FCC Test Report
(Part 22)

Report No.: RF190114C07-6

FCC ID: MSQI01WD

Test Model: ASUS_I01WD

Received Date: Jan. 14, 2019

Test Date: Jan. 22 ~ Feb. 13, 2019

Issued Date: Feb. 20, 2019

Applicant: ASUSTek COMPUTER INC.

Address: 4F, No. 150, LI-TE Rd., PEITOU, TAIPEI 112, TAIWAN

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.)

FCC Registration / Designation Number: 788550 / TW0003

Testing Laboratory
2021

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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 19
3.5 General Description of Applied Standards 19

4 Test Types and Results **20**

4.1 Output Power Measurement 20
4.1.1 Limits of Output Power Measurement 20
4.1.2 Test Procedures 20
4.1.3 Test Setup 21
4.1.4 Test Results 22
4.2 Modulation Characteristics Measurement 61
4.2.1 Limits of Modulation Characteristics 61
4.2.2 Test Procedure 61
4.2.3 Test Setup 61
4.2.4 Test Results 62
4.3 Frequency Stability Measurement 66
4.3.1 Limits of Frequency Stability Measurement 66
4.3.2 Test Procedure 66
4.3.3 Test Setup 66
4.3.4 Test Results 67
4.4 Occupied Bandwidth Measurement 79
4.4.1 Test Procedure 79
4.4.2 Test Setup 79
4.4.3 Test Result 80
4.5 Band Edge Measurement 92
4.5.1 Limits of Band Edge Measurement 92
4.5.2 Test Setup 92
4.5.3 Test Procedures 92
4.5.4 Test Results 93
4.6 Peak to Average Ratio 104
4.6.1 Limits of Peak to Average Ratio Measurement 104
4.6.2 Test Setup 104
4.6.3 Test Procedures 104
4.6.4 Test Results 105
4.7 Conducted Spurious Emissions 111
4.7.1 Limits of Conducted Spurious Emissions Measurement 111
4.7.2 Test Setup 111
4.7.3 Test Procedure 111
4.7.4 Test Results 112
4.8 Radiated Emission Measurement 127
4.8.1 Limits of Radiated Emission Measurement 127
4.8.2 Test Procedure 127
4.8.3 Deviation from Test Standard 127
4.8.4 Test Setup 128
4.8.5 Test Results 129

5 Pictures of Test Arrangements 153
Appendix – Information on the Testing Laboratories 154

Release Control Record

Issue No.	Description	Date Issued
RF190114C07-6	Original release	Feb. 20, 2019

1 Certificate of Conformity

Product: ASUS Phone

Brand: ASUS

Test Model: ASUS_I01WD

Sample Status: Identical Prototype

Applicant: ASUSTek COMPUTER INC.

Test Date: Jan. 22 ~ Feb. 13, 2019

Standards: FCC Part 22, Subpart H

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

Prepared by : Celine Chou , **Date:** Feb. 20, 2019

Celine Chou / Senior Specialist

Approved by : Bruce Chen , **Date:** Feb. 20, 2019

Bruce Chen / Project Engineer

2 Summary of Test Results

Applied Standard: FCC Part 22 & Part 2			
FCC Clause	Test Item	Result	Remarks
2.1046 22.913 (a)	Effective radiated power	Pass	Meet the requirement of limit.
2.1047	Modulation Characteristics	Pass	Meet the requirement
22.913 (d)	Peak To Average Ratio	Pass	Meet the requirement of limit.
2.1055 22.355	Frequency Stability	Pass	Meet the requirement of limit.
2.1049	Occupied Bandwidth	Pass	Meet the requirement of limit.
22.917	Band Edge Measurements	Pass	Meet the requirement of limit.
2.1051 22.917	Conducted Spurious Emissions	Pass	Meet the requirement of limit.
2.1053 22.917	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -21.90dB at 2509.20MHz.

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

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Radiated Emissions up to 1 GHz	30MHz ~ 200MHz	3.63 dB
	200MHz ~1000MHz	3.64 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 ROHDE & SCHWARZ	ESCI	100424	Jan. 03, 2019	Jan. 02, 2020
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Sep. 25, 2018	Sep. 24, 2019
Spectrum Analyzer KEYSIGHT	N9030B	MY57140953	Jul. 02, 2018	Jul. 01, 2019
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Nov. 21, 2018	Nov. 20, 2019
HORN Antenna SCHWARZBECK	9120D	9120D-408	Nov. 25, 2018	Nov. 24, 2019
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 25, 2018	Nov. 24, 2019
Loop Antenna TESEQ	HLA 6121	45745	Jun. 14, 2018	Jun. 13, 2019
Preamplifier Agilent (Below 1GHz)	8447D	2944A10631	Aug. 08, 2018	Aug. 07, 2019
Preamplifier KEYSIGHT (Above 1GHz)	83017A	MY53270295	Jul. 02, 2018	Jul. 01, 2019
RF signal cable HUBER+SUHNER	SUCOFLEX 104	MY 13380+295012/04	Aug. 08, 2018	Aug. 07, 2019
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH4-03 (250724)	Aug. 08, 2018	Aug. 07, 2019
RF signal cable WOKEN	8D-FB	Cable-CH4-01	Aug. 29, 2018	Aug. 28, 2019
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	010303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021703	NA	NA
Turn Table BV ADT	TT100	TT93021703	NA	NA
Turn Table Controller BV ADT	SC100	SC93021703	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Pre-amplifier (18GHz-40GHz) EMC	EMC184045B	980175	Nov. 14, 2018	Nov. 13, 2019
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 04, 2018	Jun. 03, 2019
JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA

Note:
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 4.
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 7450F-4.

3 General Information

3.1 General Description of EUT

Product	ASUS Phone	
Brand	ASUS	
Test Model	ASUS_I01WD	
Sample Status	Identical Prototype	
Power Supply Rating	3.85 Vdc (Battery) 5 or 9 Vdc (Adapter) 5 Vdc (Host equipment)	
Modulation Type	GSM, GPRS: GMSK EDGE: 8PSK WCDMA: BPSK, QPSK HSDPA: BPSK HSUPA: QPSK LTE: QPSK, 16QAM, 64QAM	
Operating Frequency	GSM/GPRS/EDGE	824.2~848.8MHz
	WCDMA Band 5	826.4~846.6MHz
	LTE Band 5 (Channel Bandwidth 1.4MHz)	824.7~848.3MHz
	LTE Band 5 (Channel Bandwidth 3MHz)	825.5~847.5MHz
	LTE Band 5 (Channel Bandwidth 5MHz)	826.5~846.5MHz
	LTE Band 5 (Channel Bandwidth 10MHz)	829.0~844.0MHz
	LTE Band 26 (Channel Bandwidth 1.4MHz)	824.7~848.3MHz
	LTE Band 26 (Channel Bandwidth 3MHz)	825.5~847.5MHz
	LTE Band 26 (Channel Bandwidth 5MHz)	826.5~846.5MHz
	LTE Band 26 (Channel Bandwidth 10MHz)	829.0~844.0MHz
	LTE Band 26 (Channel Bandwidth 15MHz)	831.5~841.5MHz

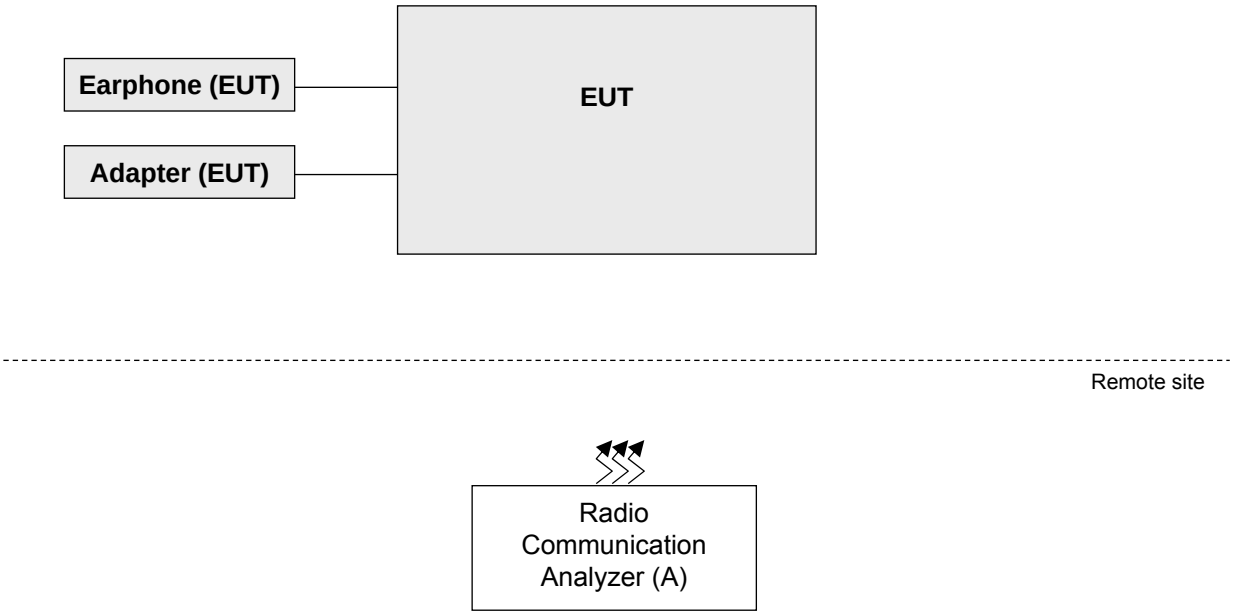
Max. ERP Power	GSM	204.174mW (23.10dBm)		
	WCDMA Band 5	23.988mW (13.80dBm)		
		QPSK	16QAM	64QAM
	LTE Band 5 (Channel Bandwidth 1.4MHz)	30.903mW (14.90dBm)	26.303mW (14.20dBm)	13.300mW (13.30dBm)
	LTE Band 5 (Channel Bandwidth 3MHz)	30.200mW (14.80dBm)	26.303mW (14.20dBm)	21.878mW (13.40dBm)
	LTE Band 5 (Channel Bandwidth 5MHz)	30.200mW (14.80dBm)	26.915mW (14.30dBm)	20.893mW (13.20dBm)
	LTE Band 5 (Channel Bandwidth 10MHz)	30.200mW (14.80dBm)	27.542mW (14.40dBm)	21.878mW (13.40dBm)
	LTE Band 26 (Channel Bandwidth 1.4MHz)	14.454mW (11.60dBm)	12.589mW (11.00dBm)	10.965mW (10.40dBm)
	LTE Band 26 (Channel Bandwidth 3MHz)	14.125mW (11.50dBm)	12.303mW (10.90dBm)	11.749mW (10.70dBm)
	LTE Band 26 (Channel Bandwidth 5MHz)	14.454mW (11.60dBm)	12.589mW (11.00dBm)	10.715mW (10.30dBm)
	LTE Band 26 (Channel Bandwidth 10MHz)	14.791mW (11.70dBm)	12.882mW (11.10dBm)	10.715mW (10.30dBm)
	LTE Band 26 (Channel Bandwidth 15MHz)	14.454mW (11.60dBm)	12.882mW (11.10dBm)	10.965mW (10.40dBm)
Emission Designator	GSM/GPRS	240KGXW		
	EDGE	240KG7W		
	WCDMA Band 5	4M15F9W		
		QPSK	16QAM	64QAM
	LTE Band 5 (Channel Bandwidth 1.4MHz)	1M09G7D	1M09D7W	1M09D7W
	LTE Band 5 (Channel Bandwidth 3MHz)	2M70G7D	2M70D7W	2M70D7W
	LTE Band 5 (Channel Bandwidth 5MHz)	4M49G7D	4M50D7W	4M49D7W
	LTE Band 5 (Channel Bandwidth 10MHz)	9M00G7D	8M97D7W	8M97D7W
	LTE Band 26 (Channel Bandwidth 1.4MHz)	1M09G7D	1M09D7W	1M09D7W
	LTE Band 26 (Channel Bandwidth 3MHz)	2M70G7D	2M70D7W	2M70D7W
	LTE Band 26 (Channel Bandwidth 5MHz)	4M49G7D	4M49D7W	4M49D7W
	LTE Band 26 (Channel Bandwidth 10MHz)	8M98G7D	8M98D7W	8M97D7W
	LTE Band 26 (Channel Bandwidth 15MHz)	13M5G7D	13M4D7W	13M4D7W
Antenna Type	Refer to Note as below			
Antenna Connector	Refer to Note as below			
Accessory Device	Refer to Note as below			
Cable Supplied	Refer to Note as below			

Note:

1. The EUT accessories list refers to EUT Photo.pdf.
2. The following antennas were provided to the EUT.

Ant. No.	Type	Connector	Gain (dBi)											
			GSM 850	GSM 1900	WCDMA B2	WCDMA B4	WCDMA B5	LTE B2	LTE B4	LTE B5	LTE B7	LTE B26	LTE B38	LTE B41
WWAN Antenna-0	PIFA	NA	-4.5	-2.6	-2.6	-1.9	-4.5	-2.5	-1.9	-4.5	-1.3	-4.4	-1.0	-1.0
WWAN Antenna-1	PIFA	NA	-3.4	-3.2	-3.2	-5.3	-3.4	-3.2	-5.3	-3.3	-4.7	-3.3	-5.7	-5.7

3.2 Configuration of System under Test



3.2.1 Description of Support Units

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

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Radio Communication Analyzer	Anritsu	MT8860C	1702001	NA	-

Note:

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

3.3 Test Mode Applicability and Tested Channel Detail

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

GSM Mode

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Mode
-	ERP	128 to 251	128(824.2MHz), 189(836.4MHz), 251(848.8MHz)	GSM
-	Modulation Characteristics	128 to 251	128(824.2MHz)	GSM, GPRS, EDGE
-	Frequency Stability	128 to 251	128(824.2MHz), 251(848.8MHz)	GSM, EDGE
-	Occupied Bandwidth	128 to 251	128(824.2MHz), 189(836.4MHz), 251(848.8MHz)	GSM, GPRS, EDGE
-	Band Edge	128 to 251	128(824.2MHz), 251(848.8MHz)	GSM, GPRS, EDGE
-	Peak To Average Ratio	128 to 251	128(824.2MHz), 189(836.4MHz), 251(848.8MHz)	GSM, GPRS, EDGE
-	Conducted Emission	128 to 251	128(824.2MHz), 189(836.4MHz), 251(848.8MHz)	GSM, GPRS, EDGE
-	Radiated Emission Below 1GHz	128 to 251	128(824.2MHz)	GSM
-	Radiated Emission Above 1GHz	128 to 251	128(824.2MHz), 189(836.4MHz), 251(848.8MHz)	GSM

Note: For radiated emission below 1GHz, low, mid and high channels were pre-tested E.R.P. in chamber. Low channel was found to be the worst case and therefore had been chosen for all final tests.

WCDMA Band 5

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Mode
-	ERP	4132 to 4233	4132 (826.4MHz), 4182 (836.4MHz), 4233 (846.6MHz)	WCDMA
-	Modulation Characteristics	4132 to 4233	4182 (836.4MHz)	WCDMA, HSDPA, HSUPA
-	Frequency Stability	4132 to 4233	4132 (826.4MHz), 4233 (846.6MHz)	WCDMA
-	Occupied Bandwidth	4132 to 4233	4132 (826.4MHz), 4182 (836.4MHz), 4233 (846.6MHz)	WCDMA, HSDPA, HSUPA
-	Band Edge	4132 to 4233	4132 (826.4MHz), 4233 (846.6MHz)	WCDMA, HSDPA, HSUPA
-	Peak To Average Ratio	4132 to 4233	4132 (826.4MHz), 4182 (836.4MHz), 4233 (846.6MHz)	WCDMA, HSDPA, HSUPA
-	Conducted Emission	4132 to 4233	4132 (826.4MHz), 4182 (836.4MHz), 4233 (846.6MHz)	WCDMA, HSDPA, HSUPA
-	Radiated Emission Below 1GHz	4132 to 4233	4132 (826.4MHz)	WCDMA
-	Radiated Emission Above 1GHz	4132 to 4233	4132 (826.4MHz), 4182 (836.4MHz), 4233 (846.6MHz)	WCDMA

Note: For radiated emission below 1GHz, low, mid and high channels were pre-tested E.R.P. in chamber. Low channel was found to be the worst case and therefore had been chosen for all final tests.

LTE Band 5

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	ERP	20407 to 20643	20407(824.7MHz), 20525(836.5MHz), 20643(848.3MHz)	1.4MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		20415 to 20635	20415(825.5MHz), 20525(836.5MHz), 20635(847.5MHz)	3MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		20425 to 20625	20425(826.5MHz), 20525(836.5MHz), 20625(846.5MHz)	5MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		20450 to 20600	20450(829.0MHz), 20525(836.5MHz), 20600(844.0MHz)	10MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
-	Modulation characteristics	20450 to 20600	20525(836.5MHz)	10MHz	QPSK / 16QAM / 64QAM	50 RB / 0 RB Offset
-	Frequency Stability	20407 to 20643	20407(824.7MHz), 20643(848.3MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
		20415 to 20635	20415(825.5MHz), 20635(847.5MHz)	3MHz	QPSK	1 RB / 0 RB Offset
		20425 to 20625	20425(826.5MHz), 20625(846.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		20450 to 20600	20450(829.0MHz), 20600(844.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset
-	Occupied Bandwidth	20407 to 20643	20407(824.7MHz), 20525(836.5MHz), 20643(848.3MHz)	1.4MHz	QPSK / 16QAM / 64QAM	6 RB / 0RB Offset
		20415 to 20635	20415(825.5MHz), 20525(836.5MHz), 20635(847.5MHz)	3MHz	QPSK / 16QAM / 64QAM	15 RB / 0RB Offset
		20425 to 20625	20425(826.5MHz), 20525(836.5MHz), 20625(846.5MHz)	5MHz	QPSK / 16QAM / 64QAM	25RB / 0RB Offset
		20450 to 20600	20450(829.0MHz), 20525(836.5MHz), 20600(844.0MHz)	10MHz	QPSK / 16QAM / 64QAM	50RB / 0RB Offset
-	Band Edge	20407 to 20643	20407(824.7MHz), 20643(848.3MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset 1 RB / 5 RB Offset 6 RB / 0 RB Offset
		20415 to 20635	20415(825.5MHz), 20635(847.5MHz)	3MHz	QPSK	1 RB / 0 RB Offset 1 RB / 14 RB Offset 15 RB / 0 RB Offset
		20425 to 20625	20425(826.5MHz), 20625(846.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset 1 RB / 24 RB Offset 25 RB / 0 RB Offset
		20450 to 20600	20450(829.0MHz), 20600(844.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset 1 RB / 49 RB Offset 50 RB / 0 RB Offset

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	Peak to Average Ratio	20407 to 20643	20407(824.7MHz), 20525(836.5MHz), 20643(848.3MHz)	1.4MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		20415 to 20635	20415(825.5MHz), 20525(836.5MHz), 20635(847.5MHz)	3MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		20425 to 20625	20425(826.5MHz), 20525(836.5MHz), 20625(846.5MHz)	5MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		20450 to 20600	20450(829.0MHz), 20525(836.5MHz), 20600(844.0MHz)	10MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
-	Conducted Emission	20407 to 20643	20407(824.7MHz), 20525(836.5MHz), 20643(848.3MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
		20415 to 20635	20415(825.5MHz), 20525(836.5MHz), 20635(847.5MHz)	3MHz	QPSK	1 RB / 0 RB Offset
		20425 to 20625	20425(826.5MHz), 20525(836.5MHz), 20625(846.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		20450 to 20600	20450(829.0MHz), 20525(836.5MHz), 20600(844.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset
-	Radiated Emission Below 1GHz	20407 to 20643	20407(824.7MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
-	Radiated Emission Above 1GHz	20407 to 20643	20407(824.7MHz), 20525(836.5MHz), 20643(848.3MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
		20425 to 20625	20425(826.5MHz), 20525(836.5MHz), 20625(846.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		20450 to 20600	20450(829.0MHz), 20525(836.5MHz), 20600(844.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset

Note:

1. For radiated emission below 1GHz, low, mid and high channels were pre-tested in chamber with 1.4MHz mode. Low channel was found to be the worst case and therefore had been chosen for all final tests.
2. For radiated emission above 1GHz, according to 3GPP 36.521 Section 6.6.3.1.4, choose the lowest, 5MHz & highest channel bandwidth for final test.
3. The conducted output power for QPSK, 16QAM and 64QAM, measured value of QPSK is higher than 16QAM and 64QAM mode. Therefore, only Modulation characteristics, occupied bandwidth and Peak to average ratio items had been tested under QPSK, 16QAM and 64QAM modes, the other test items were performed under QPSK mode only.

LTE Band 26

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	ERP	26797 to 27033	26797 (824.7MHz), 26915 (836.5MHz), 27033 (848.3MHz)	1.4MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		26805 to 27025	26805 (825.5MHz), 26915 (836.5MHz), 27025 (847.5MHz)	3MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		26815 to 27015	26815 (826.5MHz), 26915 (836.5MHz), 27015 (846.5MHz)	5MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		26840 to 26990	26840 (829MHz), 26915 (836.5MHz), 26990 (844MHz)	10MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		26865 to 26965	26865 (831.5MHz), 26915 (836.5MHz), 26965 (841.5MHz)	15MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
-	Modulation Characteristics	26865 to 26965	26915 (836.5MHz)	15MHz	QPSK / 16QAM / 64QAM	75 RB / 0 RB Offset
-	Frequency Stability	26797 to 27033	26797 (824.7MHz), 27033 (848.3MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
		26805 to 27025	26805 (825.5MHz), 27025 (847.5MHz)	3MHz	QPSK	1 RB / 0 RB Offset
		26815 to 27015	26815 (826.5MHz), 27015 (846.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		26840 to 26990	26840 (829MHz), 26990 (844MHz)	10MHz	QPSK	1 RB / 0 RB Offset
		26865 to 26965	26865 (831.5MHz), 26965 (841.5MHz)	15MHz	QPSK	1 RB / 0 RB Offset
-	Occupied Bandwidth	26797 to 27033	26797 (824.7MHz), 26915 (836.5MHz), 27033 (848.3MHz)	1.4MHz	QPSK / 16QAM / 64QAM	6 RB / 0RB Offset
		26805 to 27025	26805 (825.5MHz), 26915 (836.5MHz), 27025 (847.5MHz)	3MHz	QPSK / 16QAM / 64QAM	15 RB / 0RB Offset
		26815 to 27015	26815 (826.5MHz), 26915 (836.5MHz), 27015 (846.5MHz)	5MHz	QPSK / 16QAM / 64QAM	25RB / 0RB Offset
		26840 to 26990	26840 (829MHz), 26915 (836.5MHz), 26990 (844MHz)	10MHz	QPSK / 16QAM / 64QAM	50RB / 0RB Offset
		26865 to 26965	26865 (831.5MHz), 26915 (836.5MHz), 26965 (841.5MHz)	15MHz	QPSK / 16QAM / 64QAM	75 RB / 0 RB Offset

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	Band Edge	26797 to 27033	26797 (824.7MHz), 27033 (848.3MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset 1 RB / 5 RB Offset 6 RB / 0 RB Offset
		26805 to 27025	26805 (825.5MHz), 27025 (847.5MHz)	3MHz	QPSK	1 RB / 0 RB Offset 1 RB / 14 RB Offset 15 RB / 0 RB Offset
		26815 to 27015	26815 (826.5MHz), 27015 (846.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset 1 RB / 24 RB Offset 25 RB / 0 RB Offset
		26840 to 26990	26840 (829MHz), 26990 (844MHz)	10MHz	QPSK	1 RB / 0 RB Offset 1 RB / 49 RB Offset 50 RB / 0 RB Offset
		26865 to 26965	26865 (831.5MHz), 26965 (841.5MHz)	15MHz	QPSK	1 RB / 0 RB Offset 1 RB / 74 RB Offset 75 RB / 0 RB Offset
-	Peak to Average Ratio	26797 to 27033	26797 (824.7MHz), 26915 (836.5MHz), 27033 (848.3MHz)	1.4MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		26805 to 27025	26805 (825.5MHz), 26915 (836.5MHz), 27025 (847.5MHz)	3MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		26815 to 27015	26815 (826.5MHz), 26915 (836.5MHz), 27015 (846.5MHz)	5MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		26840 to 26990	26840 (829MHz), 26915 (836.5MHz), 26990 (844MHz)	10MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
		26865 to 26965	26865 (831.5MHz), 26915 (836.5MHz), 26965 (841.5MHz)	15MHz	QPSK / 16QAM / 64QAM	1 RB / 0 RB Offset
-	Conducted Emission	26797 to 27033	26797 (824.7MHz), 26915 (836.5MHz), 27033 (848.3MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
		26805 to 27025	26805 (825.5MHz), 26915 (836.5MHz), 27025 (847.5MHz)	3MHz	QPSK	1 RB / 0 RB Offset
		26815 to 27015	26815 (826.5MHz), 26915 (836.5MHz), 27015 (846.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		26840 to 26990	26840 (829MHz), 26915 (836.5MHz), 26990 (844MHz)	10MHz	QPSK	1 RB / 0 RB Offset
		26865 to 26965	26865 (831.5MHz), 26915 (836.5MHz), 26965 (841.5MHz)	15MHz	QPSK	1 RB / 0 RB Offset

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	Radiated Emission Below 1GHz	26797 to 27033	26797 (824.7MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
-	Radiated Emission Above 1GHz	26797 to 27033	26797 (824.7MHz), 26915 (836.5MHz), 27033 (848.3MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
		26815 to 27015	26815 (826.5MHz), 26915 (836.5MHz), 27015 (846.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		26865 to 26965	26865 (831.5MHz), 26915 (836.5MHz), 26965 (841.5MHz)	15MHz	QPSK	1 RB / 0 RB Offset

Note:

1. For radiated emission below 1GHz, low, mid and high channels were pre-tested in chamber with 1.4MHz mode. Low channel was found to be the worst case and therefore had been chosen for all final tests.
2. For radiated emission above 1GHz, according to 3GPP 36.521 Section 6.6.3.1.4, choose the lowest, 5MHz & highest channel bandwidth for final test.
3. The conducted output power for QPSK, 16QAM and 64QAM, measured value of QPSK is higher than 16QAM and 64QAM mode. Therefore, only Modulation characteristics, occupied bandwidth and Peak to average ratio items had been tested under QPSK, 16QAM and 64QAM modes, the other test items were performed under QPSK mode only.

Test Condition:

Test Item	Environmental Conditions	Input Power (system)	Tested By
ERP	25deg. C, 70%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	25deg. C, 70%RH	120Vac, 60Hz	Noah Chang

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 22

KDB 971168 D01 Power Meas License Digital Systems v03r01

ANSI/TIA/EIA-603-E 2016

ANSI 63.26-2015

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 7 watts e.r.p.

4.1.2 Test Procedures

EIRP / ERP Measurement:

a. All measurements were done at low, middle and high operational frequency range. RBW and VBW is 1MHz for GSM, 5MHz for WCDMA mode, 10MHz 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 = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.R.P power - 2.15dBi.

Where:

$ERP/EIRP = P_{Meas} + G_T - L_C$

P_{Meas} : Measure transmitter output power.
G_T : Gain of the transmitting antenna.
L_C : signal attenuation in the connecting cable between the transmitter and antenna.

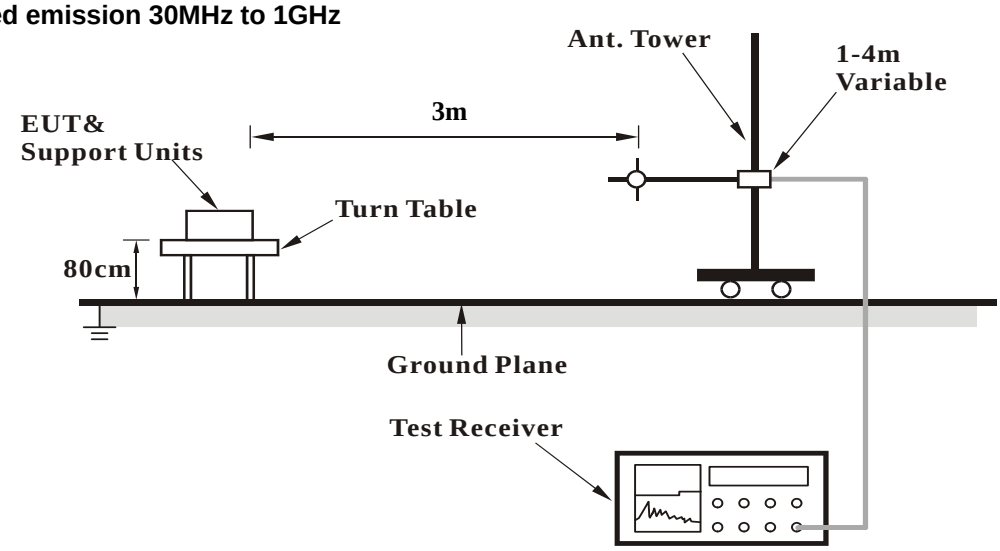
Conducted Power Measurement:

The EUT was set up for the maximum power with GSM, WCDMA, LTE link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

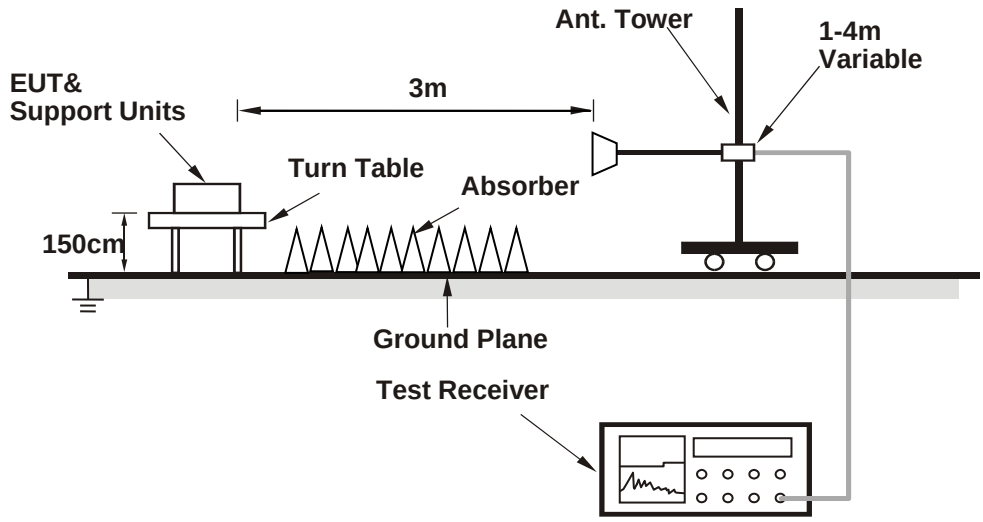
4.1.3 Test Setup

EIRP / ERP Measurement:

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).

Conducted Power Measurement:

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

4.1.4 Test Results

Conducted Output Power (dBm)

Band	GSM850			Max. Tune-up Power
Channel	128	189	251	
Frequency (MHz)	824.2	836.4	848.8	
GSM	32.64	32.82	32.93	33.00
GPRS 1Tx Slot	32.63	32.81	32.91	33.00
GPRS 2Tx Slot	32.19	32.35	32.45	32.50
EDGE 1Tx Slot (MCS9)	27.81	28.15	28.25	28.50
EDGE 2Tx Slot (MCS9)	27.19	27.53	27.63	28.00

Band	WCDMA V			Max. Tune-up Power
TX Channel	4132	4182	4233	
Rx Channel	4357	4407	4458	
Frequency (MHz)	826.4	836.4	846.6	
RMC 12.2K	23.41	23.47	23.45	23.5
HSDPA Subtest-1	22.43	22.49	22.47	22.5
HSDPA Subtest-2	22.42	22.48	22.46	22.5
HSDPA Subtest-3	21.92	21.98	21.96	22.0
HSDPA Subtest-4	21.90	21.96	21.94	22.0
DC-HSDPA Subtest-1	22.31	22.37	22.35	22.5
DC-HSDPA Subtest-2	22.30	22.36	22.34	22.5
DC-HSDPA Subtest-3	21.80	21.86	21.84	22.0
DC-HSDPA Subtest-4	21.78	21.84	21.82	22.0
HSUPA Subtest-1	22.43	22.49	22.47	22.5
HSUPA Subtest-2	20.42	20.48	20.46	20.5
HSUPA Subtest-3	21.40	21.46	21.44	21.5
HSUPA Subtest-4	20.36	20.42	20.40	20.5
HSUPA Subtest-5	22.42	22.48	22.46	22.5

LTE Band 5								
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	Max. Tune-up (dBm)
		Channel		20407	20525	20643		
		Frequency (MHz)		824.7	836.5	848.3		
1.4M	QPSK	1	0	22.16	22.22	22.14	0	22.5
		1	2	22.11	22.17	22.09	0	22.5
		1	5	22.05	22.11	22.03	0	22.5
		3	0	21.97	22.03	21.95	0	22.5
		3	1	21.93	21.99	21.91	0	22.5
		3	3	21.92	21.98	21.90	0	22.5
		6	0	21.09	21.15	21.07	1	21.5
	16QAM	1	0	21.12	21.17	21.10	1	21.5
		1	2	21.07	21.12	21.05	1	21.5
		1	5	21.01	21.06	20.99	1	21.5
		3	0	20.94	20.99	20.92	1	21.5
		3	1	20.90	20.95	20.88	1	21.5
		3	3	20.89	20.94	20.87	1	21.5
		6	0	20.05	20.10	20.03	2	20.5
	64QAM	1	0	20.08	20.15	20.06	2	20.5
		1	2	20.03	20.10	20.01	2	20.5
		1	5	19.97	20.04	19.95	2	20.5
		3	0	19.90	19.97	19.88	2	20.5
		3	1	19.86	19.93	19.84	2	20.5
		3	3	19.85	19.92	19.83	2	20.5
		6	0	19.01	19.08	18.99	3	19.5

LTE Band 5								
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	Max. Tune-up (dBm)
		Channel		20415	20525	20635		
		Frequency (MHz)		825.5	836.5	847.5		
3M	QPSK	1	0	22.18	22.24	22.16	0	22.5
		1	7	22.13	22.19	22.11	0	22.5
		1	14	22.07	22.13	22.05	0	22.5
		8	0	21.17	21.23	21.15	1	21.5
		8	3	21.13	21.19	21.11	1	21.5
		8	7	21.12	21.18	21.10	1	21.5
		15	0	21.11	21.17	21.09	1	21.5
	16QAM	1	0	21.14	21.19	21.12	1	21.5
		1	7	21.09	21.14	21.07	1	21.5
		1	14	21.03	21.08	21.01	1	21.5
		8	0	20.13	20.18	20.11	2	20.5
		8	3	20.09	20.14	20.07	2	20.5
		8	7	20.08	20.13	20.06	2	20.5
		15	0	20.07	20.12	20.05	2	20.5
	64QAM	1	0	20.10	20.17	20.08	2	20.5
		1	7	20.05	20.12	20.03	2	20.5
		1	14	19.99	20.06	19.97	2	20.5
		8	0	19.09	19.16	19.07	3	19.5
		8	3	19.05	19.12	19.03	3	19.5
		8	7	19.04	19.11	19.02	3	19.5
		15	0	19.03	19.10	19.01	3	19.5

LTE Band 5								
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	Max. Tune-up (dBm)
		Channel		20425	20525	20625		
		Frequency (MHz)		826.5	836.5	846.5		
5M	QPSK	1	0	22.21	22.27	22.19	0	22.5
		1	12	22.16	22.22	22.14	0	22.5
		1	24	22.10	22.16	22.08	0	22.5
		12	0	21.20	21.26	21.18	1	21.5
		12	6	21.16	21.22	21.14	1	21.5
		12	13	21.15	21.21	21.13	1	21.5
		25	0	21.14	21.20	21.12	1	21.5
	16QAM	1	0	21.17	21.22	21.15	1	21.5
		1	12	21.12	21.17	21.10	1	21.5
		1	24	21.06	21.11	21.04	1	21.5
		12	0	20.16	20.21	20.14	2	20.5
		12	6	20.12	20.17	20.10	2	20.5
		12	13	20.11	20.16	20.09	2	20.5
		25	0	20.10	20.15	20.08	2	20.5
	64QAM	1	0	20.13	20.20	20.11	2	20.5
		1	12	20.08	20.15	20.06	2	20.5
		1	24	20.02	20.09	20.00	2	20.5
		12	0	19.12	19.19	19.10	3	19.5
		12	6	19.08	19.15	19.06	3	19.5
		12	13	19.07	19.14	19.05	3	19.5
		25	0	19.06	19.13	19.04	3	19.5

LTE Band 5								
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	Max. Tune-up (dBm)
		Channel		20450	20525	20600		
		Frequency (MHz)		829	836.5	844		
10M	QPSK	1	0	22.26	22.32	22.24	0	22.5
		1	24	22.21	22.27	22.19	0	22.5
		1	49	22.15	22.21	22.13	0	22.5
		25	0	21.25	21.31	21.23	1	21.5
		25	12	21.21	21.27	21.19	1	21.5
		25	25	21.20	21.26	21.18	1	21.5
		50	0	21.19	21.25	21.17	1	21.5
	16QAM	1	0	21.22	21.27	21.20	1	21.5
		1	24	21.17	21.22	21.15	1	21.5
		1	49	21.11	21.16	21.09	1	21.5
		25	0	20.21	20.26	20.19	2	20.5
		25	12	20.17	20.22	20.15	2	20.5
		25	25	20.16	20.21	20.14	2	20.5
		50	0	20.15	20.20	20.13	2	20.5
	64QAM	1	0	20.18	20.25	20.16	2	20.5
		1	24	20.13	20.20	20.11	2	20.5
		1	49	20.07	20.14	20.05	2	20.5
		25	0	19.17	19.24	19.15	3	19.5
		25	12	19.13	19.20	19.11	3	19.5
		25	25	19.12	19.19	19.10	3	19.5
		50	0	19.11	19.18	19.09	3	19.5

LTE Band 26								
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	Max. Tune-up (dBm)
		Channel		26797	26915	27033		
		Frequency (MHz)		824.7	836.5	848.3		
1.4M	QPSK	1	0	22.17	22.30	22.23	0	22.5
		1	2	22.07	22.17	22.20	0	22.5
		1	5	22.24	22.12	22.18	0	22.5
		3	0	22.16	22.35	22.15	0	22.5
		3	1	22.27	22.34	22.12	0	22.5
		3	3	22.34	22.32	22.09	0	22.5
		6	0	21.25	21.35	21.29	1	21.5
	16QAM	1	0	21.09	21.27	21.21	1	21.5
		1	2	21.06	21.15	21.18	1	21.5
		1	5	21.03	21.19	21.16	1	21.5
		3	0	21.43	21.25	21.13	1	21.5
		3	1	21.07	21.33	21.10	1	21.5
		3	3	21.12	21.21	21.07	1	21.5
		6	0	20.21	20.33	20.27	2	20.5
	64QAM	1	0	20.08	20.13	20.17	2	20.5
		1	2	20.01	20.08	20.14	2	20.5
		1	5	20.01	20.09	20.12	2	20.5
		3	0	20.15	20.23	20.10	2	20.5
		3	1	20.29	20.33	20.07	2	20.5
		3	3	20.10	20.15	20.04	2	20.5
		6	0	19.12	19.20	19.23	3	19.5

LTE Band 26								
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	Max. Tune-up (dBm)
		Channel		26805	26915	27025		
		Frequency (MHz)		825.5	836.5	847.5		
3M	QPSK	1	0	22.13	22.18	22.25	0	22.5
		1	7	22.11	22.18	22.22	0	22.5
		1	14	22.17	22.23	22.20	0	22.5
		8	0	21.21	21.40	21.36	1	21.5
		8	3	21.27	21.30	21.33	1	21.5
		8	7	21.22	21.25	21.30	1	21.5
		15	0	21.35	21.23	21.31	1	21.5
	16QAM	1	0	21.08	21.19	21.23	1	21.5
		1	7	21.06	21.23	21.20	1	21.5
		1	14	21.06	21.24	21.18	1	21.5
		8	0	20.43	20.29	20.34	2	20.5
		8	3	20.07	20.25	20.31	2	20.5
		8	7	20.16	20.26	20.28	2	20.5
		15	0	20.20	20.35	20.29	2	20.5
	64QAM	1	0	20.16	20.11	20.19	2	20.5
		1	7	20.03	20.13	20.16	2	20.5
		1	14	20.13	20.17	20.14	2	20.5
		8	0	19.20	19.22	19.30	3	19.5
		8	3	19.33	19.31	19.27	3	19.5
		8	7	19.17	19.30	19.24	3	19.5
		15	0	19.12	19.29	19.25	3	19.5

LTE Band 26								
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	Max. Tune-up (dBm)
		Channel		26815	26915	27015		
		Frequency (MHz)		826.5	836.5	846.5		
5M	QPSK	1	0	22.17	22.21	22.29	0	22.5
		1	12	22.20	22.17	22.26	0	22.5
		1	24	22.18	22.12	22.24	0	22.5
		12	0	21.27	21.18	21.40	1	21.5
		12	6	21.24	21.29	21.37	1	21.5
		12	13	21.31	21.26	21.34	1	21.5
		25	0	21.27	21.34	21.35	1	21.5
	16QAM	1	0	21.14	20.95	21.27	1	21.5
		1	12	21.19	21.17	21.24	1	21.5
		1	24	21.10	21.05	21.22	1	21.5
		12	0	20.29	20.38	20.38	2	20.5
		12	6	20.18	20.12	20.35	2	20.5
		12	13	20.27	20.14	20.32	2	20.5
		25	0	20.13	20.08	20.33	2	20.5
	64QAM	1	0	20.08	20.07	20.23	2	20.5
		1	12	20.15	20.01	20.20	2	20.5
		1	24	20.09	20.02	20.18	2	20.5
		12	0	19.27	19.22	19.34	3	19.5
		12	6	19.13	19.30	19.31	3	19.5
		12	13	19.11	19.19	19.28	3	19.5
		25	0	19.29	19.13	19.29	3	19.5

LTE Band 26								
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	Max. Tune-up (dBm)
		Channel		26840	26915	26990		
		Frequency (MHz)		829	836.5	844		
10M	QPSK	1	0	22.25	22.22	22.31	0	22.5
		1	24	22.30	22.18	22.28	0	22.5
		1	49	22.30	22.24	22.26	0	22.5
		25	0	21.32	21.27	21.42	1	21.5
		25	12	21.33	21.32	21.39	1	21.5
		25	25	21.41	21.34	21.36	1	21.5
		50	0	21.35	21.35	21.37	1	21.5
	16QAM	1	0	21.29	21.09	21.29	1	21.5
		1	24	21.29	21.19	21.26	1	21.5
		1	49	21.25	21.18	21.24	1	21.5
		25	0	20.35	20.44	20.40	2	20.5
		25	12	20.28	20.18	20.37	2	20.5
		25	25	20.38	20.22	20.34	2	20.5
		50	0	20.25	20.23	20.35	2	20.5
	64QAM	1	0	20.22	20.18	20.25	2	20.5
		1	24	20.22	20.16	20.22	2	20.5
		1	49	20.17	20.15	20.20	2	20.5
		25	0	19.41	19.23	19.36	3	19.5
		25	12	19.28	19.34	19.33	3	19.5
		25	25	19.23	19.23	19.30	3	19.5
		50	0	19.32	19.21	19.31	3	19.5

LTE Band 26								
BW	MCS Index	RB Size	RB Offset	Low	Mid	High	3GPP MPR (dB)	Max. Tune-up (dBm)
		Channel		26865	26915	26965		
		Frequency (MHz)		831.5	836.5	841.5		
15M	QPSK	1	0	22.36	22.31	22.41	0	22.5
		1	37	22.33	22.32	22.38	0	22.5
		1	74	22.31	22.28	22.36	0	22.5
		36	0	21.47	21.42	21.49	1	21.5
		36	19	21.44	21.40	21.47	1	21.5
		36	39	21.41	21.36	21.45	1	21.5
		75	0	21.42	21.40	21.47	1	21.5
	16QAM	1	0	21.34	21.24	21.39	1	21.5
		1	37	21.31	21.27	21.36	1	21.5
		1	74	21.29	21.20	21.34	1	21.5
		36	0	20.45	20.45	20.50	2	20.5
		36	19	20.42	20.33	20.47	2	20.5
		36	39	20.39	20.31	20.44	2	20.5
		75	0	20.40	20.36	20.45	2	20.5
	64QAM	1	0	20.32	20.30	20.35	2	20.5
		1	37	20.29	20.20	20.32	2	20.5
		1	74	20.27	20.25	20.30	2	20.5
		36	0	19.43	19.33	19.46	3	19.5
		36	19	19.40	19.40	19.43	3	19.5
		36	39	19.37	19.30	19.40	3	19.5
		75	0	19.38	19.30	19.41	3	19.5

ERP Power

GSM Mode

Mode		TX channel 128					
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	824.20	-15.40	12.20	3.90	16.10	38.50	-22.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	824.20	-9.10	19.20	3.90	23.10	38.50	-15.40

Mode		TX channel 189					
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	836.40	-15.60	11.90	3.80	15.70	38.50	-22.80
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.40	-9.20	18.80	3.80	22.60	38.50	-15.90

Mode		TX channel 251					
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	848.80	-15.10	12.60	3.40	16.00	38.50	-22.50
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	848.80	-8.80	19.30	3.40	22.70	38.50	-15.80

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

WCDMA Band 5

Mode		TX channel 4132					
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	826.40	-20.10	7.50	3.90	11.40	38.50	-27.10
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	826.40	-18.40	9.90	3.90	13.80	38.50	-24.70

Mode		TX channel 4182					
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	836.40	-20.10	7.40	3.80	11.20	38.50	-27.30
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.40	-18.60	9.50	3.80	13.30	38.50	-25.20

Mode		TX channel 4233					
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	846.60	-20.10	7.50	3.40	10.90	38.50	-27.60
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	846.60	-18.10	10.10	3.40	13.50	38.50	-25.00

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

Modulation Type: QPSK

LTE Band 5, Channel Bandwidth: 1.4MHz

Mode		TX channel 20407					
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	824.70	-19.60	11.50	0.00	11.50	38.50	-27.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	824.70	-17.00	14.90	0.00	14.90	38.50	-23.60

Mode		TX channel 20525					
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	836.50	-20.10	11.10	0.20	11.30	38.50	-27.20
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.50	-17.20	14.60	0.20	14.80	38.50	-23.70

Mode		TX channel 20643					
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	848.30	-19.80	10.70	0.50	11.20	38.50	-27.30
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	848.30	-17.50	13.90	0.50	14.40	38.50	-24.10

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

LTE Band 5, Channel Bandwidth: 3MHz

Mode		TX channel 20415					
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	825.50	-20.00	11.10	0.00	11.10	38.50	-27.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	825.50	-17.20	14.60	0.00	14.60	38.50	-23.90

Mode		TX channel 20525					
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	836.50	-20.10	11.10	0.20	11.30	38.50	-27.20
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.50	-17.60	14.20	0.20	14.40	38.50	-24.10

Mode		TX channel 20635					
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	847.50	-19.60	11.00	0.40	11.40	38.50	-27.10
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	847.50	-16.80	11.40	3.40	14.80	38.50	-23.70

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

LTE Band 5, Channel Bandwidth: 5MHz

Mode		TX channel 20425					
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	826.50	-20.00	11.10	0.00	11.10	38.50	-27.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	826.50	-17.10	14.80	0.00	14.80	38.50	-23.70

Mode		TX channel 20525					
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	836.50	-20.20	10.90	0.20	11.10	38.50	-27.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.50	-17.40	14.40	0.20	14.60	38.50	-23.90

Mode		TX channel 20625					
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	846.50	-19.60	10.90	0.40	11.30	38.50	-27.20
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	846.50	-17.10	14.10	0.40	14.50	38.50	-24.00

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

LTE Band 5, Channel Bandwidth: 10MHz

Mode		TX channel 20450					
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	829.00	-20.00	11.00	0.10	11.10	38.50	-27.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	829.00	-17.50	14.30	0.10	14.40	38.50	-24.10

Mode		TX channel 20525					
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	836.50	-20.20	10.90	0.20	11.10	38.50	-27.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.50	-17.20	14.60	0.20	14.80	38.50	-23.70

Mode		TX channel 20600					
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	844.00	-20.00	10.60	0.40	11.00	38.50	-27.50
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	844.00	-17.40	14.10	0.40	14.50	38.50	-24.00

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

LTE Band 26, Channel Bandwidth 1.4MHz

Mode		TX channel 26797					
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	824.70	-26.10	5.00	0.00	5.00	38.50	-33.50
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	824.70	-20.50	11.40	0.00	11.40	38.50	-27.10

Mode		TX channel 26915					
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	836.50	-26.20	5.00	0.20	5.20	38.50	-33.30
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.50	-20.40	11.40	0.20	11.60	38.50	-26.90

Mode		TX channel 27033					
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	848.30	-25.60	4.90	0.50	5.40	38.50	-33.10
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	848.30	-20.60	10.80	0.50	11.30	38.50	-27.20

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

LTE Band 26, Channel Bandwidth 3MHz

Mode		TX channel 26805					
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	825.50	-26.00	5.10	0.00	5.10	38.50	-33.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	825.50	-20.40	11.50	0.00	11.50	38.50	-27.00

Mode		TX channel 26915					
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	836.50	-26.10	5.10	0.20	5.30	38.50	-33.20
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.50	-20.90	10.90	0.20	11.10	38.50	-27.40

Mode		TX channel 27025					
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	847.50	-25.50	5.10	0.40	5.50	38.50	-33.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	847.50	-20.40	11.00	0.40	11.40	38.50	-27.10

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

LTE Band 26, Channel Bandwidth 5MHz

Mode		TX channel 26815					
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	826.50	-26.10	5.00	0.00	5.00	38.50	-33.50
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	826.50	-20.20	11.60	0.00	11.60	38.50	-26.90

Mode		TX channel 26915					
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	836.50	-26.20	5.00	0.20	5.20	38.50	-33.30
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.50	-20.50	11.30	0.20	11.50	38.50	-27.00

Mode		TX channel 27015					
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	846.50	-25.50	5.00	0.40	5.40	38.50	-33.10
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	846.50	-20.50	10.70	0.40	11.10	38.50	-27.40

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

LTE Band 26, Channel Bandwidth 10MHz

Mode		TX channel 26840					
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	829.00	-25.90	5.10	0.10	5.20	38.50	-33.30
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	829.00	-20.90	10.90	0.10	11.00	38.50	-27.50

Mode		TX channel 26915					
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	836.50	-26.20	4.90	0.20	5.10	38.50	-33.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.50	-20.80	11.00	0.20	11.20	38.50	-27.30

Mode		TX channel 26990					
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	844.00	-26.00	4.60	0.40	5.00	38.50	-33.50
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	844.00	-20.20	11.30	0.40	11.70	38.50	-26.80

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

LTE Band 26, Channel Bandwidth 15MHz

Mode		TX channel 26865					
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	831.50	-25.80	5.30	0.10	5.40	38.50	-33.10
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	831.50	-20.40	11.30	0.10	11.40	38.50	-27.10

Mode		TX channel 26915					
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	836.50	-25.90	5.30	0.20	5.50	38.50	-33.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.50	-20.40	11.40	0.20	11.60	38.50	-26.90

Mode		TX channel 26965					
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	841.50	-26.00	4.80	0.30	5.10	38.50	-33.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	841.50	-20.60	11.00	0.30	11.30	38.50	-27.20

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

Modulation Type: 16QAM

LTE Band 5, Channel Bandwidth: 1.4MHz

Mode		TX channel 20407					
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	824.70	-20.60	10.50	0.00	10.50	38.50	-28.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	824.70	-17.80	14.10	0.00	14.10	38.50	-24.40

Mode		TX channel 20525					
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	836.50	-20.60	10.60	0.20	10.80	38.50	-27.70
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.50	-17.80	14.00	0.20	14.20	38.50	-24.30

Mode		TX channel 20643					
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	848.30	-20.20	10.30	0.50	10.80	38.50	-27.70
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	848.30	-17.70	13.70	0.50	14.20	38.50	-24.30

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

LTE Band 5, Channel Bandwidth: 3MHz

Mode		TX channel 20415					
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	825.50	-20.50	10.60	0.00	10.60	38.50	-27.90
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	825.50	-17.80	14.10	0.00	14.10	38.50	-24.40

Mode		TX channel 20525					
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	836.50	-20.50	10.70	0.20	10.90	38.50	-27.60
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.50	-17.80	14.00	0.20	14.20	38.50	-24.30

Mode		TX channel 20635					
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	847.50	-20.40	10.20	0.40	10.60	38.50	-27.90
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	847.50	-17.80	13.60	0.40	14.00	38.50	-24.50

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

LTE Band 5, Channel Bandwidth: 5MHz

Mode		TX channel 20425					
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	826.50	-20.50	10.60	0.00	10.60	38.50	-27.90
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	826.50	-18.00	13.90	0.00	13.90	38.50	-24.60

Mode		TX channel 20525					
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	836.50	-20.40	10.80	0.20	11.00	38.50	-27.50
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.50	-17.70	14.10	0.20	14.30	38.50	-24.20

Mode		TX channel 20625					
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	846.50	-20.00	10.50	0.40	10.90	38.50	-27.60
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	846.50	-17.80	13.50	0.40	13.90	38.50	-24.60

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

LTE Band 5, Channel Bandwidth: 10MHz

Mode		TX channel 20450					
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	829.00	-20.20	10.80	0.10	10.90	38.50	-27.60
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	829.00	-17.70	14.10	0.10	14.20	38.50	-24.30

Mode		TX channel 20525					
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	836.50	-20.60	10.60	0.20	10.80	38.50	-27.70
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.50	-17.60	14.20	0.20	14.40	38.50	-24.10

Mode		TX channel 20600					
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	844.00	-20.30	10.30	0.40	10.70	38.50	-27.80
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	844.00	-17.70	13.80	0.40	14.20	38.50	-24.30

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

LTE Band 26, Channel Bandwidth 1.4MHz

Mode		TX channel 26797					
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	824.70	-26.80	4.30	0.00	4.30	38.50	-34.20
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	824.70	-21.80	10.10	0.00	10.10	38.50	-28.40

Mode		TX channel 26915					
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	836.50	-26.80	4.40	0.20	4.60	38.50	-33.90
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.50	-21.00	10.80	0.20	11.00	38.50	-27.50

Mode		TX channel 27033					
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	848.30	-26.20	4.30	0.50	4.80	38.50	-33.70
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	848.30	-21.20	10.10	0.50	10.60	38.50	-27.90

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

LTE Band 26, Channel Bandwidth 3MHz

Mode		TX channel 26805					
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	825.50	-26.80	4.30	0.00	4.30	38.50	-34.20
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	825.50	-21.00	10.90	0.00	10.90	38.50	-27.60

Mode		TX channel 26915					
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	836.50	-26.90	4.30	0.20	4.50	38.50	-34.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.50	-21.50	10.30	0.20	10.50	38.50	-28.00

Mode		TX channel 27025					
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	847.50	-25.30	5.30	0.40	5.70	38.50	-32.80
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	847.50	-20.90	10.50	0.40	10.90	38.50	-27.60

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

LTE Band 26, Channel Bandwidth 5MHz

Mode		TX channel 26815					
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	826.50	-26.80	4.30	0.00	4.30	38.50	-34.20
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	826.50	-20.90	11.00	0.00	11.00	38.50	-27.50

Mode		TX channel 26915					
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	836.50	-26.90	4.30	0.20	4.50	38.50	-34.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.50	-21.30	10.50	0.20	10.70	38.50	-27.80

Mode		TX channel 27015					
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	846.50	-26.20	4.20	0.40	4.60	38.50	-33.90
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	846.50	-21.20	10.00	0.40	10.40	38.50	-28.10

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

LTE Band 26, Channel Bandwidth 10MHz

Mode		TX channel 26840					
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	829.00	-26.30	4.70	0.10	4.80	38.50	-33.70
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	829.00	-21.60	10.20	0.10	10.30	38.50	-28.20

Mode		TX channel 26915					
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	836.50	-26.90	4.30	0.20	4.50	38.50	-34.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.50	-21.60	10.20	0.20	10.40	38.50	-28.10

Mode		TX channel 26990					
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	844.00	-26.80	3.80	0.40	4.20	38.50	-34.30
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	844.00	-20.80	10.70	0.40	11.10	38.50	-27.40

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

LTE Band 26, Channel Bandwidth 15MHz

Mode		TX channel 26865					
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	831.50	-26.40	4.60	0.10	4.70	38.50	-33.80
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	831.50	-20.90	10.70	0.10	10.80	38.50	-27.70

Mode		TX channel 26915					
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	836.50	-26.50	4.70	0.20	4.90	38.50	-33.60
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.50	-20.90	10.90	0.20	11.10	38.50	-27.40

Mode		TX channel 26965					
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	841.50	-26.70	4.10	0.30	4.40	38.50	-34.10
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	841.50	-21.40	10.20	0.30	10.50	38.50	-28.00

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

Modulation Type: 64QAM

LTE Band 5, Channel Bandwidth: 1.4MHz

Mode		TX channel 20407					
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	824.70	-21.60	9.50	0.00	9.50	38.50	-29.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	824.70	-18.90	13.00	0.00	13.00	38.50	-25.50

Mode		TX channel 20525					
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	836.50	-21.40	9.80	0.20	10.00	38.50	-28.50
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.50	-19.10	12.70	0.20	12.90	38.50	-25.60

Mode		TX channel 20643					
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	848.30	-21.20	9.30	0.50	9.80	38.50	-28.70
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	848.30	-18.60	12.80	0.50	13.30	38.50	-25.20

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

LTE Band 5, Channel Bandwidth: 3MHz

Mode		TX channel 20415					
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	825.50	-21.10	10.00	0.00	10.00	38.50	-28.50
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	825.50	-18.90	13.00	0.00	13.00	38.50	-25.50

Mode		TX channel 20525					
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	836.50	-21.50	9.70	0.20	9.90	38.50	-28.60
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.50	-18.60	13.20	0.20	13.40	38.50	-25.10

Mode		TX channel 20635					
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	847.50	-21.40	9.20	0.40	9.60	38.50	-28.90
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	847.50	-18.60	12.80	0.40	13.20	38.50	-25.30

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

LTE Band 5, Channel Bandwidth: 5MHz

Mode		TX channel 20425					
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	826.50	-21.40	9.70	0.00	9.70	38.50	-28.80
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	826.50	-18.70	13.20	0.00	13.20	38.50	-25.30

Mode		TX channel 20525					
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	836.50	-21.70	9.50	0.20	9.70	38.50	-28.80
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.50	-18.80	13.00	0.20	13.20	38.50	-25.30

Mode		TX channel 20625					
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	846.50	-21.40	9.10	0.40	9.50	38.50	-29.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	846.50	-18.80	12.50	0.40	12.90	38.50	-25.60

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

LTE Band 5, Channel Bandwidth: 10MHz

Mode		TX channel 20450					
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	829.00	-21.40	9.60	0.10	9.70	38.50	-28.80
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	829.00	-18.50	13.30	0.10	13.40	38.50	-25.10

Mode		TX channel 20525					
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	836.50	-21.90	9.30	0.20	9.50	38.50	-29.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.50	-19.00	12.80	0.20	13.00	38.50	-25.50

Mode		TX channel 20600					
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	844.00	-21.30	9.30	0.40	9.70	38.50	-28.80
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	844.00	-18.90	12.60	0.40	13.00	38.50	-25.50

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

LTE Band 26, Channel Bandwidth 1.4MHz

Mode		TX channel 26797					
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	824.70	-27.50	3.60	0.00	3.60	38.50	-34.90
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	824.70	-22.50	9.40	0.00	9.40	38.50	-29.10

Mode		TX channel 26915					
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	836.50	-27.50	3.70	0.20	3.90	38.50	-34.60
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.50	-21.60	10.20	0.20	10.40	38.50	-28.10

Mode		TX channel 27033					
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	848.30	-26.90	3.60	0.50	4.10	38.50	-34.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	848.30	-21.70	9.70	0.50	10.20	38.50	-28.30

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

LTE Band 26, Channel Bandwidth 3MHz

Mode		TX channel 26805					
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	825.50	-27.60	3.50	0.00	3.50	38.50	-35.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	825.50	-21.60	10.30	0.00	10.30	38.50	-28.20

Mode		TX channel 26915					
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	836.50	-27.60	3.60	0.20	3.80	38.50	-34.70
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.50	-21.30	10.50	0.20	10.70	38.50	-27.80

Mode		TX channel 27025					
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	847.50	-25.90	4.70	0.40	5.10	38.50	-33.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	847.50	-21.60	9.80	0.40	10.20	38.50	-28.30

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

LTE Band 26, Channel Bandwidth 5MHz

Mode		TX channel 26815					
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	826.50	-27.50	3.60	0.00	3.60	38.50	-34.90
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	826.50	-21.60	10.30	0.00	10.30	38.50	-28.20

Mode		TX channel 26915					
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	836.50	-27.50	3.70	0.20	3.90	38.50	-34.60
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.50	-22.00	9.80	0.20	10.00	38.50	-28.50

Mode		TX channel 27015					
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	846.50	-26.90	3.60	0.40	4.00	38.50	-34.50
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	846.50	-21.80	9.40	0.40	9.80	38.50	-28.70

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

LTE Band 26, Channel Bandwidth 10MHz

Mode		TX channel 26840					
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	829.00	-26.90	4.10	0.10	4.20	38.50	-34.30
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	829.00	-22.10	9.70	0.10	9.80	38.50	-28.70

Mode		TX channel 26915					
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	836.50	-27.20	3.90	0.20	4.10	38.50	-34.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.50	-22.20	9.60	0.20	9.80	38.50	-28.70

Mode		TX channel 26990					
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	844.00	-27.50	3.10	0.40	3.50	38.50	-35.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	844.00	-21.60	9.90	0.40	10.30	38.50	-28.20

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

LTE Band 26, Channel Bandwidth 15MHz

Mode		TX channel 26865					
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	831.50	-26.90	4.10	0.10	4.20	38.50	-34.30
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	831.50	-21.60	10.10	0.10	10.20	38.50	-28.30

Mode		TX channel 26915					
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	836.50	-27.20	4.00	0.20	4.20	38.50	-34.30
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.50	-21.60	10.20	0.20	10.40	38.50	-28.10

Mode		TX channel 26965					
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	841.50	-27.50	3.30	0.30	3.60	38.50	-34.90
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	841.50	-21.80	9.80	0.30	10.10	38.50	-28.40

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

4.2 Modulation Characteristics Measurement

4.2.1 Limits of Modulation Characteristics

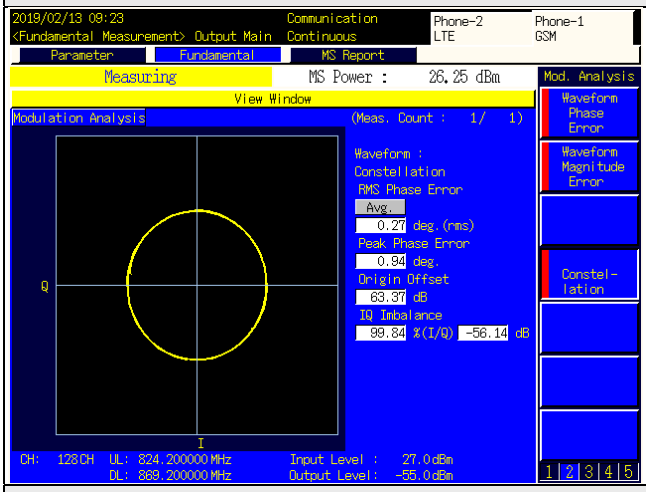
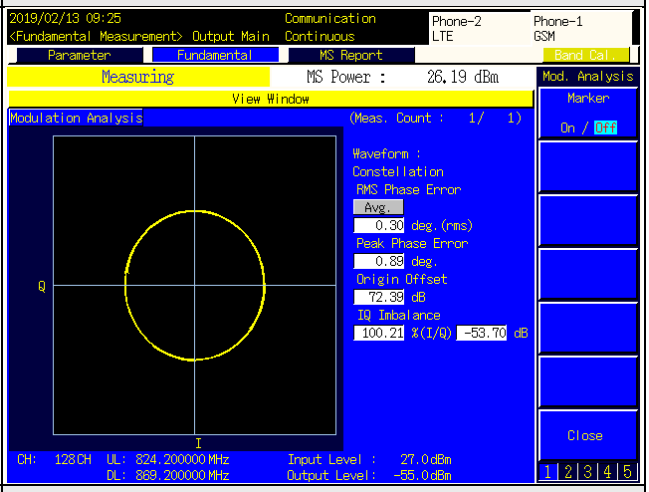
N/A

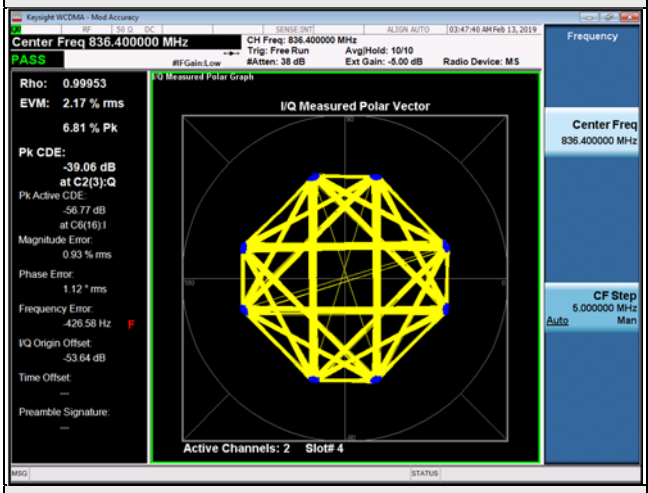
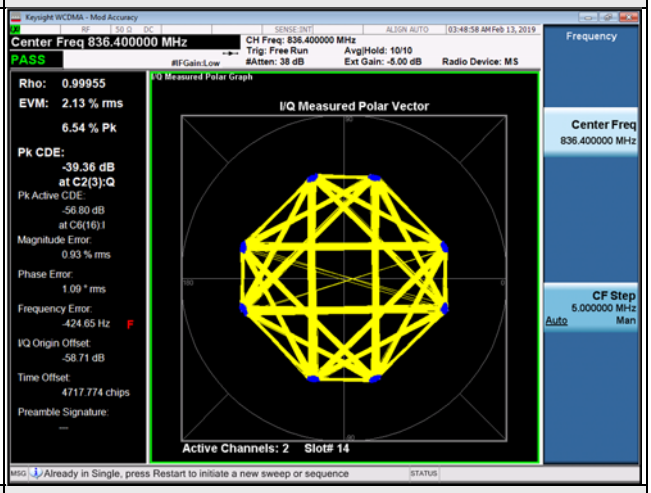
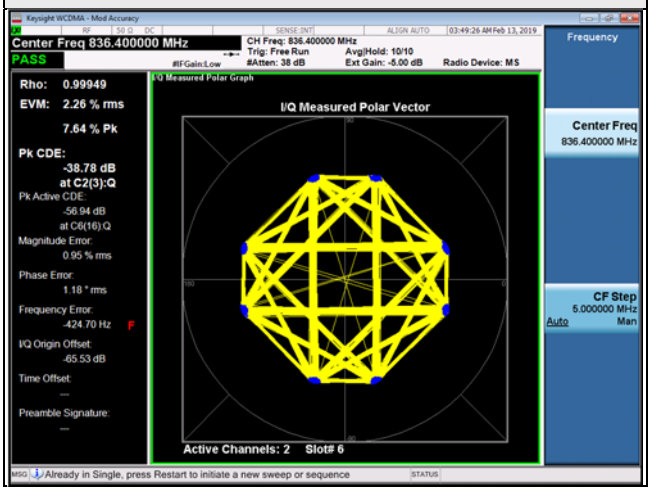
4.2.2 Test Procedure

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.

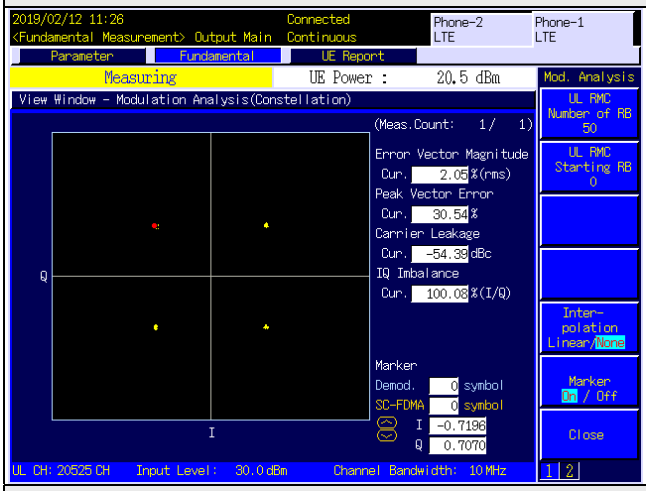
4.2.3 Test Setup

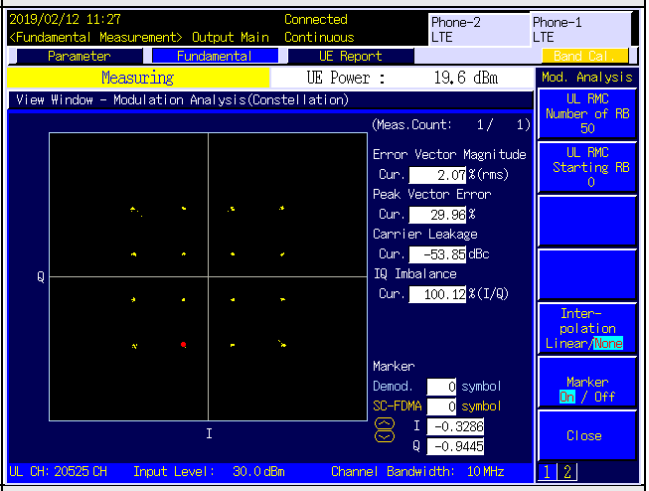
4.2.4 Test Results

Spectrum Plot of Measurement Value	
Channel: 128 / Frequency (MHz): 824.2MHz	
GSM	GPRS
	
EDGE	

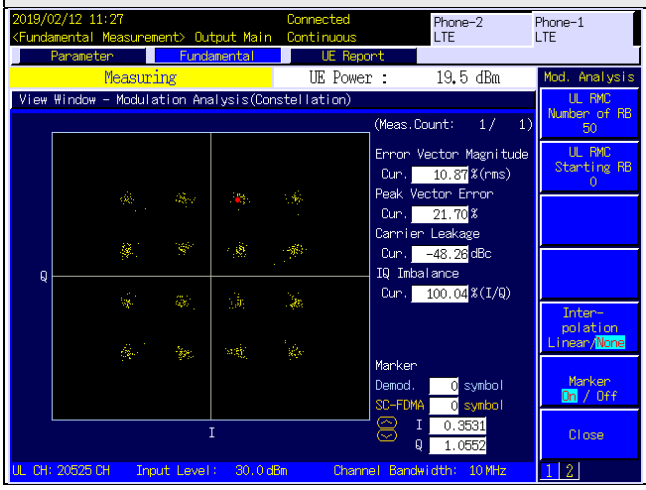
WCDMA Band 5	
Spectrum Plot of Measurement Value	
Channel: 4182 / Frequency (MHz): 836.4MHz	
WCDMA	HSDPA
	
HSUPA	
	

LTE Band 5	
Spectrum Plot of Measurement Value	
Channel: 20525 / Frequency (MHz): 836.5MHz	
QPSK	16QAM

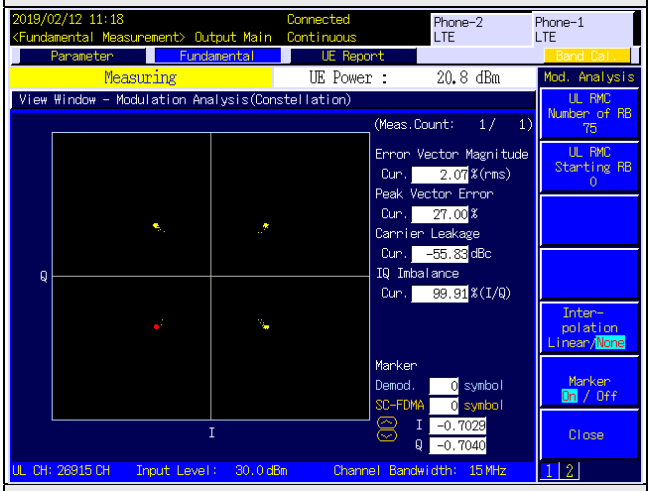


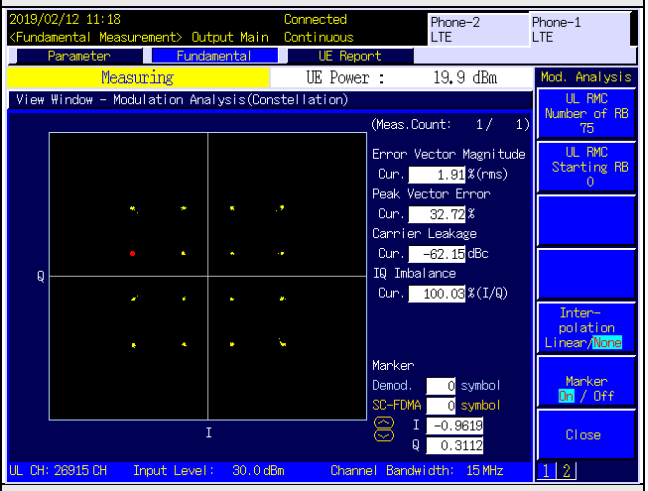


64QAM

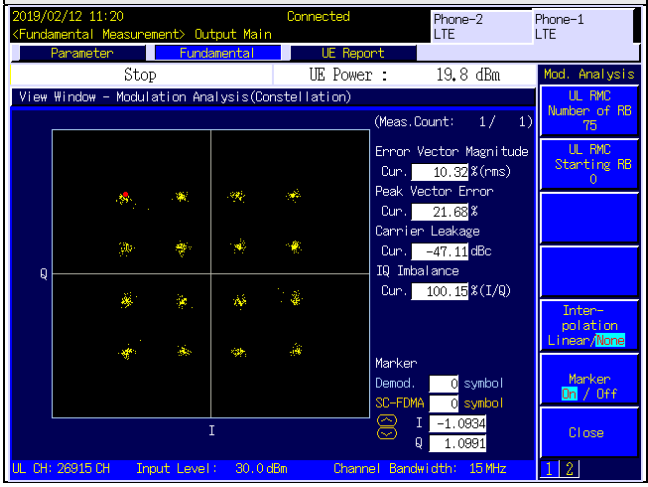


LTE Band 26	
Spectrum Plot of Measurement Value	
Channel: 26915 / Frequency (MHz): 836.5MHz	
QPSK	16QAM





64QAM



4.3 Frequency Stability Measurement

4.3.1 Limits of Frequency Stability Measurement

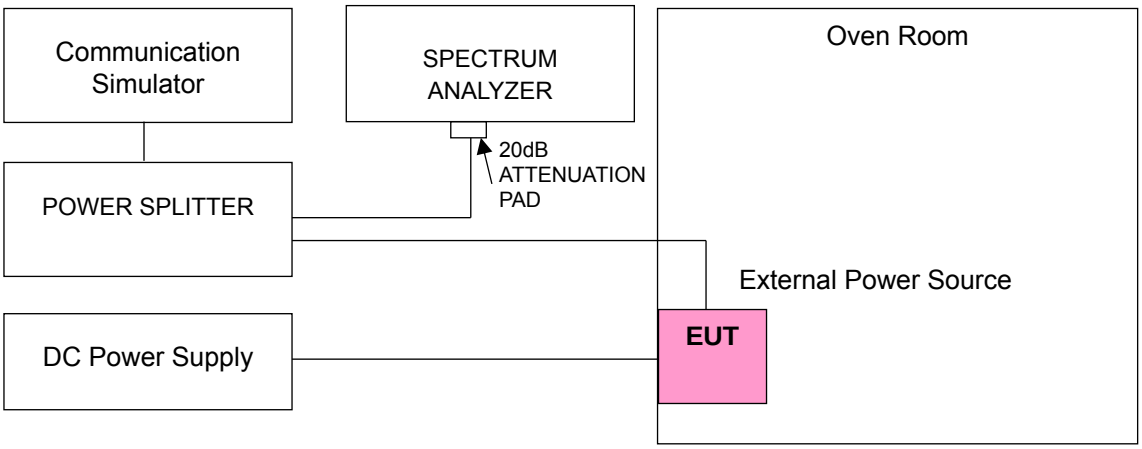
1.5 ppm is for base and fixed station. 2.5 ppm is for mobile station.

4.3.2 Test Procedure

a. 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.
b. 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.
c. The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the ±0.5 ℃ 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)	GSM 850			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
4.4275	824.200004	0.005	848.800003	0.003
3.85	824.200001	0.001	848.800002	0.003
3.2725	824.200003	0.004	848.800003	0.004

Note: The applicant defined the normal working voltage is from 3.2725Vdc to 4.4275Vdc.

Frequency Error vs. Temperature

Temp. (℃)	GSM 850			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	824.200002	0.002	848.800001	0.001
-20	824.200002	0.003	848.800004	0.005
-10	824.200004	0.004	848.800002	0.002
0	824.200003	0.004	848.800003	0.004
10	824.200003	0.004	848.800002	0.002
20	824.199998	-0.003	848.799998	-0.002
30	824.199997	-0.004	848.799997	-0.003
40	824.199999	-0.002	848.799998	-0.003
50	824.199997	-0.004	848.799996	-0.004
55	824.199998	-0.003	848.799997	-0.003

Frequency Error vs. Voltage

Voltage (Volts)	EDGE 850			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
4.4275	824.200003	0.003	848.800003	0.004
3.85	824.200001	0.001	848.800001	0.001
3.2725	824.200003	0.004	848.800001	0.001

Note: The applicant defined the normal working voltage is from 3.2725Vdc to 4.4275Vdc.

Frequency Error vs. Temperature

Temp. (℃)	EDGE 850			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	824.200002	0.002	848.800001	0.001
-20	824.200003	0.004	848.800002	0.002
-10	824.200004	0.004	848.800004	0.005
0	824.200002	0.002	848.800003	0.003
10	824.200002	0.003	848.800003	0.003
20	824.199996	-0.005	848.799998	-0.002
30	824.199996	-0.005	848.799996	-0.005
40	824.199998	-0.002	848.799996	-0.004
50	824.199997	-0.003	848.799997	-0.004
55	824.199999	-0.001	848.799998	-0.003

Frequency Error vs. Voltage

Voltage (Volts)	WCDMA Band 5			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
4.4275	826.400002	0.003	846.600003	0.004
3.85	826.400004	0.005	846.600002	0.002
3.2725	826.400002	0.003	846.600002	0.002

Note: The applicant defined the normal working voltage is from 3.2725Vdc to 4.4275Vdc.

Frequency Error vs. Temperature

Temp. (℃)	WCDMA Band 5			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	826.400003	0.004	846.600003	0.003
-20	826.400003	0.003	846.600004	0.004
-10	826.400004	0.004	846.600001	0.001
0	826.400002	0.002	846.600004	0.004
10	826.400004	0.005	846.600001	0.001
20	826.399999	-0.001	846.599997	-0.003
30	826.399998	-0.002	846.599999	-0.002
40	826.399998	-0.003	846.599997	-0.004
50	826.399997	-0.004	846.599996	-0.005
55	826.399997	-0.004	846.599998	-0.002

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 5			
	Channel Bandwidth: 1.4 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
4.4275	824.700002	0.002	848.300002	0.002
3.85	824.700001	0.002	848.300001	0.002
3.2725	824.700003	0.004	848.300003	0.003

Note: The applicant defined the normal working voltage is from 3.2725Vdc to 4.4275Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 5			
	Channel Bandwidth: 1.4 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	824.700003	0.003	848.300001	0.002
-20	824.700003	0.003	848.300002	0.002
-10	824.700003	0.004	848.300002	0.002
0	824.700002	0.003	848.300003	0.003
10	824.700003	0.004	848.300003	0.003
20	824.699999	-0.002	848.299996	-0.004
30	824.699999	-0.002	848.299996	-0.004
40	824.699997	-0.003	848.299997	-0.003
50	824.699999	-0.001	848.299998	-0.002
55	824.699999	-0.002	848.299998	-0.002

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 5			
	Channel Bandwidth: 3 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
4.4275	825.500002	0.002	847.500004	0.004
3.85	825.500003	0.003	847.500003	0.004
3.2725	825.500003	0.004	847.500003	0.003

Note: The applicant defined the normal working voltage is from 3.2725Vdc to 4.4275Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 5			
	Channel Bandwidth: 3 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	825.500004	0.004	847.500003	0.004
-20	825.500003	0.004	847.500002	0.002
-10	825.500003	0.003	847.500003	0.003
0	825.500002	0.002	847.500003	0.003
10	825.500002	0.002	847.500003	0.004
20	825.499998	-0.002	847.499996	-0.005
30	825.499998	-0.003	847.499998	-0.002
40	825.499998	-0.003	847.499999	-0.001
50	825.499998	-0.002	847.499998	-0.002
55	825.499998	-0.002	847.499996	-0.004

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 5			
	Channel Bandwidth: 5 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
4.4275	826.500001	0.001	846.500002	0.003
3.85	826.500004	0.005	846.500002	0.002
3.2725	826.500004	0.004	846.500004	0.004

Note: The applicant defined the normal working voltage is from 3.2725Vdc to 4.4275Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 5			
	Channel Bandwidth: 5 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	826.500003	0.004	846.500003	0.004
-20	826.500002	0.002	846.500003	0.004
-10	826.500002	0.002	846.500003	0.004
0	826.500001	0.002	846.500002	0.003
10	826.500002	0.002	846.500003	0.003
20	826.499997	-0.004	846.499998	-0.003
30	826.499996	-0.004	846.499998	-0.002
40	826.499998	-0.003	846.499997	-0.004
50	826.499996	-0.005	846.499998	-0.003
55	826.499997	-0.004	846.499999	-0.001

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 5			
	Channel Bandwidth: 10 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
4.4275	829.000001	0.001	844.000001	0.001
3.85	829.000004	0.004	844.000003	0.004
3.2725	829.000003	0.003	844.000003	0.004

Note: The applicant defined the normal working voltage is from 3.2725Vdc to 4.4275Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 5			
	Channel Bandwidth: 10 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	829.000002	0.003	844.000003	0.004
-20	829.000002	0.003	844.000001	0.001
-10	829.000003	0.003	844.000004	0.004
0	829.000001	0.001	844.000004	0.005
10	829.000003	0.004	844.000003	0.003
20	828.999999	-0.002	843.999997	-0.004
30	828.999998	-0.002	843.999996	-0.005
40	828.999999	-0.002	843.999998	-0.002
50	828.999998	-0.003	843.999998	-0.002
55	828.999997	-0.004	843.999998	-0.003

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 26			
	Channel Bandwidth: 1.4 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
4.4275	824.700003	0.004	848.300000	0.003
3.85	824.700002	0.003	848.300000	0.003
3.2725	824.700004	0.005	848.300000	0.001

Note: The applicant defined the normal working voltage is from 3.2725Vdc to 4.4275Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 26			
	Channel Bandwidth: 1.4 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	824.700003	0.004	848.300000	0.003
-20	824.700003	0.003	848.300000	0.002
-10	824.700002	0.003	848.300000	0.003
0	824.700003	0.004	848.300000	0.002
10	824.700002	0.002	848.300000	0.002
20	824.699997	-0.003	848.300000	-0.003
30	824.699996	-0.004	848.300000	-0.003
40	824.699997	-0.004	848.300000	-0.003
50	824.699998	-0.003	848.300000	-0.003
55	824.699997	-0.004	848.300000	-0.002

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 26			
	Channel Bandwidth: 3 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
4.4275	825.500001	0.002	847.500000	0.004
3.85	825.500002	0.002	847.500000	0.001
3.2725	825.500002	0.003	847.500000	0.004

Note: The applicant defined the normal working voltage is from 3.2725Vdc to 4.4275Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 26			
	Channel Bandwidth: 3 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	825.500003	0.004	847.500000	0.004
-20	825.500003	0.003	847.500000	0.004
-10	825.500004	0.004	847.500000	0.002
0	825.500002	0.002	847.500000	0.003
10	825.500001	0.002	847.500000	0.005
20	825.499997	-0.004	847.500000	-0.004
30	825.499996	-0.004	847.500000	-0.002
40	825.499998	-0.002	847.500000	-0.003
50	825.499996	-0.005	847.500000	-0.003
55	825.499998	-0.002	847.500000	-0.002

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 26			
	Channel Bandwidth: 5 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
4.4275	826.500002	0.003	846.500002	0.002
3.85	826.500002	0.002	846.500003	0.004
3.2725	826.500003	0.003	846.500001	0.001

Note: The applicant defined the normal working voltage is from 3.2725Vdc to 4.4275Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 26			
	Channel Bandwidth: 5 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	826.500001	0.002	846.500003	0.003
-20	826.500004	0.005	846.500003	0.003
-10	826.500003	0.003	846.500003	0.004
0	826.500004	0.005	846.500002	0.002
10	826.500003	0.003	846.500001	0.002
20	826.499999	-0.001	846.499998	-0.003
30	826.499997	-0.003	846.499999	-0.002
40	826.499996	-0.005	846.499999	-0.001
50	826.499997	-0.004	846.499996	-0.004
55	826.499997	-0.004	846.499998	-0.003

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 26			
	Channel Bandwidth: 10 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
4.4275	829.000004	0.004	844.000003	0.004
3.85	829.000003	0.003	844.000003	0.003
3.2725	829.000004	0.005	844.000002	0.002

Note: The applicant defined the normal working voltage is from 3.2725Vdc to 4.4275Vdc.

Frequency Error vs. Temperature

Temp. (℃)	LTE Band 26			
	Channel Bandwidth: 10 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	829.000001	0.001	844.000004	0.005
-20	829.000001	0.001	844.000002	0.003
-10	829.000002	0.003	844.000004	0.005
0	829.000002	0.002	844.000001	0.002
10	829.000002	0.003	844.000004	0.004
20	828.999999	-0.002	843.999999	-0.002
30	828.999997	-0.004	843.999997	-0.003
40	828.999997	-0.003	843.999999	-0.002
50	828.999997	-0.004	843.999999	-0.001
55	828.999999	-0.002	843.999999	-0.001

Frequency Error vs. Voltage

Voltage (Volts)	LTE Band 26			
	Channel Bandwidth: 15 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
4.4275	831.500003	0.003	841.500002	0.003
3.85	831.500003	0.003	841.500004	0.004
3.2725	831.500004	0.004	841.500004	0.004

Note: The applicant defined the normal working voltage is from 3.2725Vdc to 4.4275Vdc.

Frequency Error vs. Temperature

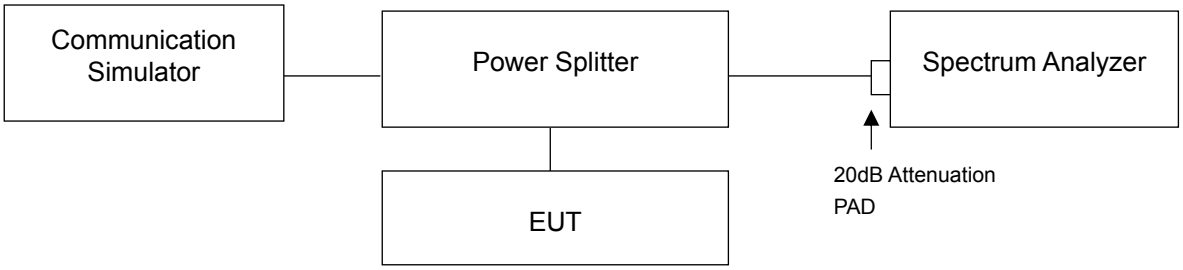
Temp. (℃)	LTE Band 26			
	Channel Bandwidth: 15 MHz			
	Low Channel		High Channel	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	831.500003	0.004	841.500004	0.005
-20	831.500001	0.001	841.500003	0.004
-10	831.500003	0.004	841.500002	0.003
0	831.500002	0.002	841.500001	0.001
10	831.500002	0.002	841.500003	0.003
20	831.499997	-0.004	841.499996	-0.005
30	831.499997	-0.004	841.499997	-0.004
40	831.499997	-0.004	841.499997	-0.004
50	831.499999	-0.002	841.499996	-0.004
55	831.499996	-0.005	841.499999	-0.002

4.4 Occupied Bandwidth Measurement

4.4.1 Test Procedure

The EUT makes a call to the communication simulator. All measurements were done at low, middle and high operational frequency range. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

4.4.2 Test Setup



4.4.3 Test Result

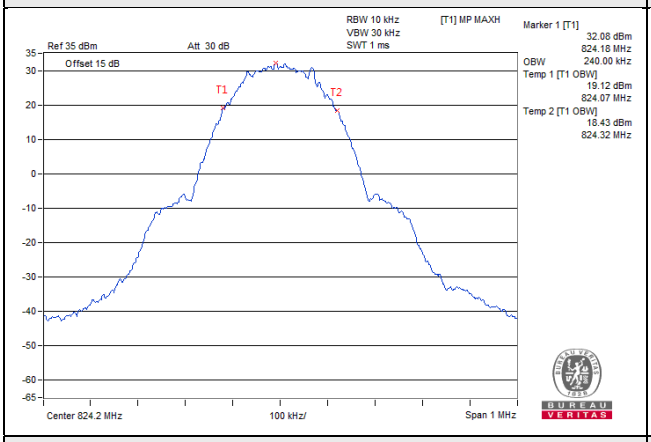
Occupied Bandwidth

GSM

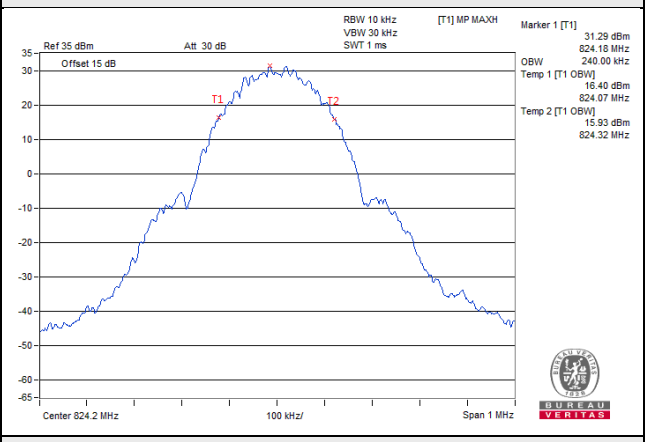
Channel	Frequency (MHz)	99% Occupied Bandwidth (kHz)		
		GSM	GPRS	EDGE
128	824.2	240.00	240.00	240.00
189	836.4	240.00	240.00	240.00
251	848.8	240.00	230.00	240.00

Spectrum Plot of Worst Value

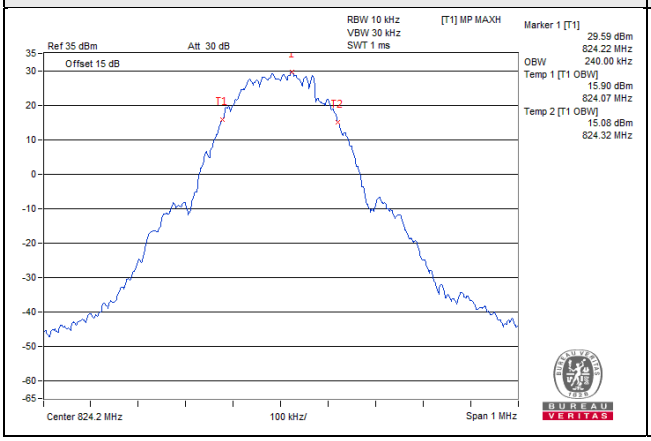
GSM



GPRS



EDGE

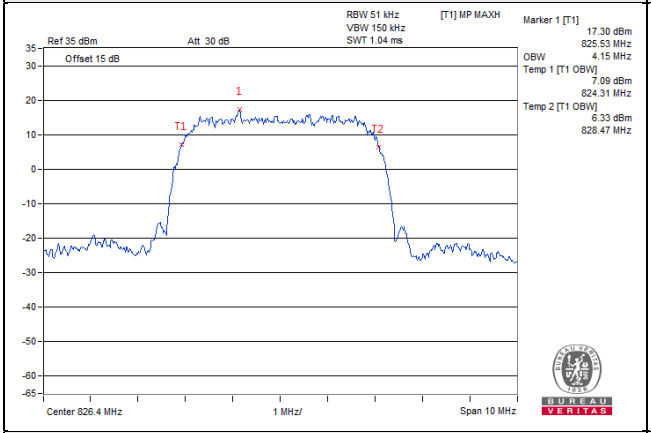


WCDMA Band 5

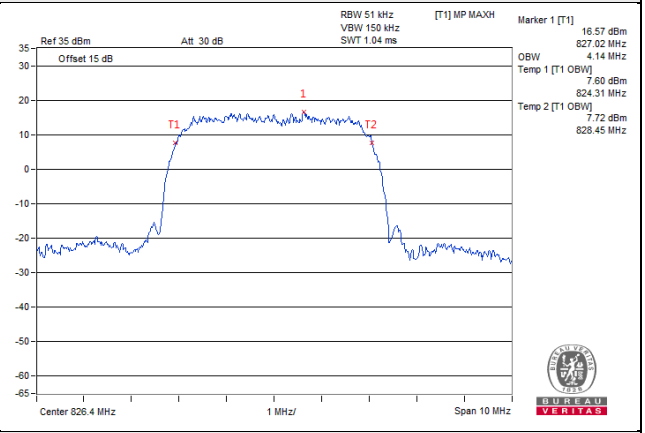
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)		
		WCDMA	HSDPA	HSUPA
4132	826.4	4.15	4.14	4.14
4182	836.4	4.13	4.14	4.14
4233	846.6	4.14	4.13	4.14

Spectrum Plot of Worst Value

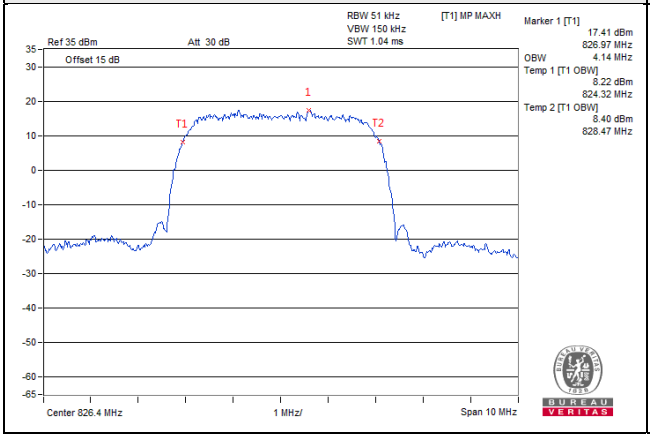
WCDMA



HSDPA



HSUPA



LTE Band 5

LTE Band 5, Channel Bandwidth 1.4MHz				
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM
20407	824.7	1.09	1.09	1.09
20525	836.5	1.09	1.09	1.09
20643	848.3	1.09	1.09	1.09
LTE Band 5, Channel Bandwidth 3MHz				
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM
20415	825.5	2.70	2.70	2.70
20525	836.5	2.70	2.70	2.70
20635	847.5	2.70	2.69	2.70
LTE Band 5, Channel Bandwidth 5MHz				
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM
20425	826.5	4.49	4.49	4.49
20525	836.5	4.49	4.50	4.49
20625	846.5	4.48	4.48	4.48
LTE Band 5, Channel Bandwidth 10MHz				
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM
20450	829.0	8.97	8.97	8.97
20525	836.5	9.00	8.97	8.97
20600	844.0	8.95	8.95	8.95

Spectrum Plot of Worst Value	
1.4MHz / 64QAM	3MHz / 64QAM
5MHz / 16QAM	10MHz / QPSK

LTE Band 26

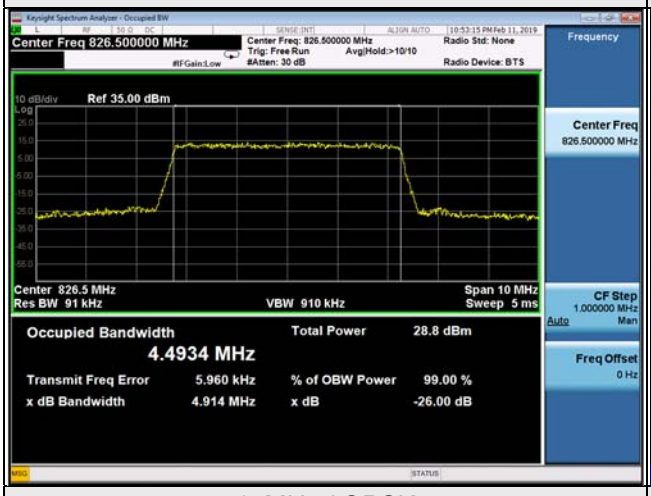
LTE Band 26, Channel Bandwidth 1.4MHz				
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM
26797	824.7	1.09	1.09	1.09
26915	836.5	1.09	1.09	1.09
27033	848.3	1.09	1.09	1.09
LTE Band 26, Channel Bandwidth 3MHz				
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM
26805	825.5	2.70	2.69	2.70
26915	836.5	2.70	2.70	2.70
27025	847.5	2.70	2.69	2.70
LTE Band 26, Channel Bandwidth 5MHz				
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM
26815	826.5	4.49	4.49	4.49
26915	836.5	4.49	4.49	4.49
27015	846.5	4.48	4.49	4.48
LTE Band 26, Channel Bandwidth 10MHz				
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM
26840	829.0	8.98	8.98	8.97
26915	836.5	8.97	8.97	8.97
26990	844.0	8.95	8.95	8.95
LTE Band 26, Channel Bandwidth 15MHz				
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM
26865	831.5	13.44	13.43	13.42
26915	836.5	13.45	13.43	13.43
26965	841.5	13.41	13.40	13.40

Spectrum Plot of Worst Value

1.4MHz / 16QAM

3MHz / 64QAM

5MHz / 64QAM



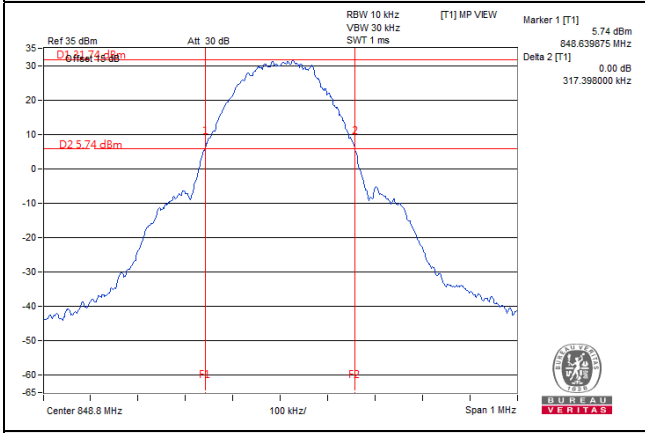
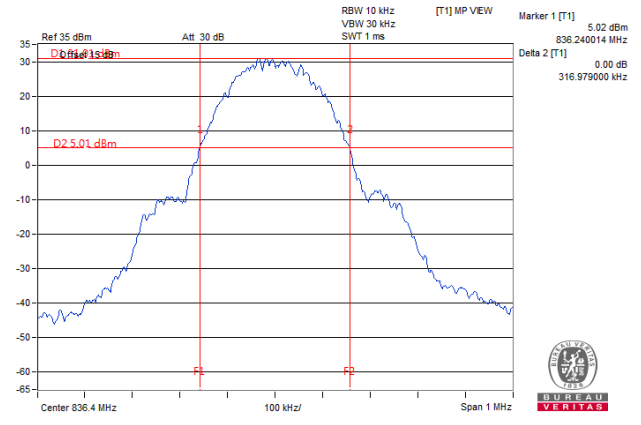
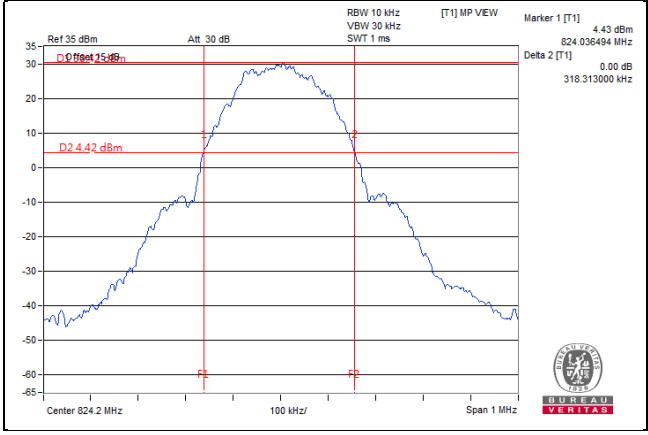
10MHz / QPSK

15MHz / QPSK

26dB Bandwidth

GSM

Channel	Frequency (MHz)	26dB Bandwidth (kHz)		
		GSM	GPRS	EDGE
128	824.2	315.31	315.99	318.31
189	836.4	316.23	316.97	317.53
251	848.8	317.39	311.45	318.09

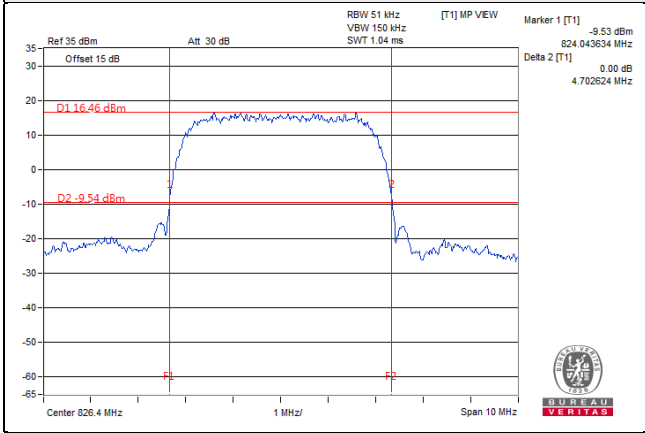
Spectrum Plot of Worst Value	
GSM	GPRS
	
EDGE	
	

WCDMA Band 5

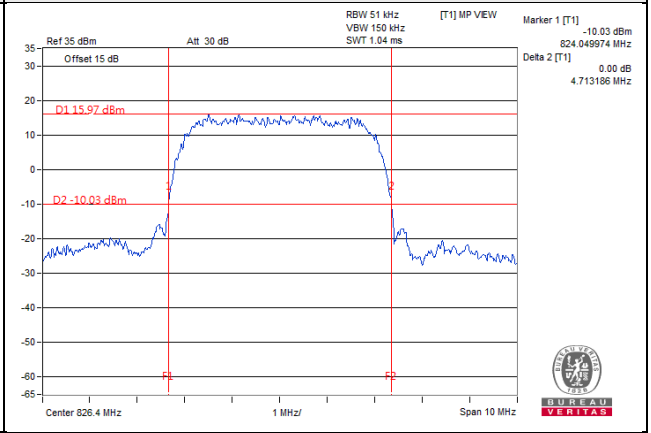
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		
		WCDMA	HSDPA	HSUPA
4132	826.4	4.70	4.71	4.69
4182	836.4	4.67	4.68	4.70
4233	846.6	4.69	4.70	4.71

Spectrum Plot of Worst Value

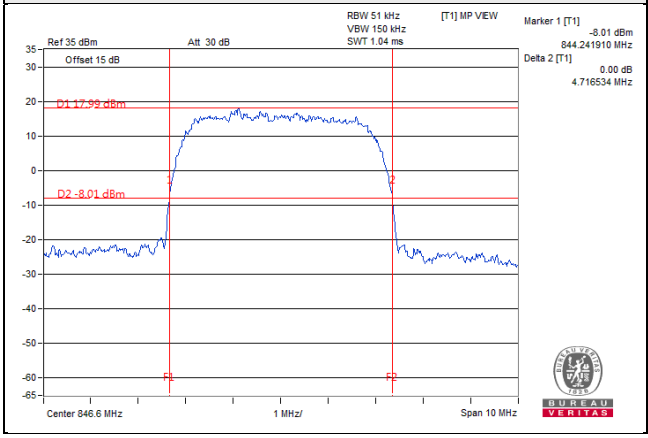
WCDMA



HSDPA

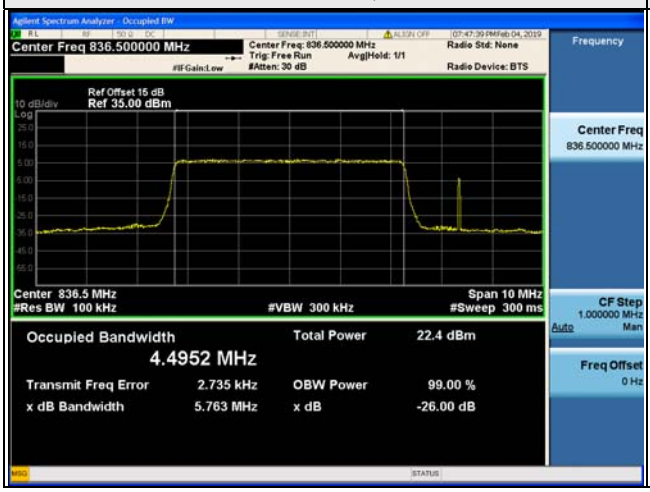


HSUPA



LTE Band 5

LTE Band 5, Channel Bandwidth 1.4MHz				
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		
		QPSK	16QAM	64QAM
20407	824.7	1.20	1.22	1.19
20525	836.5	1.91	1.22	1.21
20643	848.3	1.22	1.20	1.74
LTE Band 5, Channel Bandwidth 3MHz				
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		
		QPSK	16QAM	64QAM
20415	825.5	2.94	2.94	2.92
20525	836.5	3.11	3.69	2.86
20635	847.5	2.92	2.91	2.92
LTE Band 5, Channel Bandwidth 5MHz				
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		
		QPSK	16QAM	64QAM
20425	826.5	4.79	4.81	4.80
20525	836.5	4.74	5.76	4.80
20625	846.5	4.77	4.78	4.79
LTE Band 5, Channel Bandwidth 10MHz				
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		
		QPSK	16QAM	64QAM
20450	829.0	9.42	9.41	9.50
20525	836.5	9.42	9.42	9.52
20600	844.0	9.50	9.50	11.13

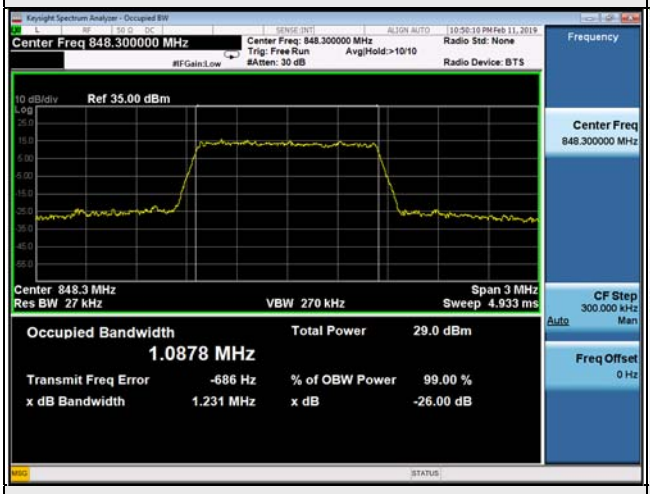
Spectrum Plot of Worst Value	
1.4MHz / QPSK	3MHz / 16QAM
5MHz / 16QAM	10MHz / 64QAM
	

LTE Band 26

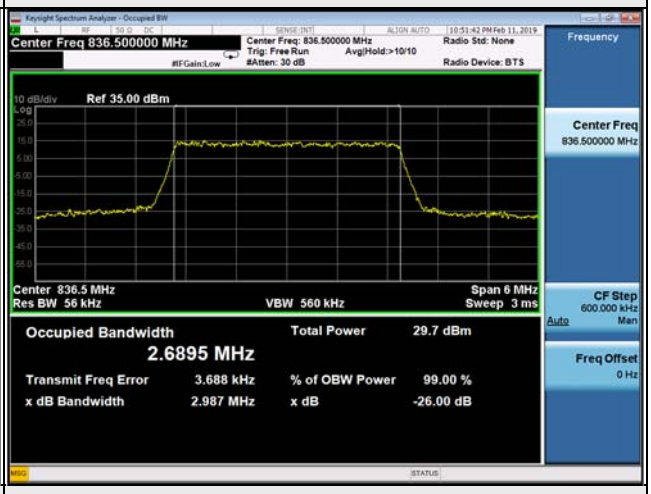
LTE Band 26, Channel Bandwidth 1.4MHz				
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		
		QPSK	16QAM	64QAM
26797	824.7	1.23	1.22	1.22
26915	836.5	1.21	1.22	1.18
27033	848.3	1.20	1.22	1.23
LTE Band 26, Channel Bandwidth 3MHz				
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		
		QPSK	16QAM	64QAM
26805	825.5	2.86	2.93	2.98
26915	836.5	2.91	2.99	2.92
27025	847.5	2.88	2.92	2.87
LTE Band 26, Channel Bandwidth 5MHz				
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		
		QPSK	16QAM	64QAM
26815	826.5	4.95	4.73	4.91
26915	836.5	4.72	4.72	4.80
27015	846.5	4.79	4.79	4.80
LTE Band 26, Channel Bandwidth 10MHz				
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		
		QPSK	16QAM	64QAM
26840	829.0	9.53	9.52	9.52
26915	836.5	9.42	9.51	9.52
26990	844.0	9.48	9.51	9.51
LTE Band 26, Channel Bandwidth 15MHz				
Channel	Frequency (MHz)	26dB Bandwidth (MHz)		
		QPSK	16QAM	64QAM
26865	831.5	14.22	14.24	14.22
26915	836.5	14.24	14.23	14.24
26965	841.5	14.21	14.24	14.21

Spectrum Plot of Worst Value

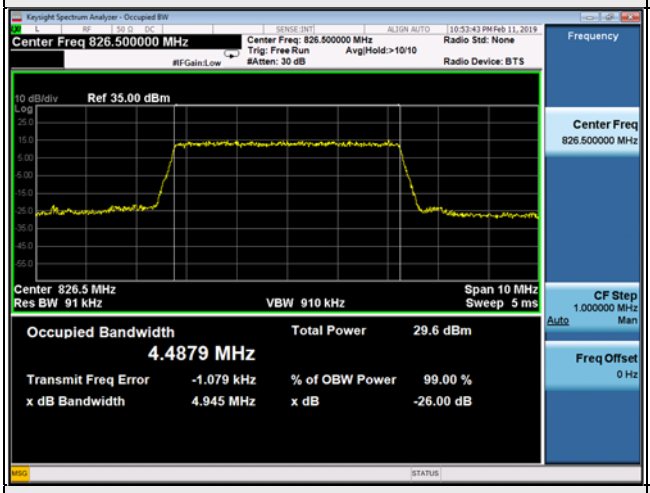
1.4MHz / 64QAM



3MHz / 16QAM

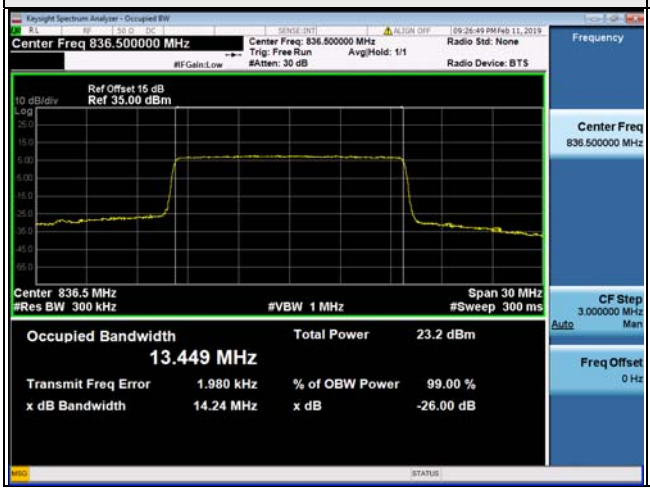


5MHz / QPSK



10MHz / QPSK

15MHz / QPSK

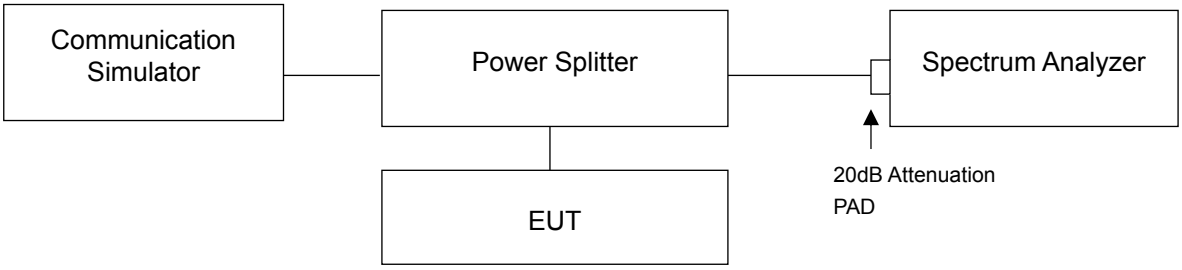


4.5 Band Edge Measurement

4.5.1 Limits of Band Edge Measurement

Power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

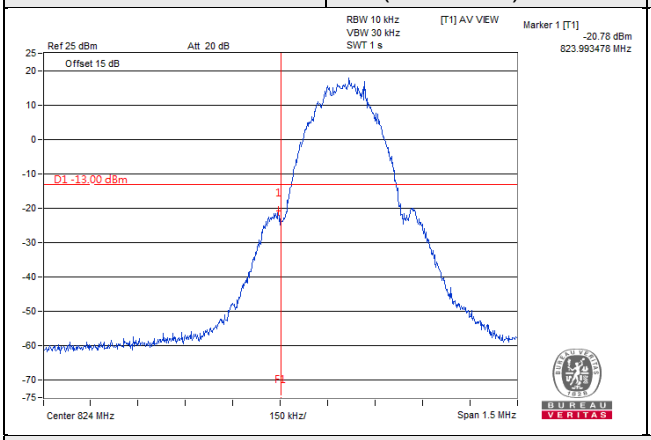
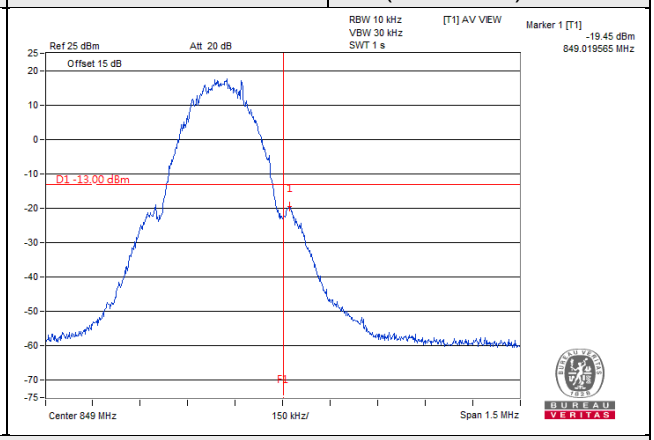
4.5.2 Test Setup

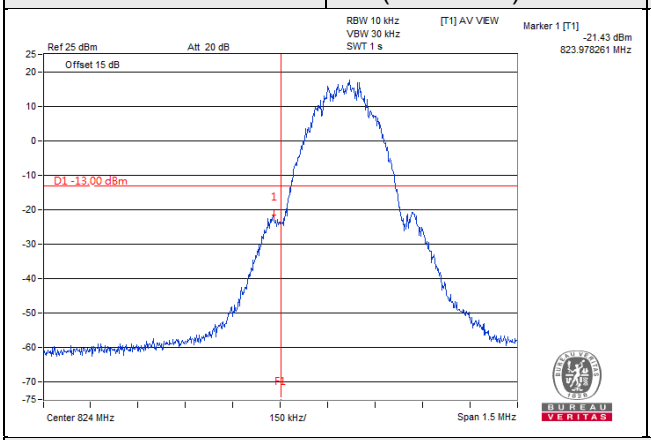
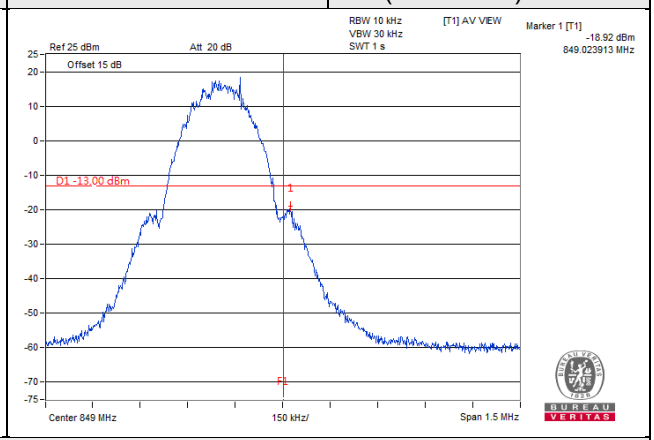


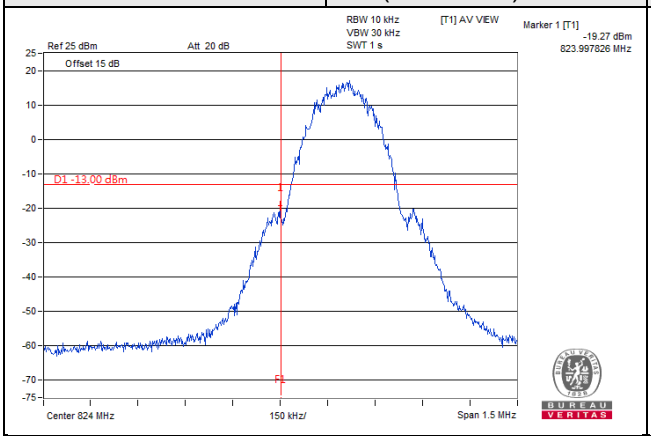
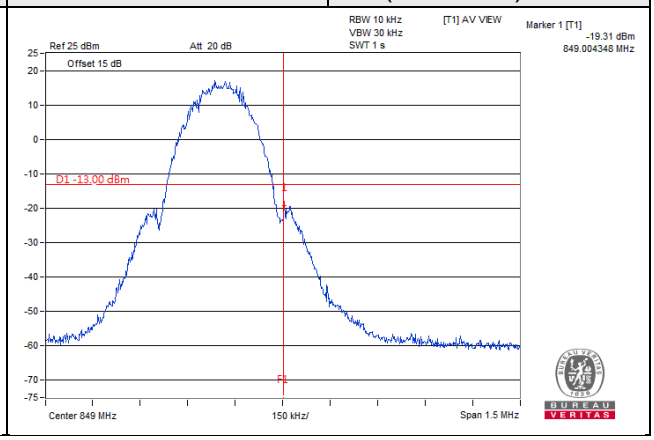
4.5.3 Test Procedures

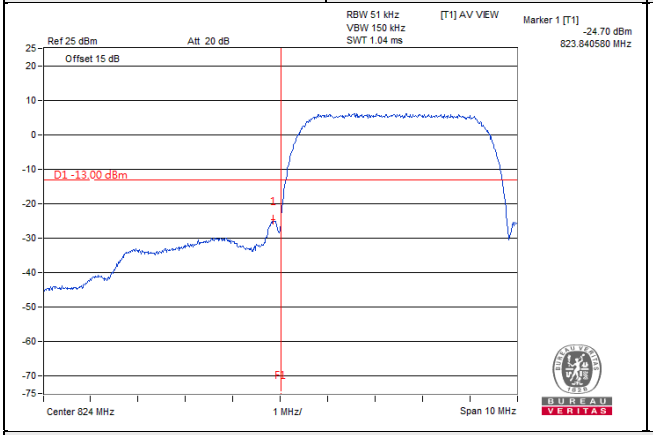
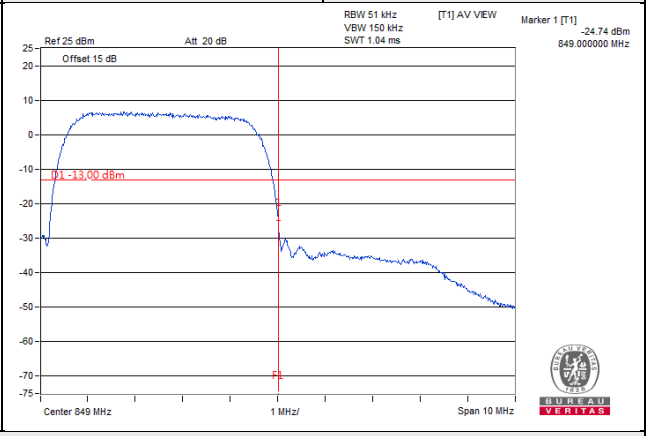
a. All measurements were done at low and high operational frequency range.
b. The center frequency of spectrum is the band edge frequency and span is 1.5MHz. RB of the spectrum is 10kHz and VB of the spectrum is 30kHz (GSM / GPRS / EDGE).
c. The center frequency of spectrum is the band edge frequency and span is 10MHz. RB of the spectrum is 51kHz and VB of the spectrum is 150kHz (WCDMA / HSDPA / HSUPA).
d. The center frequency of spectrum is the band edge frequency and span is 1MHz. RB of the spectrum is 15kHz and VB of the spectrum is 51kHz (LTE Channel Bandwidth 1.4MHz).
e. The center frequency of spectrum is the band edge frequency and span is 1MHz. RB of the spectrum is 30kHz and VB of the spectrum is 100kHz (LTE Channel Bandwidth 3MHz).
f. The center frequency of spectrum is the band edge frequency and span is 1MHz. RB of the spectrum is 62kHz and VB of the spectrum is 200kHz (LTE Channel Bandwidth 5MHz).
g. The center frequency of spectrum is the band edge frequency and span is 1MHz. RB of the spectrum is 100kHz and VB of the spectrum is 300kHz (LTE Channel Bandwidth 10MHz).
h. The center frequency of spectrum is the band edge frequency and span is 1MHz. RB of the spectrum is 150kHz and VB of the spectrum is 470kHz (LTE Channel Bandwidth 15MHz).
i. Record the max trace plot into the test report.

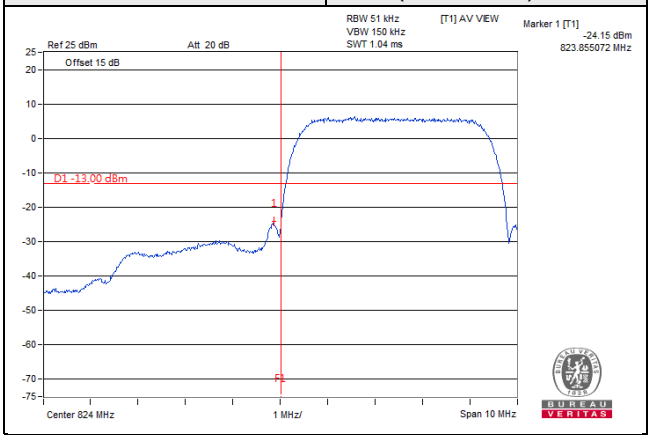
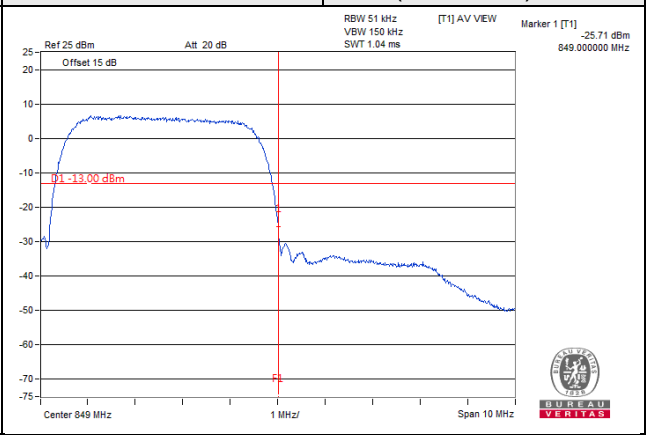
4.5.4 Test Results

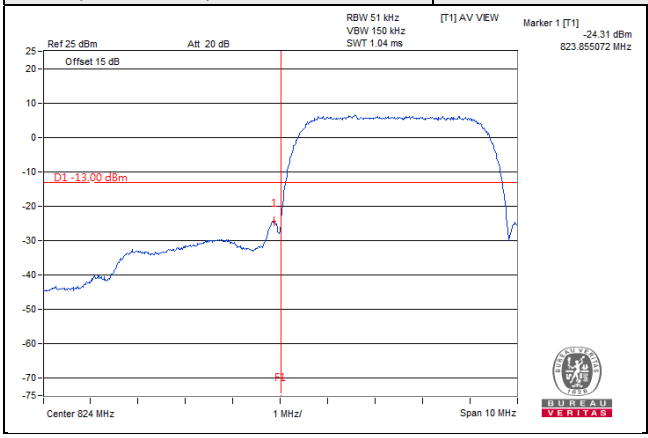
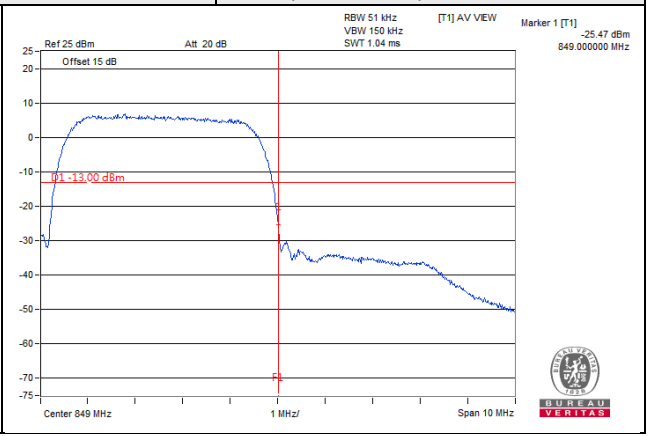
GSM			
Channel	128 (824.2MHz)	Channel	251 (848.8MHz)
			

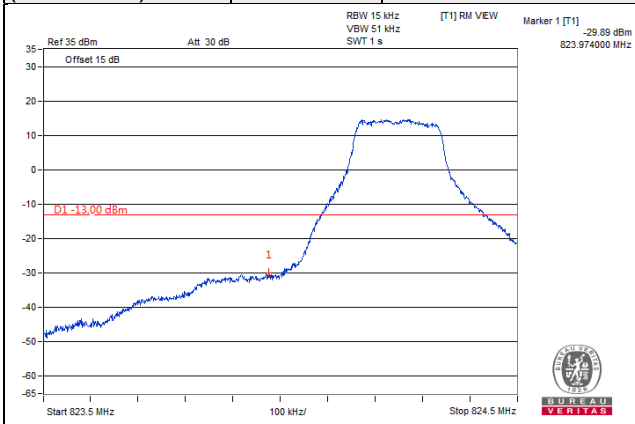
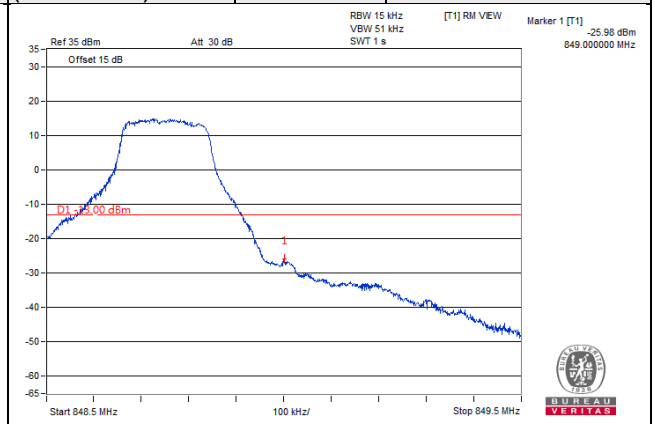
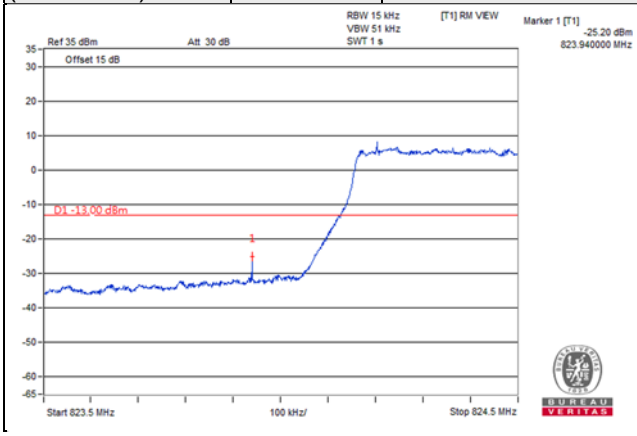
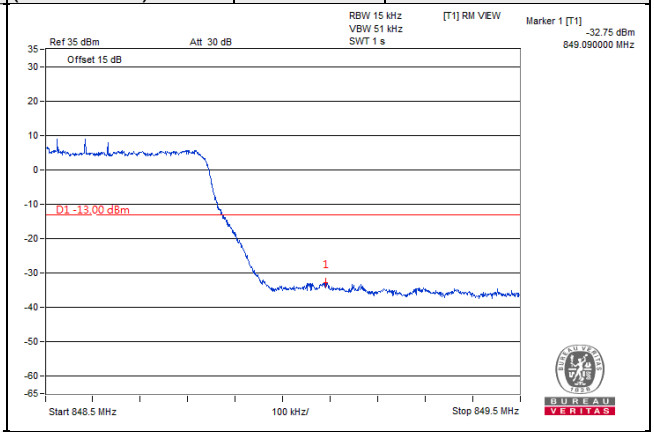
GPRS			
Channel	128 (824.2MHz)	Channel	251 (848.8MHz)
			

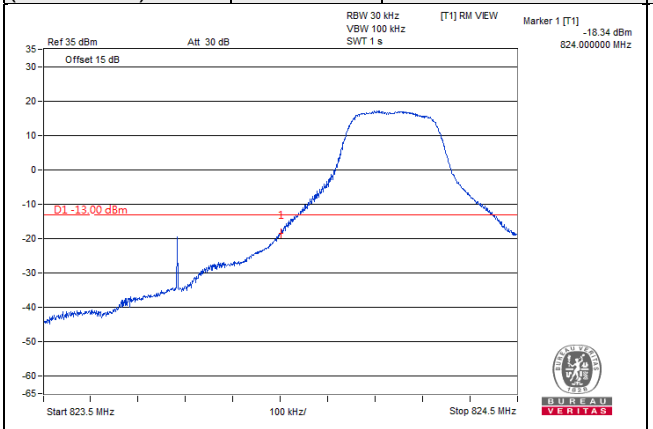
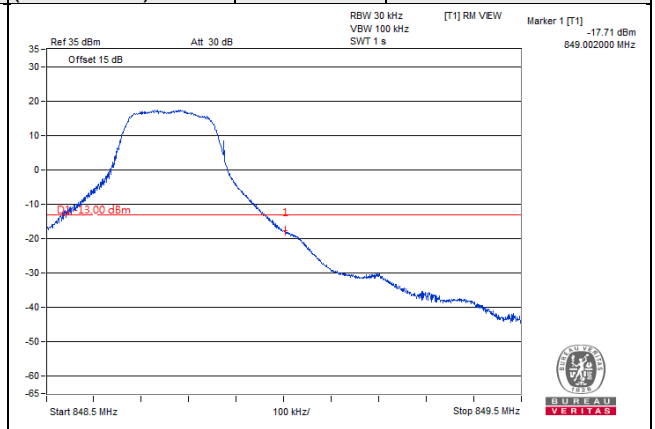
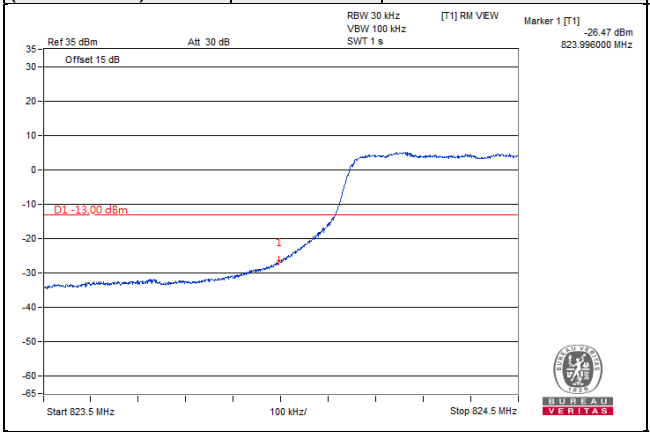
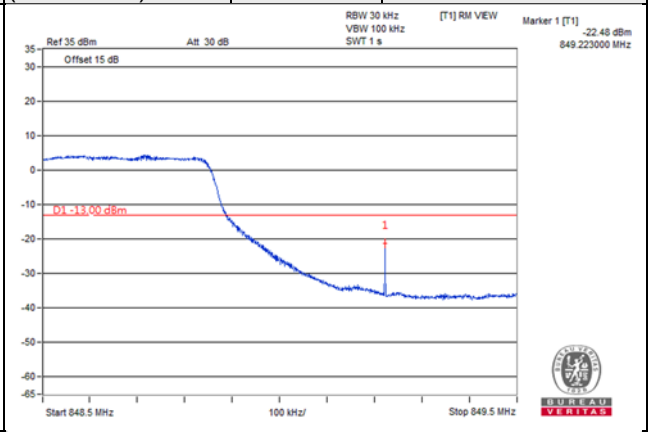
EDGE			
Channel	128 (824.2MHz)	Channel	251 (848.8MHz)
			

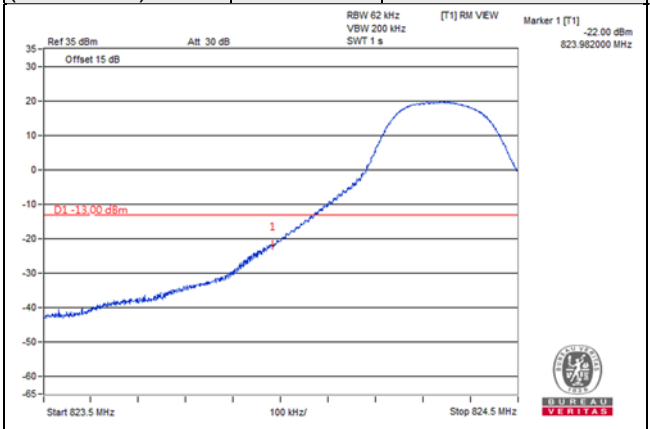
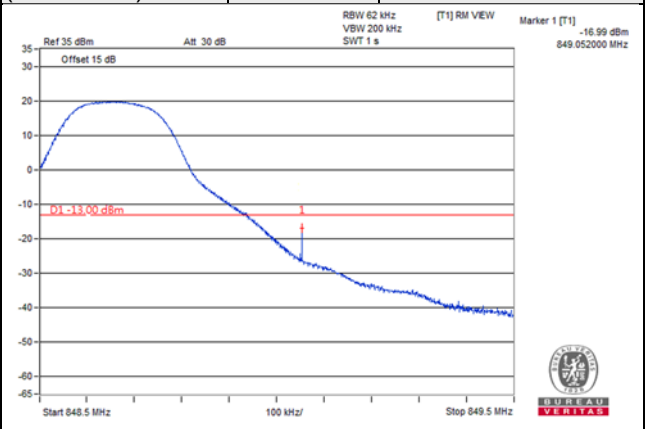
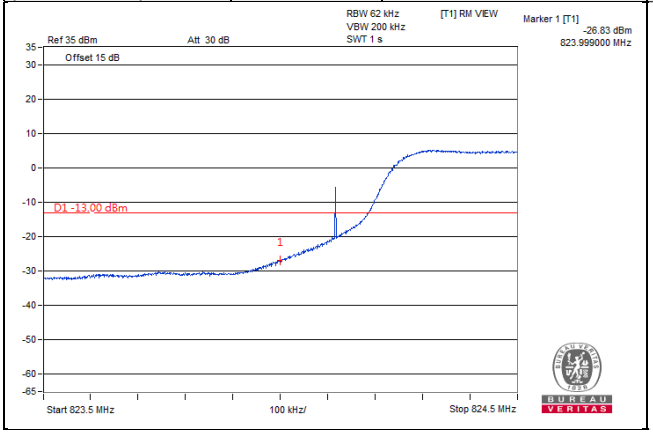
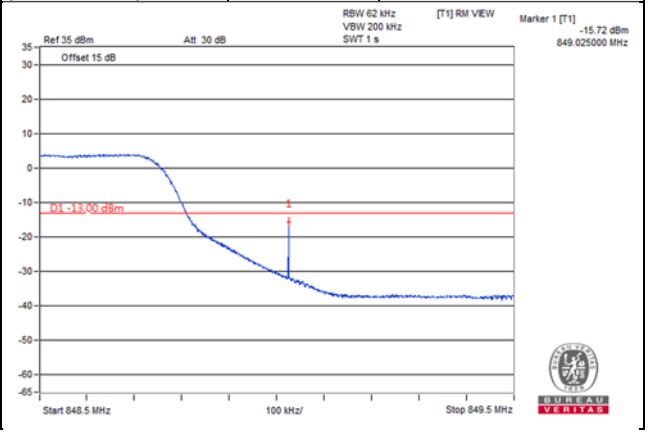
WCDMA			
Channel	4132 (826.4MHz)	Channel	4233 (846.6MHz)
			

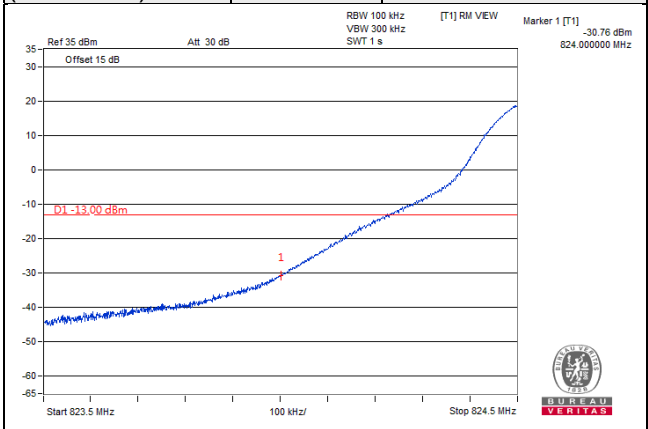
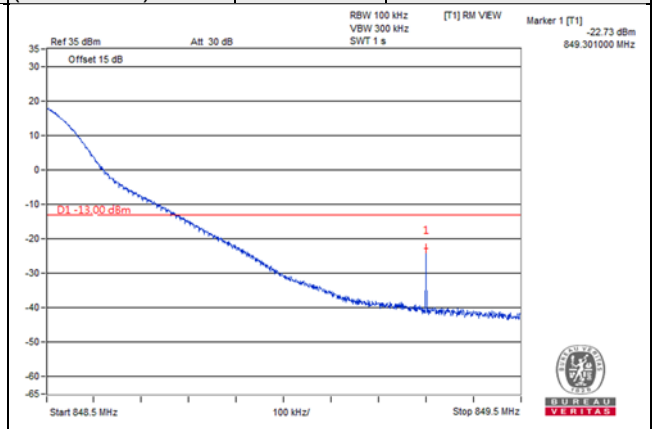
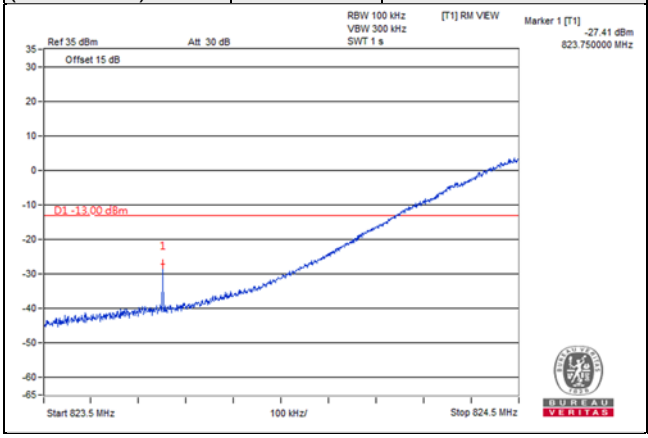
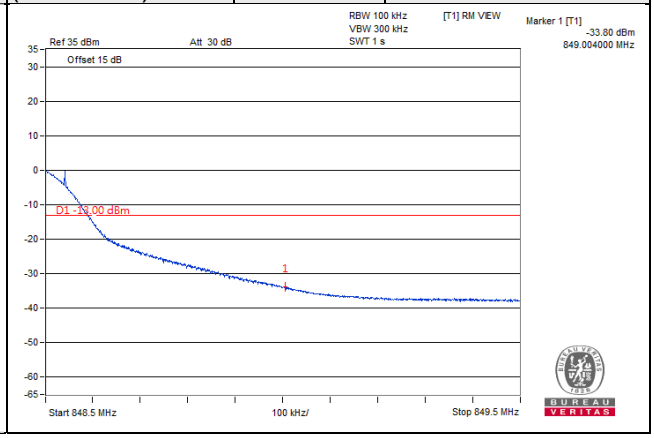
HSDPA			
Channel	4132 (826.4MHz)	Channel	4233 (846.6MHz)
			

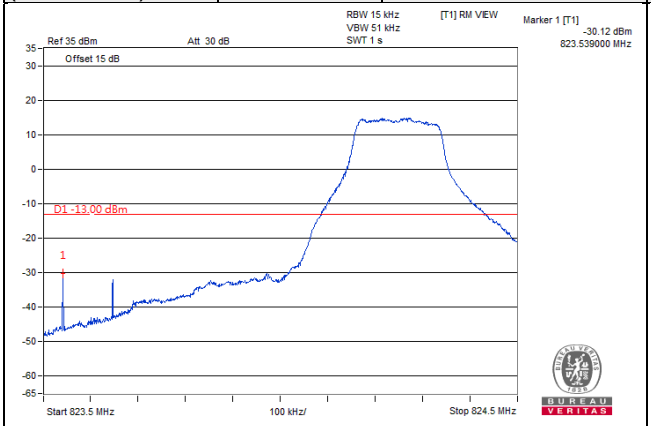
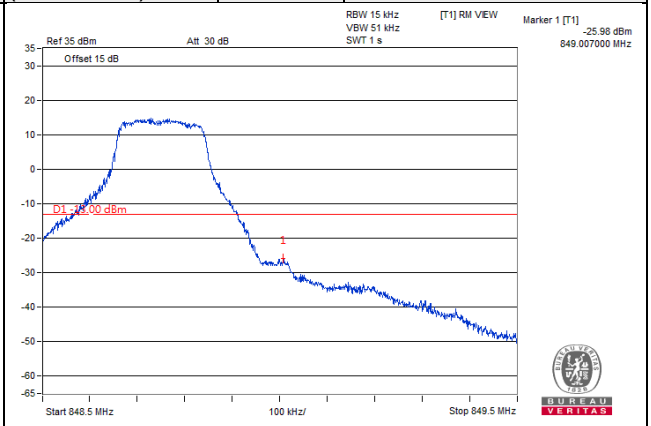
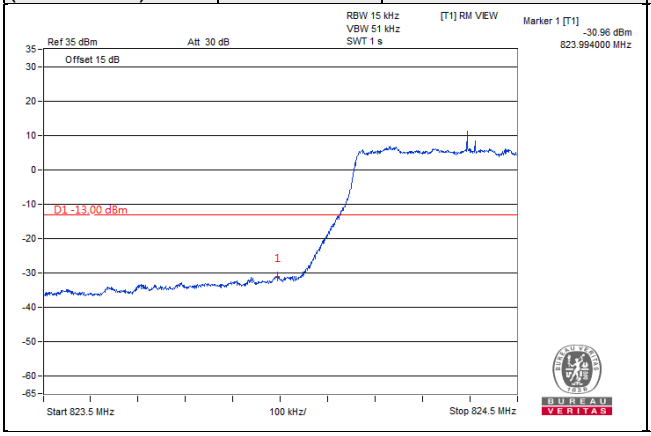
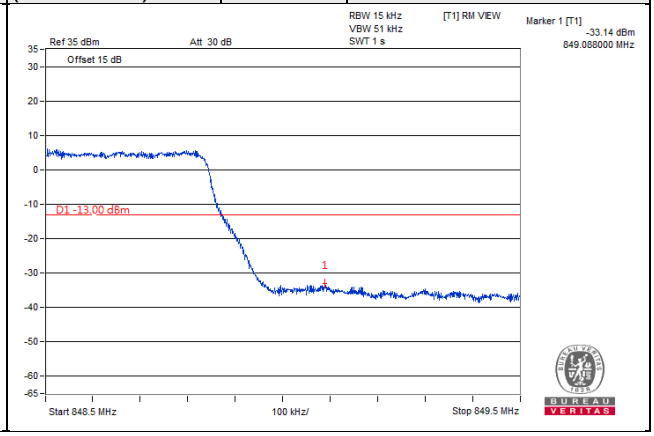
HSUPA		
4132 (826.4MHz)	Channel	4233 (846.6MHz)
		

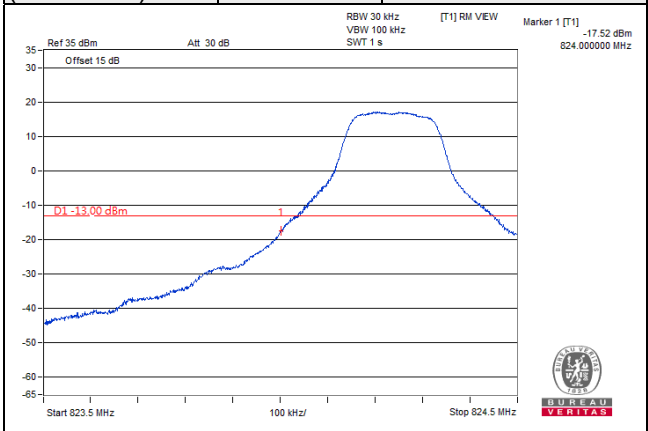
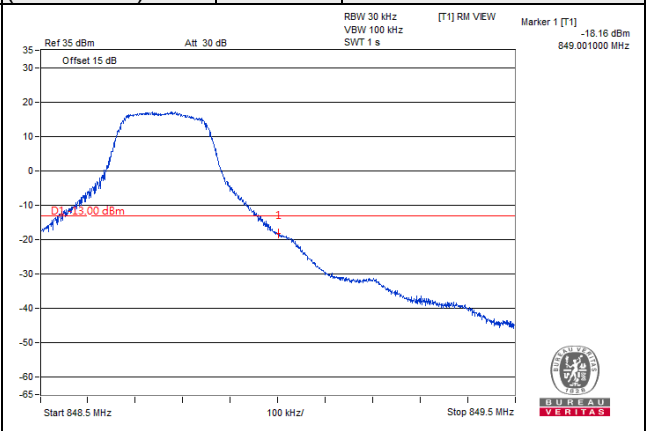
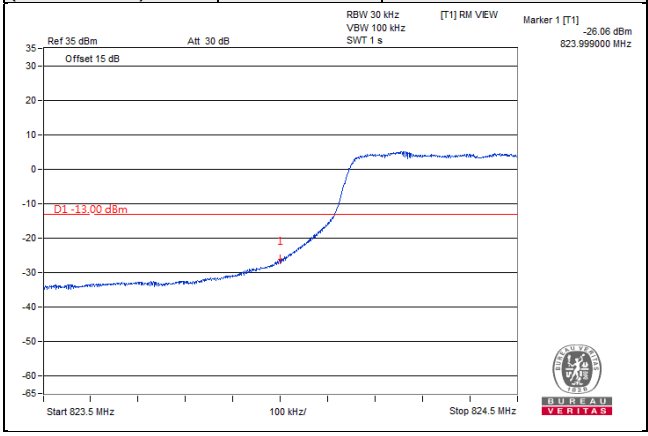
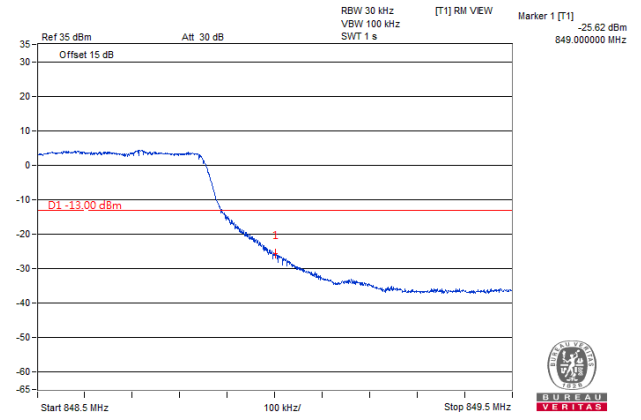
LTE Band 5, Channel Bandwidth 1.4MHz					
Channel 20407 (824.7MHz)	QPSK	1 RB / 0 RB Offset	Channel 20643 (848.3MHz)	QPSK	1 RB / 5 RB Offset
					
Channel 20407 (824.7MHz)	QPSK	6 RB / 0 RB Offset	Channel 20643 (848.3MHz)	QPSK	6 RB / 0 RB Offset
					

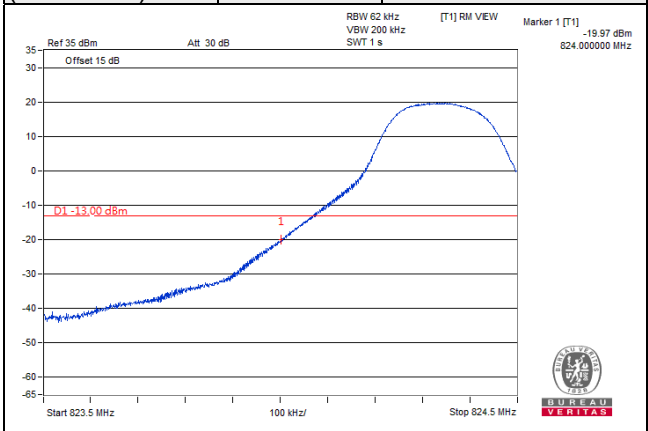
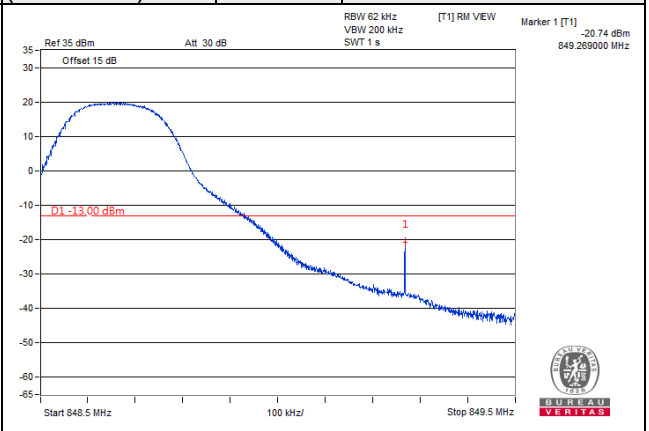
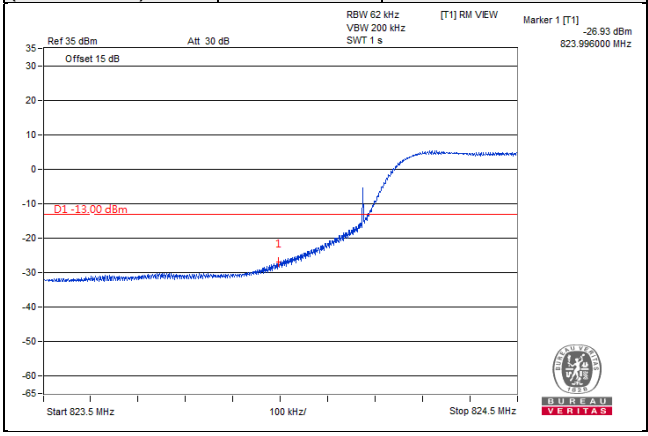
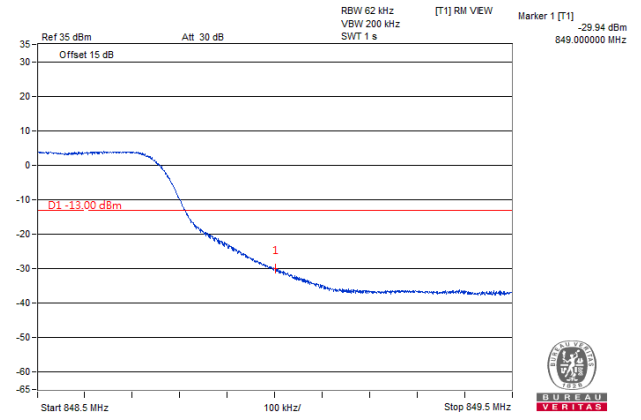
LTE Band 5, Channel Bandwidth 3MHz					
Channel 20415 (825.5MHz)	QPSK	1 RB / 0 RB Offset	Channel 20635 (847.5MHz)	QPSK	1 RB / 14 RB Offset
					
Channel 20415 (825.5MHz)	QPSK	15 RB / 0 RB Offset	Channel 20635 (847.5MHz)	QPSK	15 RB / 0 RB Offset
					

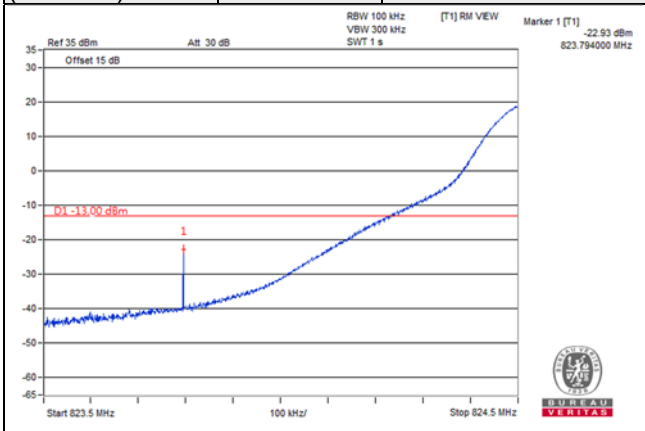
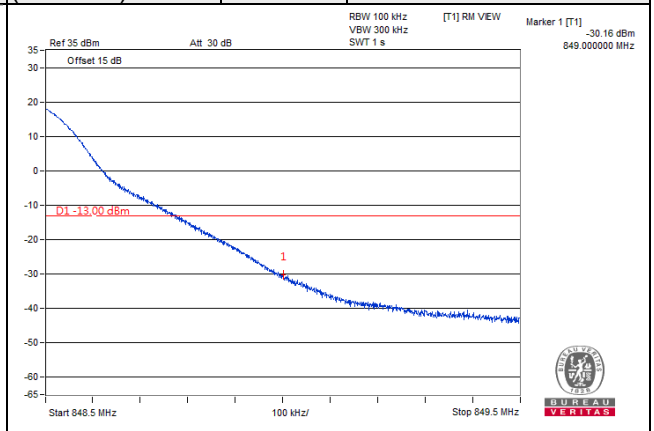
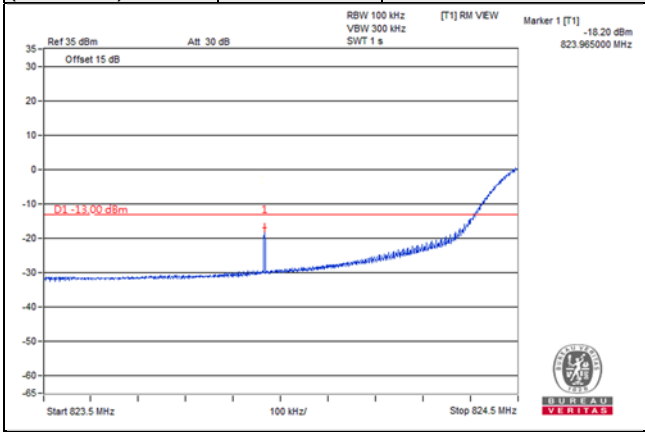
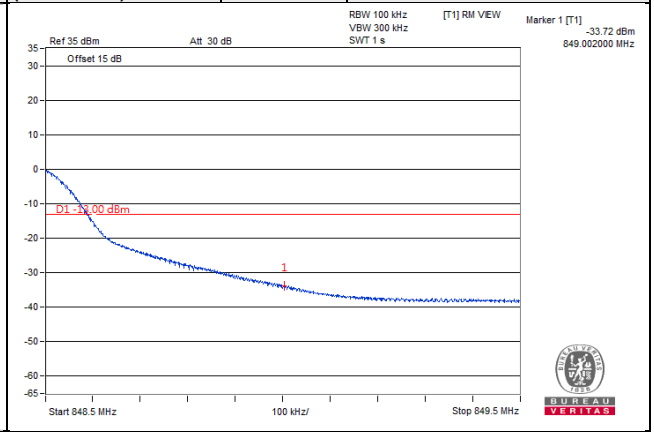
LTE Band 5, Channel Bandwidth 5MHz					
Channel 20425 (826.5MHz)	QPSK	1 RB / 0 RB Offset	Channel 20625 (846.5MHz)	QPSK	1 RB / 24 RB Offset
					
Channel 20425 (826.5MHz)	QPSK	25 RB / 0 RB Offset	Channel 20625 (846.5MHz)	QPSK	25 RB / 0 RB Offset
					

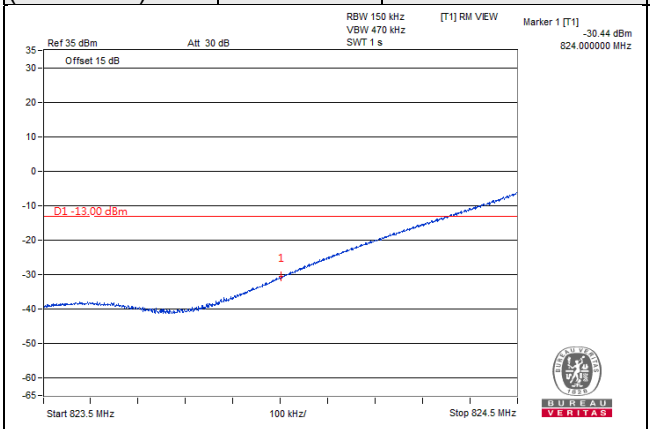
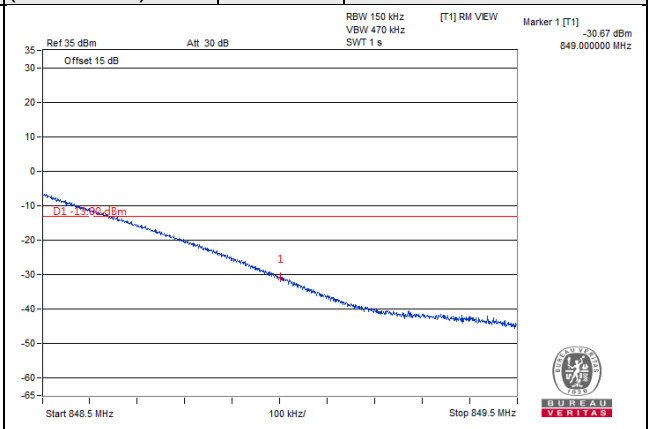
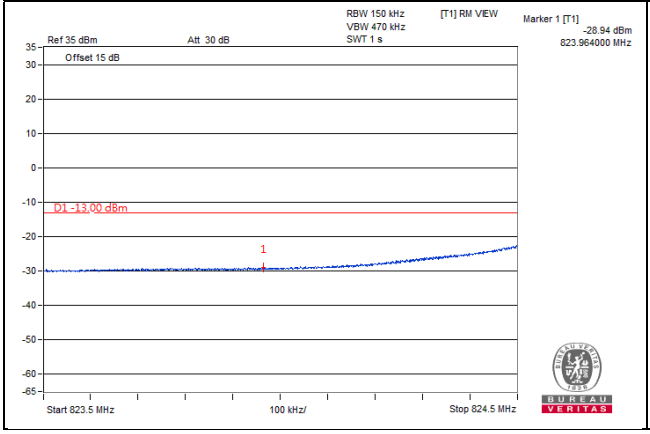
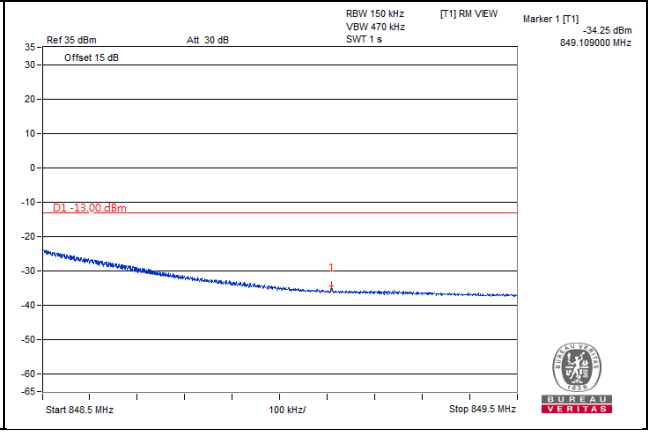
LTE Band 5, Channel Bandwidth 10MHz					
Channel 20450 (829.0MHz)	QPSK	1 RB / 0 RB Offset	Channel 20600 (844.0MHz)	QPSK	1 RB / 49 RB Offset
					
Channel 20450 (829.0MHz)	QPSK	50 RB / 0 RB Offset	Channel 20600 (844.0MHz)	QPSK	50 RB / 0 RB Offset
					

LTE Band 26, Channel Bandwidth 1.4MHz					
Channel 26797 (824.7MHz)	QPSK	1 RB / 0 RB Offset	Channel 27033 (848.3MHz)	QPSK	1 RB / 5 RB Offset
					
Channel 26797 (824.7MHz)	QPSK	6 RB / 0 RB Offset	Channel 27033 (848.3MHz)	QPSK	6 RB / 0 RB Offset
					

LTE Band 26, Channel Bandwidth 3MHz					
Channel 26805 (825.5MHz)	QPSK	1 RB / 0 RB Offset	Channel 27025 (847.5MHz)	QPSK	1 RB / 14 RB Offset
					
Channel 26805 (825.5MHz)	QPSK	15 RB / 0 RB Offset	Channel 27025 M(847.5MHz)	QPSK	15 RB / 0 RB Offset
					

LTE Band 26, Channel Bandwidth 5MHz					
Channel 26815 (826.5MHz)	QPSK	1 RB / 0 RB Offset	Channel 27015 (846.5MHz)	QPSK	1 RB / 24 RB Offset
					
Channel 26815 (826.5MHz)	QPSK	25 RB / 0 RB Offset	Channel 27015 (846.5MHz)	QPSK	25 RB / 0 RB Offset
					

LTE Band 26, Channel Bandwidth 10MHz					
Channel 26840 (829MHz)	QPSK	1 RB / 0 RB Offset	Channel 26990 (844MHz)	QPSK	1 RB / 49 RB Offset
					
Channel 26840 (829MHz)	QPSK	50 RB / 0 RB Offset	Channel 26990 (844MHz)	QPSK	50 RB / 0 RB Offset
					

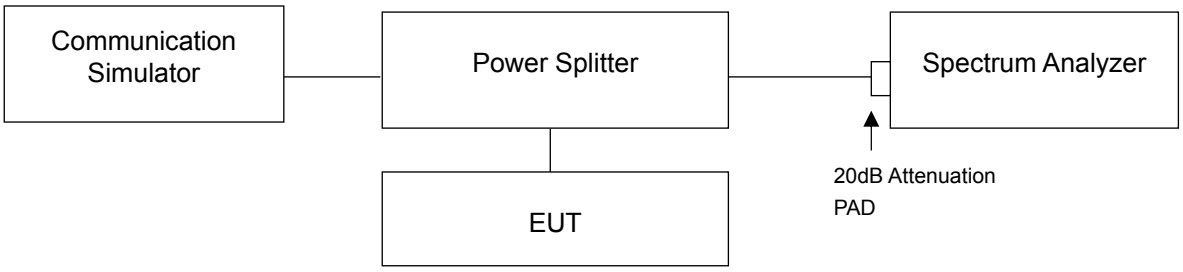
LTE Band 26, Channel Bandwidth 15MHz					
Channel 26915 (831.5MHz)	QPSK	1 RB / 0 RB Offset	Channel 26965 (841.5MHz)	QPSK	1 RB / 74 RB Offset
					
Channel 26915 (831.5MHz)	QPSK	75 RB / 0 RB Offset	Channel 26965 (841.5MHz)	QPSK	75 RB / 0 RB Offset
					

4.6 Peak to Average Ratio

4.6.1 Limits of Peak to Average Ratio Measurement

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

4.6.2 Test Setup



4.6.3 Test Procedures

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

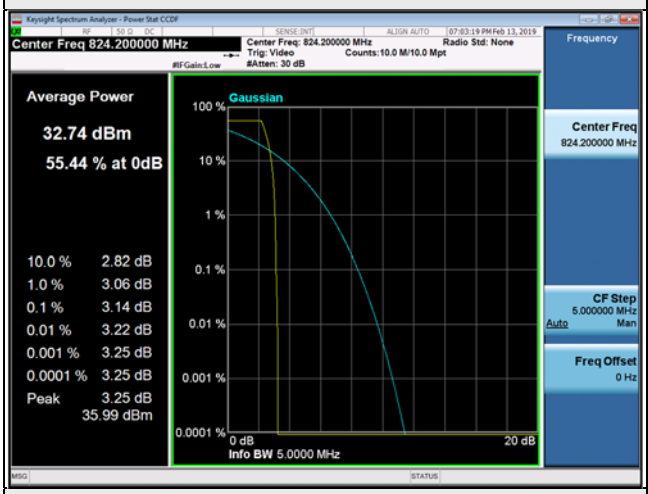
4.6.4 Test Results

GSM

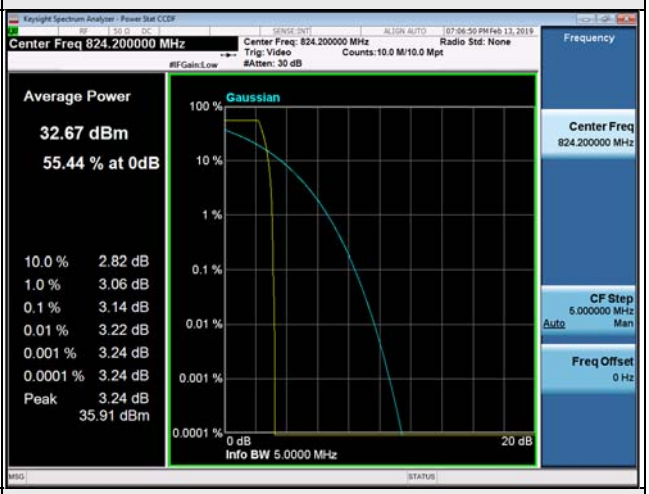
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		GSM	GPRS	EDGE
128	824.2	3.14	3.14	3.21
189	836.4	3.11	3.11	3.11
251	848.8	3.07	3.08	3.07

Spectrum Plot of Worst Value

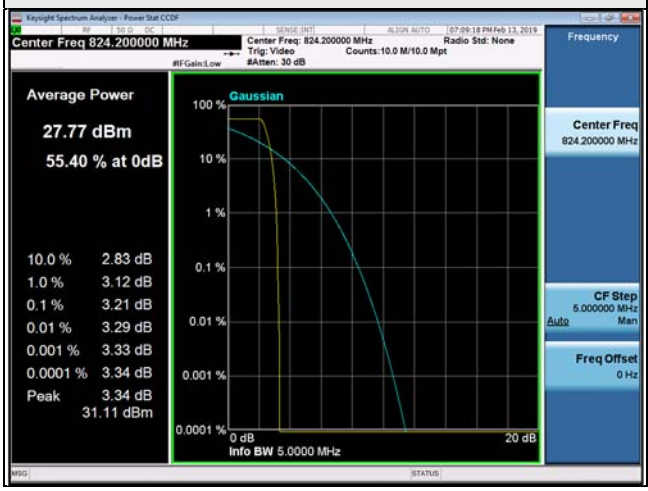
GSM



GPRS



EDGE

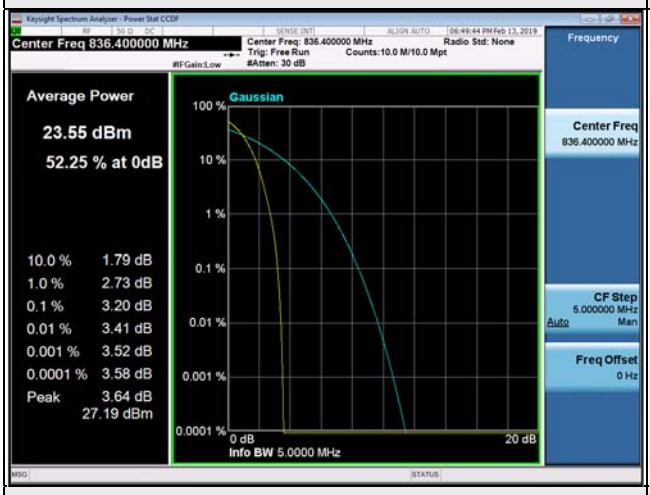


WCDMA Band 5

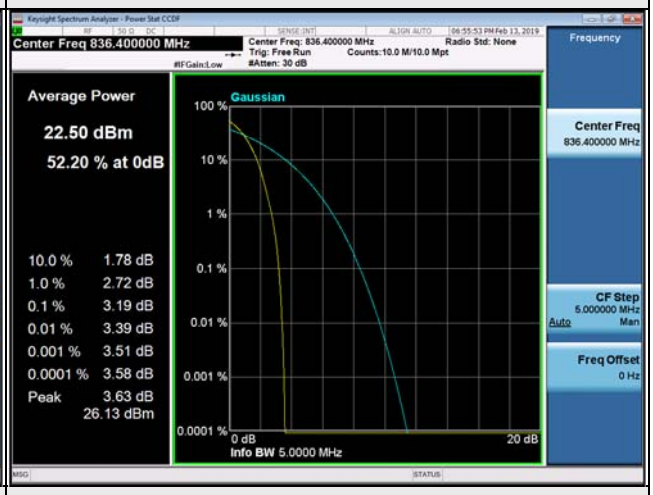
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		WCDMA	HSDPA	HSUPA
4132	826.4	3.14	3.13	3.14
4182	836.4	3.20	3.19	3.20
4233	846.6	2.93	2.92	2.92

Spectrum Plot of Worst Value

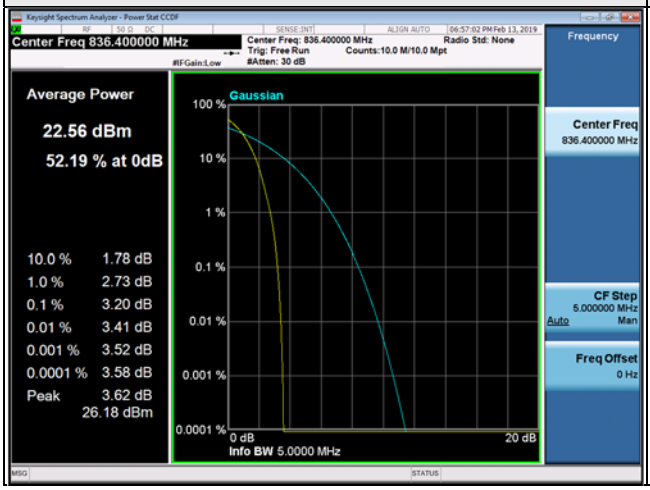
WCDMA



HSDPA



HSUPA



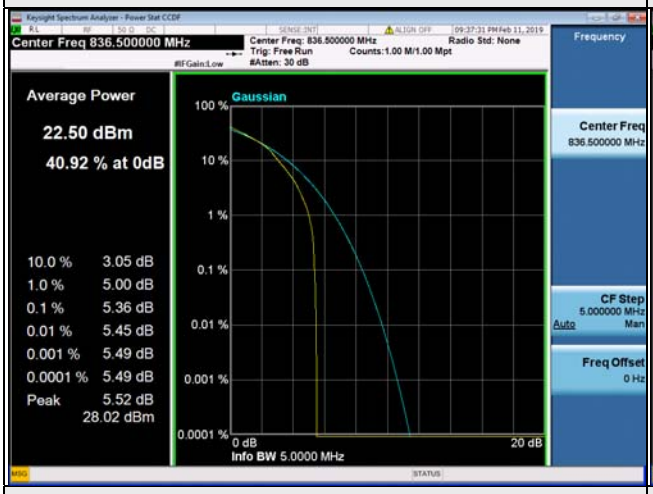
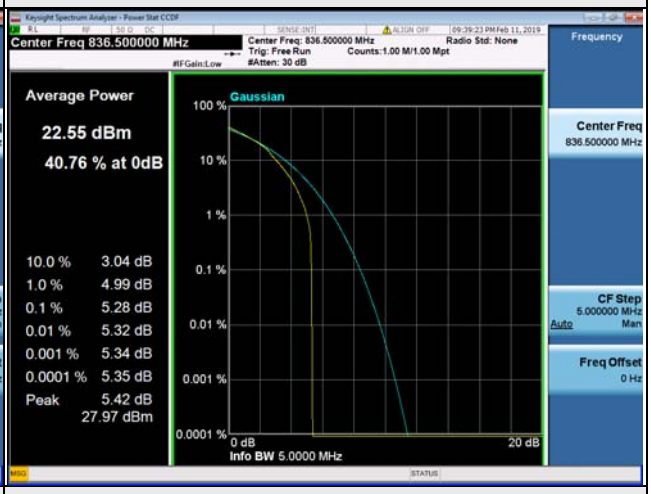
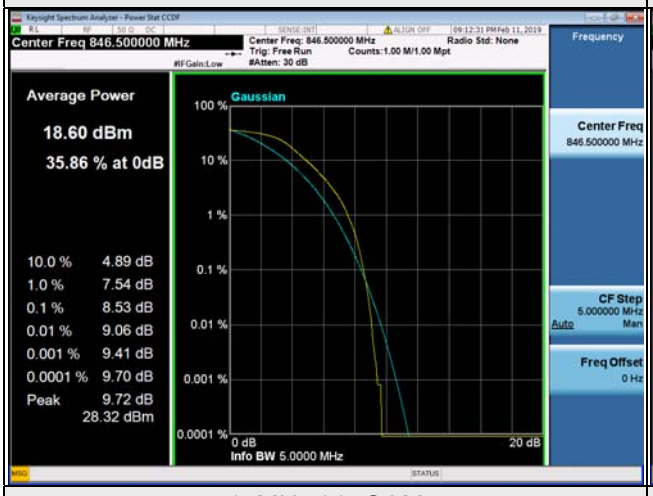
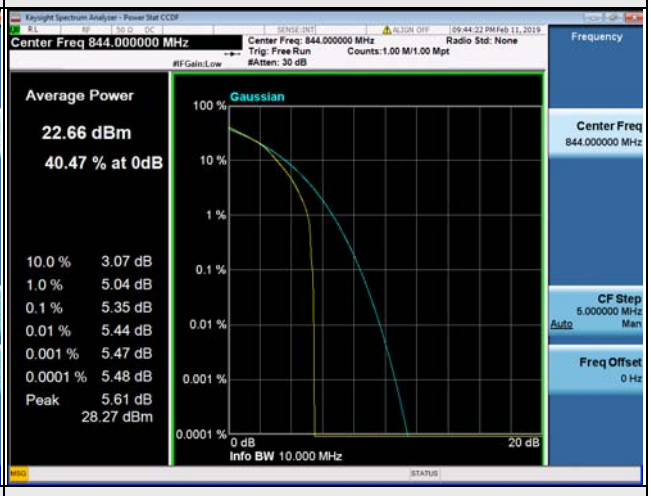
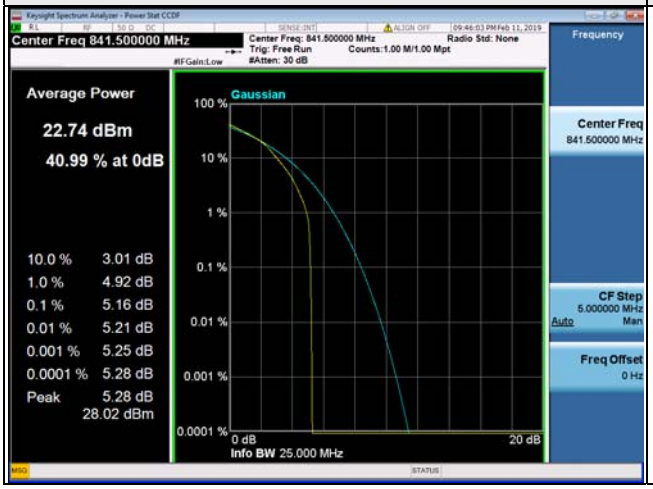
LTE Band 5

LTE Band 5, Channel Bandwidth 1.4MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
20407	824.7	5.84	5.22	5.27
20525	836.5	3.99	5.44	5.49
20643	848.3	3.38	4.61	4.63
LTE Band 5, Channel Bandwidth 3MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
20415	825.5	3.65	5.12	5.19
20525	836.5	3.79	5.24	5.37
20635	847.5	3.39	4.73	4.77
LTE Band 5, Channel Bandwidth 5MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
20425	826.5	3.66	5.10	5.10
20525	836.5	3.77	5.26	5.36
20625	846.5	3.64	5.10	5.17
LTE Band 5, Channel Bandwidth 10MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
20450	829.0	3.73	5.11	5.10
20525	836.5	3.80	5.20	5.32
20600	844.0	3.88	6.68	5.32

Spectrum Plot of Worst Value	
1.4MHz / QPSK	3MHz / 64QAM
5MHz / 64QAM	10MHz / 16QAM

LTE Band 26

LTE Band 26, Channel Bandwidth 1.4MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
26797	824.7	3.76	5.09	5.25
26915	836.5	3.88	5.27	5.36
27033	848.3	3.35	4.56	4.69
LTE Band 26, Channel Bandwidth 3MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
26805	825.5	3.50	4.94	5.15
26915	836.5	3.65	5.09	5.28
27025	847.5	3.26	4.60	4.79
LTE Band 26, Channel Bandwidth 5MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
26815	826.5	5.29	4.97	5.15
26915	836.5	5.40	5.23	5.28
27015	846.5	8.53	4.98	5.16
LTE Band 26, Channel Bandwidth 10MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
26840	829.0	3.52	4.86	5.12
26915	836.5	3.73	5.12	5.32
26990	844.0	3.71	5.12	5.35
LTE Band 26, Channel Bandwidth 15MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
26865	831.5	3.48	4.85	5.06
26915	836.5	3.55	4.95	5.12
26965	841.5	3.56	4.96	5.16

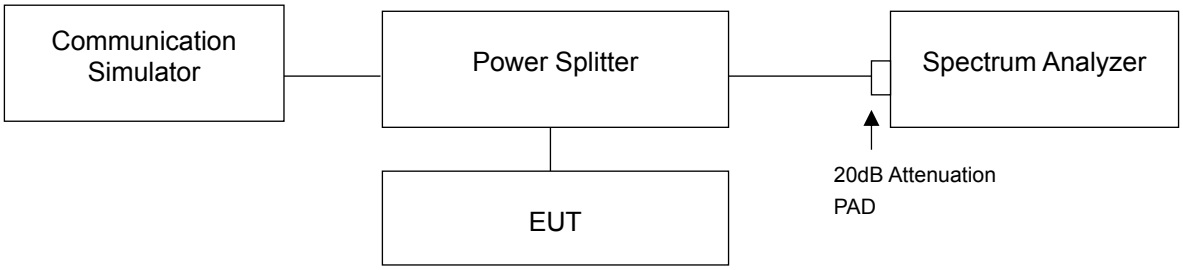
Spectrum Plot of Worst Value	
1.4MHz / 64QAM	3MHz / 64QAM
	
5MHz / QPSK	10MHz / 64QAM
	
15MHz / 64QAM	
	

4.7 Conducted Spurious Emissions

4.7.1 Limits of Conducted Spurious Emissions Measurement

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. The emission limit equal to –13dBm.

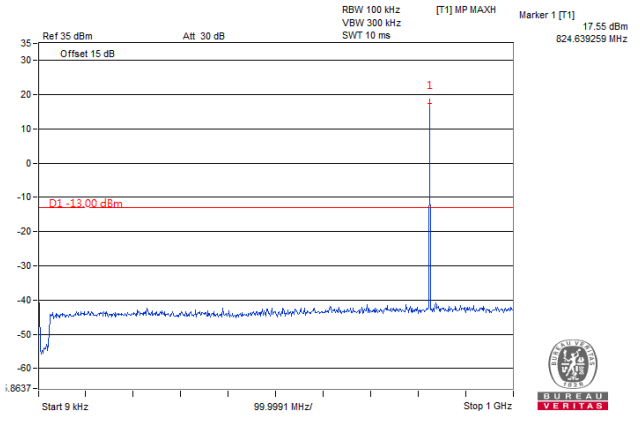
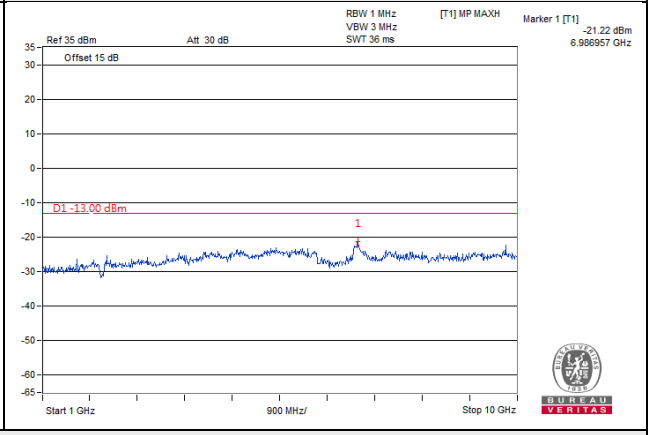
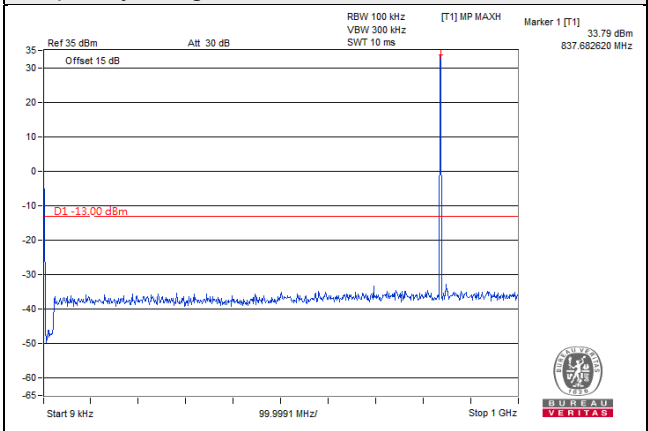
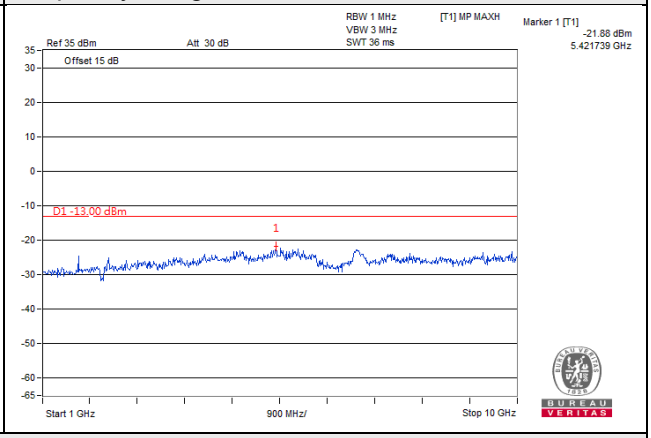
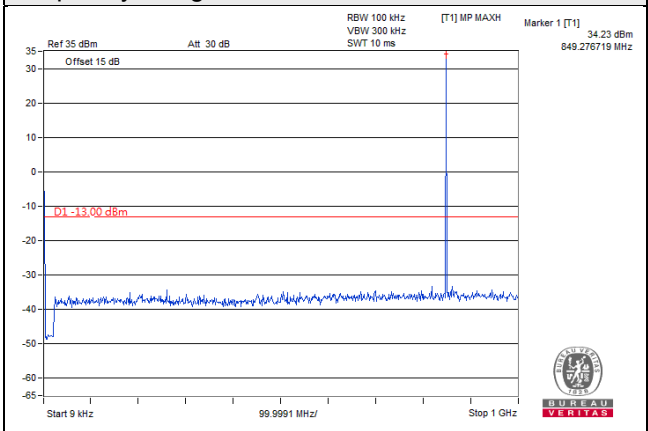
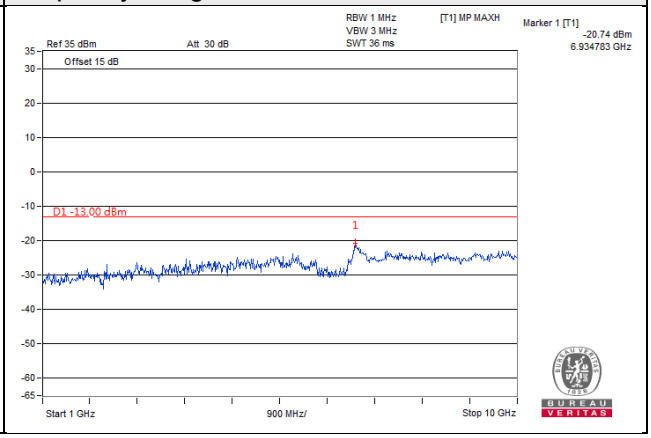
4.7.2 Test Setup



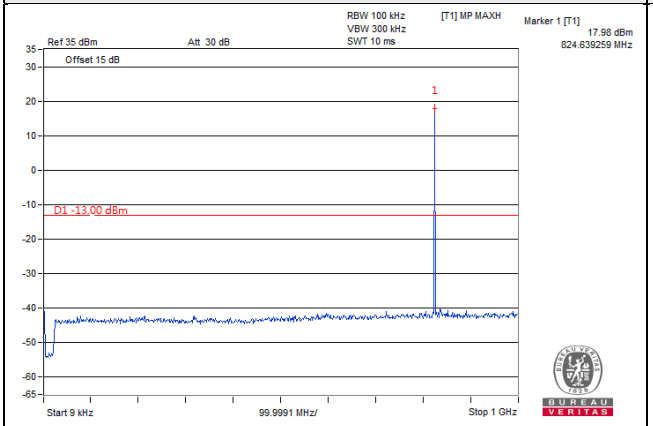
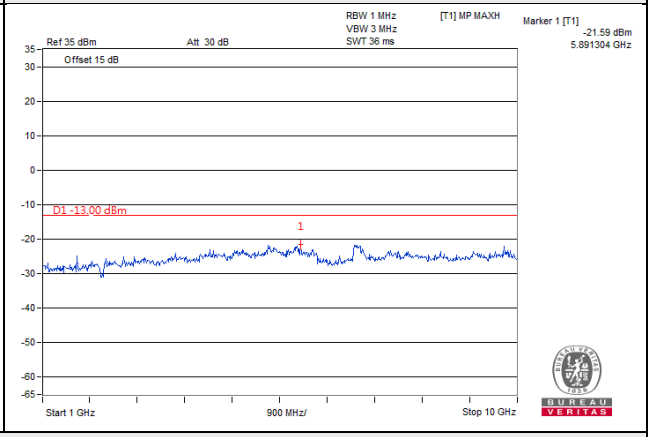
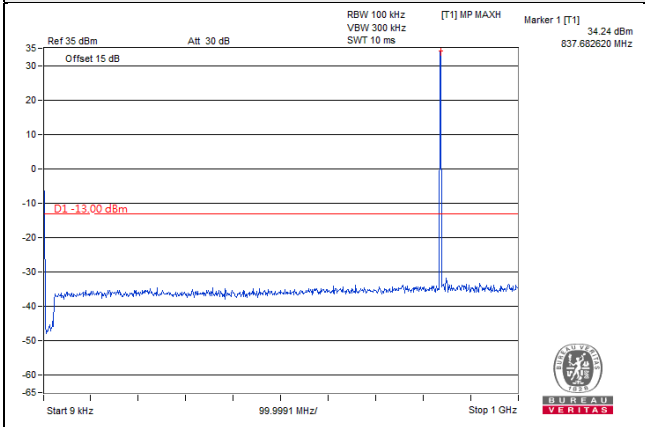
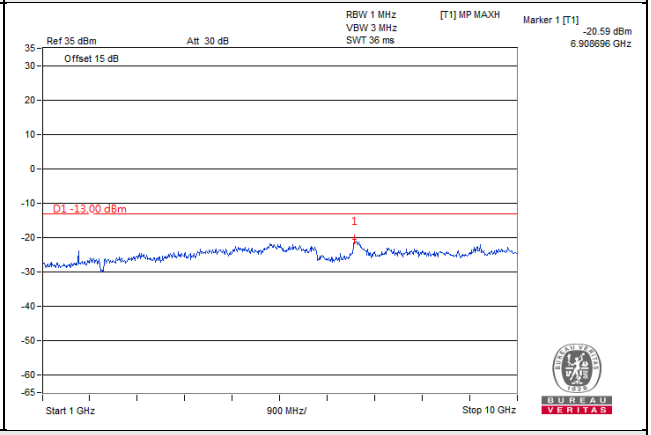
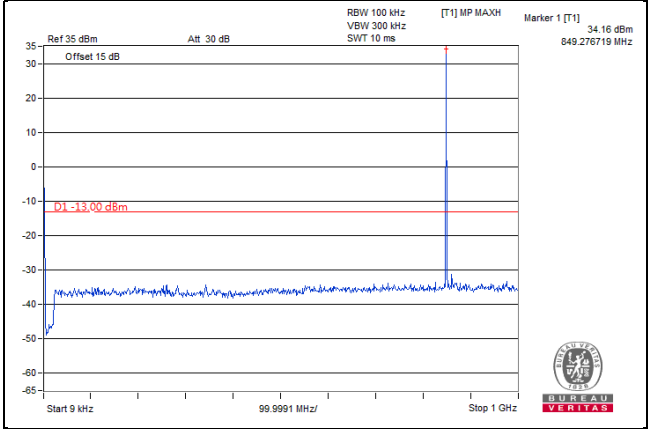
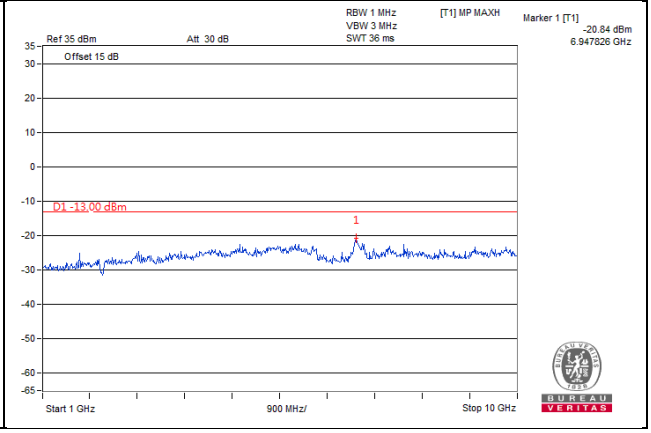
4.7.3 Test Procedure

a. The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
b. Measuring frequency range is from 9 kHz to 1GHz. 20dB attenuation pad is connected with spectrum. RBW=100kHz and VBW=300kHz is used for conducted emission measurement.
c. Measuring frequency range is from 1GHz to 10GHz. 20dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

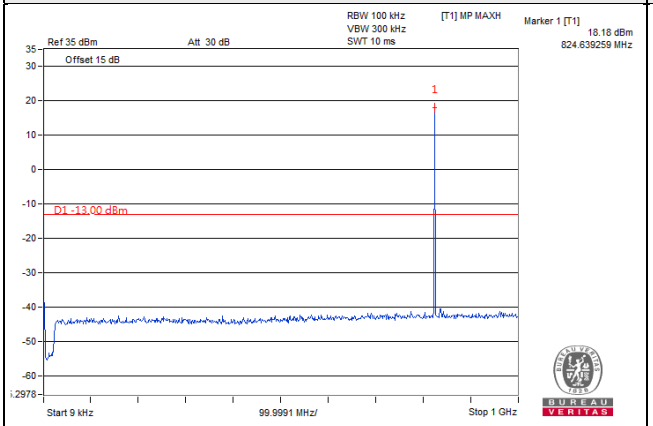
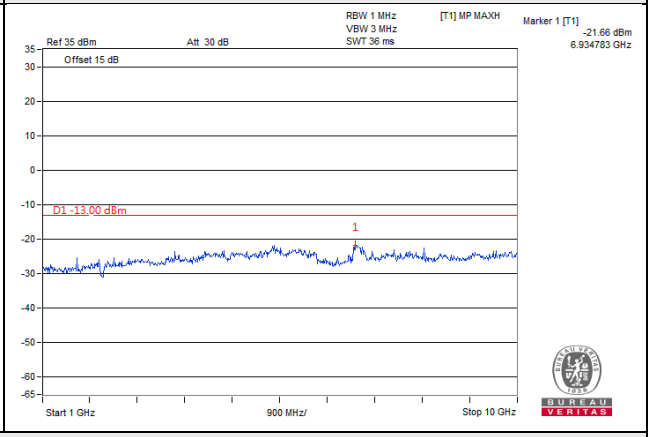
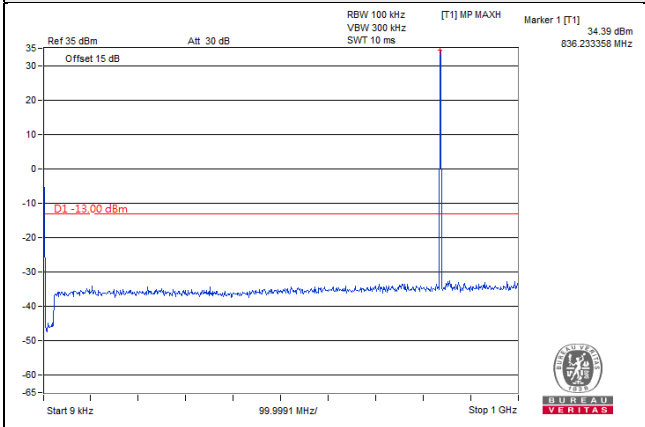
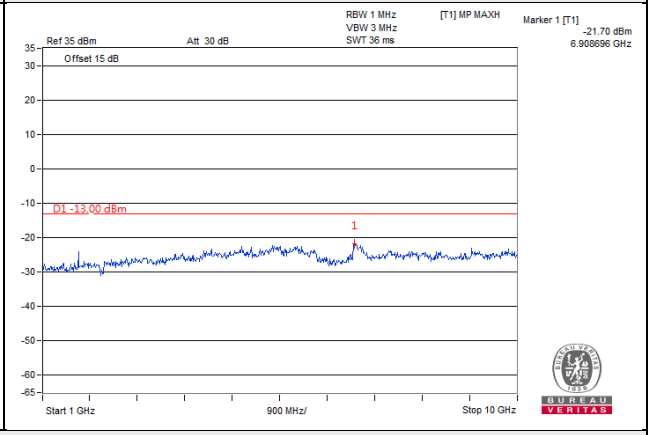
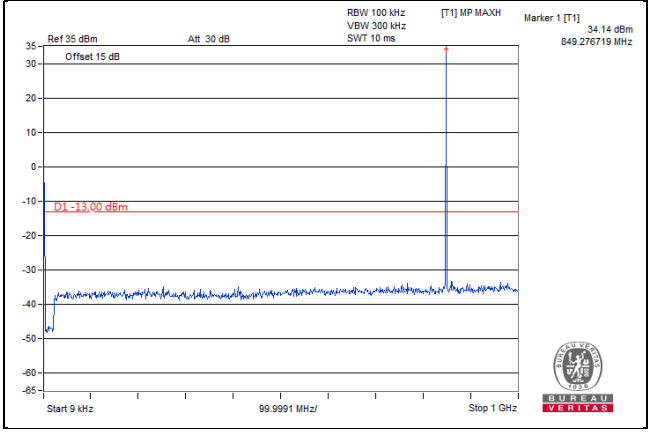
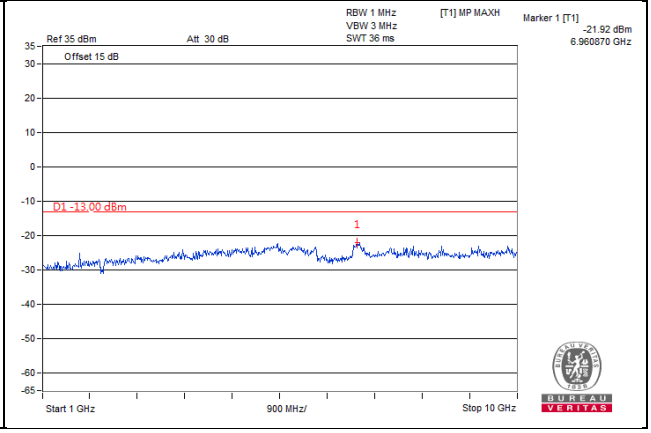
4.7.4 Test Results

GSM	
Channel 128 (824.2MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 189 (836.4MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 251 (848.8MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	

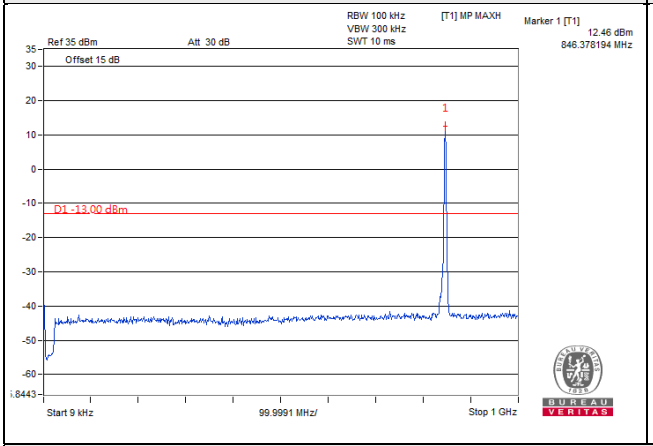
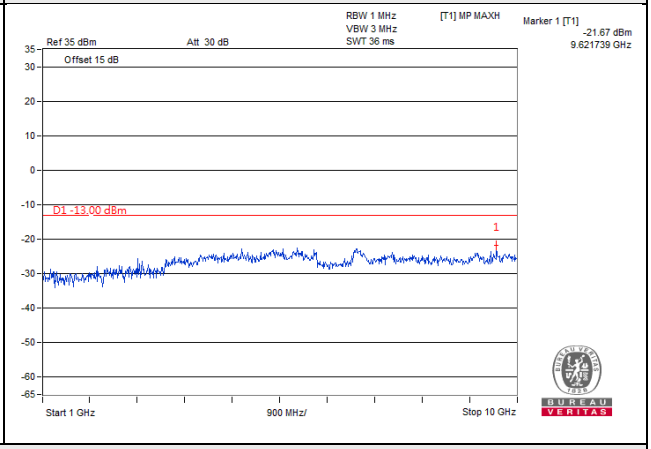
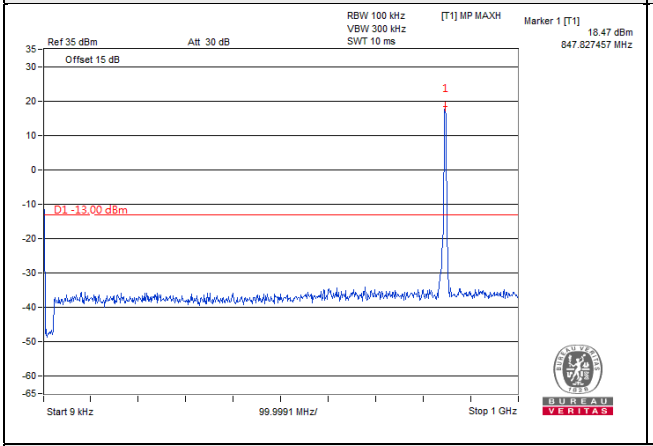
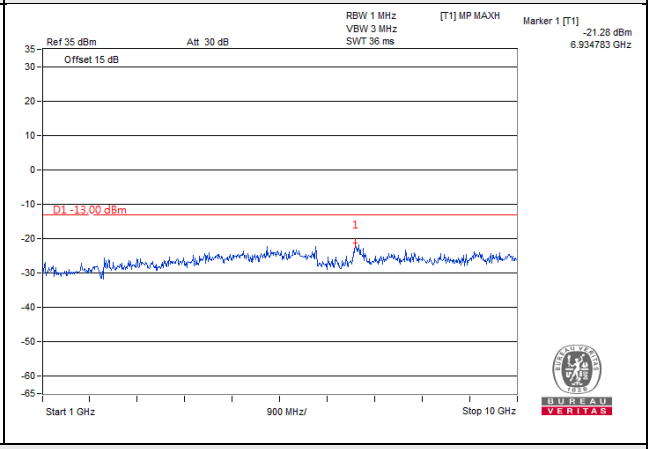
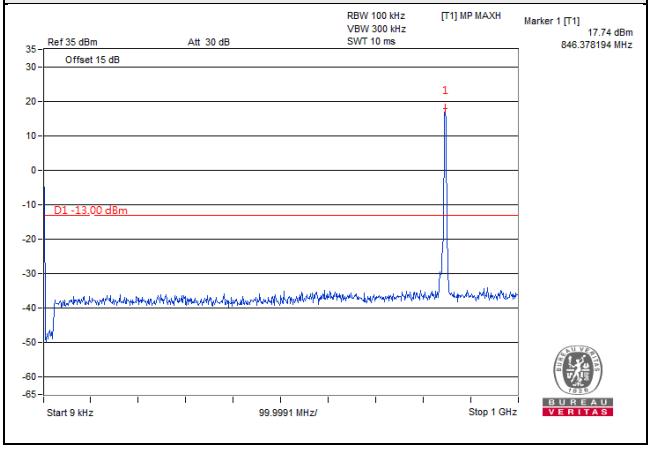
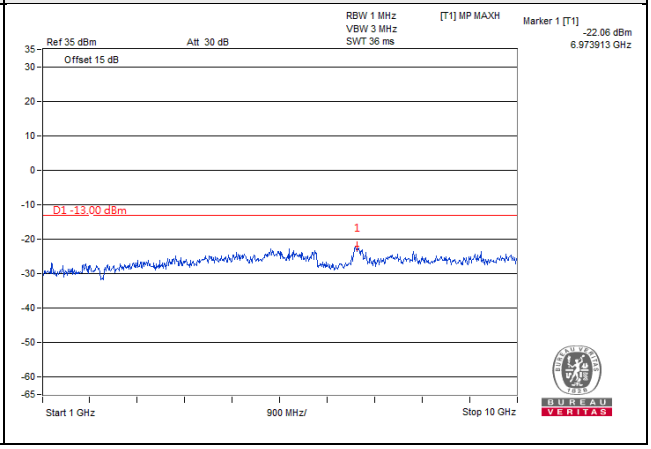
*The 9kHz signal over the limit is from Spectrum.

GPRS	
Channel 128 (824.2MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 189 (836.4MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 251 (848.8MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	

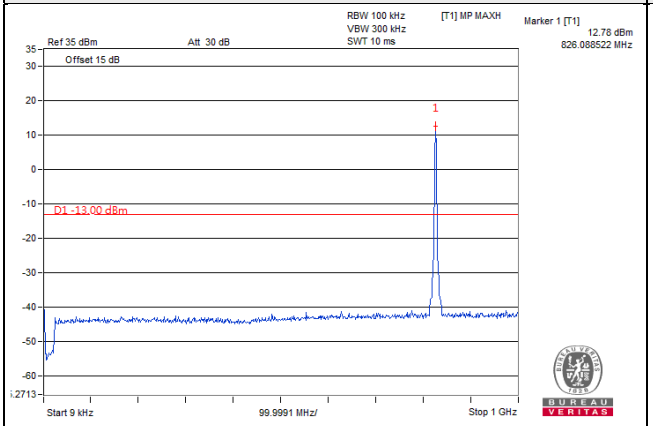
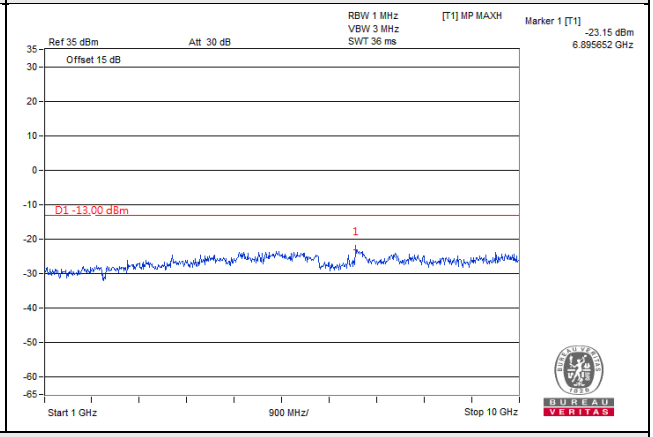
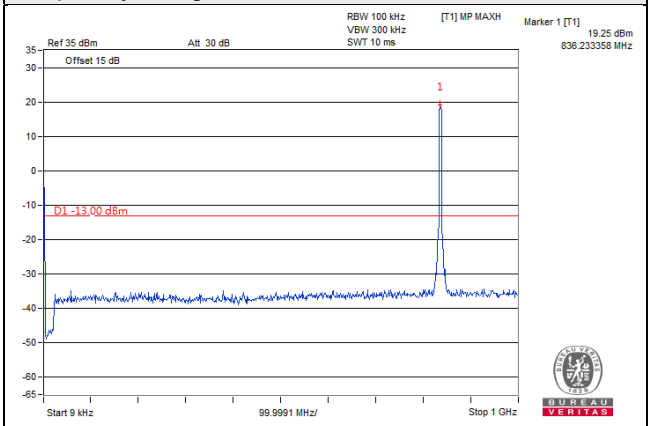
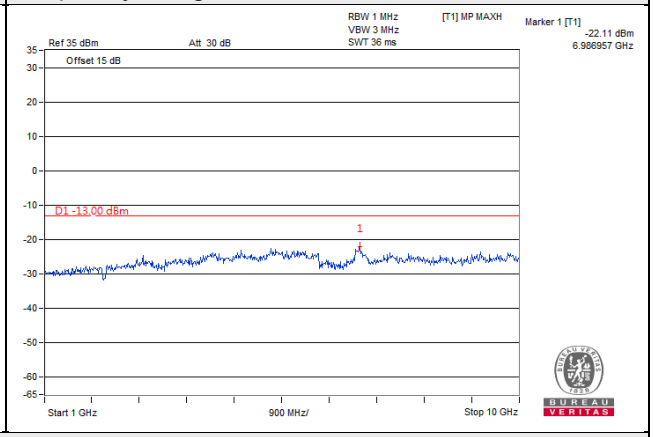
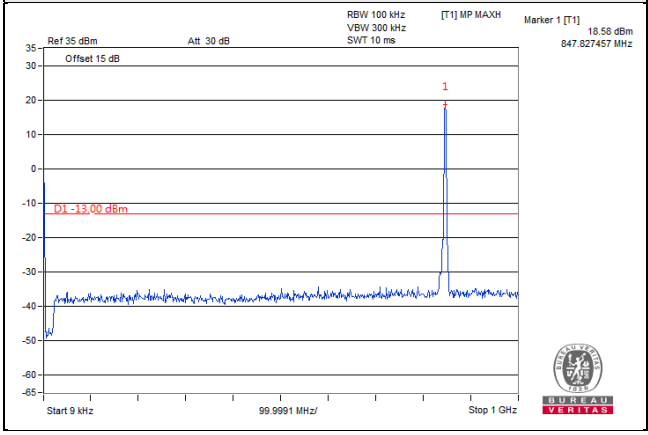
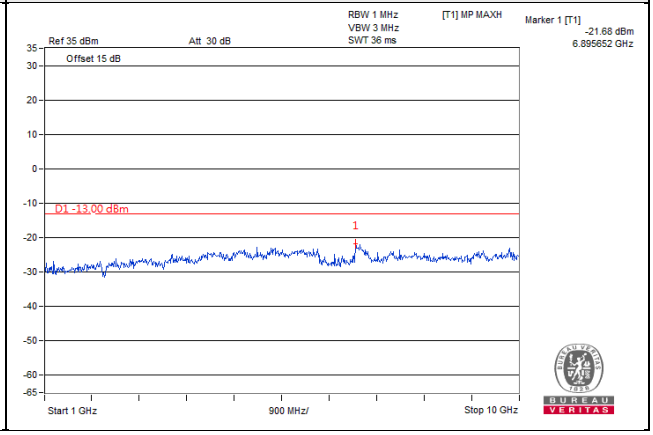
*The 9kHz signal over the limit is from Spectrum.

EDGE	
Channel 128 (824.2MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 189 (836.4MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 251 (848.8MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	

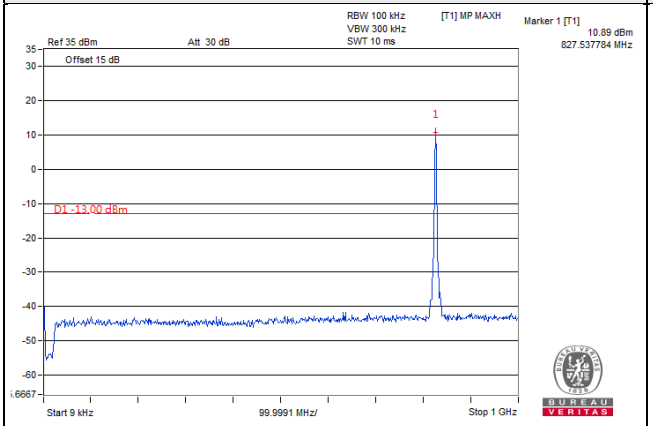
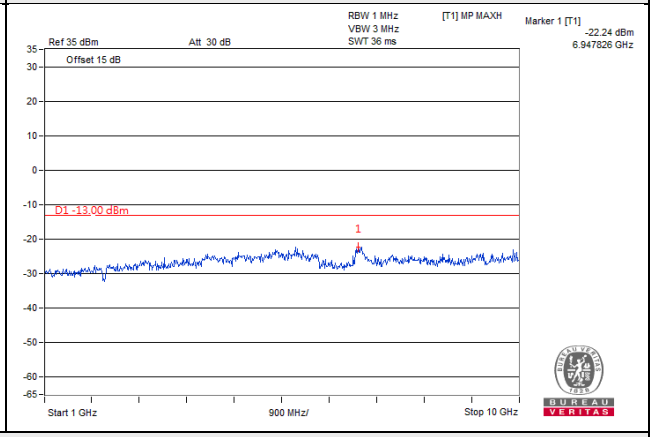
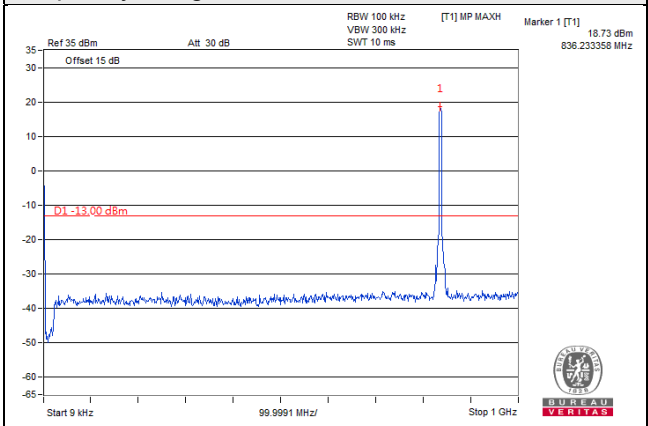
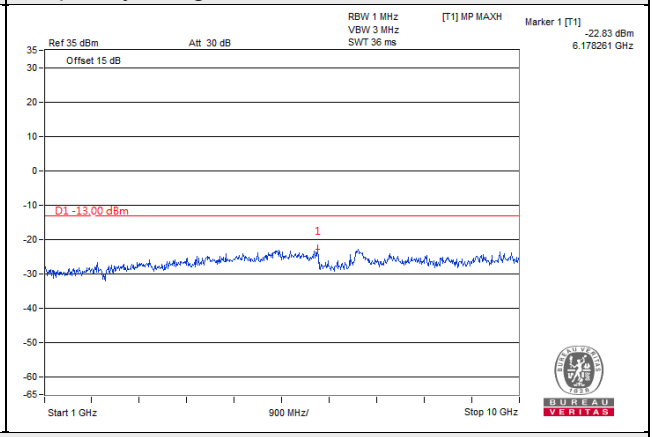
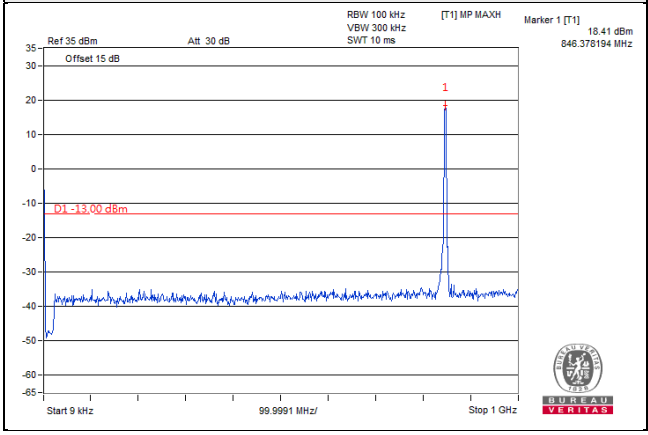
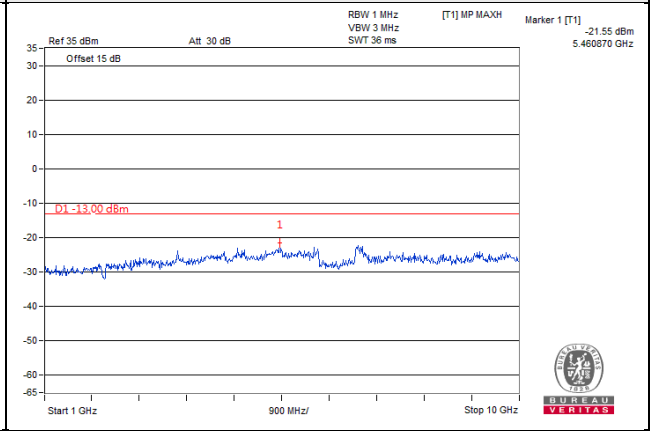
*The 9kHz signal over the limit is from Spectrum.

WCDMA	
Channel 4132 (826.4MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 4182 (836.4MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 4233 (846.6MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	

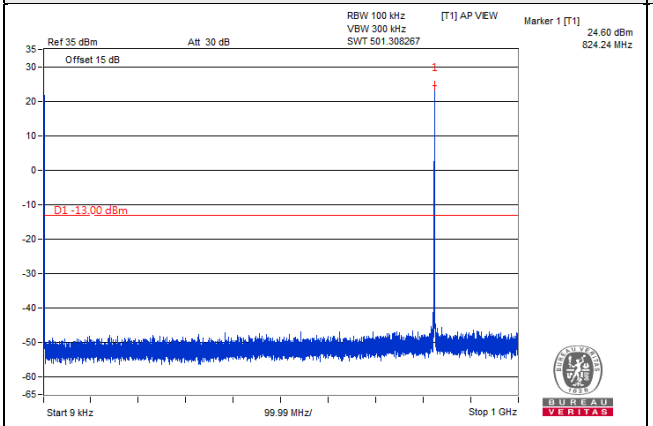
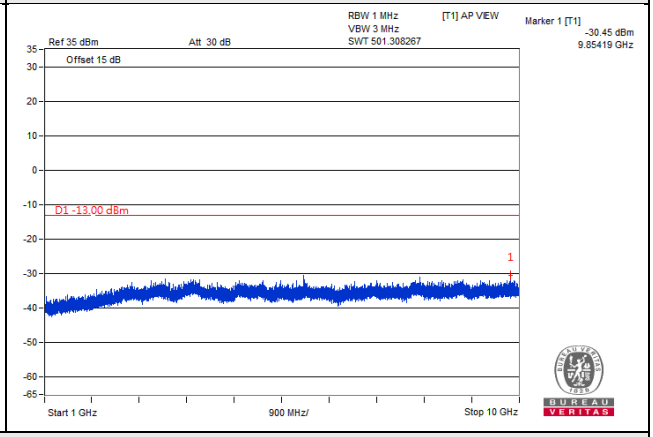
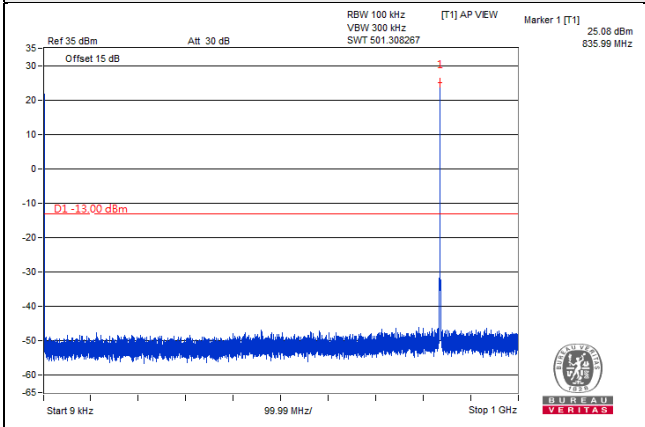
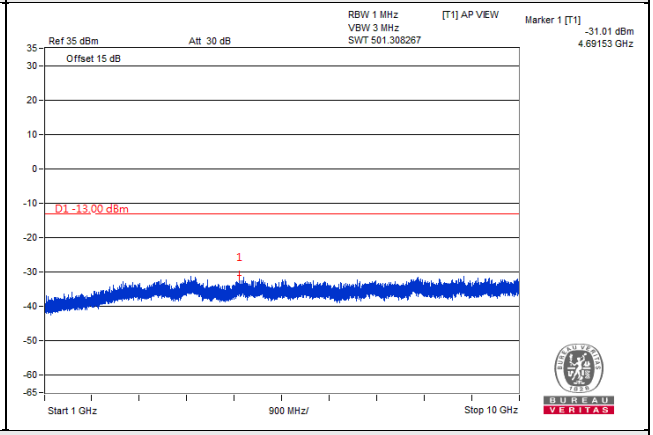
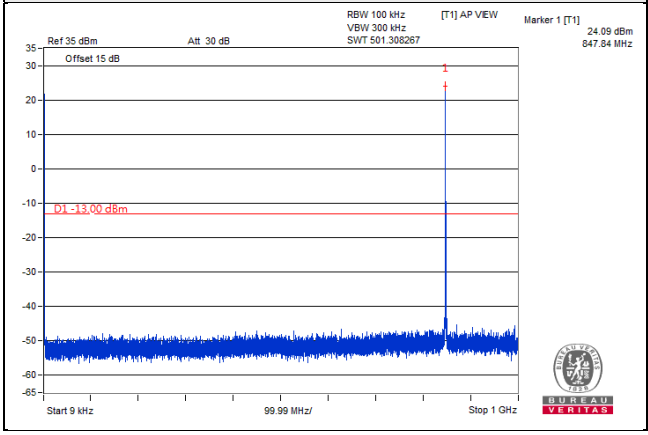
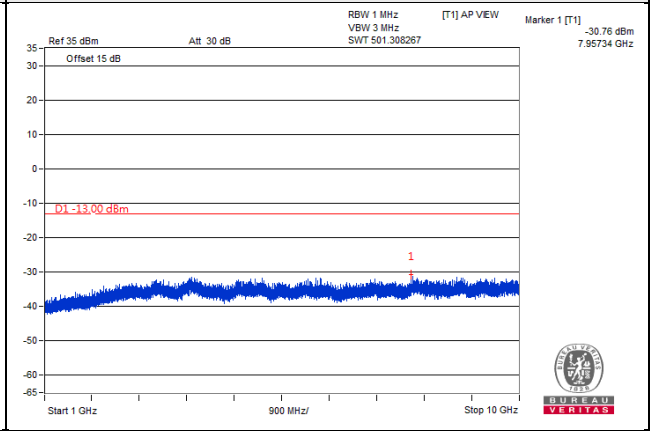
*The 9kHz signal over the limit is from Spectrum.

HSDPA	
Channel 4132 (826.4MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 4182 (836.4MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 4233 (846.6MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	

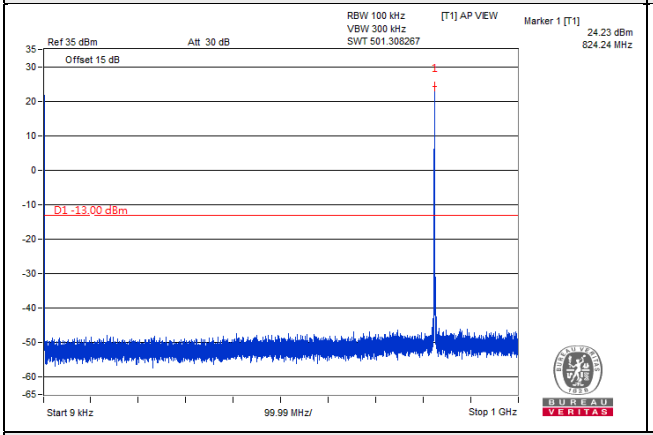
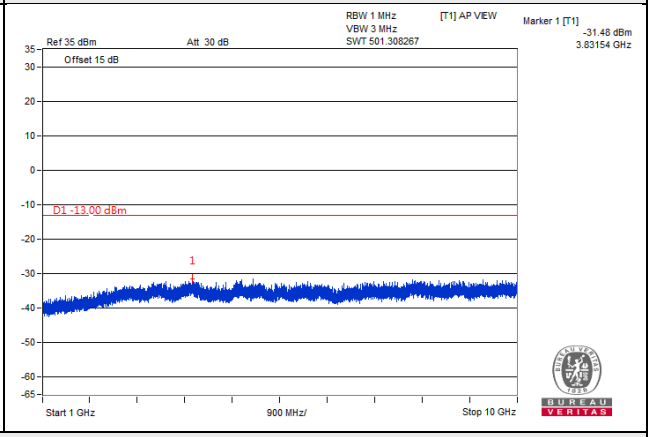
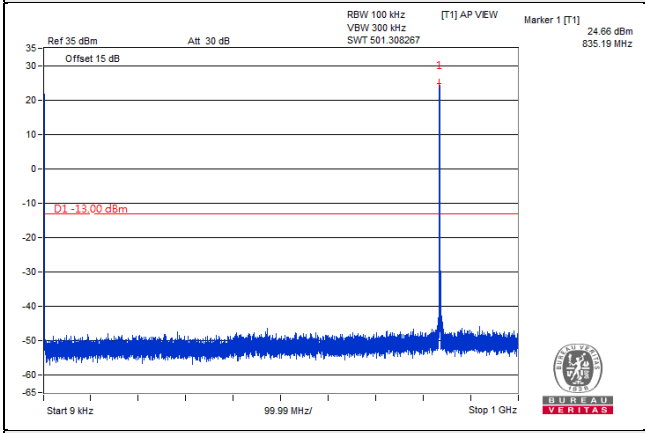
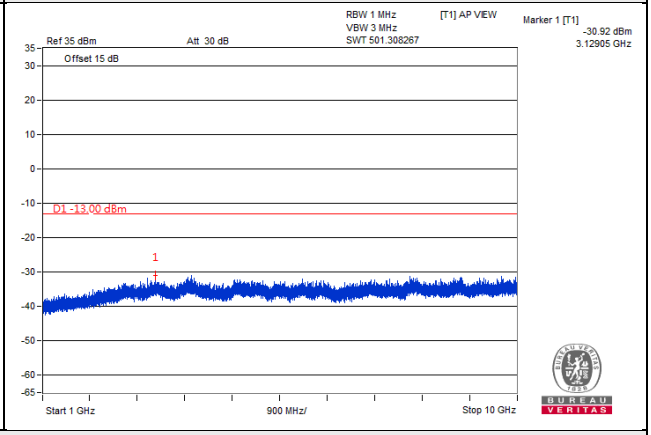
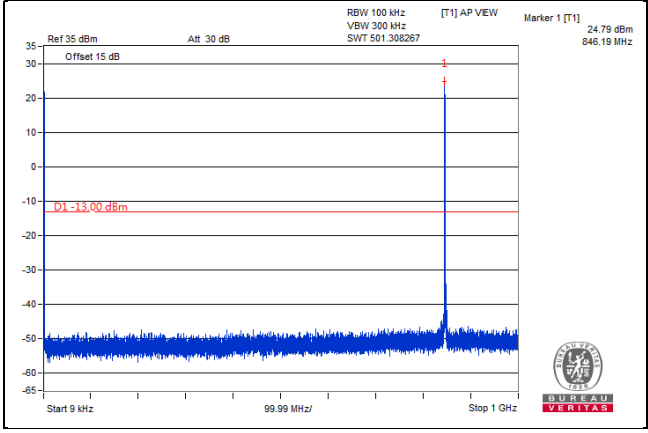
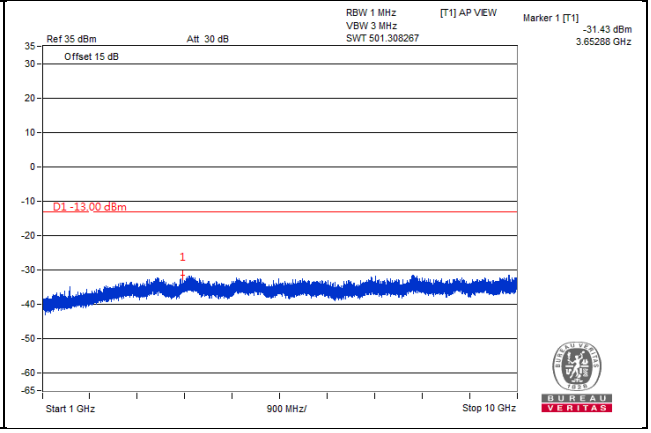
*The 9kHz signal over the limit is from Spectrum.

HSUPA	
Channel 4132 (826.4MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 4182 (836.4MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 4233 (846.6MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	

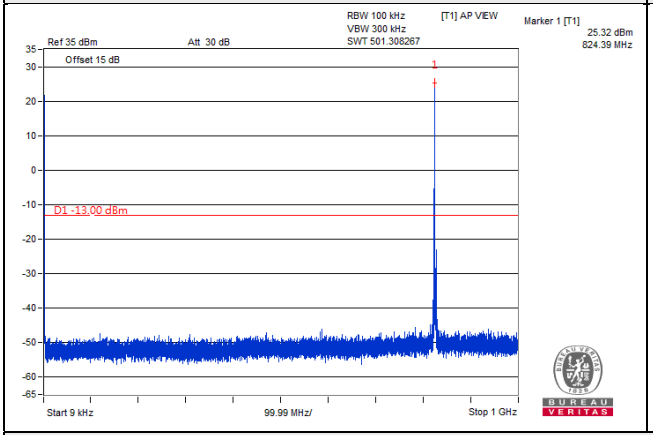
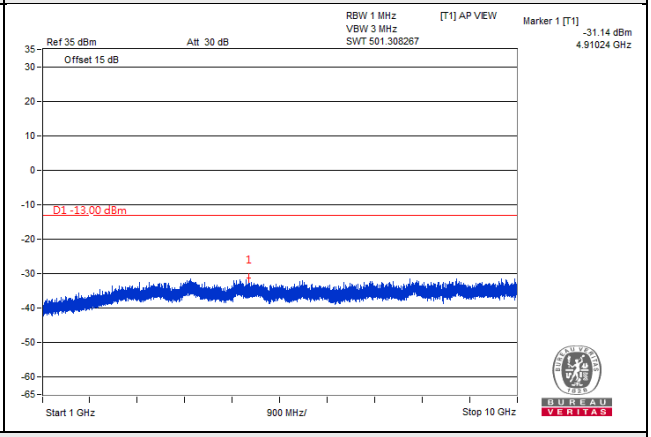
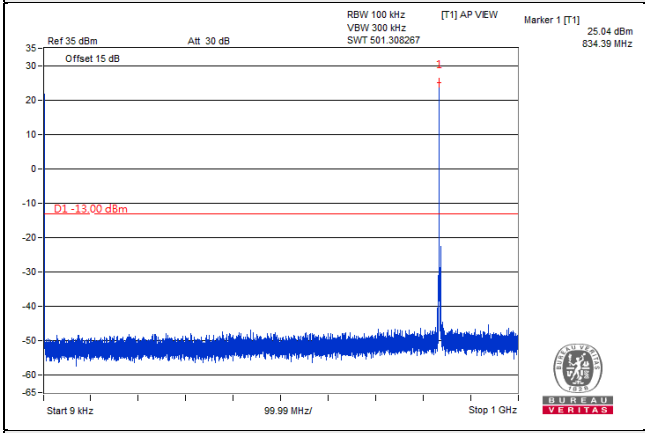
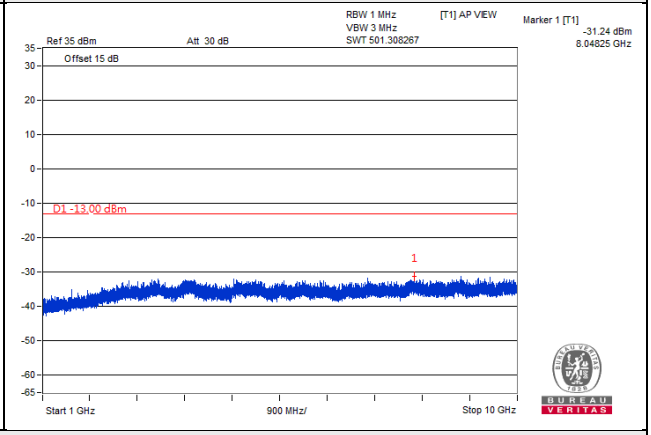
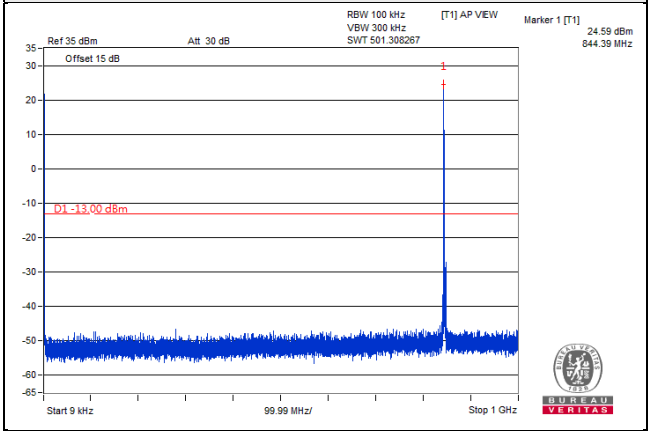
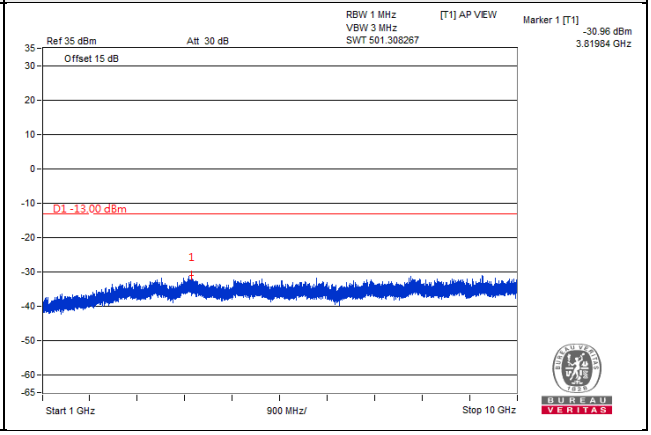
*The 9kHz signal over the limit is from Spectrum.

LTE Band 5, Channel Bandwidth 1.4MHz	
Channel 20407 (824.7MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 20525 (836.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 20643 (848.3MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	

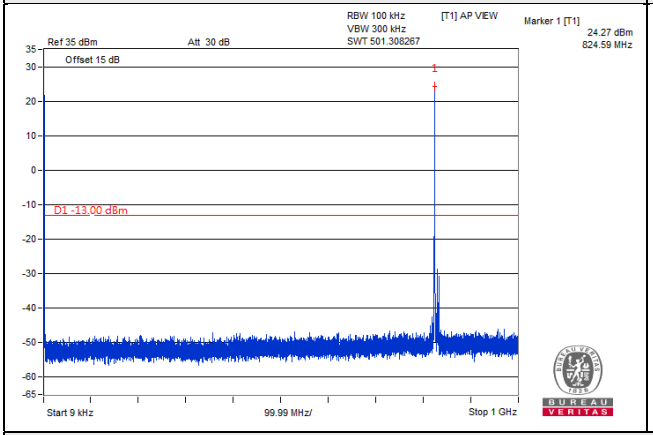
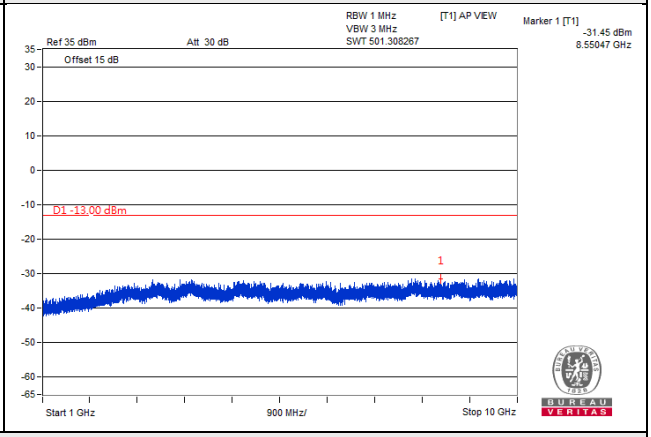
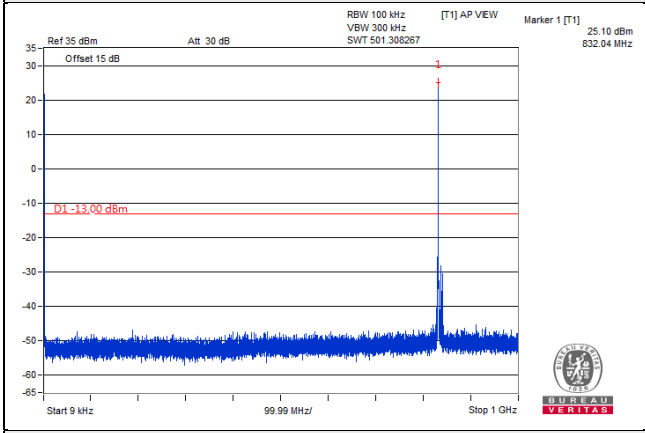
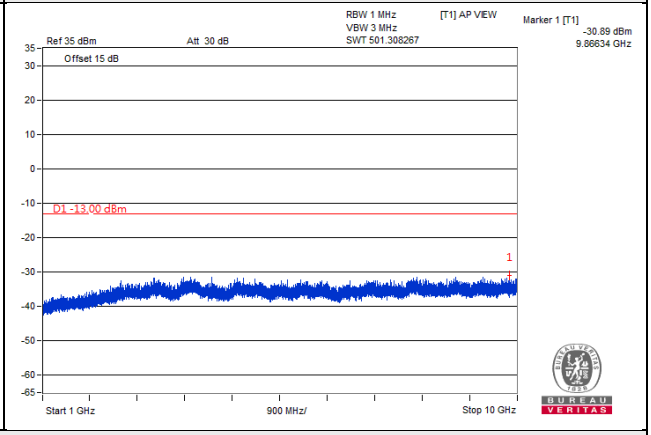
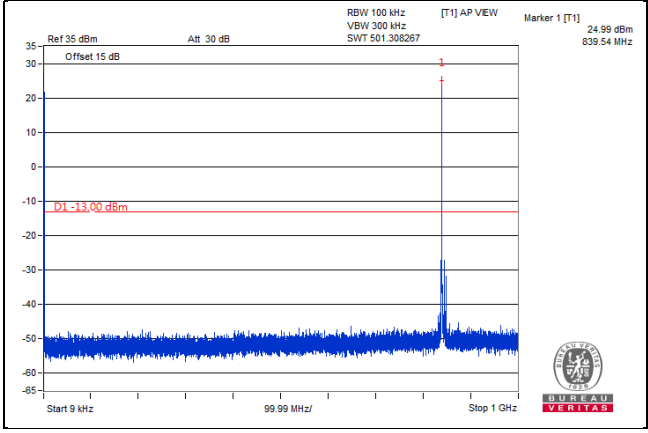
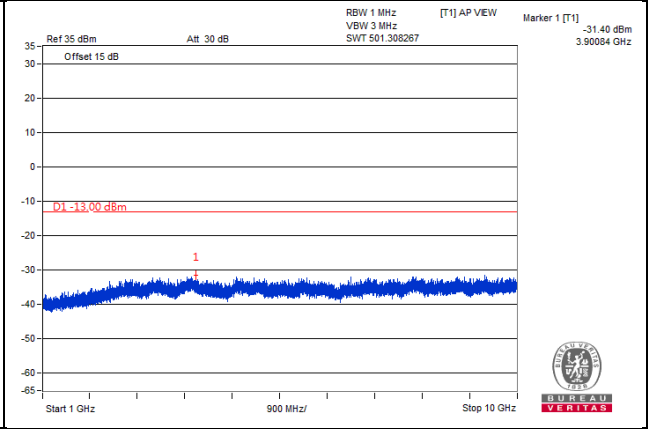
*The 9kHz signal over the limit is from Spectrum.

LTE Band 5, Channel Bandwidth 3MHz	
Channel 20415 (825.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 20525 (836.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 20635 (847.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	

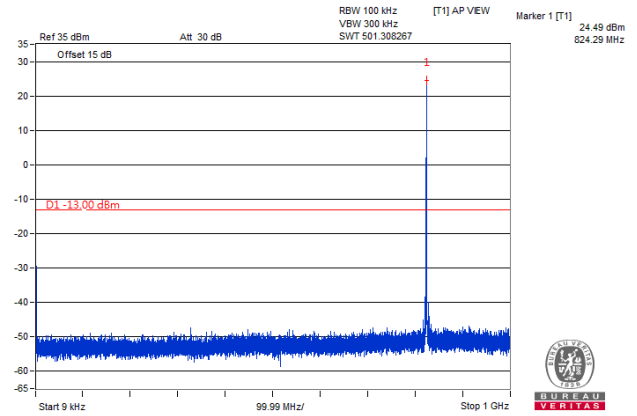
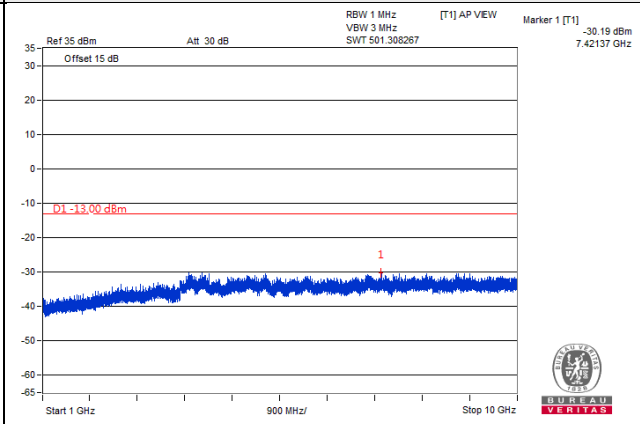
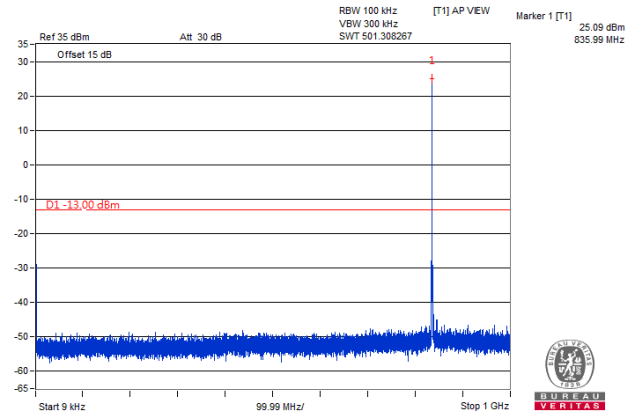
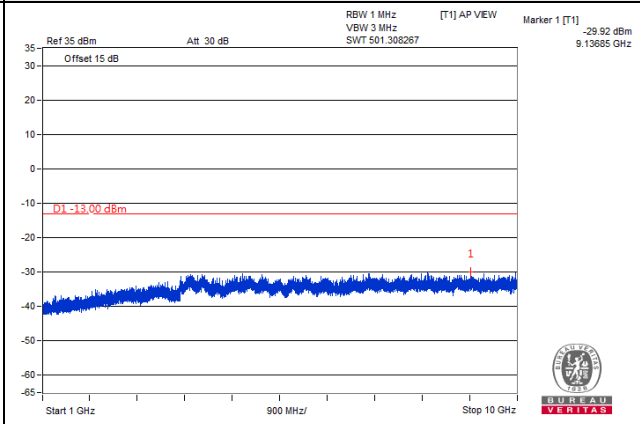
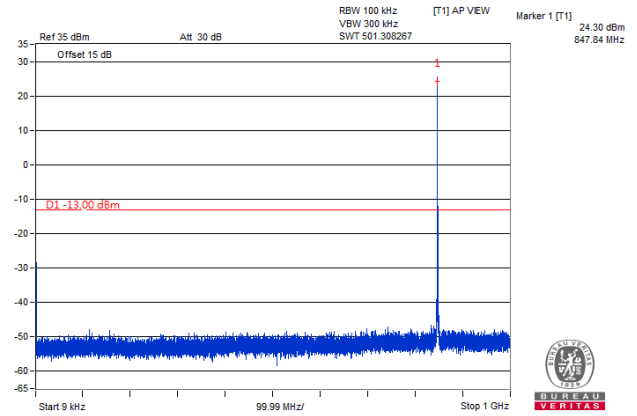
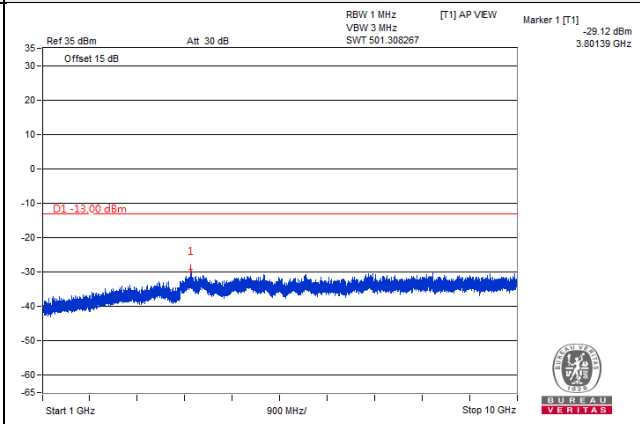
*The 9kHz signal over the limit is from Spectrum.

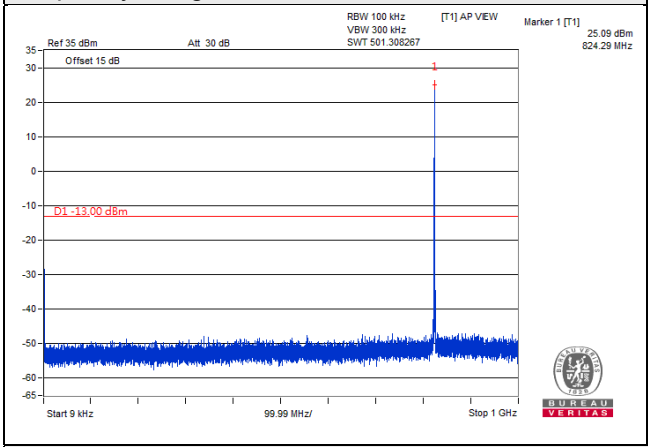
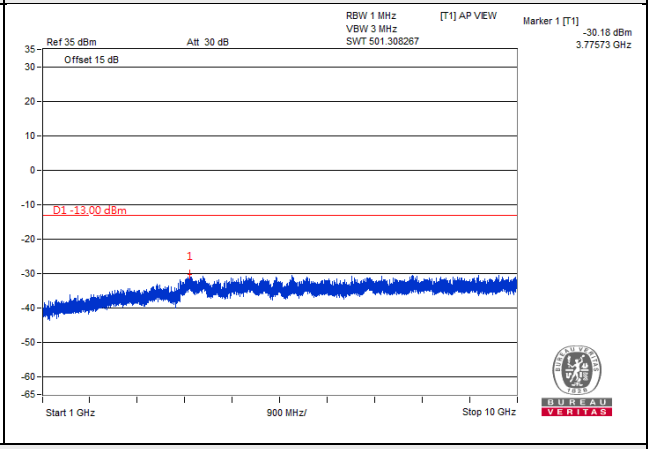
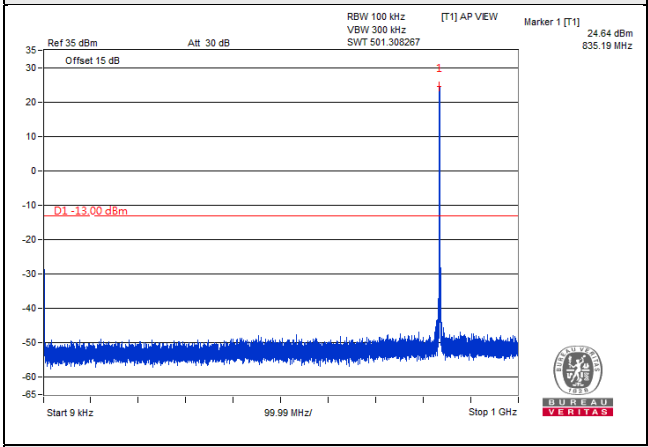
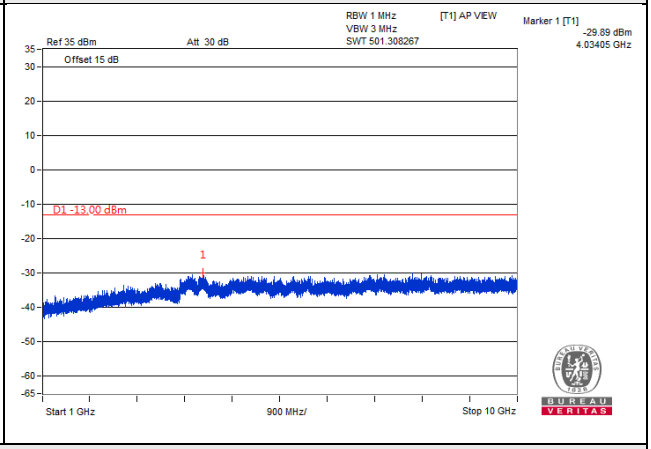
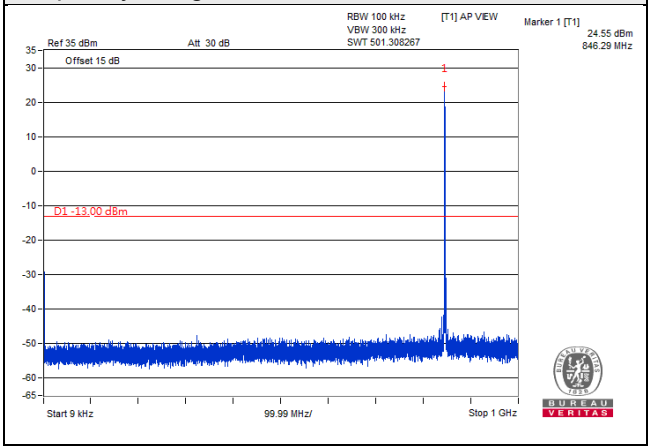
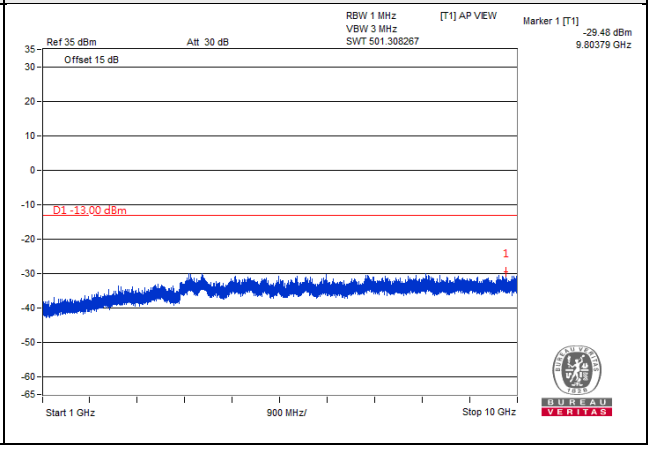
LTE Band 5, Channel Bandwidth 5MHz	
Channel 20425 (826.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 20525 (836.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 20625 (846.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	

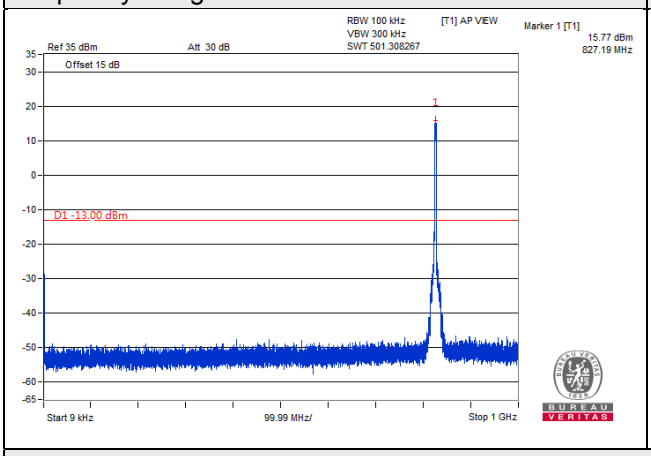
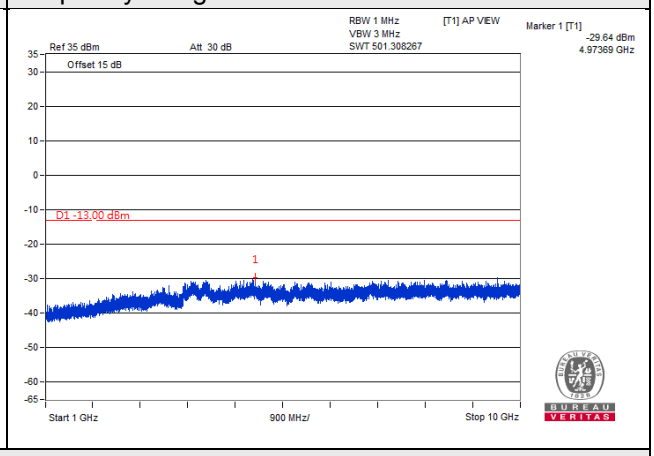
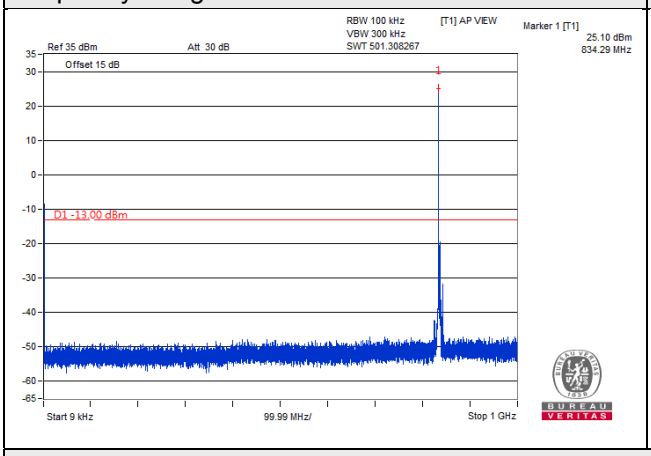
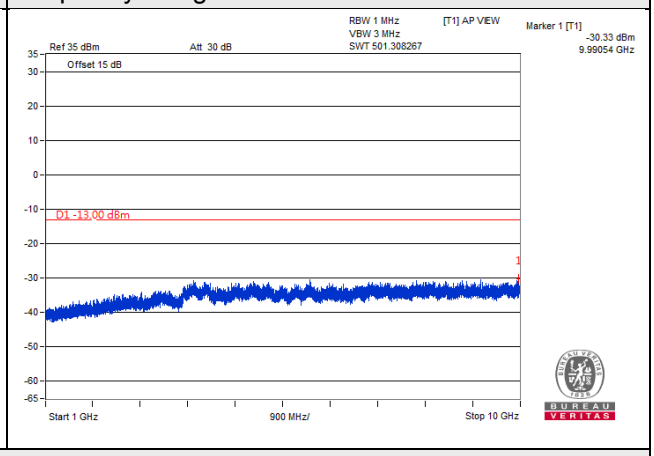
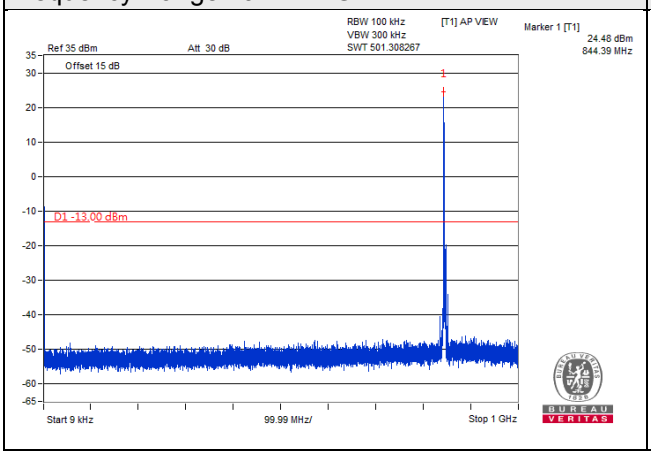
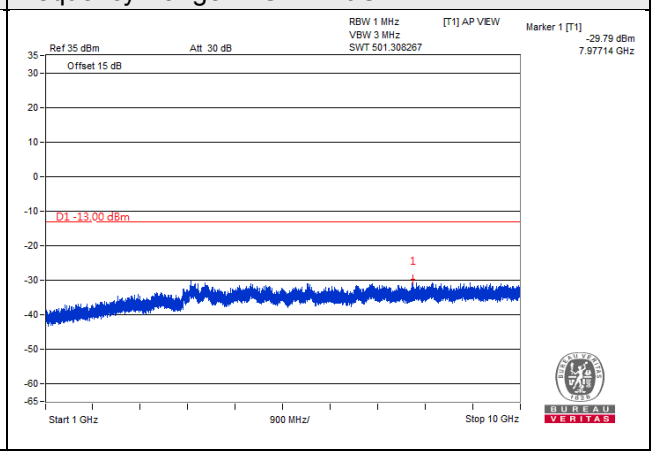
*The 9kHz signal over the limit is from Spectrum.

LTE Band 5, Channel Bandwidth 10MHz	
Channel 20450 (829.0MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 20525 (836.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 20600 (844.0MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	

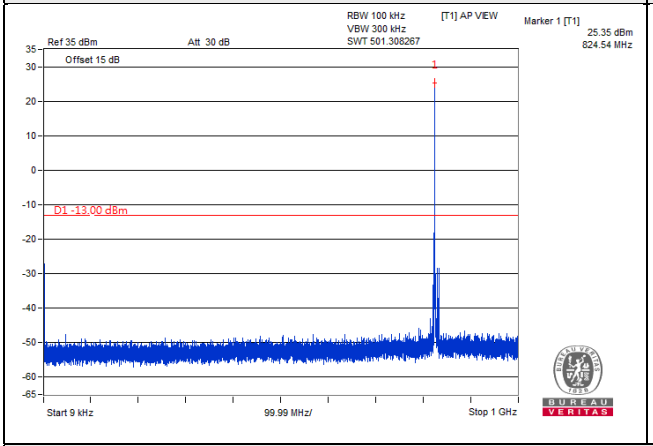
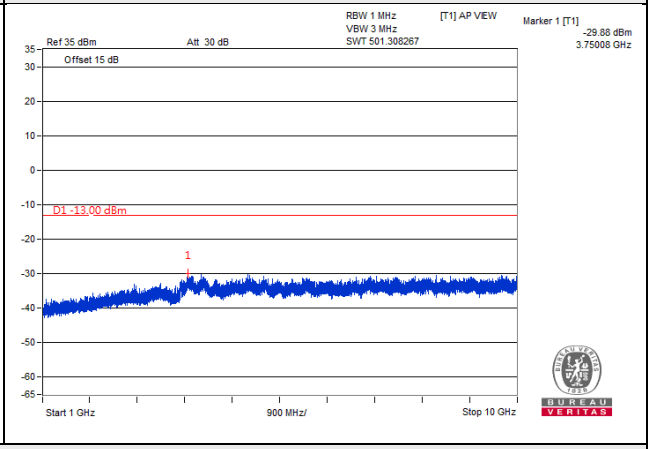
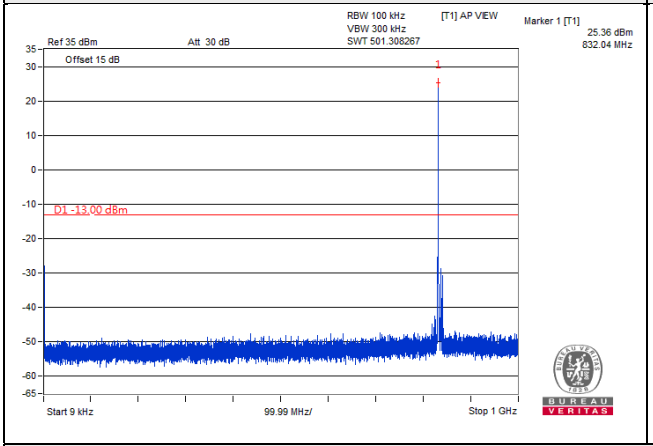
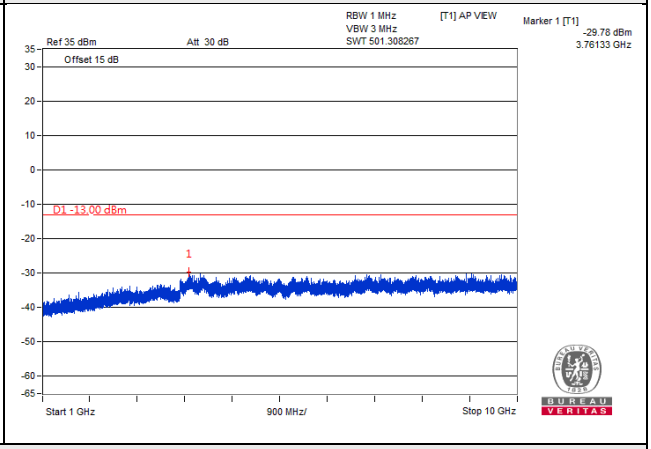
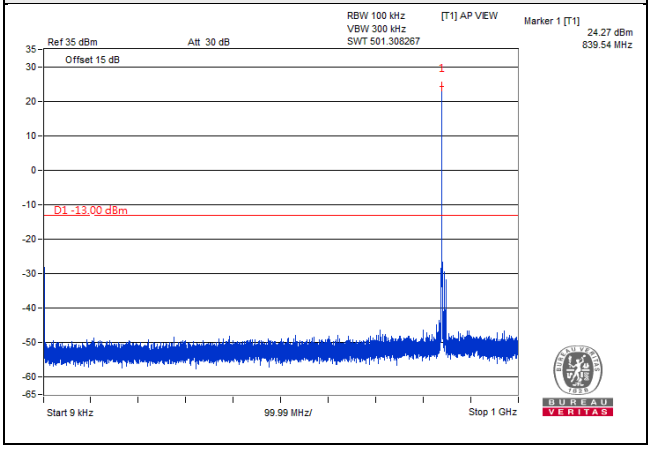
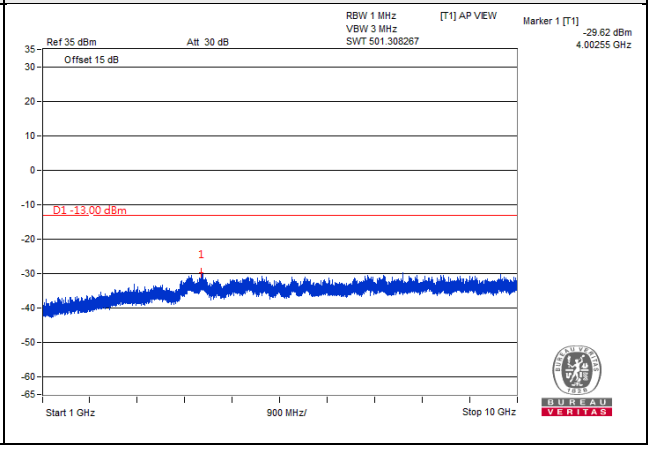
*The 9kHz signal over the limit is from Spectrum.

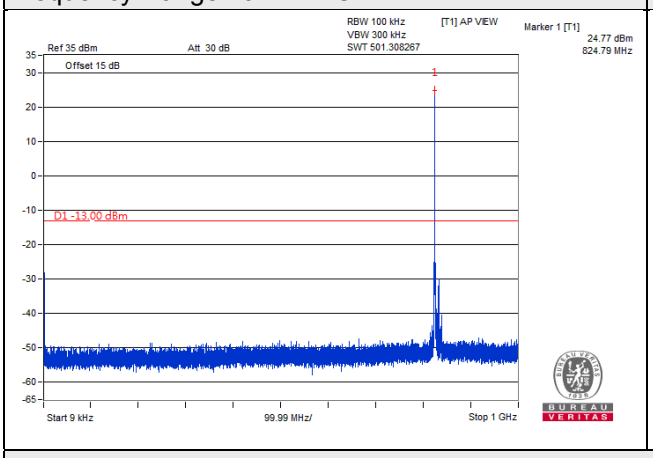
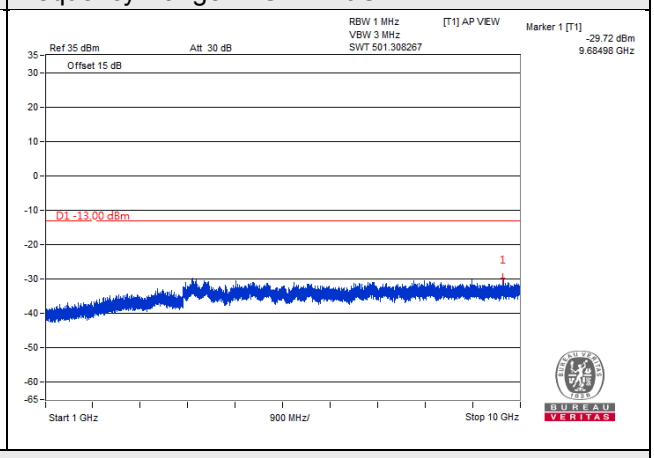
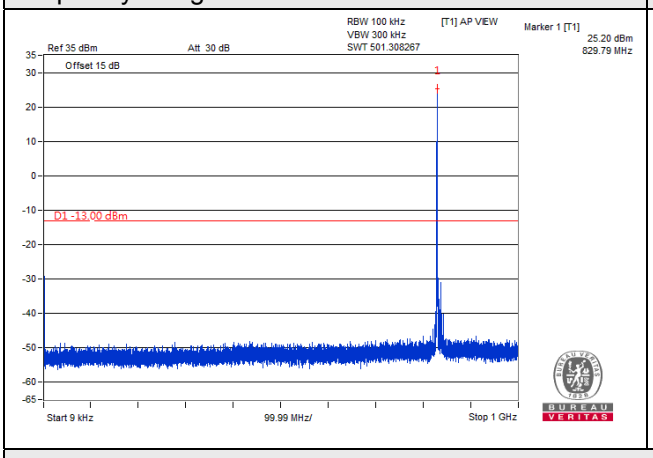
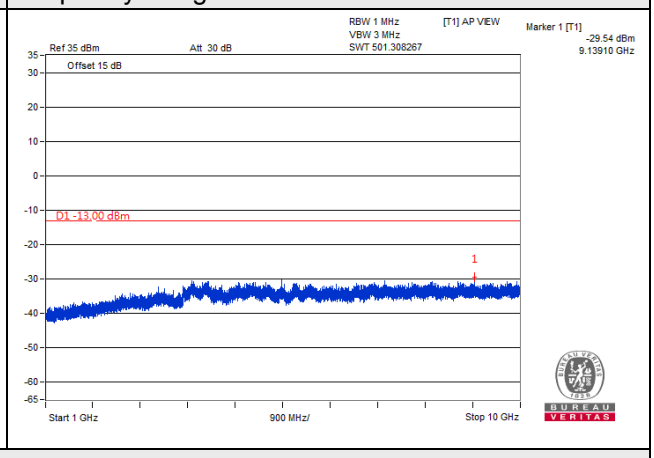
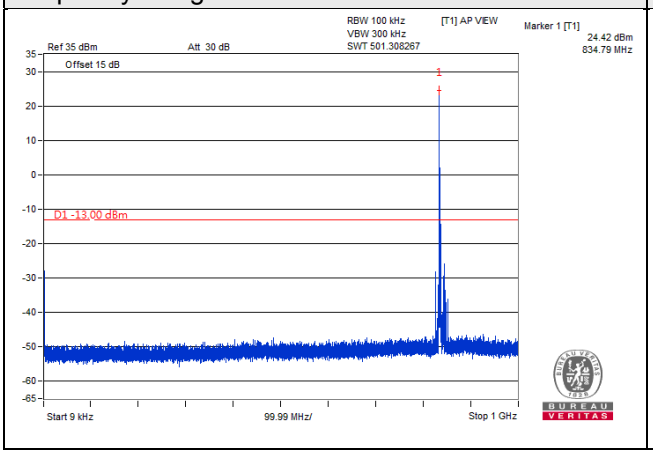
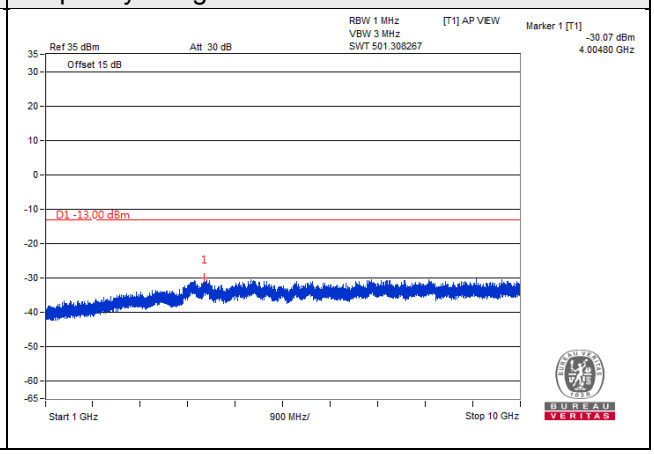
LTE Band 26, Channel Bandwidth 1.4MHz	
Channel 26897 (824.7MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 26915 (836.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 27033 (848.3MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	

LTE Band 26, Channel Bandwidth 3MHz	
Channel 26805 (825.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 26915 (836.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 27025 (847.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	

LTE Band 26, Channel Bandwidth 5MHz	
Channel 26815 (826.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 26915 (836.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 27015 (846.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	

*The 9kHz signal over the limit is from Spectrum.

LTE Band 26, Channel Bandwidth 10MHz	
Channel 26840 (829MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 26915 (836.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 26990 (844MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	

LTE Band 26, Channel Bandwidth 15MHz	
Channel 26865 (831.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 26915 (836.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 26965 (841.5MHz)	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	

4.8 Radiated Emission Measurement

4.8.1 Limits of Radiated Emission Measurement

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. The emission limit equal to –13dBm.

4.8.2 Test Procedure

a. 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.
b. 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 a. Record the power level of S.G
c. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.
d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.R.P power - 2.15dBi.

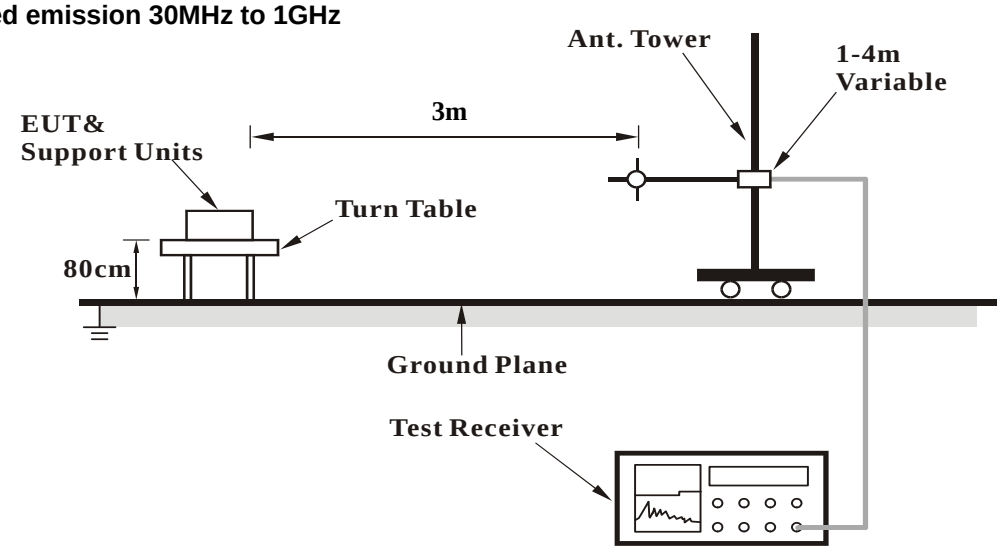
NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

4.8.3 Deviation from Test Standard

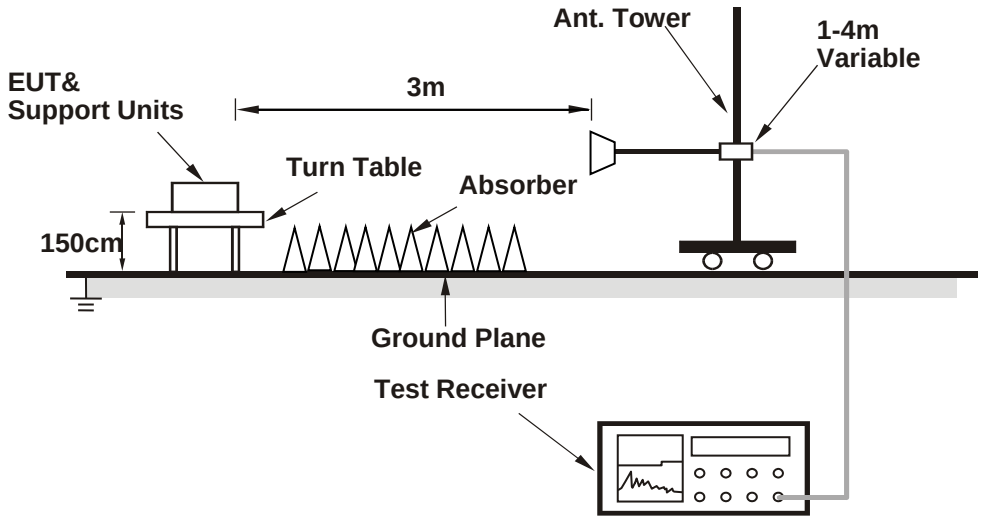
No deviation.

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).

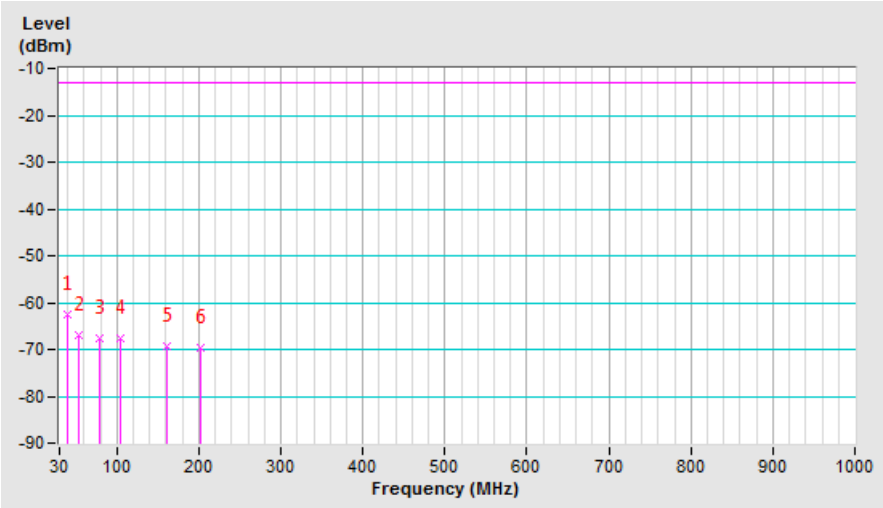
4.8.5 Test Results

Below 1GHz
GSM Mode

Mode	TX channel 128 (824.2MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	39.70	-62.50	-48.70	-13.70	-62.40	-13.00	-49.40
2	53.28	-63.10	-60.80	-6.20	-67.00	-13.00	-54.00
3	78.50	-60.30	-68.20	0.60	-67.60	-13.00	-54.60
4	104.69	-57.20	-65.60	-2.10	-67.70	-13.00	-54.70
5	161.92	-61.80	-66.50	-2.90	-69.40	-13.00	-56.40
6	202.66	-59.40	-67.50	-2.10	-69.60	-13.00	-56.60

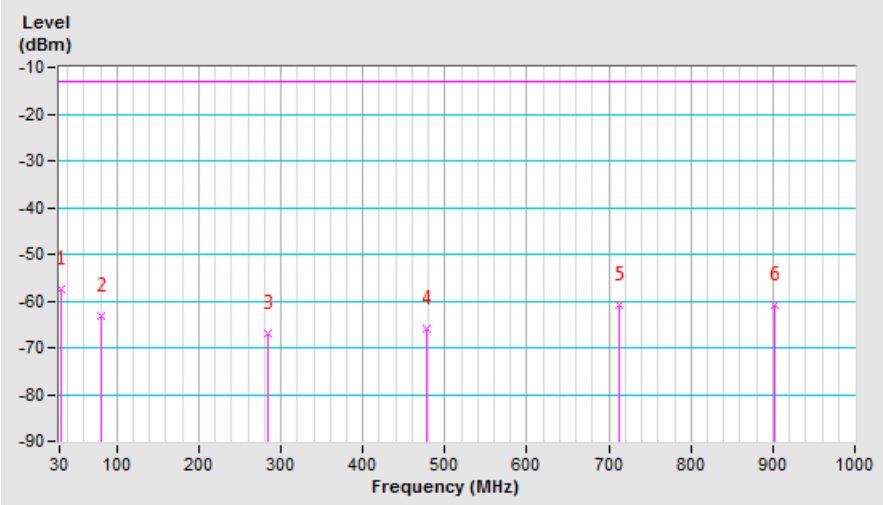
Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



Mode	TX channel 128 (824.2MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	32.91	-46.70	-39.60	-17.70	-57.30	-13.00	-44.30
2	80.44	-58.60	-63.80	0.50	-63.30	-13.00	-50.30
3	284.14	-69.60	-65.50	-1.60	-67.10	-13.00	-54.10
4	478.14	-65.70	-69.60	3.70	-65.90	-13.00	-52.90
5	711.91	-66.80	-64.30	3.50	-60.80	-13.00	-47.80
6	902.03	-69.30	-64.50	3.50	-61.00	-13.00	-48.00

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

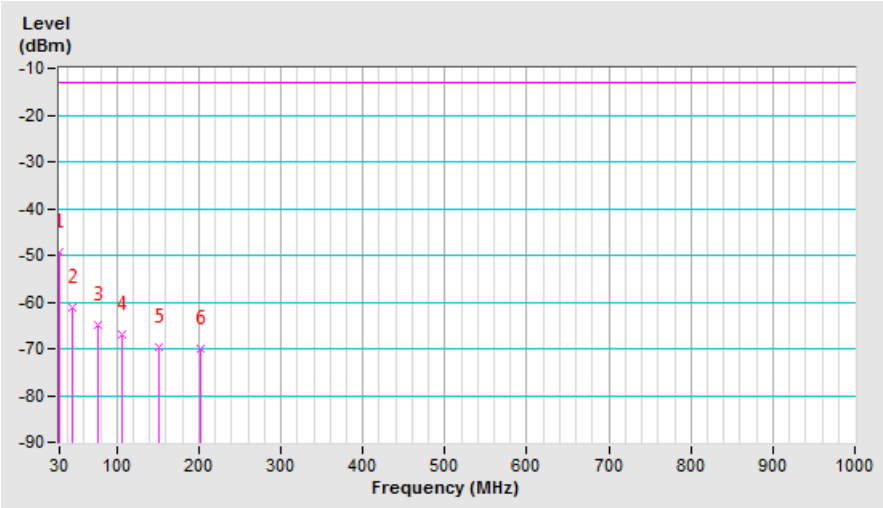


WCDMA Band 5

Mode	TX channel 4132 (826.4MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	30.97	-50.80	-30.40	-18.80	-49.20	-13.00	-36.20
2	45.52	-59.90	-50.90	-10.40	-61.30	-13.00	-48.30
3	77.53	-57.50	-65.40	0.50	-64.90	-13.00	-51.90
4	105.66	-56.80	-64.90	-2.20	-67.10	-13.00	-54.10
5	152.22	-63.40	-66.90	-2.80	-69.70	-13.00	-56.70
6	201.69	-59.70	-67.70	-2.20	-69.90	-13.00	-56.90

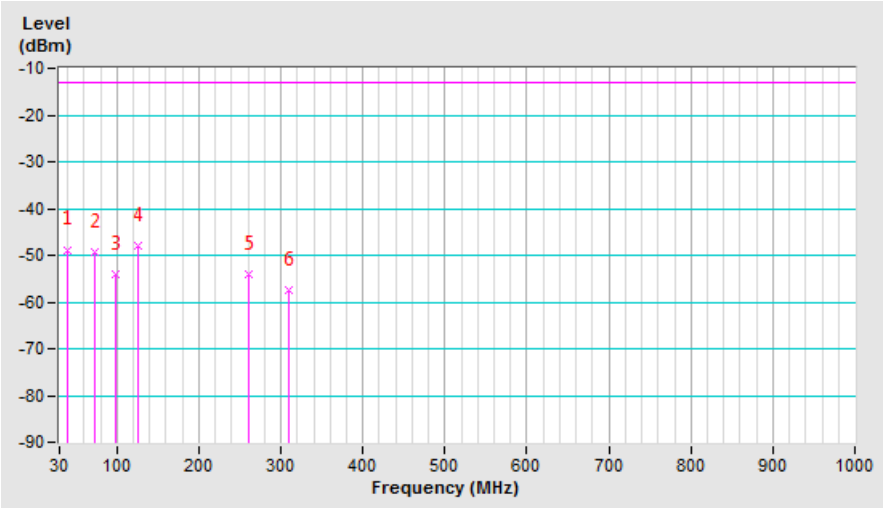
Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



Mode	TX channel 4132 (826.4MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	39.70	-37.00	-35.10	-13.70	-48.80	-13.00	-35.80
2	72.68	-41.30	-49.20	-0.10	-49.30	-13.00	-36.30
3	97.90	-43.90	-52.70	-1.40	-54.10	-13.00	-41.10
4	126.03	-40.00	-44.70	-3.40	-48.10	-13.00	-35.10
5	260.86	-52.90	-52.50	-1.50	-54.00	-13.00	-41.00
6	310.33	-55.00	-61.20	3.90	-57.30	-13.00	-44.30

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

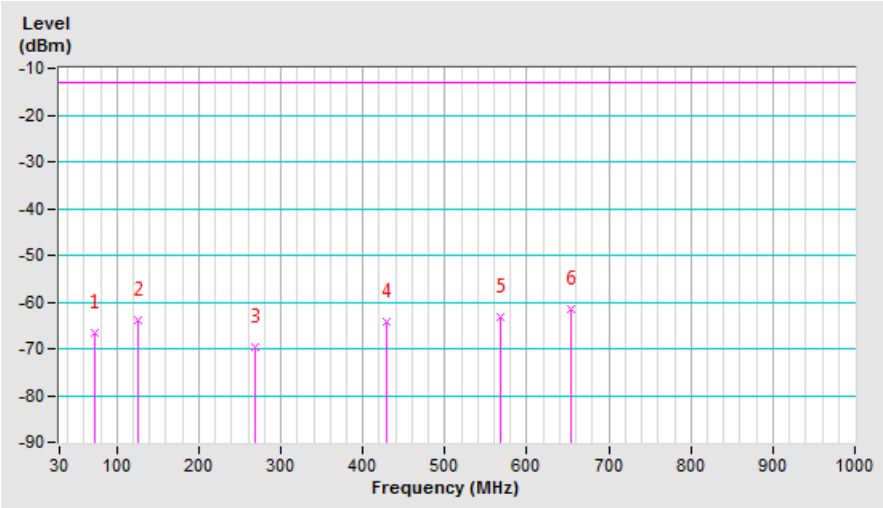


LTE Band 5, Channel Bandwidth: 1.4MHz

Mode	TX channel 20407 (824.7MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	73.65	-59.10	-62.90	-3.80	-66.70	-13.00	-53.70
2	125.06	-54.50	-63.80	0.00	-63.80	-13.00	-50.80
3	268.62	-62.00	-74.90	5.30	-69.60	-13.00	-56.60
4	428.67	-60.50	-69.40	5.20	-64.20	-13.00	-51.20
5	567.38	-60.70	-67.70	4.50	-63.20	-13.00	-50.20
6	653.71	-60.60	-66.30	4.90	-61.40	-13.00	-48.40

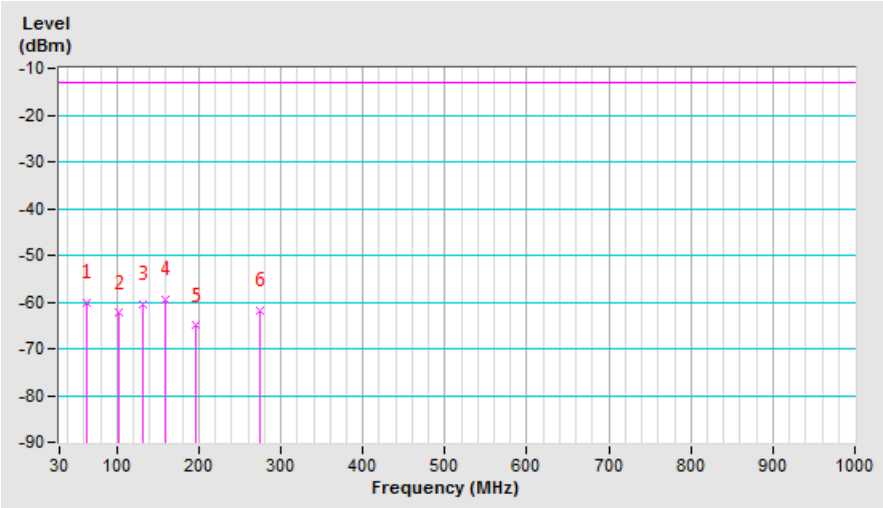
Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



Mode	TX channel 20407 (824.7MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	63.95	-50.90	-53.60	-6.60	-60.20	-13.00	-47.20
2	102.75	-54.50	-63.20	0.80	-62.40	-13.00	-49.40
3	130.88	-53.20	-60.50	-0.10	-60.60	-13.00	-47.60
4	159.98	-56.80	-59.80	0.40	-59.40	-13.00	-46.40
5	195.87	-59.30	-70.10	5.00	-65.10	-13.00	-52.10
6	275.41	-62.10	-67.10	5.30	-61.80	-13.00	-48.80

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

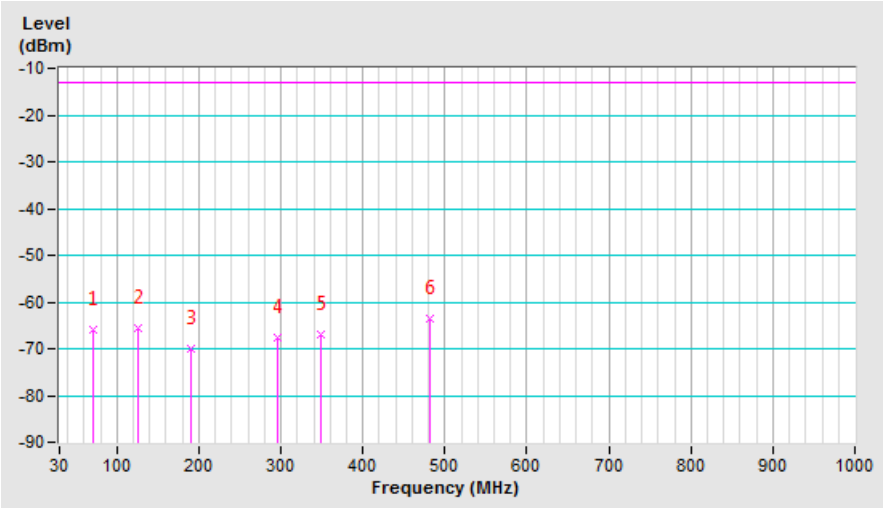


LTE Band 26, Channel Bandwidth 1.4MHz

Mode	TX channel 26797 (824.7MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	70.74	-57.30	-61.10	-4.70	-65.80	-13.00	-52.80
2	126.03	-56.10	-65.70	0.00	-65.70	-13.00	-52.70
3	191.02	-59.00	-74.20	4.30	-69.90	-13.00	-56.90
4	295.78	-61.80	-72.60	5.10	-67.50	-13.00	-54.50
5	349.13	-61.50	-72.10	5.20	-66.90	-13.00	-53.90
6	482.02	-60.20	-68.70	5.00	-63.70	-13.00	-50.70

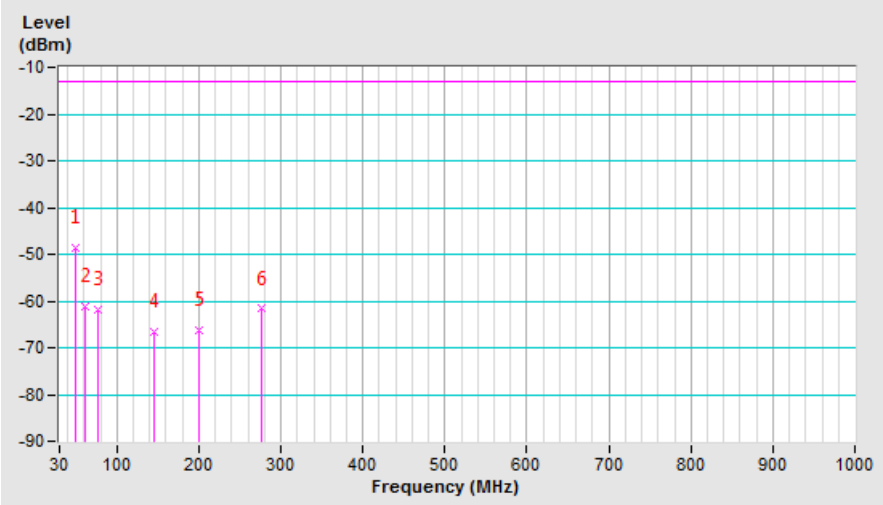
Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



Mode	TX channel 26797 (824.7MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	50.37	-40.00	-39.40	-9.10	-48.50	-13.00	-35.50
2	62.01	-51.50	-54.00	-7.10	-61.10	-13.00	-48.10
3	77.53	-55.50	-59.40	-2.40	-61.80	-13.00	-48.80
4	144.46	-61.60	-66.40	-0.30	-66.70	-13.00	-53.70
5	199.75	-61.20	-71.80	5.50	-66.30	-13.00	-53.30
6	276.38	-61.90	-67.00	5.30	-61.70	-13.00	-48.70

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



Above 1GHz
GSM Mode

Mode	TX channel 128 (824.2MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	1648.40	-59.20	-51.50	0.90	-50.60	-13.00	-37.60
2	2472.60	-42.80	-36.40	0.10	-36.30	-13.00	-23.30
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1648.40	-57.90	-50.50	0.90	-49.60	-13.00	-36.60
2	2472.60	-39.60	-35.60	0.10	-35.50	-13.00	-22.50

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

Mode	TX channel 189 (836.4MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	1672.80	-58.20	-50.60	0.80	-49.80	-13.00	-36.80
2	2509.20	-42.40	-36.10	0.20	-35.90	-13.00	-22.90
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1672.80	-56.40	-49.10	0.80	-48.30	-13.00	-35.30
2	**2509.20**	**-39.00**	**-35.10**	**0.20**	**-34.90**	**-13.00**	**-21.90**

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

Mode	TX channel 251 (848.8MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	1697.60	-59.40	-51.80	0.70	-51.10	-13.00	-38.10
2	2546.40	-42.60	-36.60	0.20	-36.40	-13.00	-23.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1697.60	-57.20	-49.90	0.70	-49.20	-13.00	-36.20
2	2546.40	-40.10	-36.10	0.20	-35.90	-13.00	-22.90

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

WCDMA Band 5

Mode	TX channel 4132 (826.4MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	1652.80	-60.89	-53.15	0.90	-52.25	-13.00	-39.25
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	1652.80	-58.48	-51.19	0.90	-50.29	-13.00	-37.29

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

Mode	TX channel 4182 (836.4MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	1672.80	-59.80	-52.10	0.80	-51.30	-13.00	-38.30
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1672.80	-57.40	-50.10	0.80	-49.30	-13.00	-36.30

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

Mode	TX channel 4233 (846.6MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	1693.20	-60.10	-52.60	0.70	-51.90	-13.00	-38.90
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1693.20	-58.20	-50.90	0.70	-50.20	-13.00	-37.20

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

LTE Band 5, Channel Bandwidth: 1.4MHz

Mode	TX channel 20407 (824.7MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	1649.40	-64.00	-67.30	5.50	-61.80	-13.00	-48.80
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1649.40	-63.60	-64.70	5.50	-59.20	-13.00	-46.20

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

Mode	TX channel 20525 (836.5MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	1673.00	-63.70	-66.70	5.50	-61.20	-13.00	-48.20
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1673.00	-64.00	-64.70	5.50	-59.20	-13.00	-46.20

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

Mode	TX channel 20643 (848.3MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	1696.60	-64.20	-67.10	5.60	-61.50	-13.00	-48.50
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1696.60	-63.50	-64.10	5.60	-58.50	-13.00	-45.50

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

LTE Band 5, Channel Bandwidth: 5MHz

Mode	TX channel 20425 (826.5MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	1653.00	-63.60	-66.90	5.50	-61.40	-13.00	-48.40
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1653.00	-63.20	-64.30	5.50	-58.80	-13.00	-45.80

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

Mode	TX channel 20525 (836.5MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	1673.00	-64.50	-67.50	5.50	-62.00	-13.00	-49.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1673.00	-62.50	-63.30	5.50	-57.80	-13.00	-44.80

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

Mode	TX channel 20625 (846.5MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	1693.00	-64.00	-66.80	5.60	-61.20	-13.00	-48.20
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1693.00	-63.20	-63.80	5.60	-58.20	-13.00	-45.20

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

LTE Band 5, Channel Bandwidth: 10MHz

Mode	TX channel 20450 (829.0MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	1658.00	-63.90	-67.00	5.50	-61.50	-13.00	-48.50
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1658.00	-62.80	-63.70	5.50	-58.20	-13.00	-45.20

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

Mode	TX channel 20525 (836.5MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	1673.00	-64.20	-67.30	5.50	-61.80	-13.00	-48.80
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1673.00	-63.20	-64.00	5.50	-58.50	-13.00	-45.50

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

Mode	TX channel 20600 (844.0MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	1688.00	-63.80	-66.60	5.50	-61.10	-13.00	-48.10
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1688.00	-62.80	-63.30	5.50	-57.80	-13.00	-44.80

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

LTE Band 26, Channel Bandwidth 1.4MHz

Mode	TX channel 26797 (824.7MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	1649.40	-64.00	-67.30	5.50	-61.80	-13.00	-48.80
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1649.40	-63.80	-64.90	5.50	-59.40	-13.00	-46.40

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

Mode	TX channel 26915 (836.5MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	1673.00	-64.20	-67.30	5.50	-61.80	-13.00	-48.80
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1673.00	-64.20	-65.00	5.50	-59.50	-13.00	-46.50

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

Mode	TX channel 27033 (848.3MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	1696.60	-64.50	-67.40	5.60	-61.80	-13.00	-48.80
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1696.60	-63.20	-63.80	5.60	-58.20	-13.00	-45.20

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

LTE Band 26, Channel Bandwidth 5MHz

Mode	TX channel 26815 (826.5MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	1653.00	-63.90	-67.10	5.50	-61.60	-13.00	-48.60
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1653.00	-64.00	-65.00	5.50	-59.50	-13.00	-46.50

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

Mode	TX channel 26915 (836.5MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	1673.00	-63.70	-66.70	5.50	-61.20	-13.00	-48.20
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1673.00	-64.20	-65.00	5.50	-59.50	-13.00	-46.50

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

Mode	TX channel 27015 (846.5MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	1693.00	-64.00	-66.80	5.60	-61.20	-13.00	-48.20
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1693.00	-64.50	-65.10	5.60	-59.50	-13.00	-46.50

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

LTE Band 26, Channel Bandwidth 15MHz

Mode	TX channel 26865 (831.5MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	1663.00	-64.20	-67.50	5.60	-61.90	-13.00	-48.90
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1663.00	-63.80	-64.80	5.60	-59.20	-13.00	-46.20

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

Mode	TX channel 26915 (836.5MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	1673.00	-64.50	-67.50	5.50	-62.00	-13.00	-49.00
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1673.00	-63.50	-64.30	5.50	-58.80	-13.00	-45.80

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

Mode	TX channel 26965 (841.5MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	25deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Noah Chang		

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	1683.00	-63.80	-66.60	5.50	-61.10	-13.00	-48.10
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1683.00	-63.80	-64.40	5.50	-58.90	-13.00	-45.90

Remarks:
1. ERP (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 of 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:

Lin Kou 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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