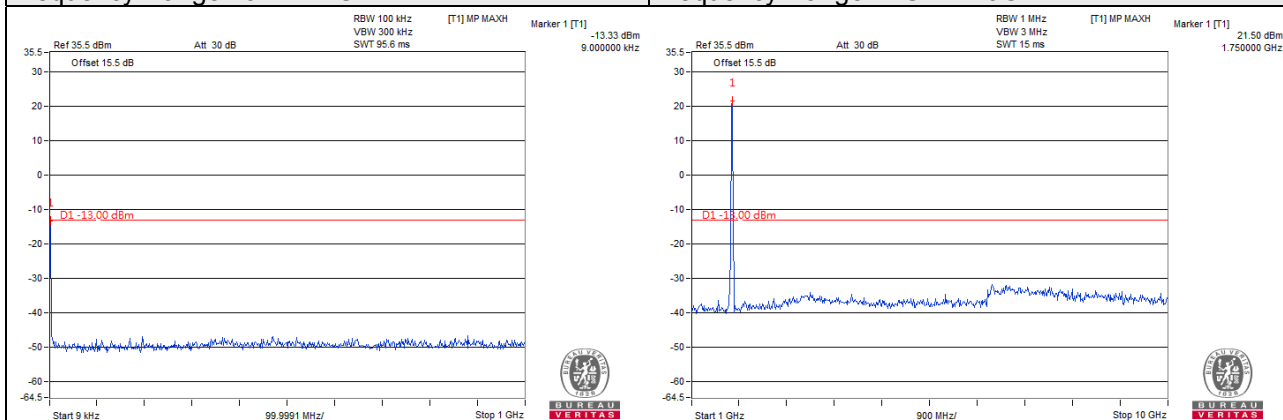
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Bandwidth: 15MHz	
Channel 20175 (1732.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz



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

Channel Bandwidth: 15MHz	
Channel 20325 (1747.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz



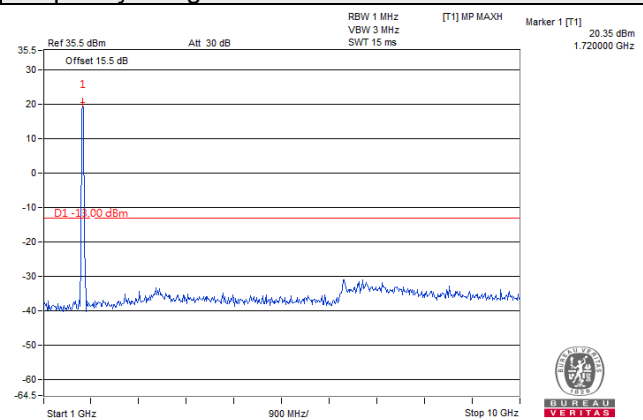
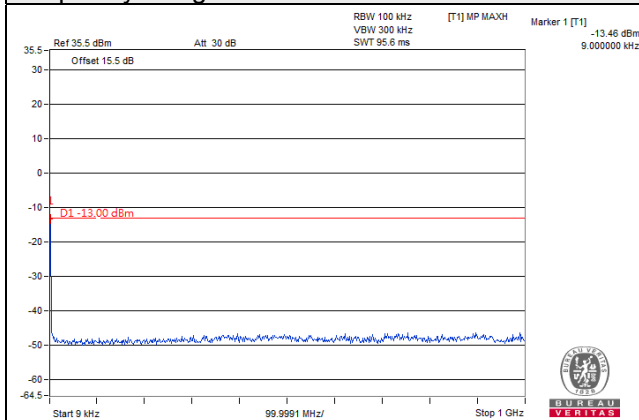
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Bandwidth: 20MHz

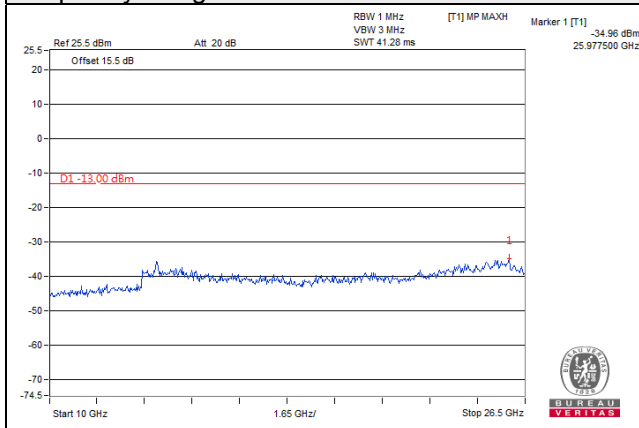
Channel 20050 (1720.0MHz)

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz



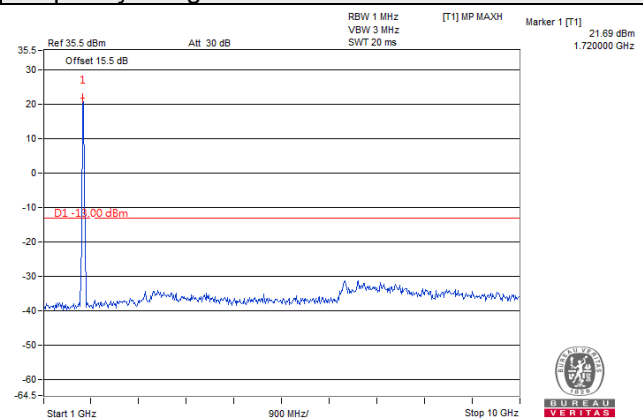
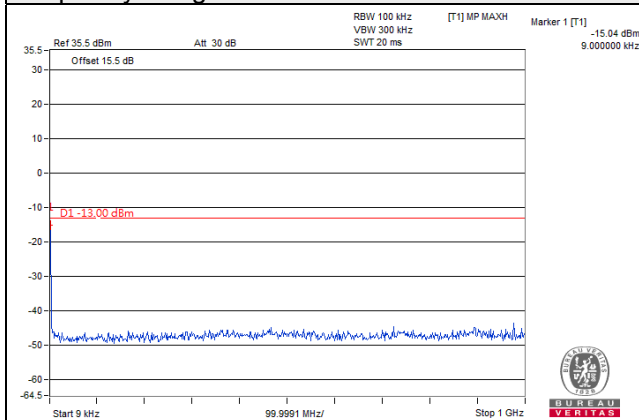
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Bandwidth: 20MHz

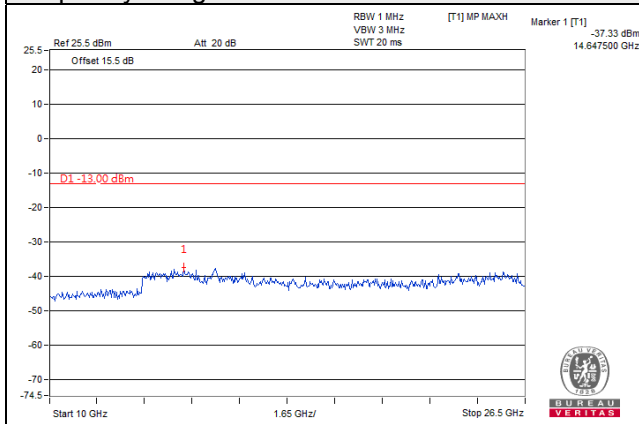
Channel 20175 (1732.5MHz)

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz



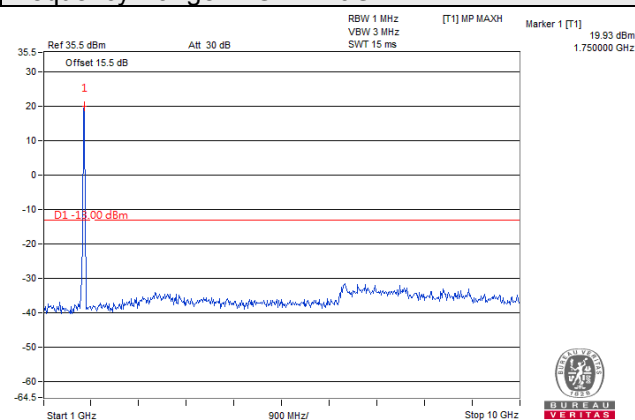
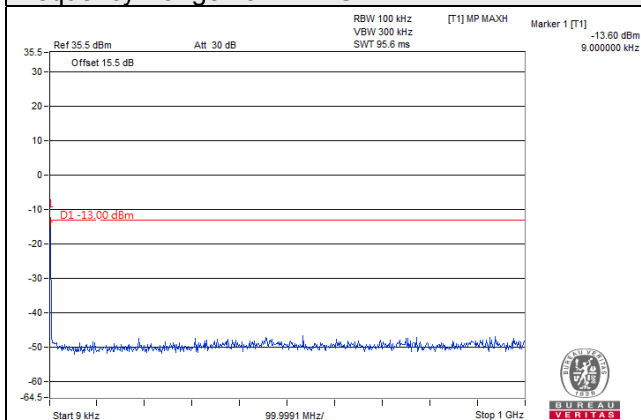
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Bandwidth: 20MHz

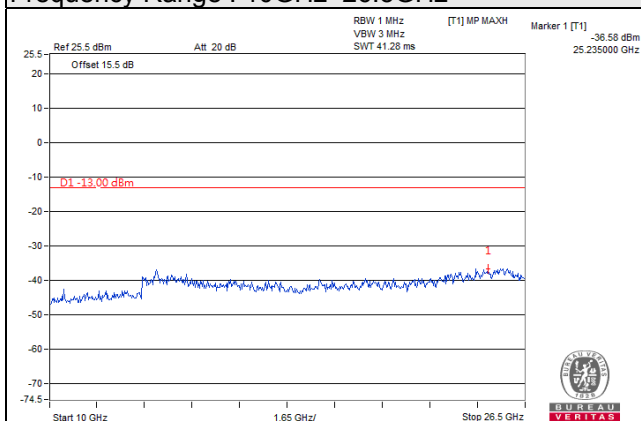
Channel 20300 (1745.0MHz)

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz



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

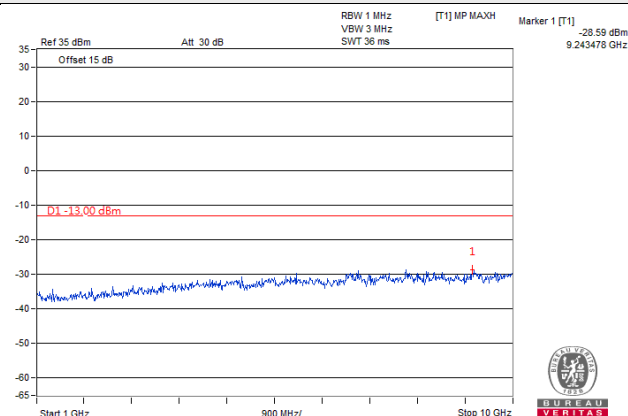
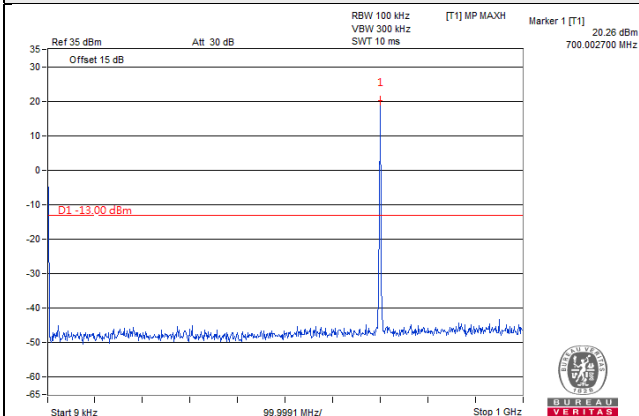
LTE Band 12

Channel Band width: 1.4MHz

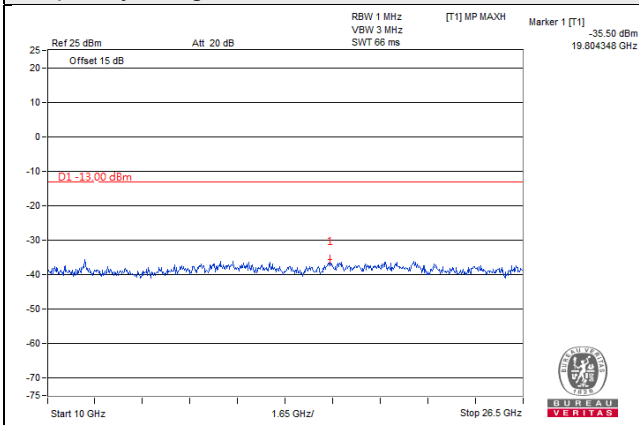
Channel 23017 (699.7MHz)

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz



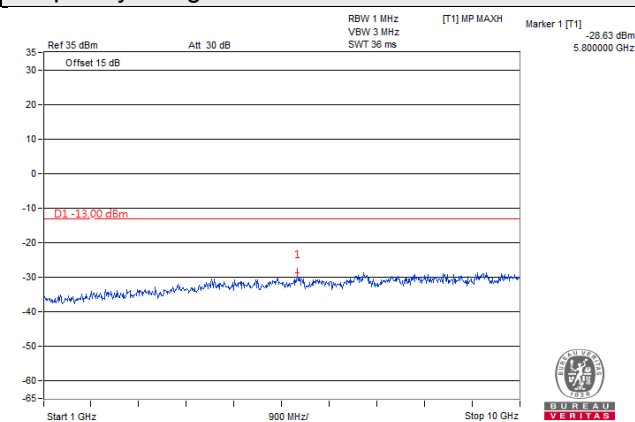
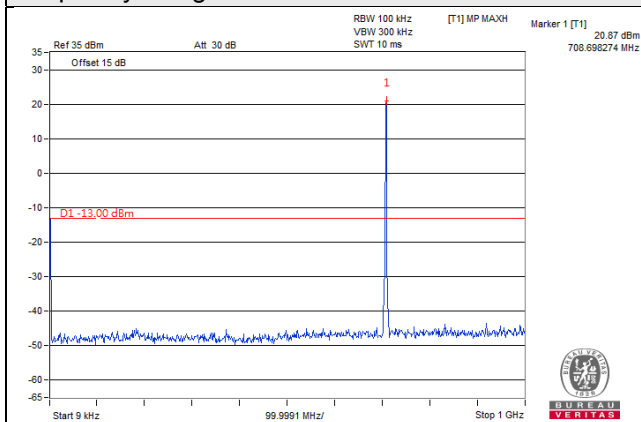
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Band width: 1.4MHz

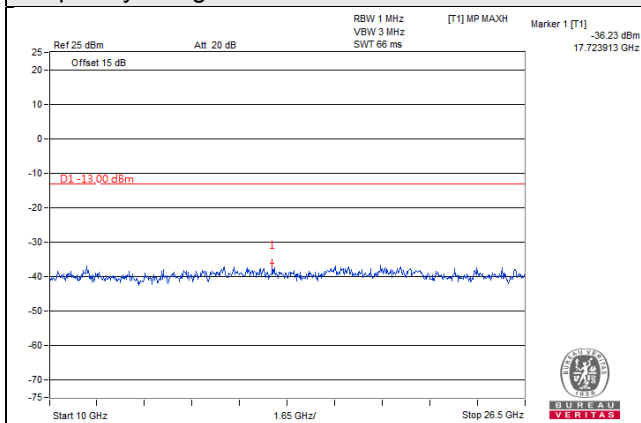
Channel 23095 (707.5MHz)

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz



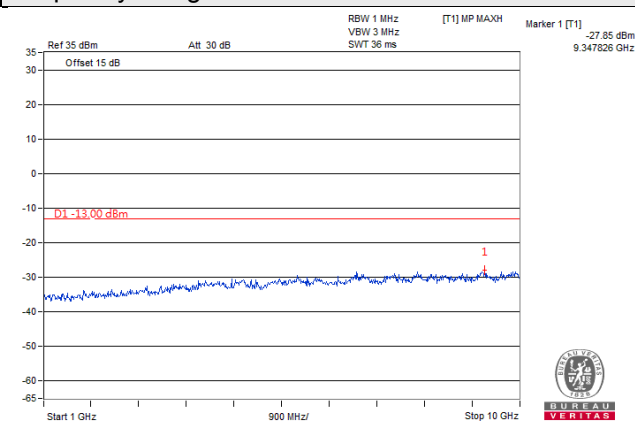
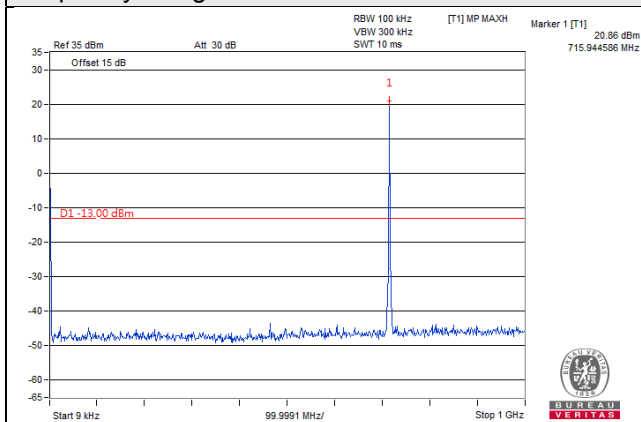
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Band width: 1.4MHz

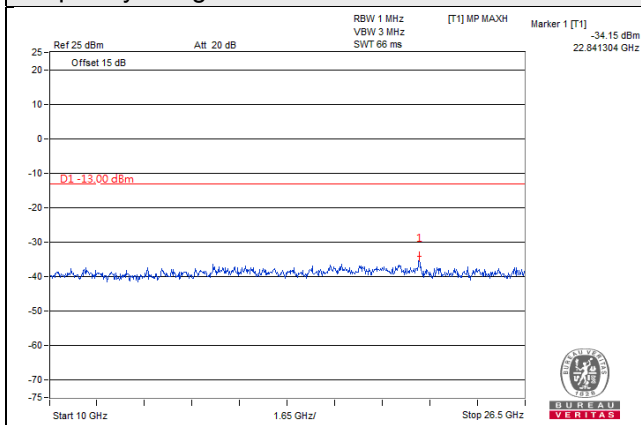
Channel 23173 (715.3MHz)

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz



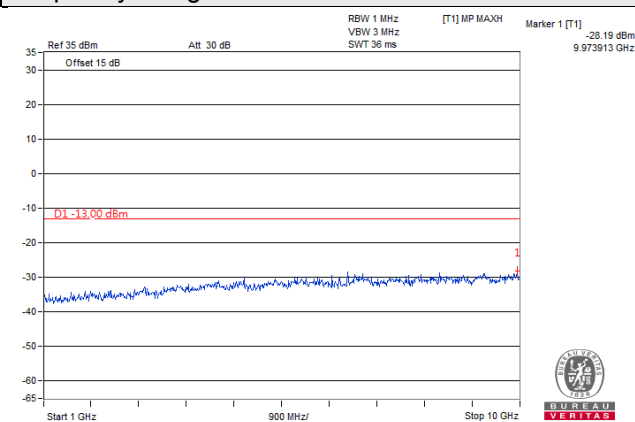
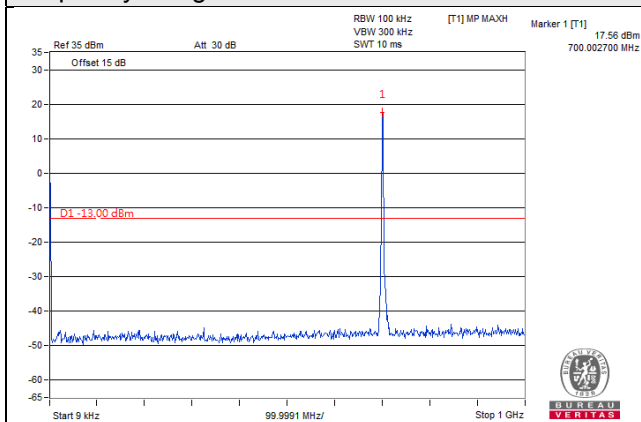
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Band width: 3MHz

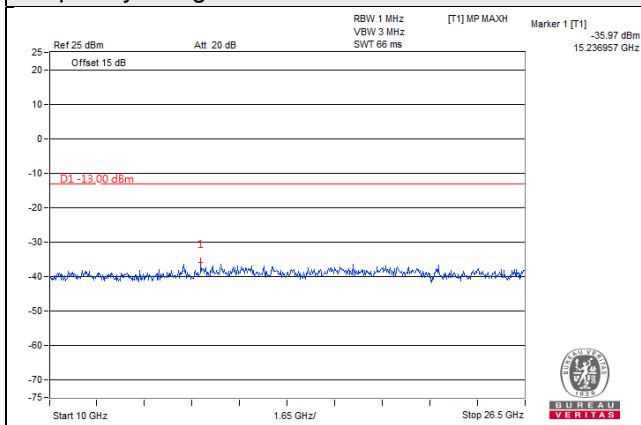
Channel 23025 (700.5MHz)

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz

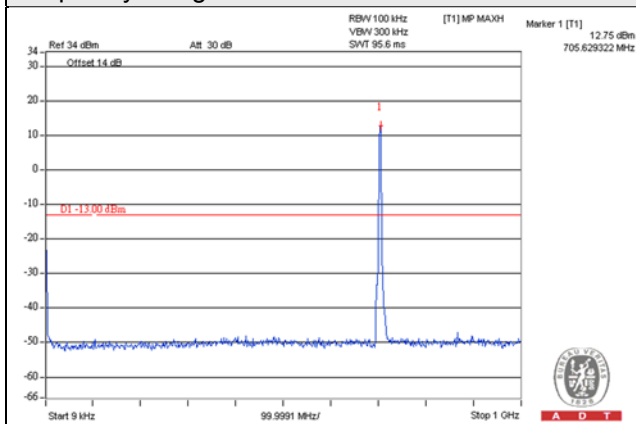


Note: For 9kHz, the signal is from spectrum analyzer.

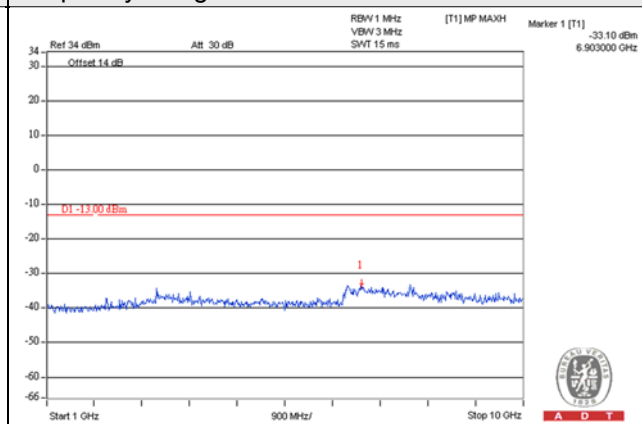
Channel Band width: 3MHz

Channel 23095 (707.5MHz)

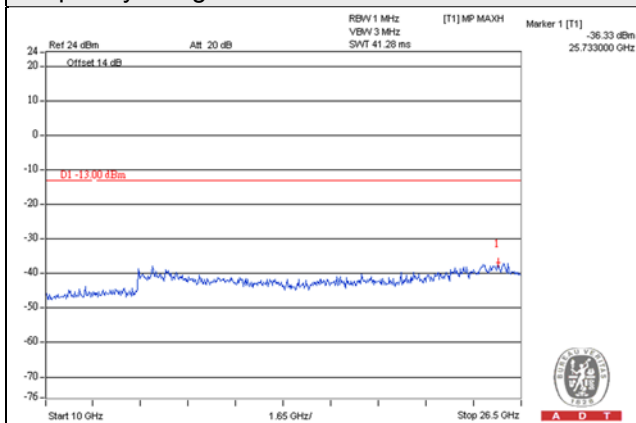
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz



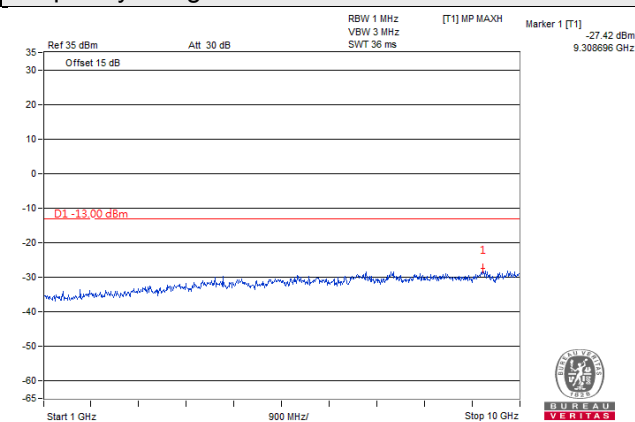
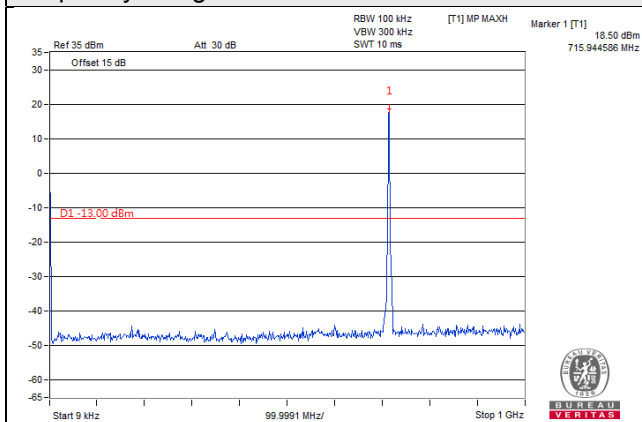
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Band width: 3MHz

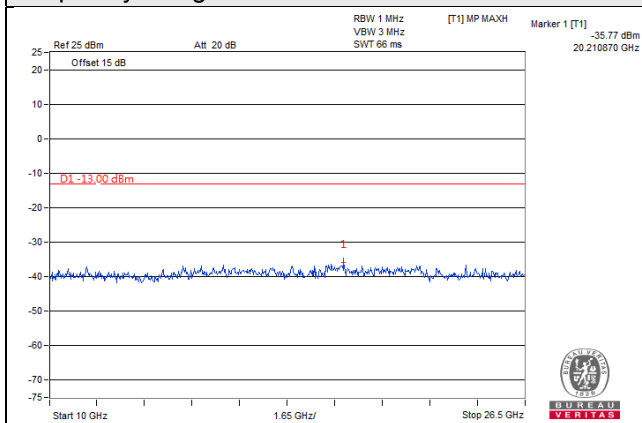
Channel 23165 (714.5MHz)

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz



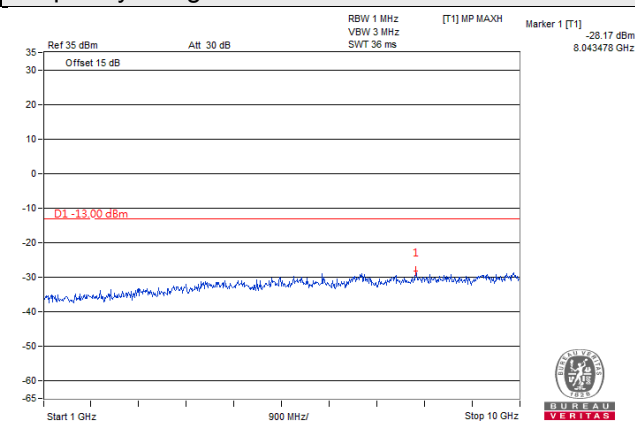
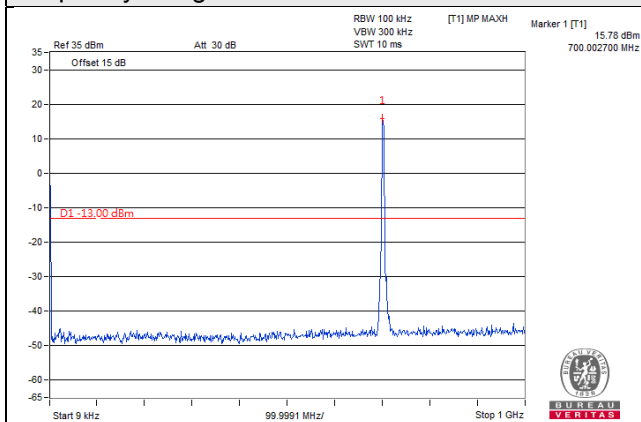
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Band width: 5MHz

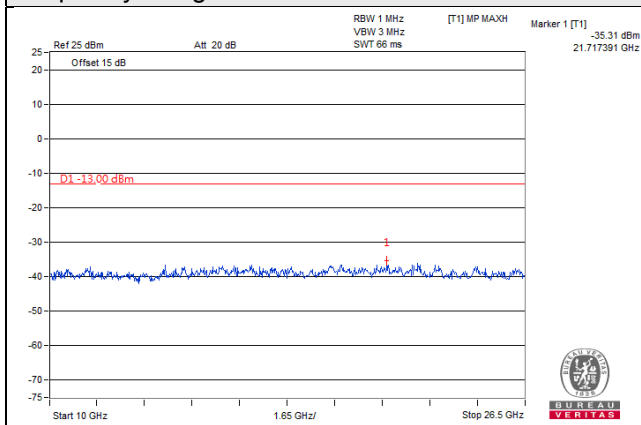
Channel 23035 (701.5MHz)

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz



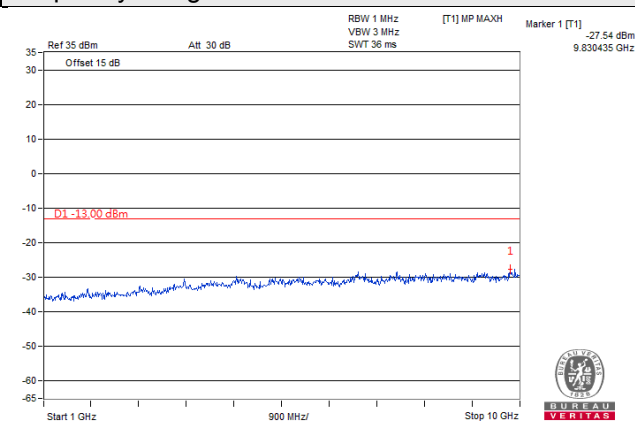
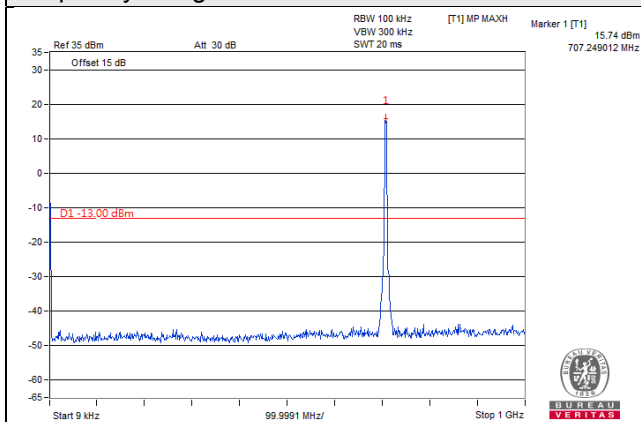
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Band width: 5MHz

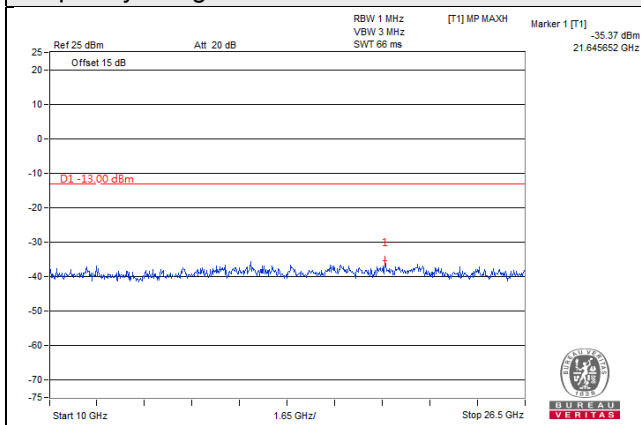
Channel 23095 (707.5MHz)

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz



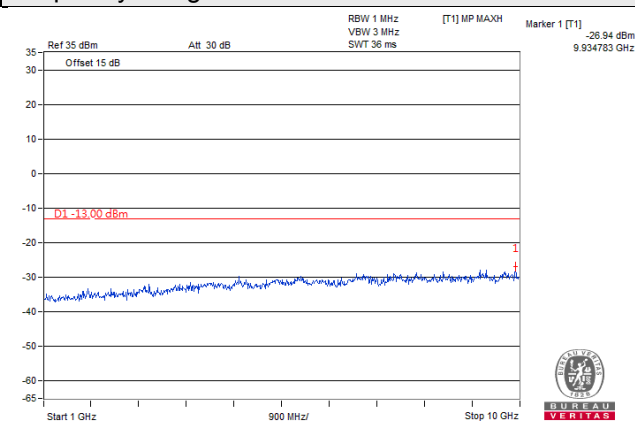
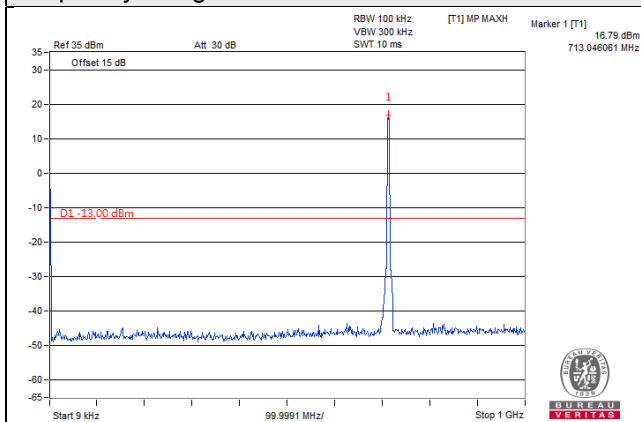
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Band width: 5MHz

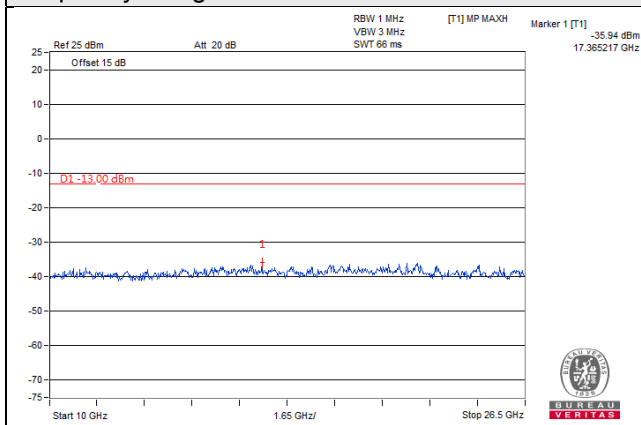
Channel 23155 (713.5MHz)

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz



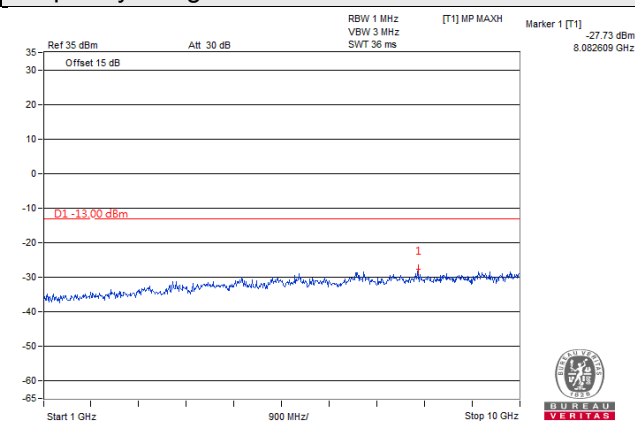
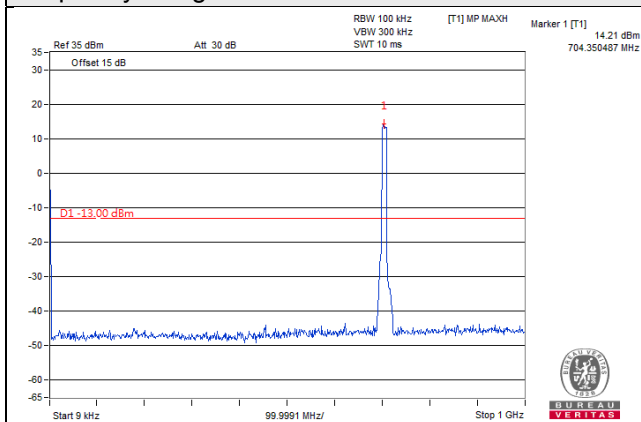
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Band width: 10MHz

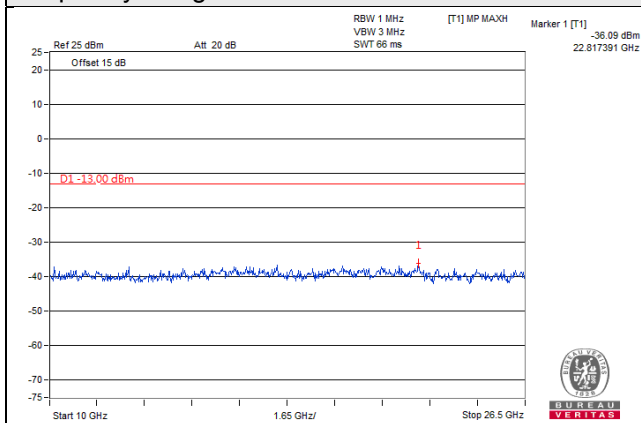
Channel 23060 (704MHz)

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz



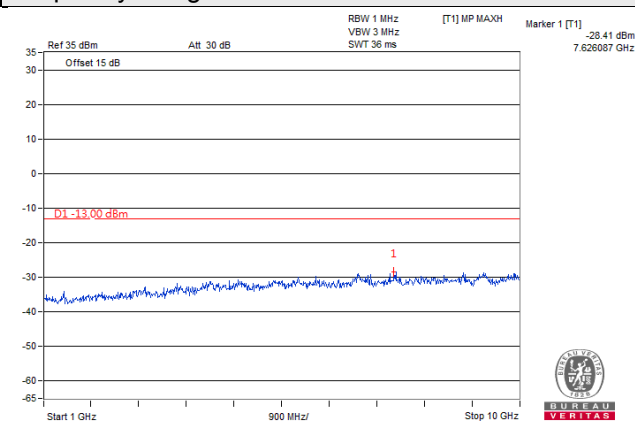
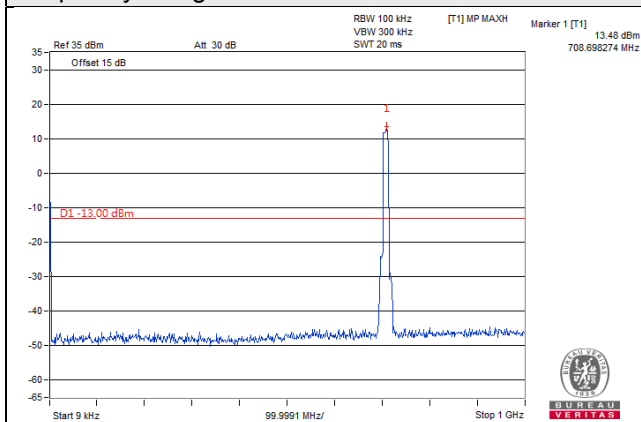
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Band width: 10MHz

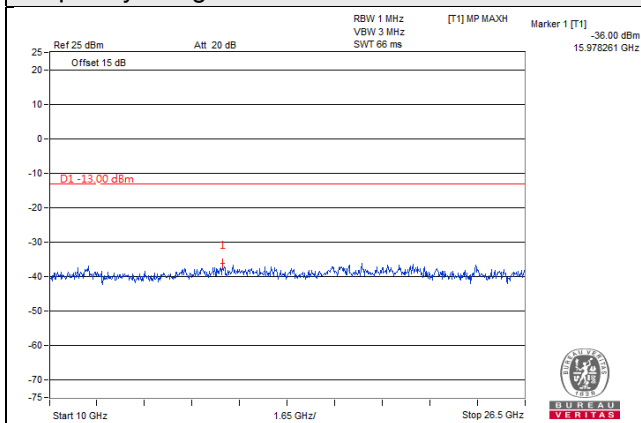
Channel 23095 (707.5MHz)

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz



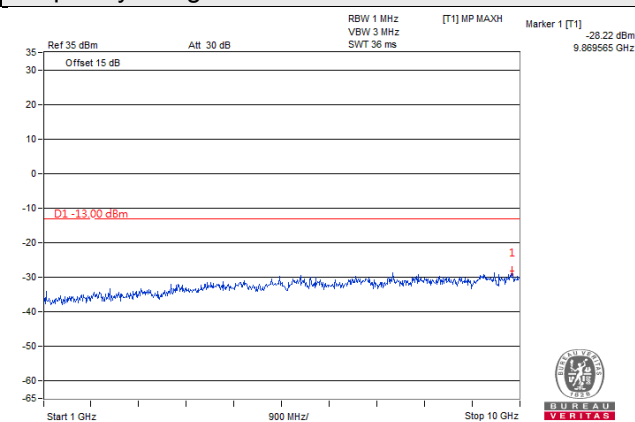
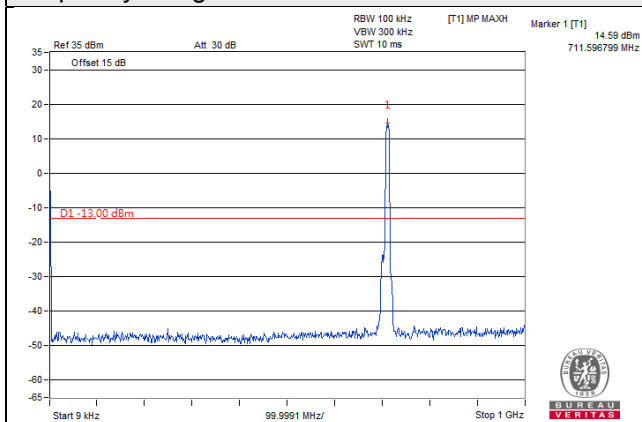
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Band width: 10MHz

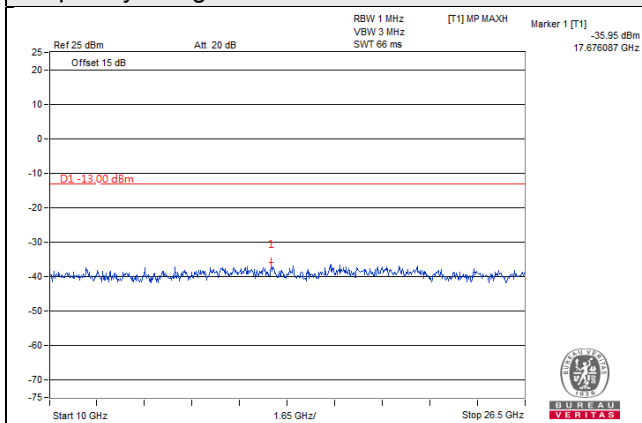
Channel 23130 (711MHz)

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz



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

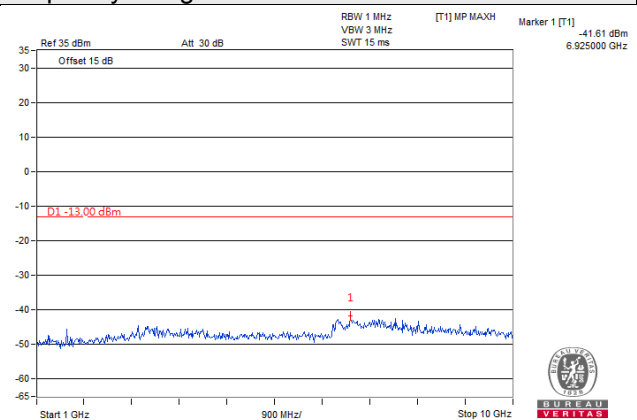
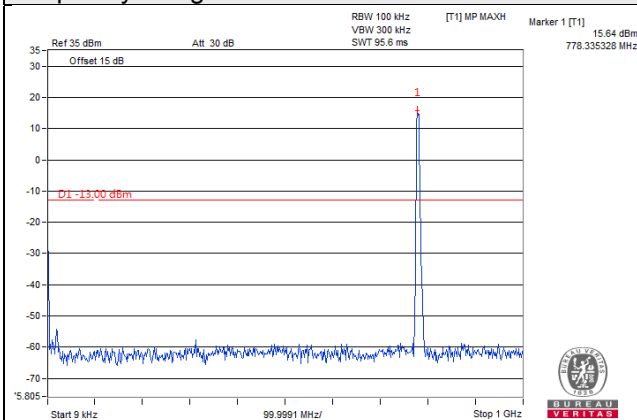
LTE Band 13

Channel Bandwidth: 5MHz

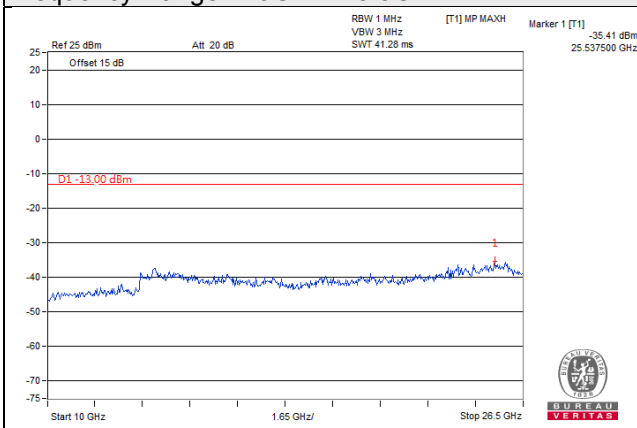
Channel 23205 (779.5MHz)

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz

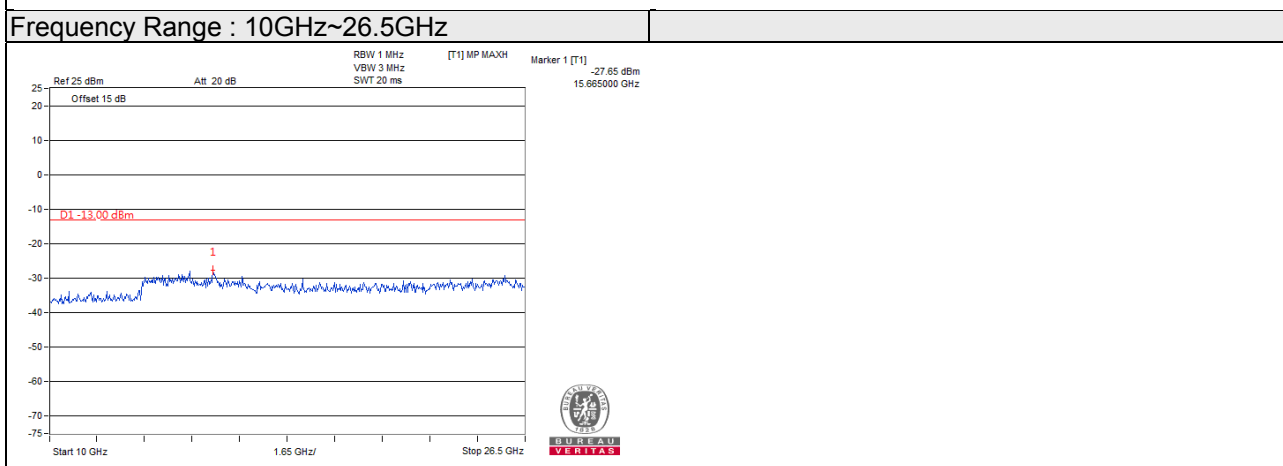
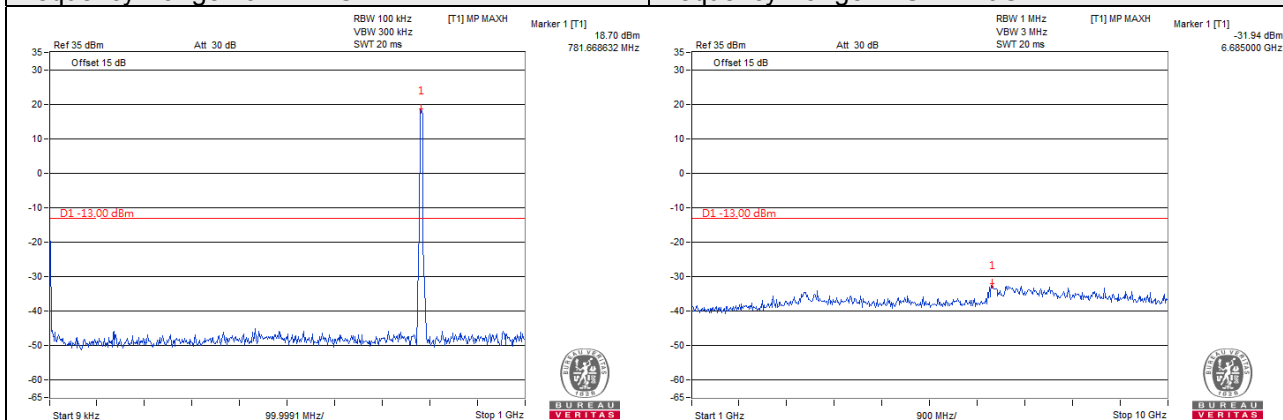


Frequency Range : 10GHz~26.5GHz



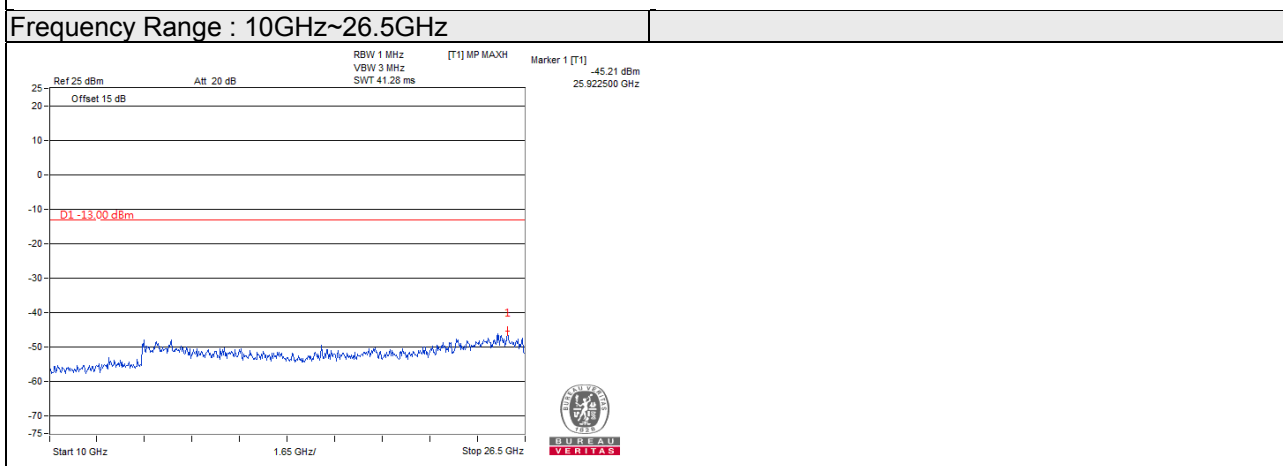
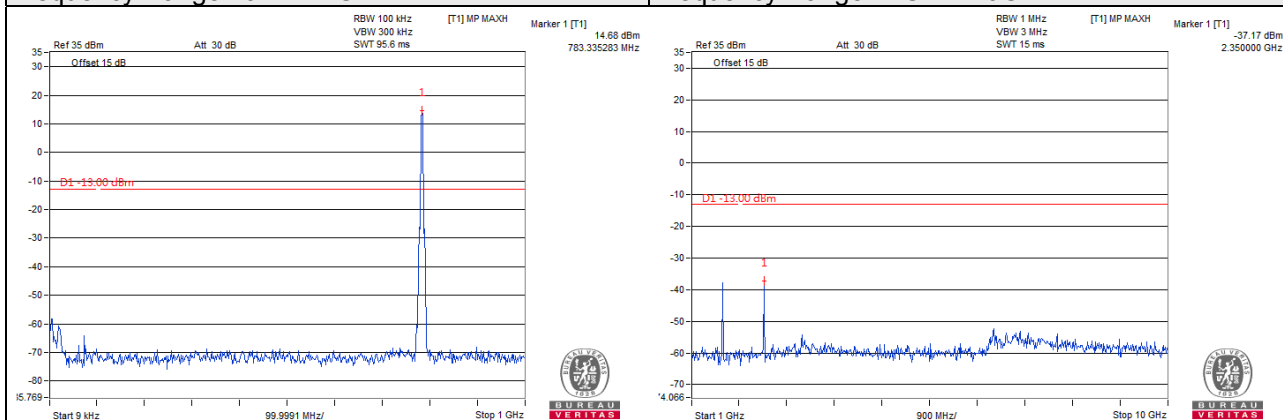
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Bandwidth: 5MHz	
Channel 23230 (782.0MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz



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

Channel Bandwidth: 5MHz	
Channel 23255 (784.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz



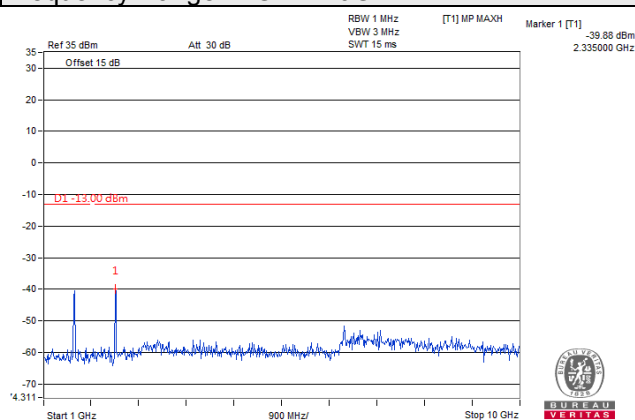
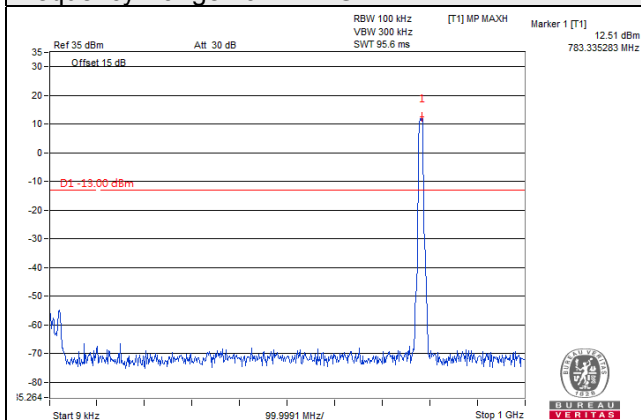
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Bandwidth: 10MHz

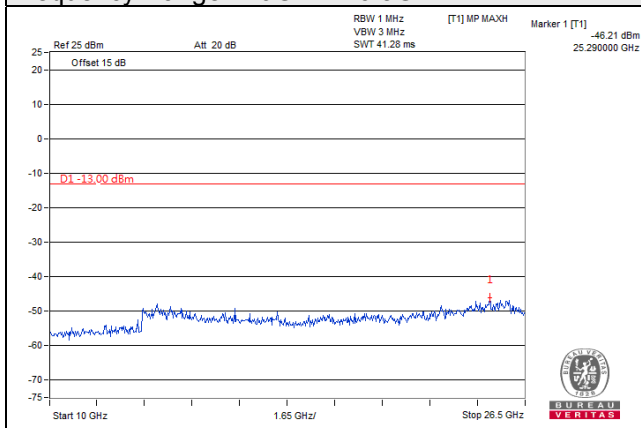
Channel 23230 (782.0MHz)

Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~10GHz



Frequency Range : 10GHz~26.5GHz



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

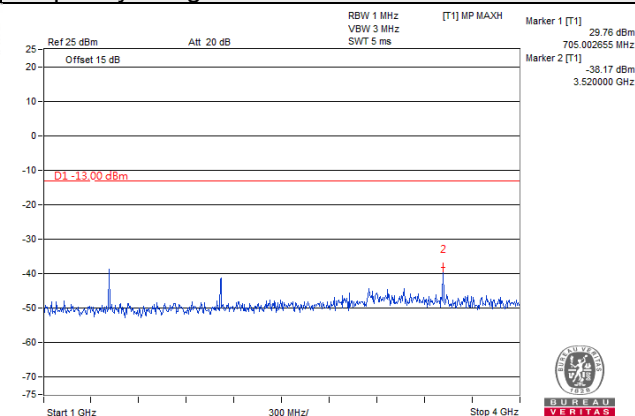
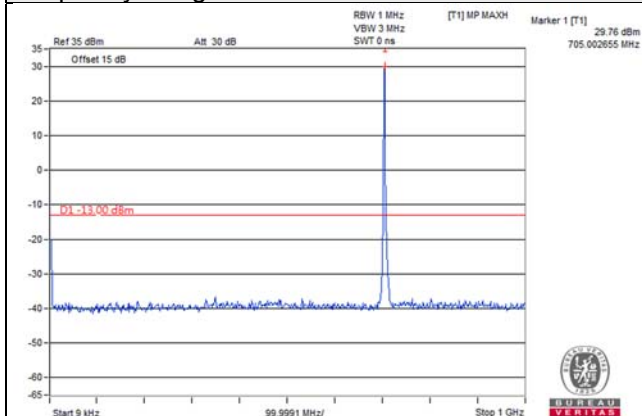
LTE Band 17

Channel Bandwidth: 5MHz

Channel 23775 (706.5MHz)

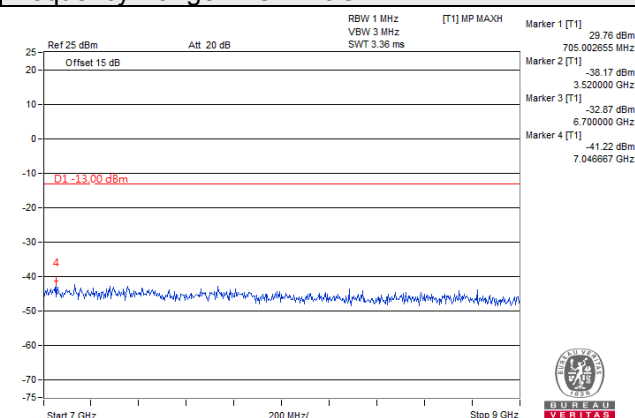
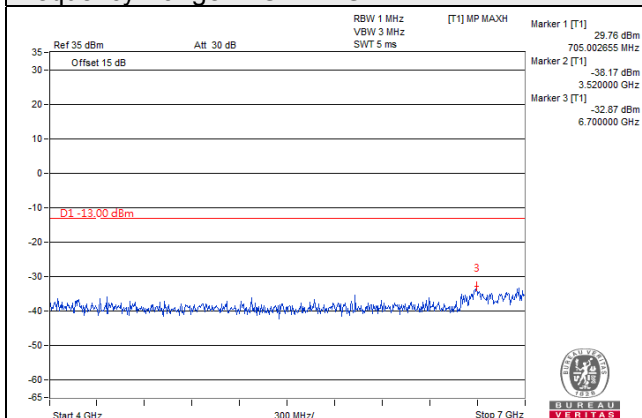
Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~4GHz



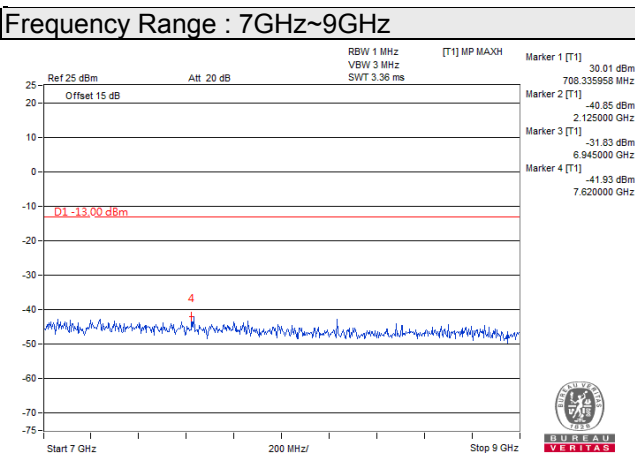
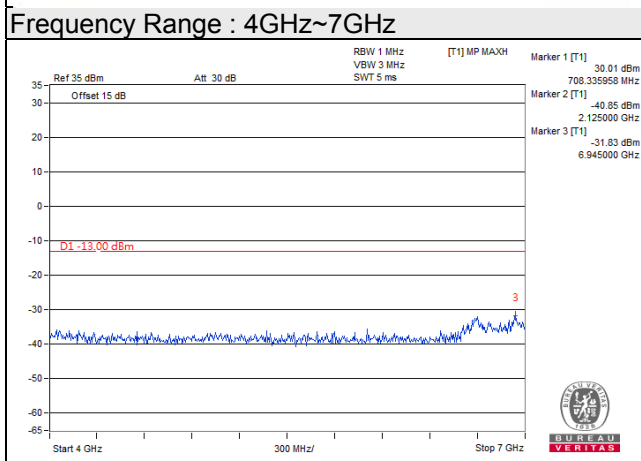
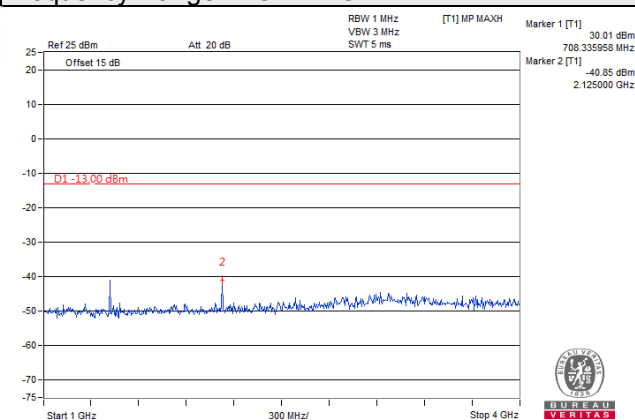
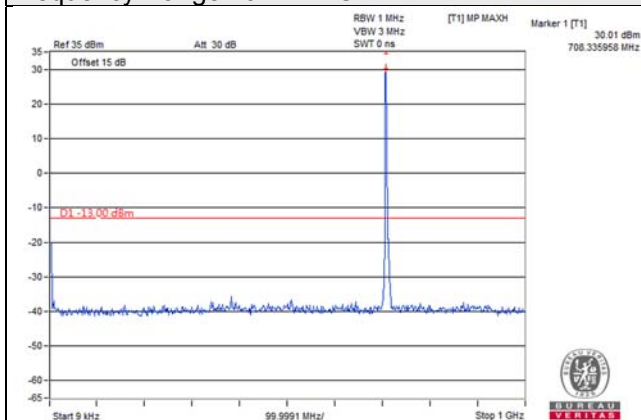
Frequency Range : 4GHz~7GHz

Frequency Range : 7GHz~9GHz



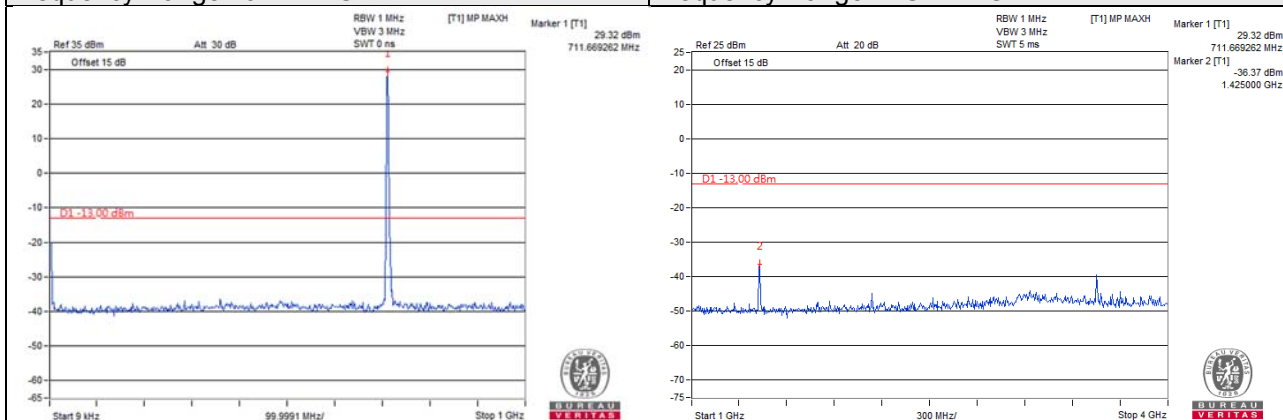
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Bandwidth: 5MHz	
Channel 23790 (710.0MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~4GHz

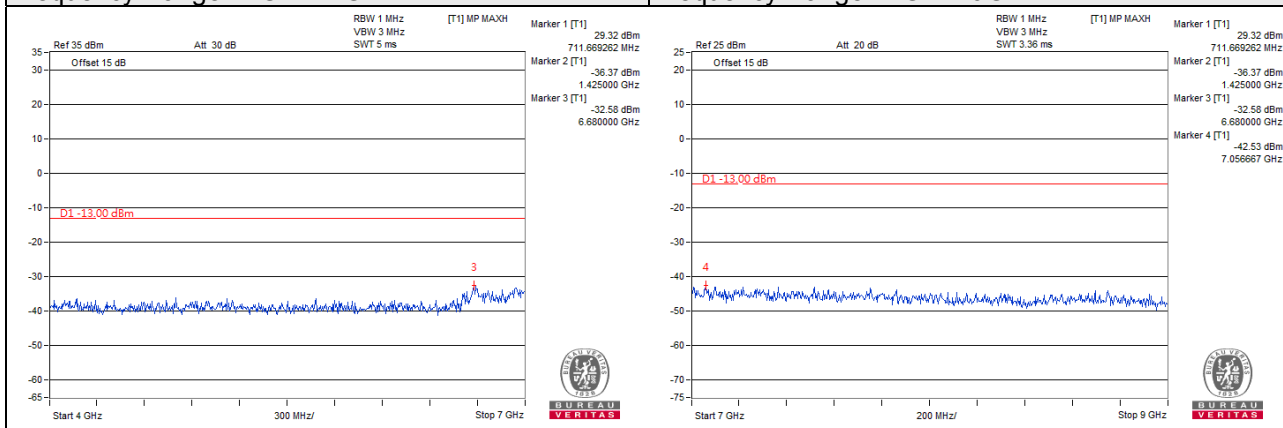


Note: For 9kHz, the signal is from spectrum analyzer.

Channel Bandwidth: 5MHz	
Channel 23825 (713.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~4GHz

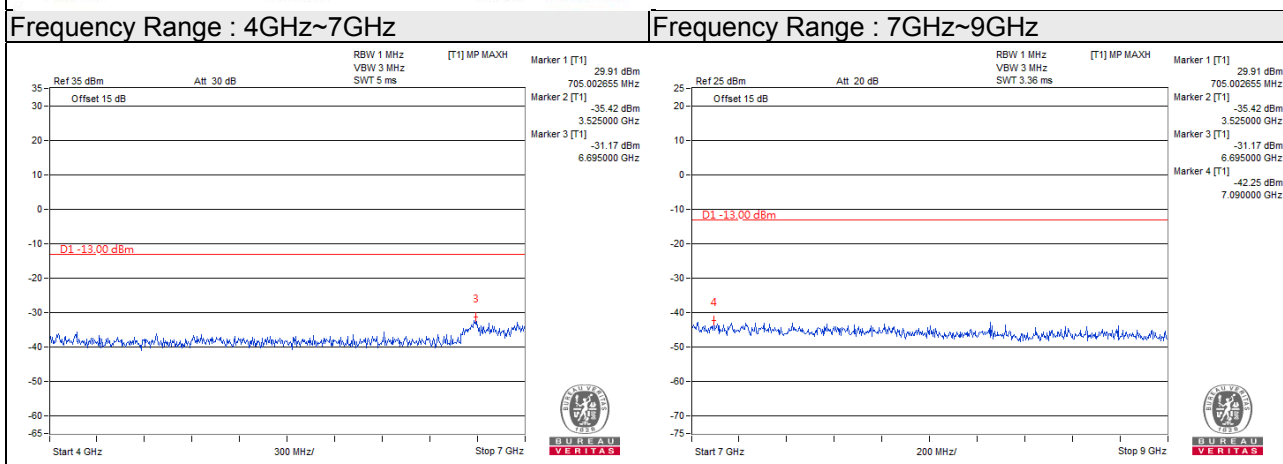
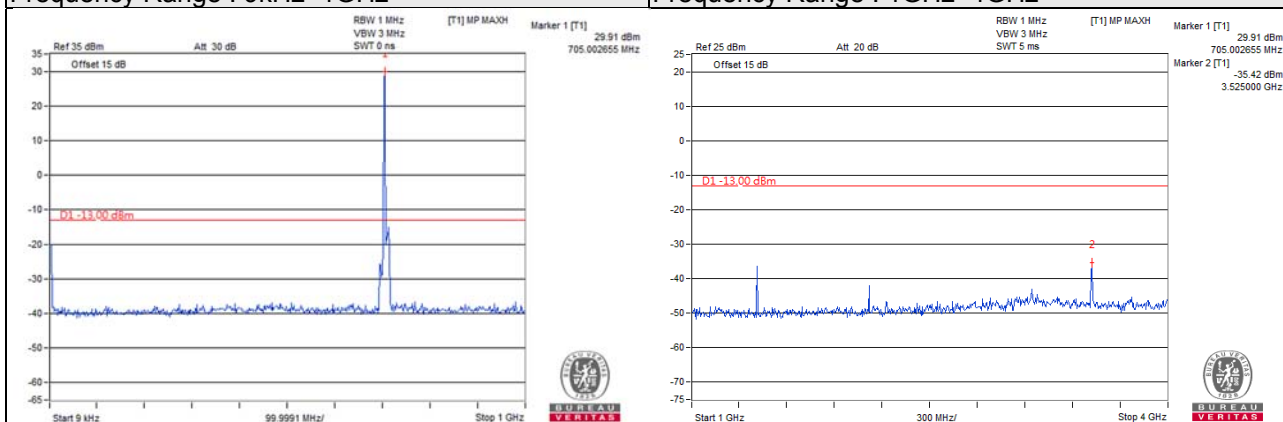


Frequency Range : 4GHz~7GHz	Frequency Range : 7GHz~9GHz
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Note: For 9kHz, the signal is from spectrum analyzer.

Channel Bandwidth: 10MHz	
Channel 23780 (709.0MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~4GHz



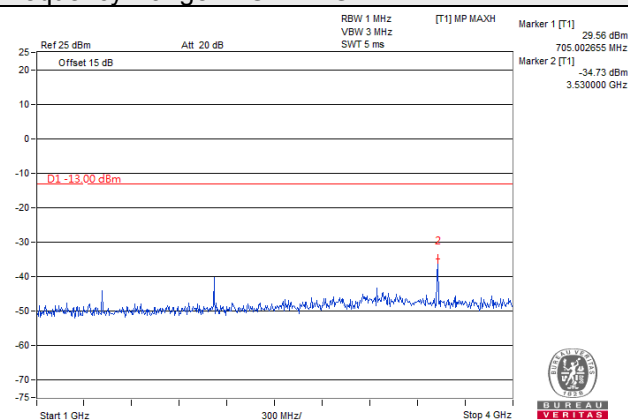
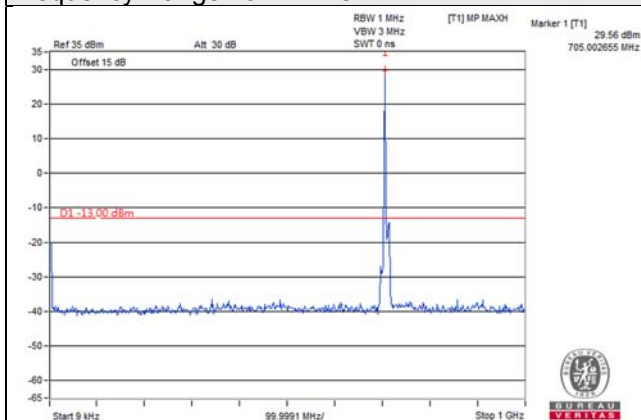
Note: For 9kHz, the signal is from spectrum analyzer.

Channel Bandwidth: 10MHz

Channel 23790 (710.0MHz)

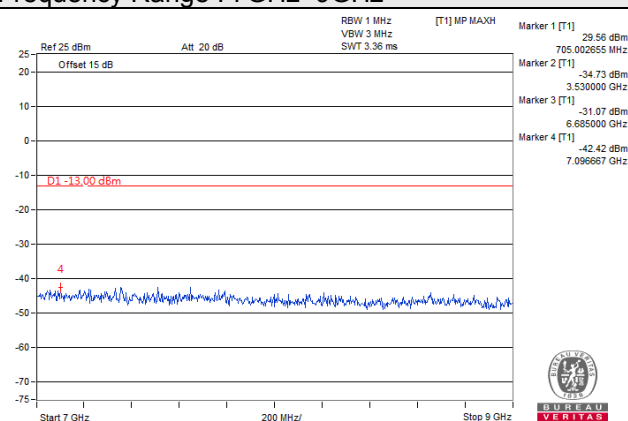
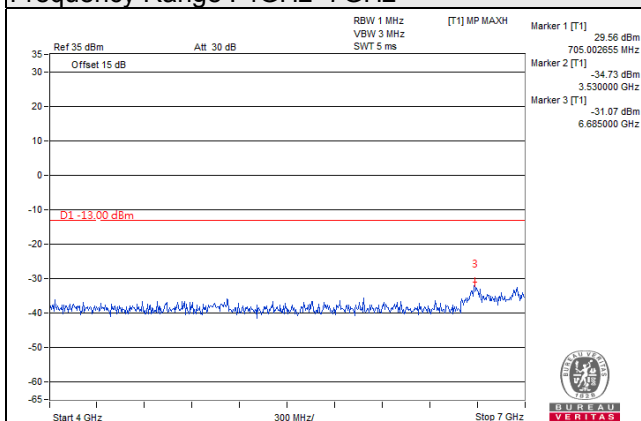
Frequency Range : 9kHz~1GHz

Frequency Range : 1GHz~4GHz



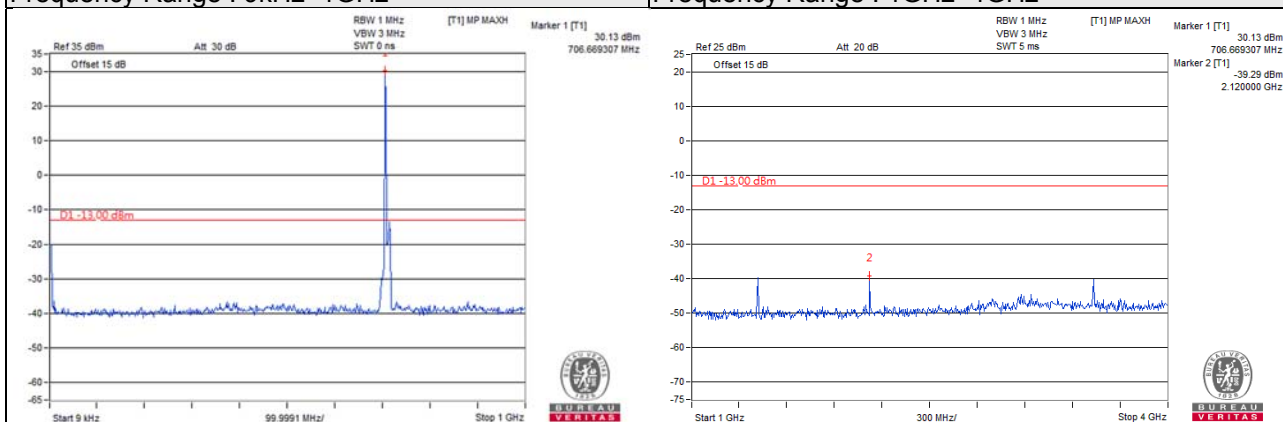
Frequency Range : 4GHz~7GHz

Frequency Range : 7GHz~9GHz

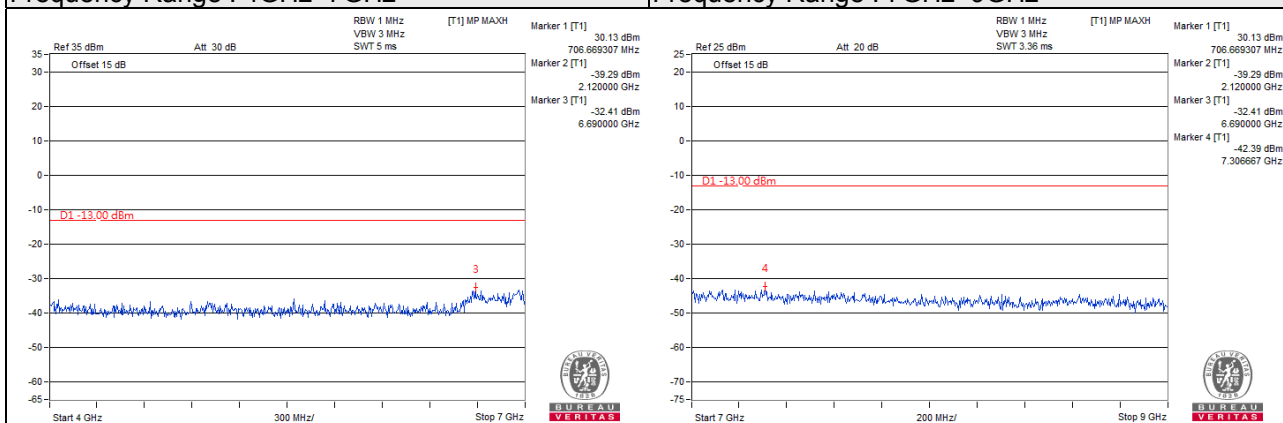


Note: For 9kHz, the signal is from spectrum analyzer.

Channel Bandwidth: 10MHz	
Channel 23800 (711.0MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~4GHz



Frequency Range : 4GHz~7GHz	Frequency Range : 7GHz~9GHz
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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. $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution antenna}.$

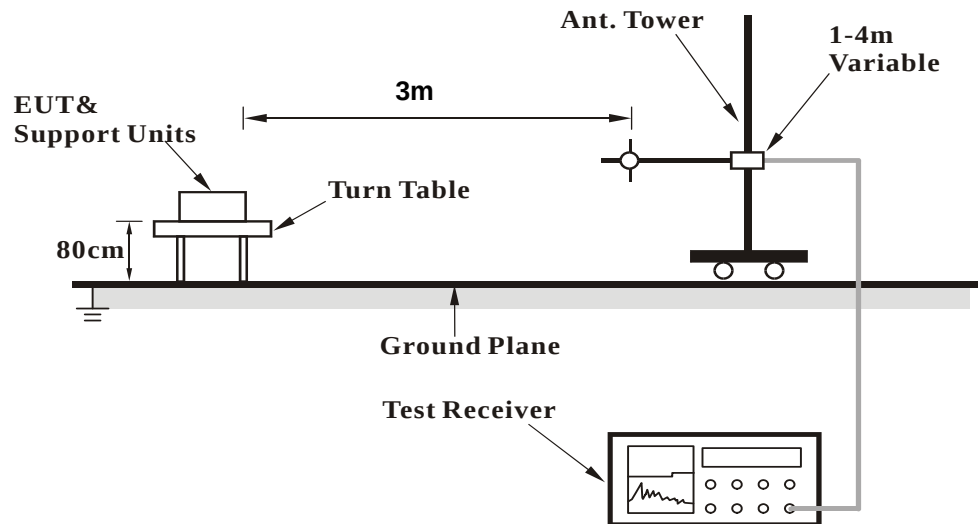
Note: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

4.8.3 Deviation from Test Standard

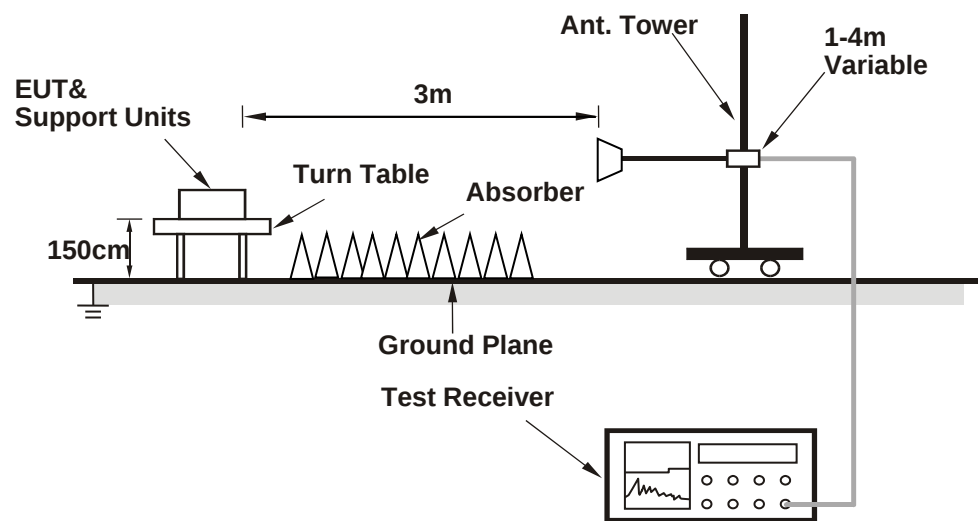
No deviation.

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	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	79.47	-68.7	-74.2	0.6	-73.6	-13.0	-60.6
2	154.16	-70.2	-71.6	-2.9	-74.5	-13.0	-61.5
3	297.72	-70.6	-71.6	-1.7	-73.3	-13.0	-60.3
4	388.90	-70.1	-74.2	3.4	-70.8	-13.0	-57.8
5	473.29	-69.9	-73.7	3.6	-70.1	-13.0	-57.1
6	587.75	-69.8	-72.4	3.8	-68.6	-13.0	-55.6
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	59.10	-65.0	-68.0	-3.8	-71.8	-13.0	-58.8
2	140.58	-66.7	-66.3	-3.0	-69.3	-13.0	-56.3
3	198.78	-59.7	-58.3	-2.4	-60.7	-13.0	-47.7
4	251.16	-71.6	-70.2	-1.4	-71.6	-13.0	-58.6
5	280.26	-72.0	-67.2	-1.6	-68.8	-13.0	-55.8
6	340.40	-67.4	-72.0	4.0	-68.0	-13.0	-55.0

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: 3MHz

Mode	TX channel 19965 (1711.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	72.68	-66.9	-72.8	-0.1	-72.9	-13.0	-59.9
2	152.22	-71.4	-72.8	-2.8	-75.6	-13.0	-62.6
3	295.78	-71.6	-72.7	-1.8	-74.5	-13.0	-61.5
4	420.91	-69.9	-73.7	3.5	-70.2	-13.0	-57.2
5	547.98	-69.4	-72.8	3.8	-69.0	-13.0	-56.0
6	588.72	-68.6	-71.2	3.8	-67.4	-13.0	-54.4
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	58.13	-63.5	-66.2	-4.2	-70.4	-13.0	-57.4
2	91.11	-66.7	-72.9	-0.4	-73.3	-13.0	-60.3
3	133.79	-67.1	-67.7	-3.3	-71.0	-13.0	-58.0
4	196.84	-71.5	-69.9	-2.5	-72.4	-13.0	-59.4
5	277.35	-71.8	-66.9	-1.6	-68.5	-13.0	-55.5
6	528.58	-69.6	-72.6	3.9	-68.7	-13.0	-55.7

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 19975 (1712.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	81.41	-69.5	-75.1	0.5	-74.6	-13.0	-61.6
2	107.60	-68.3	-73.9	-2.3	-76.2	-13.0	-63.2
3	296.75	-71.9	-72.9	-1.8	-74.7	-13.0	-61.7
4	346.22	-69.8	-77.0	3.9	-73.1	-13.0	-60.1
5	394.72	-70.4	-74.3	3.3	-71.0	-13.0	-58.0
6	557.68	-69.8	-73.0	3.7	-69.3	-13.0	-56.3
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	60.07	-63.8	-67.2	-3.4	-70.6	-13.0	-57.6
2	174.53	-59.2	-60.0	-2.8	-62.8	-13.0	-49.8
3	225.94	-62.4	-64.7	-1.7	-66.4	-13.0	-53.4
4	278.32	-71.7	-66.8	-1.6	-68.4	-13.0	-55.4
5	512.09	-69.7	-73.4	3.9	-69.5	-13.0	-56.5
6	613.94	-70.0	-68.9	3.7	-65.2	-13.0	-52.2

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: 10MHz

Mode	TX channel 20000 (1715.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	59.10	-66.3	-67.0	-3.8	-70.8	-13.0	-57.8
2	107.60	-63.9	-69.5	-2.3	-71.8	-13.0	-58.8
3	158.04	-57.8	-60.0	-2.7	-62.7	-13.0	-49.7
4	219.15	-67.1	-73.3	-2.0	-75.3	-13.0	-62.3
5	414.12	-69.8	-73.3	3.4	-69.9	-13.0	-56.9
6	557.68	-69.7	-72.9	3.7	-69.2	-13.0	-56.2
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	84.32	-64.1	-69.5	0.4	-69.1	-13.0	-56.1
2	107.60	-62.7	-68.7	-2.3	-71.0	-13.0	-58.0
3	164.83	-67.4	-67.7	-2.9	-70.6	-13.0	-57.6
4	192.96	-70.5	-69.4	-2.6	-72.0	-13.0	-59.0
5	274.44	-70.2	-65.8	-1.6	-67.4	-13.0	-54.4
6	462.62	-70.0	-73.5	3.4	-70.1	-13.0	-57.1

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: 15MHz

Mode	TX channel 20025 (1717.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	54.25	-68.3	-64.6	-5.7	-70.3	-13.0	-57.3
2	71.71	-66.4	-72.2	-0.3	-72.5	-13.0	-59.5
3	146.40	-70.2	-72.0	-3.0	-75.0	-13.0	-62.0
4	294.81	-71.1	-72.4	-1.8	-74.2	-13.0	-61.2
5	336.52	-70.2	-77.9	4.0	-73.9	-13.0	-60.9
6	534.40	-69.4	-72.9	3.8	-69.1	-13.0	-56.1
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	59.10	-65.0	-68.0	-3.8	-71.8	-13.0	-58.8
2	103.72	-60.1	-66.8	-2.0	-68.8	-13.0	-55.8
3	132.82	-67.3	-68.2	-3.3	-71.5	-13.0	-58.5
4	195.87	-70.6	-69.0	-2.5	-71.5	-13.0	-58.5
5	277.35	-72.0	-67.1	-1.6	-68.7	-13.0	-55.7
6	436.43	-70.0	-73.6	3.6	-70.0	-13.0	-57.0

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	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	60.07	-67.1	-68.5	-3.4	-71.9	-13.0	-58.9
2	80.44	-69.1	-74.5	0.5	-74.0	-13.0	-61.0
3	145.43	-70.4	-72.2	-3.1	-75.3	-13.0	-62.3
4	265.71	-70.8	-73.6	-1.6	-75.2	-13.0	-62.2
5	408.30	-70.5	-74.1	3.2	-70.9	-13.0	-57.9
6	619.76	-69.6	-71.3	3.7	-67.6	-13.0	-54.6
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	59.10	-63.5	-66.5	-3.8	-70.3	-13.0	-57.3
2	85.29	-66.3	-72.1	0.3	-71.8	-13.0	-58.8
3	132.82	-66.9	-67.8	-3.3	-71.1	-13.0	-58.1
4	277.35	-70.9	-66.0	-1.6	-67.6	-13.0	-54.6
5	440.31	-70.1	-73.6	3.5	-70.1	-13.0	-57.1
6	598.42	-70.4	-70.7	3.9	-66.8	-13.0	-53.8

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 12

Channel Bandwidth: 1.4MHz

Mode	TX channel 23017 (699.7MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	60.07	-50.0	-53.5	-3.4	-56.9	-13.0	-43.9
2	99.84	-61.4	-70.4	-1.5	-71.9	-13.0	-58.9
3	165.80	-63.8	-69.6	-3.0	-72.6	-13.0	-59.6
4	328.76	-65.2	-75.3	4.1	-71.2	-13.0	-58.2
5	515.00	-65.0	-70.8	3.8	-67.0	-13.0	-54.0
6	580.96	-65.2	-70.1	3.8	-66.3	-13.0	-53.3
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	61.04	-50.2	-56.0	-3.2	-59.2	-13.0	-46.2
2	132.82	-65.8	-68.8	-3.3	-72.1	-13.0	-59.1
3	163.86	-64.3	-66.7	-2.9	-69.6	-13.0	-56.6
4	199.75	-69.7	-70.5	-2.4	-72.9	-13.0	-59.9
5	280.26	-70.0	-67.3	-1.6	-68.9	-13.0	-55.9
6	580.96	-65.2	-69.1	3.8	-65.3	-13.0	-52.3

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: 3MHz

Mode	TX channel 23025 (700.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	60.07	-50.2	-53.8	-3.4	-57.2	-13.0	-44.2
2	92.08	-60.0	-70.2	-0.6	-70.8	-13.0	-57.8
3	159.01	-62.2	-66.7	-2.8	-69.5	-13.0	-56.5
4	298.69	-70.2	-75.7	0.0	-75.7	-13.0	-62.7
5	398.60	-68.8	-74.9	3.3	-71.6	-13.0	-58.6
6	579.99	-64.8	-69.8	3.8	-66.0	-13.0	-53.0
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	61.04	-49.8	-55.5	-3.2	-58.7	-13.0	-45.7
2	95.96	-58.4	-67.3	-1.2	-68.5	-13.0	-55.5
3	165.80	-64.0	-66.5	-3.0	-69.5	-13.0	-56.5
4	280.26	-70.6	-68.0	-1.6	-69.6	-13.0	-56.6
5	515.00	-65.5	-71.2	3.8	-67.4	-13.0	-54.4
6	580.96	-64.8	-68.6	3.8	-64.8	-13.0	-51.8

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: 5MHz

Mode	TX channel 23035 (701.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	60.07	-50.2	-53.8	-3.4	-57.2	-13.0	-44.2
2	80.44	-64.8	-72.3	0.5	-71.8	-13.0	-58.8
3	99.84	-61.7	-70.7	-1.5	-72.2	-13.0	-59.2
4	165.80	-64.5	-70.2	-3.0	-73.2	-13.0	-60.2
5	412.18	-69.7	-75.2	3.3	-71.9	-13.0	-58.9
6	580.96	-64.5	-69.3	3.8	-65.5	-13.0	-52.5
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	84.32	-59.9	-67.4	0.4	-67.0	-13.0	-54.0
2	102.75	-57.1	-66.0	-1.8	-67.8	-13.0	-54.8
3	132.82	-56.9	-60.0	-3.3	-63.3	-13.0	-50.3
4	217.21	-61.9	-65.9	-2.0	-67.9	-13.0	-54.9
5	274.44	-71.8	-69.5	-1.6	-71.1	-13.0	-58.1
6	553.80	-69.2	-73.4	3.7	-69.7	-13.0	-56.7

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: 10MHz

Mode	TX channel 23060 (704MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	76.56	-69.3	-77.4	0.3	-77.1	-13.0	-64.1
2	150.28	-70.9	-74.7	-3.0	-77.7	-13.0	-64.7
3	290.93	-70.5	-74.3	-1.9	-76.2	-13.0	-63.2
4	411.21	-70.0	-75.6	3.3	-72.3	-13.0	-59.3
5	546.04	-70.0	-75.6	3.9	-71.7	-13.0	-58.7
6	585.81	-68.8	-73.6	3.8	-69.8	-13.0	-56.8
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	59.10	-62.8	-68.0	-3.8	-71.8	-13.0	-58.8
2	84.32	-67.3	-74.9	0.4	-74.5	-13.0	-61.5
3	132.82	-66.9	-69.9	-3.3	-73.2	-13.0	-60.2
4	199.75	-71.0	-71.9	-2.4	-74.3	-13.0	-61.3
5	216.24	-67.6	-71.6	-2.0	-73.6	-13.0	-60.6
6	280.26	-71.8	-69.2	-1.6	-70.8	-13.0	-57.8

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	Below 1000 MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	78.50	-70.3	-78.2	0.6	-77.6	-13.0	-64.6
2	155.13	-70.8	-74.6	-2.9	-77.5	-13.0	-64.5
3	265.71	-71.0	-76.0	-1.6	-77.6	-13.0	-64.6
4	296.75	-71.0	-74.2	-1.8	-76.0	-13.0	-63.0
5	405.39	-71.0	-77.1	3.3	-73.8	-13.0	-60.8
6	533.43	-68.2	-73.8	3.8	-70.0	-13.0	-57.0
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	60.07	-64.5	-70.0	-3.4	-73.4	-13.0	-60.4
2	91.11	-66.3	-74.7	-0.4	-75.1	-13.0	-62.1
3	109.54	-58.9	-66.8	-2.5	-69.3	-13.0	-56.3
4	161.92	-54.4	-56.5	-2.9	-59.4	-13.0	-46.4
5	236.61	-54.1	-56.9	-1.5	-58.4	-13.0	-45.4
6	269.59	-68.0	-66.9	-1.4	-68.3	-13.0	-55.3

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	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	59.10	-69.1	-72.0	-3.8	-75.8	-13.0	-62.8
2	151.25	-70.8	-74.5	-2.8	-77.3	-13.0	-64.3
3	255.04	-67.8	-73.9	-1.4	-75.3	-13.0	-62.3
4	304.51	-66.9	-77.4	3.8	-73.6	-13.0	-60.6
5	448.07	-68.6	-74.2	3.4	-70.8	-13.0	-57.8
6	570.29	-69.3	-74.3	3.8	-70.5	-13.0	-57.5
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	59.10	-62.1	-67.3	-3.8	-71.1	-13.0	-58.1
2	91.11	-65.5	-73.8	-0.4	-74.2	-13.0	-61.2
3	129.91	-64.8	-68.9	-3.3	-72.2	-13.0	-59.2
4	232.73	-55.6	-58.7	-1.6	-60.3	-13.0	-47.3
5	275.41	-71.0	-68.5	-1.6	-70.1	-13.0	-57.1
6	378.23	-69.6	-75.9	3.6	-72.3	-13.0	-59.3

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	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	84.32	-68.6	-77.2	0.4	-76.8	-13.0	-63.8
2	148.34	-70.8	-74.8	-3.0	-77.8	-13.0	-64.8
3	261.83	-71.2	-76.4	-1.6	-78.0	-13.0	-65.0
4	297.72	-71.9	-75.0	-1.7	-76.7	-13.0	-63.7
5	340.40	-70.5	-80.2	4.0	-76.2	-13.0	-63.2
6	416.06	-69.9	-75.5	3.4	-72.1	-13.0	-59.1
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	136.70	-52.5	-54.7	-3.2	-57.9	-13.0	-44.9
2	230.79	-49.5	-53.2	-1.7	-54.9	-13.0	-41.9
3	284.14	-54.6	-52.7	-1.6	-54.3	-13.0	-41.3
4	334.58	-62.3	-69.1	4.0	-65.1	-13.0	-52.1
5	375.32	-53.5	-59.7	3.7	-56.0	-13.0	-43.0
6	420.91	-64.0	-70.0	3.5	-66.5	-13.0	-53.5

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 23780 (710.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	45.52	-65.8	-56.7	-10.4	-67.1	-13.0	-54.1
2	59.10	-66.1	-69.0	-3.8	-72.8	-13.0	-59.8
3	73.65	-69.5	-77.5	0.1	-77.4	-13.0	-64.4
4	151.25	-71.2	-75.0	-2.8	-77.8	-13.0	-64.8
5	216.24	-59.8	-68.2	-2.0	-70.2	-13.0	-57.2
6	558.65	-68.2	-73.6	3.7	-69.9	-13.0	-56.9
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	59.10	-62.0	-67.1	-3.8	-70.9	-13.0	-57.9
2	80.44	-68.2	-75.6	0.5	-75.1	-13.0	-62.1
3	127.00	-62.9	-67.4	-3.3	-70.7	-13.0	-57.7
4	145.43	-64.5	-65.6	-3.1	-68.7	-13.0	-55.7
5	328.76	-58.8	-65.4	4.1	-61.3	-13.0	-48.3
6	370.47	-59.2	-65.6	3.9	-61.7	-13.0	-48.7

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	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3421.40	-61.2	-52.6	1.3	-51.3	-13.0	-38.3
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	3421.40	-58.5	-50.4	1.3	-49.1	-13.0	-36.1

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	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3465.00	-61.0	-52.6	1.4	-51.2	-13.0	-38.2
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	3465.00	-58.5	-50.7	1.4	-49.3	-13.0	-36.3

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	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3508.60	-60.2	-51.9	1.4	-50.5	-13.0	-37.5
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	3508.60	-59.2	-51.5	1.4	-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).

Channel Bandwidth: 3MHz

Mode	TX channel 19965 (1711.5MHz)	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3423.00	-60.8	-52.2	1.3	-50.9	-13.0	-37.9
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	3423.00	-58.6	-50.5	1.3	-49.2	-13.0	-36.2

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 20175 (1732.5MHz)	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3465.00	-61.1	-52.7	1.4	-51.3	-13.0	-38.3
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	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 20385 (1753.5MHz)	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3507.00	-60.2	-51.9	1.4	-50.5	-13.0	-37.5
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	3507.00	-59.6	-51.9	1.4	-50.5	-13.0	-37.5

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: 5MHz

Mode	TX channel 19975 (1712.5MHz)	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3425.00	-60.5	-51.9	1.3	-50.6	-13.0	-37.6
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	3425.00	-58.2	-50.1	1.3	-48.8	-13.0	-35.8

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	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3465.00	-61.2	-52.8	1.4	-51.4	-13.0	-38.4
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	3465.00	-58.8	-51.0	1.4	-49.6	-13.0	-36.6

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 20375 (1752.5MHz)	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3505.00	-60.8	-52.6	1.5	-51.1	-13.0	-38.1
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	3505.00	-59.6	-52.0	1.5	-50.5	-13.0	-37.5

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 20000 (1715.0MHz)	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3430.00	-60.6	-52.1	1.4	-50.7	-13.0	-37.7
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	3430.00	-59.6	-51.6	1.4	-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).

Mode	TX channel 20175 (1732.5MHz)	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3465.00	-60.7	-52.3	1.4	-50.9	-13.0	-37.9
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	-59.4	-51.6	1.4	-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).

Mode	TX channel 20350 (1750.0MHz)	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3500.00	-61.0	-52.8	1.5	-51.3	-13.0	-38.3
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	3500.00	-59.1	-51.5	1.5	-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).

Channel Bandwidth: 15MHz

Mode	TX channel 20025 (1717.5MHz)	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3435.00	-60.7	-52.1	1.3	-50.8	-13.0	-37.8
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	3435.00	-59.6	-51.5	1.3	-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).

Mode	TX channel 20175 (1732.5MHz)	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3465.00	-60.2	-51.8	1.4	-50.4	-13.0	-37.4
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	3465.00	-58.7	-50.9	1.4	-49.5	-13.0	-36.5

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 20325 (1747.5MHz)	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3495.00	-61.1	-52.9	1.5	-51.4	-13.0	-38.4
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	3495.00	-61.1	-52.9	1.5	-51.4	-13.0	-38.4

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: 20MHz

Mode	TX channel 20050 (1720.0MHz)	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3440.00	-61.0	-52.5	1.3	-51.2	-13.0	-38.2
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	3440.00	-59.3	-51.3	1.3	-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 20175 (1732.5MHz)	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3465.00	v	-52.1	1.4	-50.7	-13.0	-37.7
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	3465.00	-58.2	-50.4	1.4	-49.0	-13.0	-36.0

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	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3490.00	-60.7	-52.5	1.5	-51.0	-13.0	-38.0
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	3490.00	-59.6	-52.0	1.5	-50.5	-13.0	-37.5

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	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1399.40	-56.1	-49.9	0.9	-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	1399.40	-56.6	-51.5	0.9	-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).

Mode	TX channel 23095 (707.5MHz)	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1415.00	-57.7	-51.1	0.9	-50.2	-13.0	-37.2
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	-56.5	-51.2	0.9	-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 23173 (715.3MHz)	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1430.60	-57.5	-50.7	1.0	-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	1430.60	-56.6	-51.1	1.0	-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).

Channel Bandwidth: 3MHz

Mode	TX channel 23025 (700.5MHz)	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1401.00	-55.5	-49.3	0.9	-48.4	-13.0	-35.4
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	1401.00	-57.6	-52.5	0.9	-51.6	-13.0	-38.6

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 23095 (707.5MHz)	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1415.00	-57.7	-51.1	0.9	-50.2	-13.0	-37.2
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	-56.1	-50.8	0.9	-49.9	-13.0	-36.9

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 23165 (714.5MHz)	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1429.00	-56.9	-50.3	1.0	-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	1429.00	-56.4	-50.9	1.0	-49.9	-13.0	-36.9

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 23035 (701.5MHz)	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1403.00	-56.4	-50.0	0.9	-49.1	-13.0	-36.1
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	1403.00	-55.9	-50.8	0.9	-49.9	-13.0	-36.9

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	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1415.00	-57.2	-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	1415.00	-56.2	-50.9	0.9	-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 23155 (713.5MHz)	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1427.00	-56.8	-50.1	1.0	-49.1	-13.0	-36.1
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	1427.00	-55.8	-50.3	1.0	-49.3	-13.0	-36.3

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	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1408.00	-56.2	-49.8	0.9	-48.9	-13.0	-35.9
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	1408.00	-56.1	-50.9	0.9	-50.0	-13.0	-37.0

Remarks:

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

Mode	TX channel 23095 (707.5MHz)	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1415.00	-56.2	-49.6	0.9	-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	1415.00	-56.8	-51.4	0.9	-50.5	-13.0	-37.5

Remarks:

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

Mode	TX channel 23130 (711MHz)	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1422.00	-56.5	-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	1422.00	-55.8	-50.3	1.0	-49.3	-13.0	-36.3

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	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1559.00	-57.2	-49.5	1.3	-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)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1559.00	-61.9	-55.0	1.3	-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).

Mode	TX channel 23230 (782.0MHz)	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1564.00	-55.9	-48.1	1.2	-46.9	-13.0	-33.9
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	1564.00	-61.6	-54.7	1.2	-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 23255 (784.5MHz)	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1569.00	-55.8	-47.9	1.2	-46.7	-13.0	-33.7
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	1569.00	-61.0	-54.1	1.2	-52.9	-13.0	-39.9

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: 10MHz

Mode	TX channel 23230 (782.0MHz)	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1564.00	-56.8	-49.0	1.2	-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)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1564.00	-60.8	-53.8	1.2	-52.6	-13.0	-39.6

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 17

Channel Bandwidth: 5MHz

Mode	TX channel 23755 (706.5MHz)	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1413.00	-51.4	-44.9	0.9	-44.0	-13.0	-31.0
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	1413.00	-51.0	-45.6	0.9	-44.7	-13.0	-31.7

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 23790 (710.0MHz)	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	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	-49.8	-44.3	0.9	-43.4	-13.0	-30.4

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 23825 (713.5MHz)	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1427.00	-52.4	-45.8	1.0	-44.8	-13.0	-31.8
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	1427.00	-50.9	-45.4	1.0	-44.4	-13.0	-31.4

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 23780 (709.0MHz)	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1418.00	-51.2	-44.6	0.9	-43.7	-13.0	-30.7
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	1418.00	-50.4	-44.9	0.9	-44.0	-13.0	-31.0

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 23790 (710.0MHz)	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1420.00	-51.3	-44.7	0.9	-43.8	-13.0	-30.8
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	1420.00	-50.5	-45.0	0.9	-44.1	-13.0	-31.1

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	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1422.00	-51.4	-44.9	1.0	-43.9	-13.0	-30.9
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	1422.00	-50.2	-44.8	1.0	-43.8	-13.0	-30.8

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.

If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab

Tel: 886-3-6668565

Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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

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