FCC Test Report

(PART 22)

Report No.: RF150504C40-3

FCC ID: T5UAQT80

Test Model: AQT80

Received Date: May 04, 2015

Test Date: May 08 ~ Jun. 26, 2015

Issued Date: Aug. 26, 2015

Applicant: Quanta Microsystems, Inc.

Address: 188 Wenhwa 2nd Rd., Guishan Dist., Tao Yuan City, Taiwan, 33377

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

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

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

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Release Control Record

Issue No.	Description	Date Issued
RF150504C40-3	Original release.	Aug. 26, 2015

1 Certificate of Conformity

Product: LTE Tablet PC

Brand: Sprint

Test Model: AQT80

Sample Status: Engineering sample

Applicant: Quanta Microsystems, Inc.

Test Date: May 08 ~ Jun. 26, 2015

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 EMC characteristics under the conditions specified in this report.

Prepared by : _____ , **Date:** Aug. 26, 2015

Polly Chien / Specialist

Approved by : _____ , **Date:** Aug. 26, 2015

Jeremy Lin / 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.
---	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 -16.76dB at 2509.50MHz.

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	Expended Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.44 dB
Radiated Emissions up to 1 GHz	30MHz ~ 200MHz	3.59 dB
	200MHz ~1000MHz	3.60 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Test Site And Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCS30	100289	Dec. 01, 2014	Nov. 30, 2015
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Mar. 30, 2015	Mar. 29, 2016
BILOG Antenna SCHWARZBECK	VULB9168	9168-156	Feb. 06, 2015	Feb. 05, 2016
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-1169	Feb. 09, 2015	Feb. 08, 2016
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Feb. 09, 2015	Feb. 08, 2016
Preamplifier Agilent	8449B	3008A01911	Aug. 09, 2014	Aug. 08, 2015
Preamplifier Agilent	8447D	2944A10638	Aug. 09, 2014	Aug. 08, 2015
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	248780/4 309222/4 274092/4	Aug. 09, 2014	Aug. 08, 2015
RF signal cable Worken	8D-FB	Cable-CH9-01	Aug. 11, 2014	Aug. 10, 2015
Software BV ADT	ADT_Radiated_ V7.6.15.9.4	NA	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA	NA
Turn Table EMCO	2087-2.03	NA	NA	NA
Antenna Tower &Turn BV ADT	AT100	AT93021705	NA	NA
Turn Table BV ADT	TT100	TT93021705	NA	NA
Turn Table Controller BV ADT	SC100	SC93021705	NA	NA
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 08, 2014	Jun. 07, 2015
			Jun. 08, 2015	Jun. 07, 2016
Mini-Circuits Power Splitter	ZN2PD-9G	NA	Jun. 09, 2014	Jun. 08, 2015
			Jun. 09, 2015	Jun. 08, 2016
JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA

Note:
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 9.
3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 215374.
5. The IC Site Registration No. is IC 7450F-9.

3 General Information

3.1 General Description of EUT

Product	LTE Tablet PC	
Brand	Sprint	
Test Model	AQT80	
Status of EUT	Engineering sample	
Power Supply Rating	5Vdc (adapter) 3.8Vdc (battery)	
Modulation Type	QPSK, 16QAM	
Operating Frequency	LTE Band 5 (Channel Bandwidth 1.4MHz)	824.7MHz ~ 848.30MHz
	LTE Band 5 (Channel Bandwidth 3MHz)	825.5MHz ~ 847.5MHz
	LTE Band 5 (Channel Bandwidth 5MHz)	826.5MHz ~ 846.5MHz
	LTE Band 5 (Channel Bandwidth 10MHz)	829MHz ~ 844MHz
	LTE Band 26 (Channel Bandwidth 1.4MHz)	824.7MHz ~ 848.3MHz
	LTE Band 26 (Channel Bandwidth 3MHz)	825.5MHz ~ 847.5MHz
	LTE Band 26 (Channel Bandwidth 5MHz)	826.5MHz ~846.5MHz
	LTE Band 26 (Channel Bandwidth 10MHz)	829MHz ~ 844MHz
	LTE Band 26 (Channel Bandwidth 15MHz)	831.5MHz ~ 841.5MHz
Max. EIRP Power	LTE Band 5 (Channel Bandwidth 1.4MHz)	269.153mW (24.30dBm)
	LTE Band 5 (Channel Bandwidth 3MHz)	269.153mW (24.30dBm)
	LTE Band 5 (Channel Bandwidth 5MHz)	257.040mW (24.10dBm)
	LTE Band 5 (Channel Bandwidth 10MHz)	251.189mW (24.00dBm)
	LTE Band 26 (Channel Bandwidth 1.4MHz)	218.776mW (23.40dBm)
	LTE Band 26 (Channel Bandwidth 3MHz)	149.624mW (21.75dBm)
	LTE Band 26 (Channel Bandwidth 5MHz)	161.436mW (22.08dBm)
	LTE Band 26 (Channel Bandwidth 10MHz)	165.577mW (22.19dBm)
	LTE Band 26 (Channel Bandwidth 15MHz)	229.615mW (23.61dBm)

Antenna Type	LTE Band 5	Main Ant.: LDS antenna with 0.04dBi gain Aux Ant.: LDS antenna with -3.92dBi gain
	LTE Band 26	Main Ant.:LDS antenna with 0.04dBi gain Aux Ant.: LDS antenna with -3.92dBi gain
Antenna Connector	U.FL	
Accessory Device	Adapter, Battery	
Data Cable Supplied	0.9m shielded USB Cable	

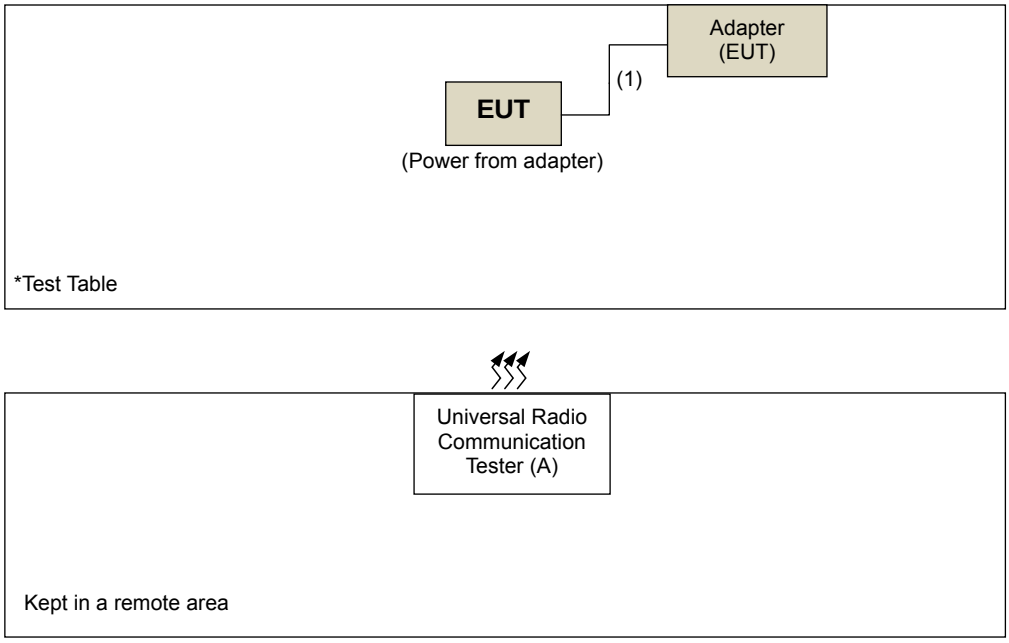
Note:

1. The EUT uses following adapter and battery.

Adapter	
Brand	TPT
Model	NSS050200B
Input Power	100-240Vac, 50-60Hz, 0.3A
Output Power	5Vdc, 2A

Battery	
Brand	Ningbo Veken Battery
Model	NKS
Rating	3.8Vdc, 4450mAh, 16.91Wh

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.	Universal Radio Communication Tester	Anritsu	MT8820C	6201010284	NA	-

Note:

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

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	USB cable	1	0.9	Y	0	Accessory of EUT

3.3 Test Mode Applicability and Tested Channel Detail

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

LTE Band 5

Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
EIRP	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK	1 RB / 0 RB Offset
	20415 to 20635	20415, 20525, 20635	3MHz	QPSK	1 RB / 0 RB Offset
	20425 to 20625	20425, 20525, 20625	5MHz	QPSK	1 RB / 0 RB Offset
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK	1 RB / 0 RB Offset
Frequency Stability	20407 to 20643	20525	1.4MHz	QPSK	1 RB / 0 RB Offset
	20415 to 20635	20525	3MHz	QPSK	1 RB / 0 RB Offset
	20425 to 20625	20525	5MHz	QPSK	1 RB / 0 RB Offset
	20450 to 20600	20525	10MHz	QPSK	1 RB / 0 RB Offset
Occupied Bandwidth	20407 to 20643	18607, 18900, 19193	1.4MHz	QPSK / 16QAM	1 RB / 0 RB Offset
	20415 to 20635	18615, 18900, 19185	3MHz	QPSK / 16QAM	1 RB / 0 RB Offset
	20425 to 20625	18625, 18900, 19175	5MHz	QPSK / 16QAM	1 RB / 0 RB Offset
	20450 to 20600	18650, 18900, 19150	10MHz	QPSK / 16QAM	1 RB / 0 RB Offset
Band Edge	20407 to 20643	20407, 20643	1.4MHz	QPSK	1 RB / 0 RB Offset
					6 RB / 0 RB Offset
	20415 to 20635	20415, 20635	3MHz	QPSK	1 RB / 0 RB Offset
					15 RB / 0 RB Offset
	20425 to 20625	20425, 20625	5MHz	QPSK	1 RB / 0 RB Offset
					25 RB / 0 RB Offset
	20450 to 20600	20450, 20600	10MHz	QPSK	1 RB / 0 RB Offset
					50 RB / 0 RB Offset
Peak to Average Ratio	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK / 16QAM	1 RB / 0 RB Offset
	20415 to 20635	20415, 20525, 20635	3MHz	QPSK / 16QAM	1 RB / 0 RB Offset
	20425 to 20625	20425, 20525, 20625	5MHz	QPSK / 16QAM	1 RB / 0 RB Offset
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK / 16QAM	1 RB / 0 RB Offset
Condcudeted Emission	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK	1 RB / 0 RB Offset
	20415 to 20635	20415, 20525, 20635	3MHz	QPSK	1 RB / 0 RB Offset
	20425 to 20625	20425, 20525, 20625	5MHz	QPSK	1 RB / 0 RB Offset
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK	1 RB / 0 RB Offset
Radiated Emission Below 1GHz	20407 to 20643	20407	1.4MHz	QPSK	1 RB / 0 RB Offset
	20415 to 20635	20415	3MHz	QPSK	1 RB / 0 RB Offset
	20425 to 20625	20525	5MHz	QPSK	1 RB / 0 RB Offset
	20450 to 20600	20450	10MHz	QPSK	1 RB / 0 RB Offset
Radiated Emission Above 1GHz	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK	1 RB / 0 RB Offset
	20415 to 20635	20415, 20525, 20635	3MHz	QPSK	1 RB / 0 RB Offset
	20425 to 20625	20425, 20525, 20625	5MHz	QPSK	1 RB / 0 RB Offset
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK	1 RB / 0 RB Offset

Test Condition:

Test Item	Environmental Conditions	Input Power	Tested By
EIRP	25deg. C, 65%RH	120Vac, 60Hz	Ted Chang
Frequency Stability	24deg. C, 64%RH	3.8Vdc	Match Tsui
Occupied Bandwidth	24deg. C, 64%RH	3.8Vdc	Match Tsui
Band Edge	24deg. C, 64%RH	3.8Vdc	Match Tsui
Peak To Average Ratio	24deg. C, 64%RH	3.8Vdc	Match Tsui
Conducted Emission	24deg. C, 64%RH	3.8Vdc	Match Tsui
Radiated Emission	25deg. C, 65%RH	120Vac, 60Hz	Tank Wu,Ted Chang
	27deg. C, 62%RH	120Vac, 60Hz	Tank Wu
	18deg. C, 70%RH	120Vac, 60Hz	Nick Hsu

LTE Band 26

Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
EIRP	26797 to 27033	26797, 26915, 27033	1.4MHz	QPSK	1 RB / 0 RB Offset
	26805 to 27025	26805, 26915, 27025	3MHz	QPSK	1 RB / 0 RB Offset
	26815 to 27015	26815, 26915, 27015	5MHz	QPSK	1 RB / 0 RB Offset
	26840 to 26990	26840, 26915, 26990	10MHz	QPSK	1 RB / 0 RB Offset
	26865 to 26965	26865, 26965	15MHz	QPSK	1 RB / 0 RB Offset
Frequency Stability	26797 to 27033	26915	1.4MHz	QPSK	1 RB / 0 RB Offset
	26805 to 27025	26915	3MHz	QPSK	1 RB / 0 RB Offset
	26815 to 27015	26915	5MHz	QPSK	1 RB / 0 RB Offset
	26840 to 26990	26915	10MHz	QPSK	1 RB / 0 RB Offset
	26865 to 26965	26865	15MHz	QPSK	1 RB / 0 RB Offset
Occupied Bandwidth	26797 to 27033	26797, 26915, 27033	1.4MHz	QPSK/16QAM	7 RB / 0 RB Offset
	26805 to 27025	26805, 26915, 27025	3MHz	QPSK/16QAM	15 RB / 0 RB Offset
	26815 to 27015	26815, 26915, 27015	5MHz	QPSK/16QAM	25 RB / 0 RB Offset
	26840 to 26990	26840, 26915, 26990	10MHz	QPSK/16QAM	50 RB / 0 RB Offset
	26865 to 26965	26865, 26965	15MHz	QPSK / 16QAM	1 RB / 0 RB Offset
Band Edge	26797 to 27033	26797, 27033	1.4MHz	QPSK	1 RB / 0 RB Offset
					6 RB / 0 RB Offset
	26805 to 27025	26805, 27025	3MHz	QPSK	1 RB / 0 RB Offset
					15 RB / 0 RB Offset
	26815 to 27015	26815, 27015	5MHz	QPSK	1 RB / 0 RB Offset
					25 RB / 0 RB Offset
	26840 to 26990	26840, 26990	10MHz	QPSK	1 RB / 0 RB Offset
					50 RB / 0 RB Offset
	26865 to 26965	26865, 26965	15MHz	QPSK	1 RB / 0 RB Offset
					75 RB / 0 RB Offset
Peak to Average Ratio	26797 to 27033	26797, 26915, 27033	1.4MHz	QPSK / 16QAM	1 RB / 0 RB Offset
	26805 to 27025	26805, 26915, 27025	3MHz	QPSK / 16QAM	1 RB / 0 RB Offset
	26815 to 27015	26815, 26915, 27015	5MHz	QPSK / 16QAM	1 RB / 0 RB Offset
	26840 to 26990	26840, 26915, 26990	10MHz	QPSK / 16QAM	1 RB / 0 RB Offset
	26865 to 26965	26865, 26965	15MHz	QPSK / 16QAM	1 RB / 0 RB Offset
Condcudeted Emission	26797 to 27033	26797, 26915, 27033	1.4MHz	QPSK	1 RB / 0 RB Offset
	26805 to 27025	26805, 26915, 27025	3MHz	QPSK	1 RB / 0 RB Offset
	26815 to 27015	26815, 26915, 27015	5MHz	QPSK	1 RB / 0 RB Offset
	26840 to 26990	26840, 26915, 26990	10MHz	QPSK	1 RB / 0 RB Offset
	26865 to 26965	26865, 26965	15MHz	QPSK	1 RB / 0 RB Offset

Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
Radiated Emission Below 1GHz	26797 to 27033	26915	1.4MHz	QPSK	1 RB / 0 RB Offset
	26805 to 27025	26915	3MHz	QPSK	1 RB / 0 RB Offset
	26815 to 27015	26915	5MHz	QPSK	1 RB / 0 RB Offset
	26840 to 26990	26915	10MHz	QPSK	1 RB / 0 RB Offset
	26865 to 26965	26965	15MHz	QPSK	1 RB / 0 RB Offset
Radiated Emission Above 1GHz	26797 to 27033	26797, 26915, 27033	1.4MHz	QPSK	1 RB / 0 RB Offset
	26805 to 27025	26805, 26915, 27025	3MHz	QPSK	1 RB / 0 RB Offset
	26815 to 27015	26815, 26915, 27015	5MHz	QPSK	1 RB / 0 RB Offset
	26840 to 26990	26840, 26915, 26990	10MHz	QPSK	1 RB / 0 RB Offset
	26865 to 26965	26865, 26965	15MHz	QPSK	1 RB / 0 RB Offset

Test Condition:

Test Item	Environmental Conditions	Input Power	Tested By
EIRP	16deg. C, 70%RH	120Vac, 60Hz	Frank Liu
Frequency Stability	24deg. C, 64%RH	3.8Vdc	Match Tsui
Occupied Bandwidth	24deg. C, 64%RH	3.8Vdc	Match Tsui
Band Edge	24deg. C, 64%RH	3.8Vdc	Match Tsui
Peak To Average Ratio	24deg. C, 64%RH	3.8Vdc	Match Tsui
Conducted Emission	24deg. C, 64%RH	3.8Vdc	Match Tsui
Radiated Emission	25deg. C, 65%RH	120Vac, 60Hz	Tank Wu,Ted Chang
	18deg. C, 70%RH	120Vac, 60Hz	Nick Hsu

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 v02r02

ANSI/TIA/EIA-603-C 2004

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

Note: The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

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 GPRS and 5MHz for WCDMA mode.

b. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.

c. The substitution 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

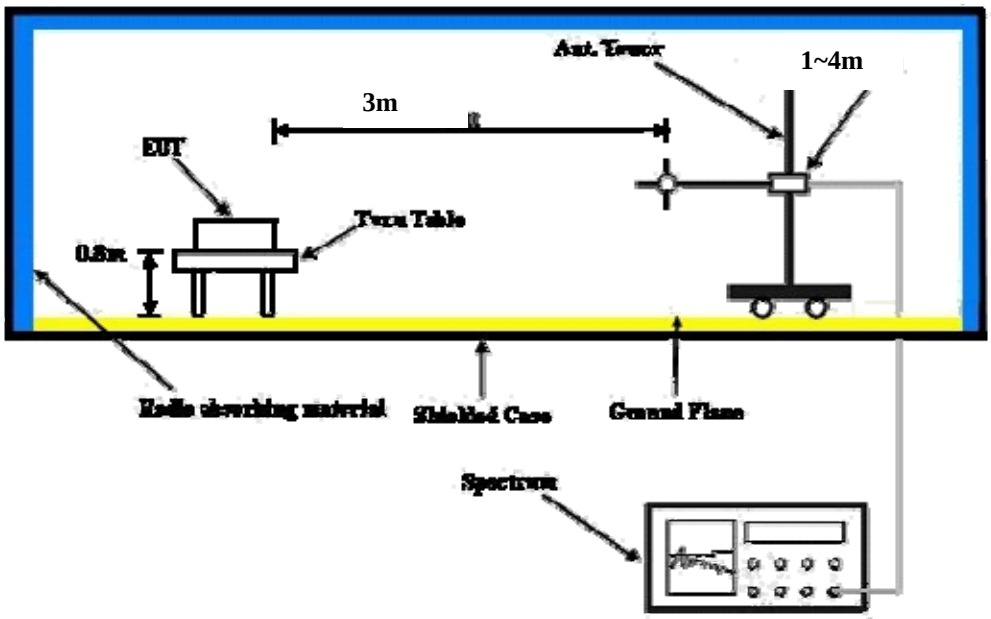
d. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.R.P power - 2.15dBi.

Conducted Power Measurement:

The EUT was set up for the maximum power with 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.

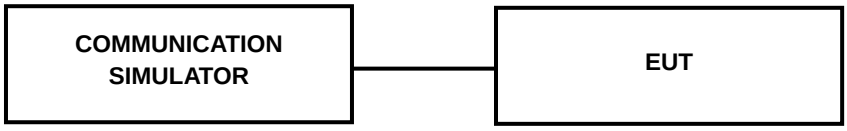
4.1.3 Test Setup

EIRP / ERP MEASUREMENT:



For 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 / BW	RB Size	RB Offset	QPSK			16QAM		
			Low CH	Mid CH	High CH	Low CH	Mid CH	High CH
			20407	20525	20643	20407	20525	20643
			824.7 MHz	836.5 MHz	848.3 MHz	824.7 MHz	836.5 MHz	848.3 MHz
5 / 1.4M	1	0	22.66	22.73	22.87	21.60	21.67	21.81
	1	2	22.74	22.81	22.95	21.68	21.75	21.89
	1	5	22.44	22.51	22.65	21.38	21.45	21.59
	3	0	21.65	21.72	21.86	20.59	20.66	20.80
	3	1	21.68	21.75	21.89	20.62	20.69	20.83
	3	3	21.61	21.68	21.82	20.55	20.62	20.76
	6	0	21.65	21.72	21.86	20.59	20.66	20.80
Band / BW	RB Size	RB Offset	QPSK			16QAM		
			Low CH	Mid CH	High CH	Low CH	Mid CH	High CH
			20415	20525	20635	20415	20525	20635
			825.5 MHz	836.5 MHz	847.5 MHz	825.5 MHz	836.5 MHz	847.5 MHz
5 / 3M	1	0	22.74	22.81	22.95	21.68	21.75	21.89
	1	7	22.82	22.89	23.03	21.76	21.83	21.97
	1	14	22.52	22.59	22.73	21.46	21.53	21.67
	8	0	21.73	21.80	21.94	20.67	20.74	20.88
	8	3	21.76	21.83	21.97	20.70	20.77	20.91
	8	7	21.69	21.76	21.90	20.63	20.70	20.84
	15	0	21.73	21.80	21.94	20.67	20.74	20.88
Band / BW	RB Size	RB Offset	QPSK			16QAM		
			Low CH	Mid CH	High CH	Low CH	Mid CH	High CH
			20425	20525	20625	20425	20525	20625
			826.5 MHz	836.5 MHz	846.5 MHz	826.5 MHz	836.5 MHz	846.5 MHz
5 / 5M	1	0	22.86	22.93	23.07	21.80	21.87	22.01
	1	12	22.94	23.01	23.15	21.88	21.95	22.09
	1	24	22.64	22.71	22.85	21.58	21.65	21.79
	12	0	21.85	21.92	22.06	20.79	20.86	21.00
	12	6	21.88	21.95	22.09	20.82	20.89	21.03
	12	13	21.81	21.88	22.02	20.75	20.82	20.96
	25	0	21.85	21.92	22.06	20.79	20.86	21.00

Band / BW	RB Size	RB Offset	QPSK			16QAM		
			Low CH	Mid CH	High CH	Low CH	Mid CH	High CH
			20450	20525	20600	20450	20525	20600
			829 MHz	836.5 MHz	844 MHz	829 MHz	836.5 MHz	844 MHz
5 / 10M	1	0	22.97	23.04	23.18	21.91	21.98	22.12
	1	24	23.05	23.12	23.26	21.99	22.06	22.20
	1	49	22.75	22.82	22.96	21.69	21.76	21.90
	25	0	21.96	22.03	22.17	20.90	20.97	21.11
	25	12	21.99	22.06	22.20	20.93	21.00	21.14
	25	25	21.92	21.99	22.13	20.86	20.93	21.07
	50	0	21.96	22.03	22.17	20.90	20.97	21.11

Band / BW	RB Size	RB Offset	QPSK			16QAM		
			Low CH	Mid CH	High CH	Low CH	Mid CH	High CH
			26797	26915	27033	26797	26915	27033
			824.7 MHz	836.5 MHz	848.3 MHz	824.7 MHz	836.5 MHz	848.3 MHz
26 / 1.4M	1	0	22.59	22.67	22.71	21.55	21.61	21.65
	1	2	22.38	22.47	22.50	21.35	21.40	21.44
	1	5	22.51	22.60	22.64	21.49	21.53	21.58
	3	0	22.53	22.61	22.64	21.47	21.54	21.58
	3	1	22.34	22.42	22.46	21.30	21.36	21.40
	3	3	22.38	22.43	22.49	21.32	21.39	21.43
	6	0	21.69	21.75	21.79	20.63	20.69	20.73
Band / BW	RB Size	RB Offset	QPSK			16QAM		
			Low CH	Mid CH	High CH	Low CH	Mid CH	High CH
			26805	26915	27025	26805	26915	27025
			825.5 MHz	836.5 MHz	847.5 MHz	825.5 MHz	836.5 MHz	847.5 MHz
26 / 3M	1	0	22.73	22.79	22.83	21.68	21.73	21.77
	1	7	22.52	22.58	22.62	21.47	21.52	21.56
	1	14	22.66	22.71	22.76	21.61	21.66	21.70
	8	0	22.68	22.72	21.96	21.63	21.63	20.90
	8	3	22.45	22.54	21.78	21.45	21.49	20.72
	8	7	22.51	22.55	21.81	21.46	21.52	20.75
	15	0	21.81	21.87	21.91	20.74	20.81	20.85

Band / BW	RB Size	RB Offset	QPSK			16QAM		
			Low CH	Mid CH	High CH	Low CH	Mid CH	High CH
			26815	26915	27015	26815	26915	27015
			826.5 MHz	836.5 MHz	846.5 MHz	826.5 MHz	836.5 MHz	846.5 MHz
26 / 5M	1	0	22.82	22.89	22.92	21.75	21.82	21.86
	1	12	22.63	22.66	22.71	21.53	21.61	21.65
	1	24	22.74	22.82	22.85	21.68	21.75	21.79
	12	0	22.75	22.81	22.05	21.69	21.75	20.99
	12	6	22.59	22.64	21.87	21.50	21.55	20.81
	12	13	22.61	22.68	21.90	21.52	21.64	20.84
	25	0	21.92	21.97	22.00	20.83	20.90	20.94

Band / BW	RB Size	RB Offset	QPSK			16QAM		
			Low CH	Mid CH	High CH	Low CH	Mid CH	High CH
			26840	26915	26990	26840	26915	26990
			829 MHz	836.5 MHz	844 MHz	829 MHz	836.5 MHz	844 MHz
26 / 10M	1	0	22.94	23.02	23.06	21.83	21.95	22.00
	1	24	22.73	22.81	22.85	21.62	21.74	21.79
	1	49	22.85	22.95	22.99	21.76	21.86	21.93
	25	0	22.87	22.95	22.19	21.76	21.88	21.13
	25	12	22.68	22.76	22.01	21.58	21.71	20.95
	25	25	22.72	22.80	22.04	21.61	21.76	20.98
	50	0	22.01	22.10	22.14	20.91	21.03	21.08

Band / BW	RB Size	RB Offset	QPSK		16QAM	
			Low CH	High CH	Low CH	High CH
			26865	26965	26865	26965
			831.5 MHz	841.5 MHz	831.5 MHz	841.5 MHz
26 / 15M	1	0	23.10	23.17	22.04	22.11
	1	37	22.89	22.96	21.83	21.90
	1	74	23.03	23.10	21.97	22.04
	36	0	22.23	22.30	21.17	21.24
	36	19	22.05	22.12	20.99	21.06
	36	39	22.08	22.15	21.02	21.09
	75	0	22.18	22.25	21.12	21.19

ERP Power (dBm)

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	-7.20	20.40	3.90	**24.30**	38.45	-14.15
Antenna Polarity & Test Distance: 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	-14.60	13.70	3.90	17.60	38.45	-20.85

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	-7.10	20.30	3.80	24.10	38.45	-14.35
Antenna Polarity & Test Distance: 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	-14.20	13.90	3.80	17.70	38.45	-20.75

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	-7.00	20.70	3.40	24.10	38.45	-14.35
Antenna Polarity & Test Distance: 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	-14.60	13.50	3.40	16.90	38.45	-21.55

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

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	-7.20	20.40	3.90	**24.30**	38.45	-14.15
Antenna Polarity & Test Distance: 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	-16.10	12.30	3.90	16.20	38.45	-22.25

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	-7.60	19.90	3.80	23.70	38.45	-14.75
Antenna Polarity & Test Distance: 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	-15.90	12.20	3.80	16.00	38.45	-22.45

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	-8.10	19.50	3.40	22.90	38.45	-15.55
Antenna Polarity & Test Distance: 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	-16.00	12.20	3.40	15.60	38.45	-22.85

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

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	-7.40	20.20	3.90	**24.10**	38.45	-14.35
Antenna Polarity & Test Distance: 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	-12.60	15.70	3.90	19.60	38.45	-18.85

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	-7.10	20.30	3.80	**24.10**	38.45	-14.35
Antenna Polarity & Test Distance: 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	-12.80	15.30	3.80	19.10	38.45	-19.35

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	-7.50	20.10	3.40	23.50	38.45	-14.95
Antenna Polarity & Test Distance: 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	-12.40	15.80	3.40	19.20	38.45	-19.25

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

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	-7.60	20.10	3.90	**24.00**	38.45	-14.45
Antenna Polarity & Test Distance: 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	-12.60	15.60	3.90	19.50	38.45	-18.95

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	-7.90	19.50	3.80	23.30	38.45	-15.15
Antenna Polarity & Test Distance: 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	-12.40	15.70	3.80	19.50	38.45	-18.95

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	-8.40	19.10	3.70	22.80	38.45	-15.65
Antenna Polarity & Test Distance: 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	-12.40	16.00	3.70	19.70	38.45	-18.75

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	-8.20	19.40	3.90	23.30	38.45	-15.15
Antenna Polarity & Test Distance: 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	-15.40	13.00	3.90	16.90	38.45	-21.55

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	-7.90	19.60	3.80	**23.40**	38.45	-15.05
Antenna Polarity & Test Distance: 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	-15.70	12.40	3.80	16.20	38.45	-22.25

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	-8.60	19.10	3.40	22.50	38.45	-15.95
Antenna Polarity & Test Distance: 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	-16.50	11.60	3.40	15.00	38.45	-23.45

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

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	-13.10	21.40	0.04	21.44	38.45	-17.01
Antenna Polarity & Test Distance: 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	-24.64	9.38	0.04	9.42	38.45	-29.03

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	-12.79	21.46	0.29	**21.75**	38.45	-16.70
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	-22.07	11.70	0.29	11.99	38.45	-26.46

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	-12.80	21.25	0.49	21.74	38.45	-16.71
Antenna Polarity & Test Distance: 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	-24.97	8.60	0.49	9.09	38.45	-29.36

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

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	-12.85	21.63	0.06	21.69	38.45	-16.76
Antenna Polarity & Test Distance: 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	-24.53	9.47	0.06	9.53	38.45	-28.92

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	-12.46	21.79	0.29	**22.08**	38.45	-16.37
Antenna Polarity & Test Distance: 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	-24.67	9.10	0.29	9.39	38.45	-29.06

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	-12.94	21.13	0.47	21.60	38.45	-16.85
Antenna Polarity & Test Distance: 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	-24.99	8.60	0.47	9.07	38.45	-29.38

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

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	-12.85	21.57	0.12	21.69	38.45	-16.76
Antenna Polarity & Test Distance: 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	-24.46	9.48	0.12	9.60	38.45	-28.85

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	-12.35	21.90	0.29	**22.19**	38.45	-16.26
Antenna Polarity & Test Distance: 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	-24.12	9.65	0.29	9.94	38.45	-28.51

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	-12.51	21.61	0.42	22.03	38.45	-16.42
Antenna Polarity & Test Distance: 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	-24.45	9.19	0.42	9.61	38.45	-28.84

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

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	-7.85	19.68	3.84	23.52	38.45	-14.93
Antenna Polarity & Test Distance: 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	-14.96	13.60	3.84	16.90	38.45	-21.55

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	-7.56	19.93	3.68	**23.61**	38.45	-14.84
Antenna Polarity & Test Distance: 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	-15.26	12.99	3.68	16.67	38.45	-21.78

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

4.2 Frequency Stability Measurement

4.2.1 Limits of Frequency Stabiliity Measurement

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

4.2.2 Test Procedure

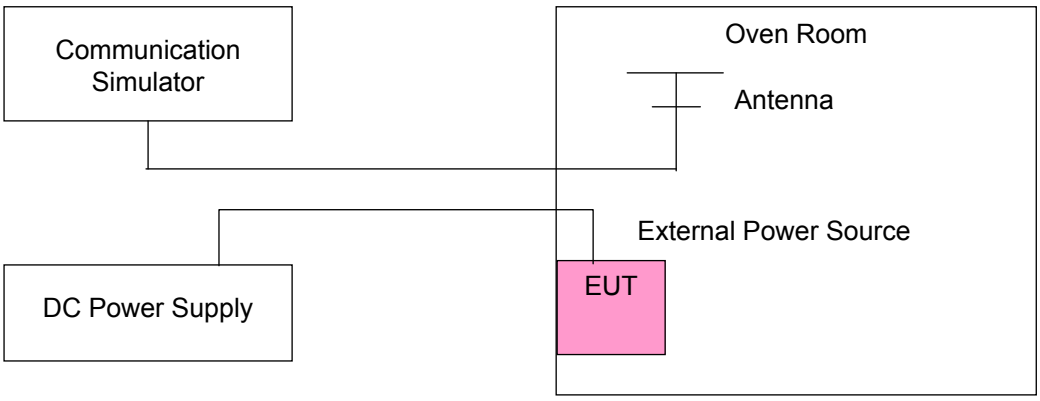
a. Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.

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.

4.2.3 Test Setup



4.2.4 Test Results

Frequency Error vs. Voltage

Voltage (Volts)	Frequency Error (ppm)									Limit (ppm)
	LTE Band 5				LTE Band 26					
	1.4MHz	3MHz	5MHz	10MHz	1.4MHz	3MHz	5MHz	10MHz	15MHz	
4.35	-0.016	-0.014	-0.014	-0.020	-0.018	-0.017	-0.014	-0.023	-0.025	2.5
3.8	-0.013	-0.016	-0.017	-0.019	-0.014	-0.013	-0.016	-0.020	-0.020	2.5
3.5	-0.014	-0.013	-0.016	-0.017	-0.016	-0.018	-0.018	-0.022	-0.022	2.5

Note: The applicant defined the normal working voltage is from 3.5Vdc to 4.35Vdc.

Frequency Error vs. Temperature

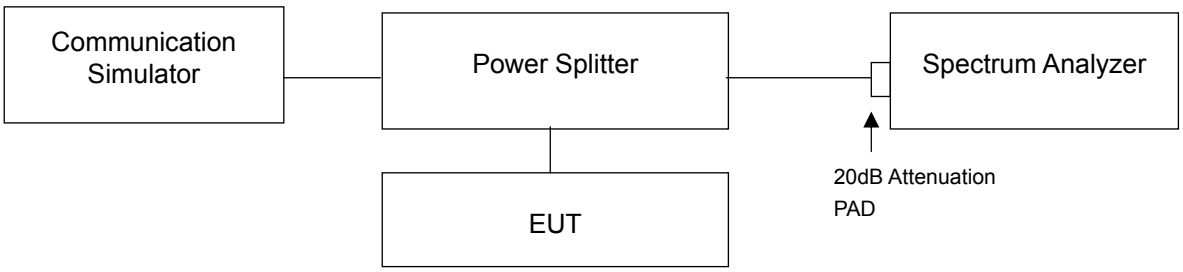
Temp. (℃)	Frequency Error (ppm)									Limit (ppm)
	LTE Band 5				LTE Band 26					
	1.4MHz	3MHz	5MHz	10MHz	1.4MHz	3MHz	5MHz	10MHz	15MHz	
55	-0.031	-0.029	-0.027	-0.037	-0.030	-0.024	-0.026	-0.032	-0.035	2.5
50	-0.029	-0.030	-0.031	-0.039	-0.031	-0.023	-0.027	-0.032	-0.036	2.5
40	-0.023	-0.025	-0.025	-0.035	-0.025	-0.025	-0.023	-0.033	-0.035	2.5
30	-0.014	-0.019	-0.023	-0.029	-0.020	-0.018	-0.020	-0.027	-0.029	2.5
20	-0.013	-0.016	-0.017	-0.019	-0.014	-0.013	-0.016	-0.020	-0.020	2.5
10	-0.018	-0.023	-0.026	-0.027	-0.023	-0.020	-0.018	-0.031	-0.028	2.5
0	-0.029	-0.029	-0.032	-0.037	-0.029	-0.026	-0.025	-0.037	-0.035	2.5
-10	-0.037	-0.035	-0.041	-0.044	-0.031	-0.031	-0.031	-0.042	-0.041	2.5
-20	-0.042	-0.039	-0.037	-0.042	-0.036	-0.038	-0.037	-0.038	-0.043	2.5

4.3 Occupied Bandwidth Measurement

4.3.1 Test Procedure

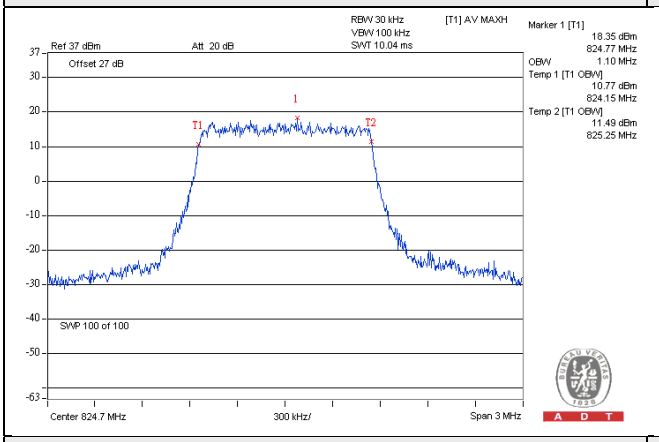
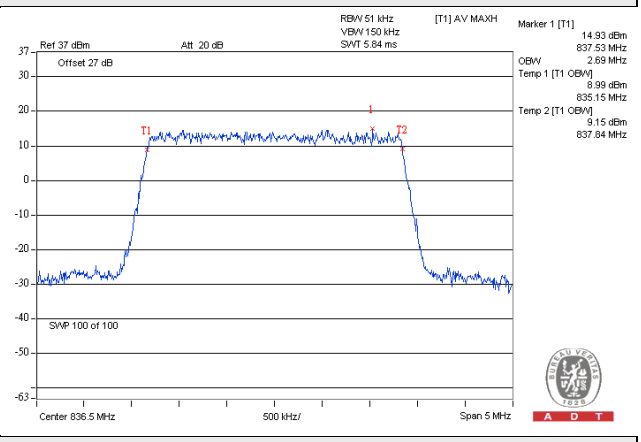
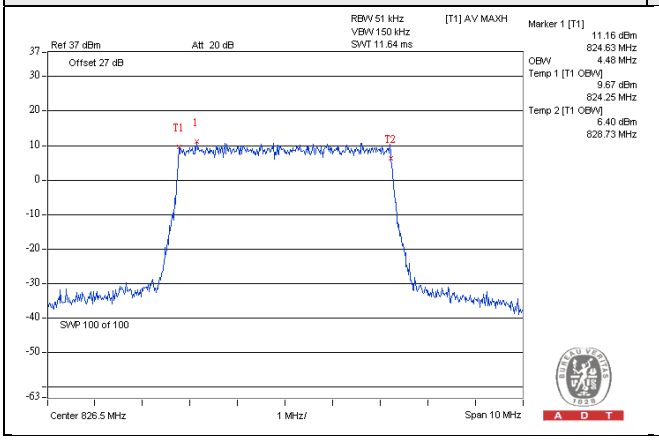
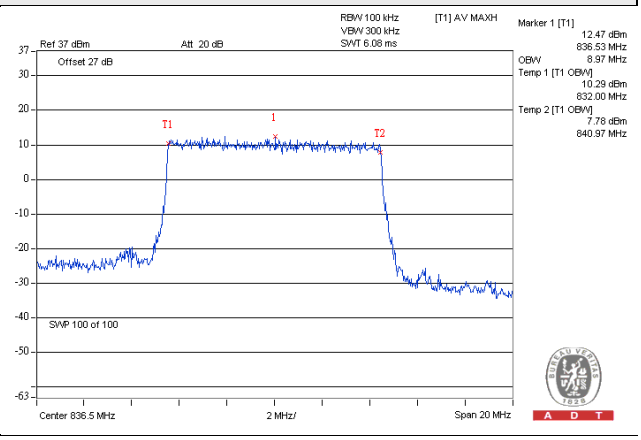
The EUT makes a call to the communication simulator. All measurements were done at low, middle and high operational frequency range. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function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

4.3.2 Test Setup



4.3.3 Test Result

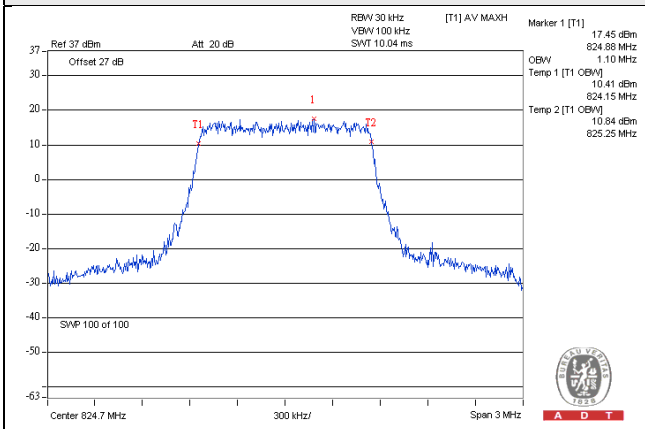
LTE Band 5							
Channel Bandwidth 1.4MHz				Channel Bandwidth 3MHz			
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)		Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	
		QPSK	16QAM			QPSK	16QAM
20407	824.7	1.10	1.09	20415	825.5	2.68	2.68
20525	836.5	1.09	1.09	20525	836.5	2.68	2.69
20643	848.3	1.09	1.10	20635	847.5	2.68	2.68
Channel Bandwidth 5MHz				Channel Bandwidth 10MHz			
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)		Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	
		QPSK	16QAM			QPSK	16QAM
20425	826.5	4.48	4.47	20450	829	8.90	8.93
20525	836.5	4.48	4.48	20525	836.5	8.93	8.97
20625	846.5	4.47	4.47	20600	844	8.93	8.93

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

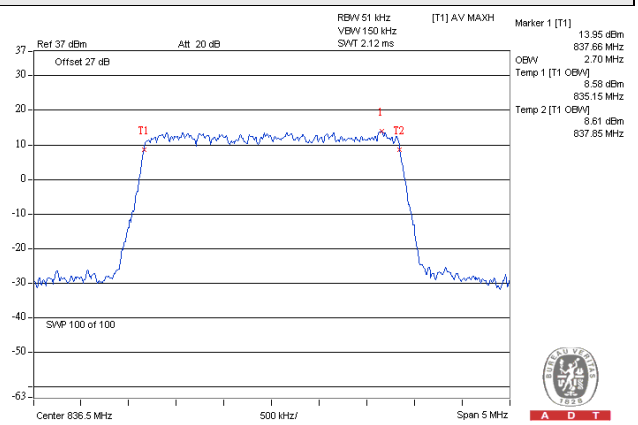
LTE Band 26							
Channel Bandwidth 1.4MHz				Channel Bandwidth 3MHz			
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)		Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	
		QPSK	16QAM			QPSK	16QAM
26797	824.7	1.10	1.09	26805	825.5	2.68	2.69
26915	836.5	1.09	1.08	26915	836.5	2.70	2.68
27033	848.3	1.10	1.10	27025	847.5	2.68	2.69
Channel Bandwidth 5MHz				Channel Bandwidth 10MHz			
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)		Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	
		QPSK	16QAM			QPSK	16QAM
26815	826.5	4.48	4.48	26840	829	8.93	8.93
26915	836.5	4.48	4.48	26915	836.5	8.93	8.93
27015	846.5	4.47	4.47	26990	844	8.90	8.90
Channel Bandwidth 15MHz							
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)					
		QPSK	16QAM				
26865	831.5	13.40	13.40				
26965	841.5	13.37	13.37				

Spectrum Plot Of Worst Value

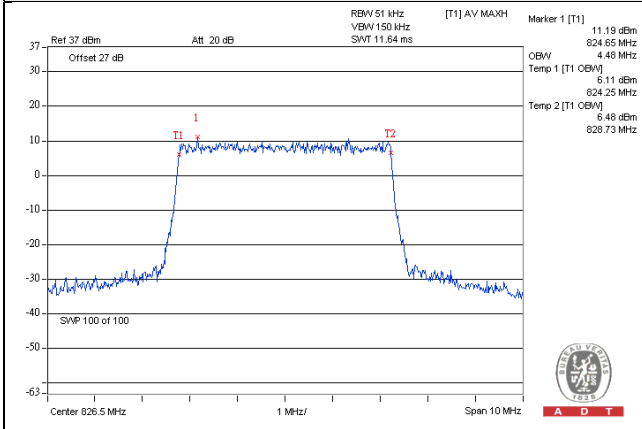
1.4MHz / QPSK



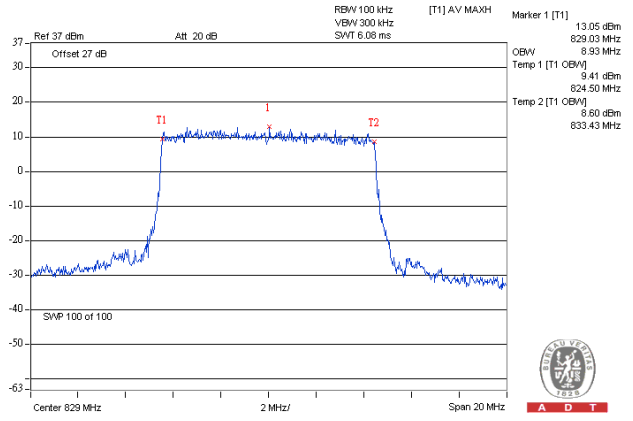
3MHz / QPSK



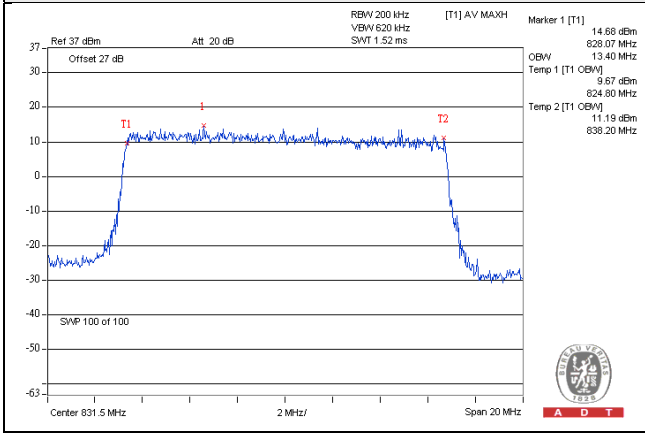
5MHz / QPSK



10MHz / QPSK



15MHz / QPSK

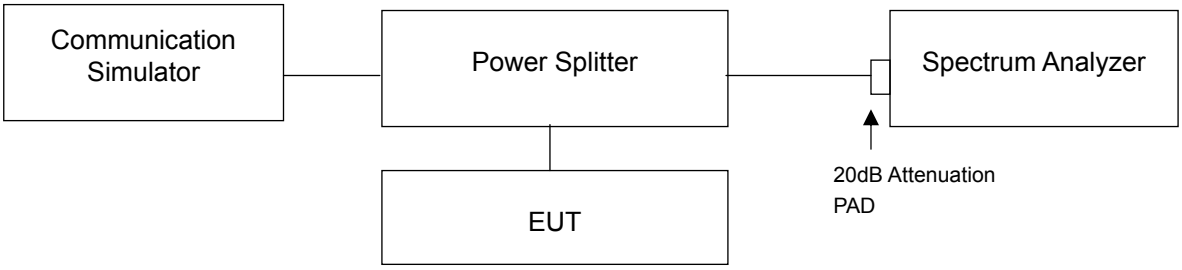


4.4 Band Edge Measurement

4.4.1 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.

4.4.2 Test Setup



4.4.3 Test Procedures

a. All measurements were done at low and high operational frequency range.

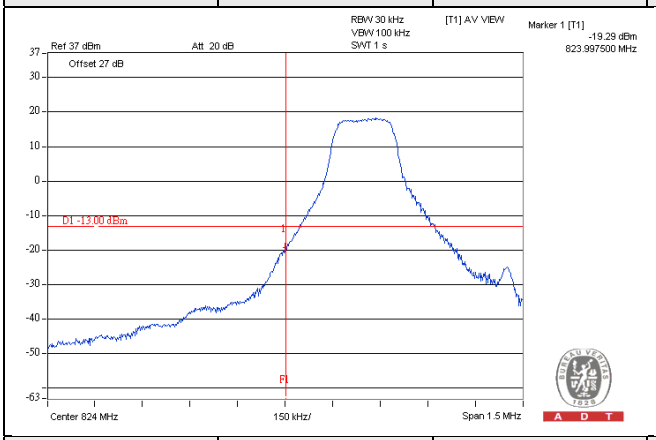
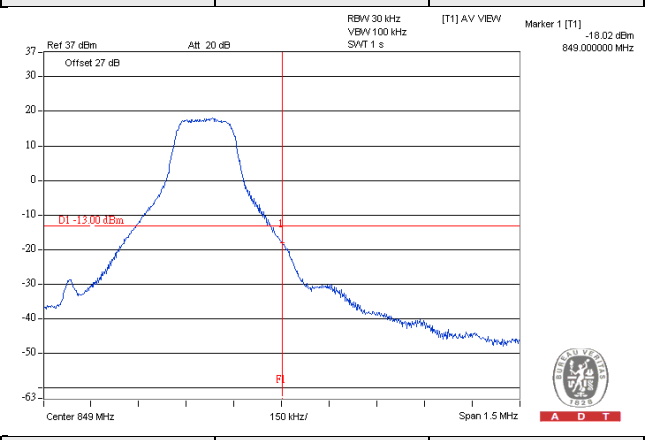
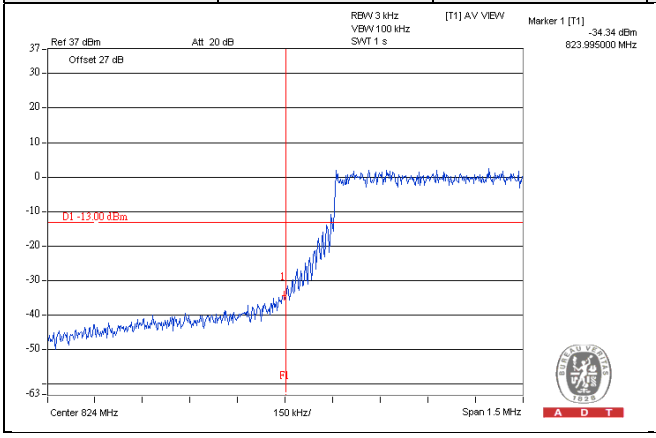
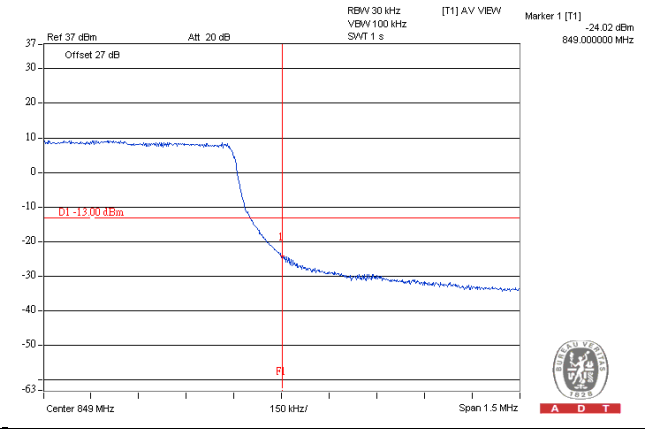
b. The center frequency of spectrum is the band edge frequency and span is 1.5MHz. RB of the spectrum is 30kHz and VB of the spectrum is 100kHz (LTE Channel Bandwidth 1.4MHz and 3MHz).

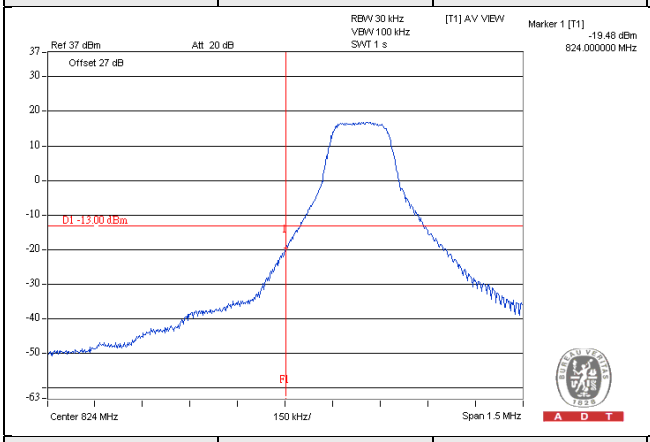
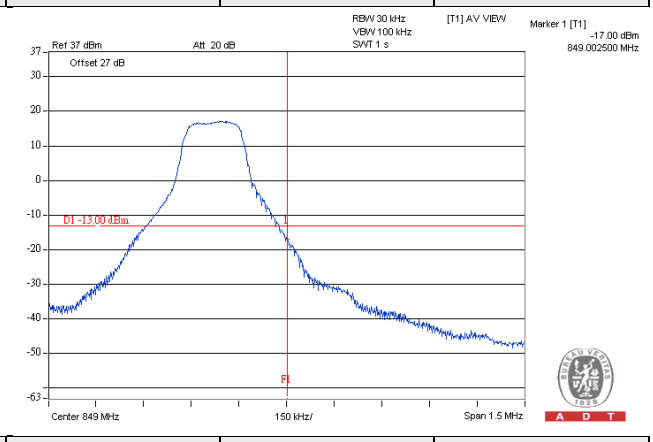
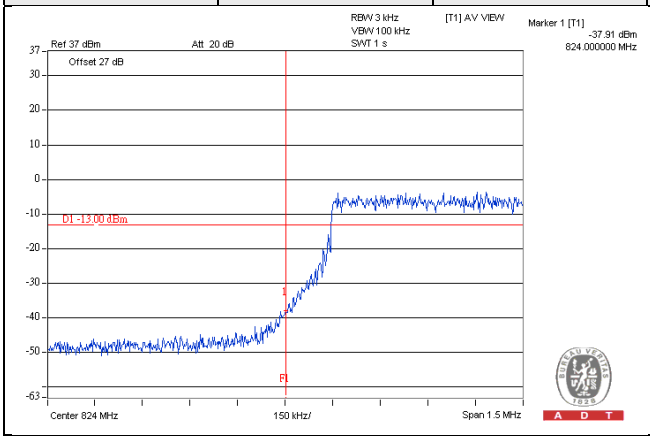
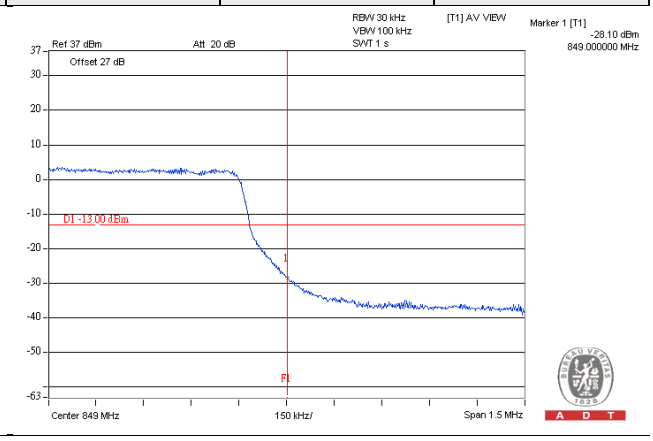
c. The center frequency of spectrum is the band edge frequency and span is 1.5MHz. RB of the spectrum is 51kHz and VB of the spectrum is 150kHz (LTE Channel Bandwidth 5MHz).

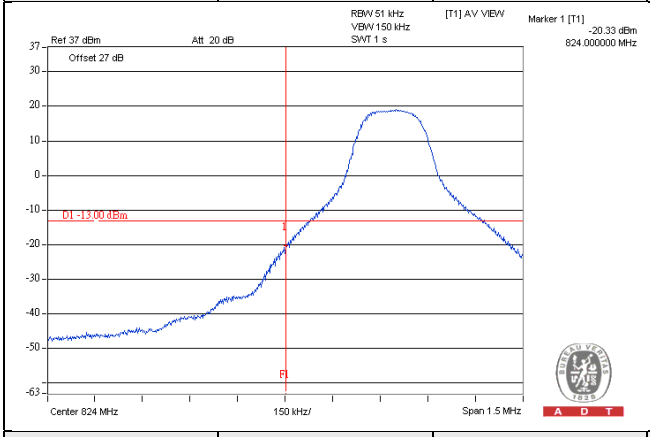
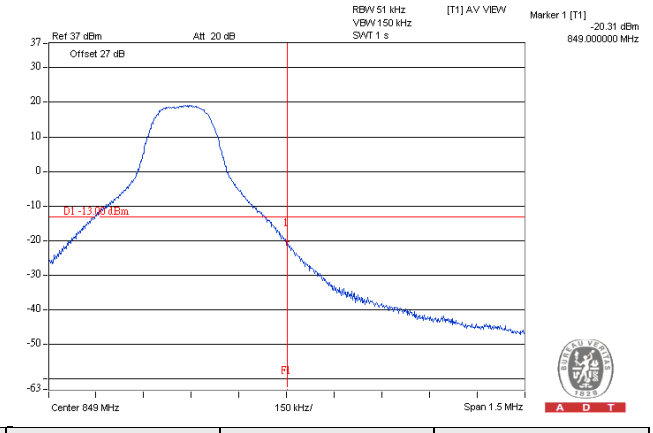
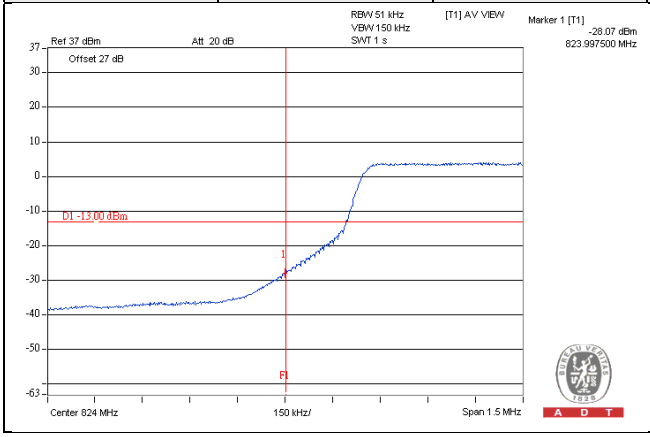
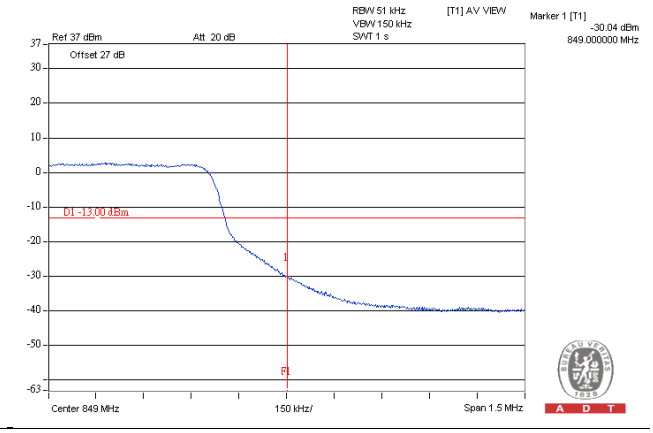
d. The center frequency of spectrum is the band edge frequency and span is 1.5MHz. RB of the spectrum is 100kHz and VB of the spectrum is 300kHz (LTE Channel Bandwidth 10MHz and 15MHz).

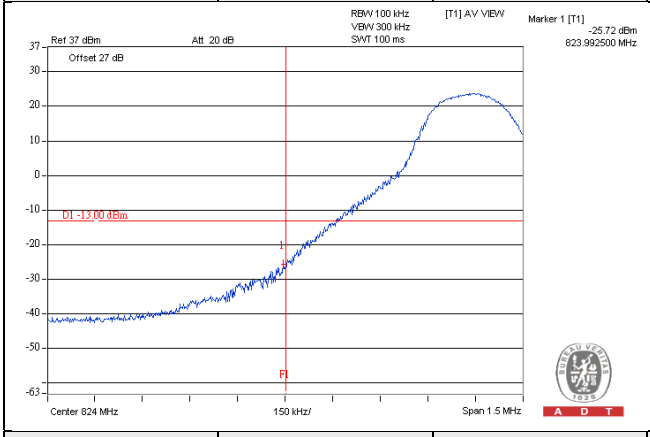
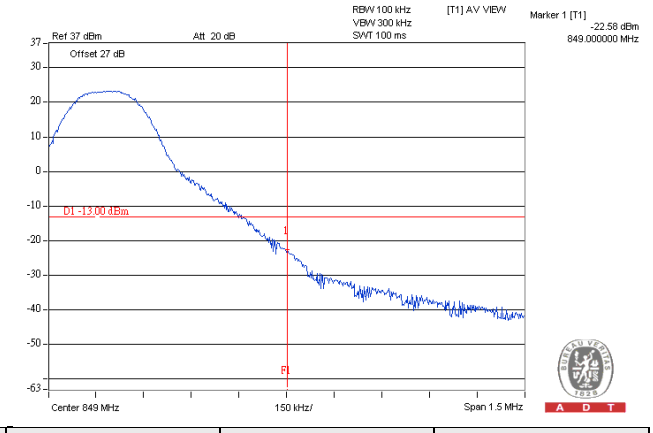
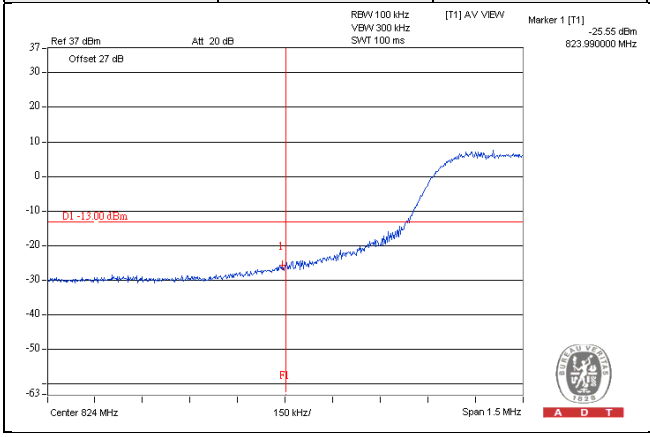
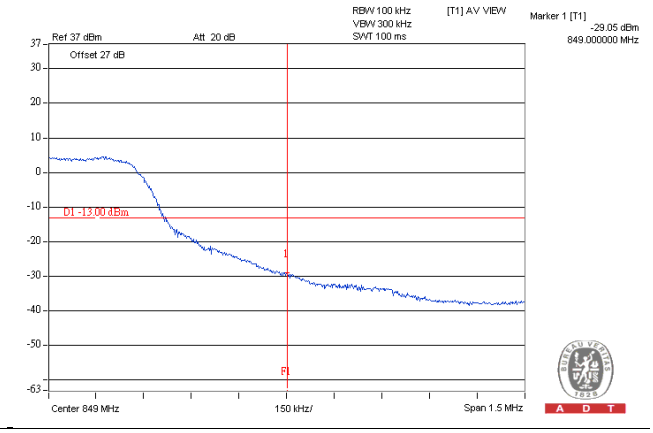
e. Record the max trace plot into the test report.

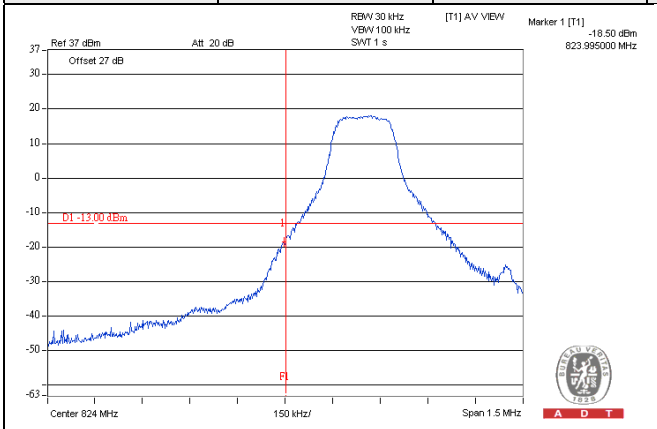
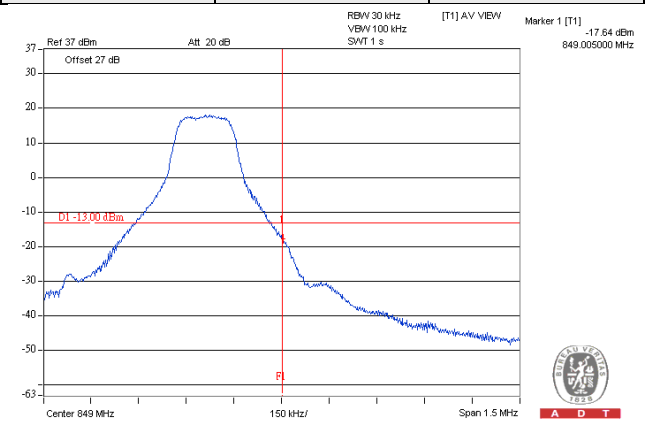
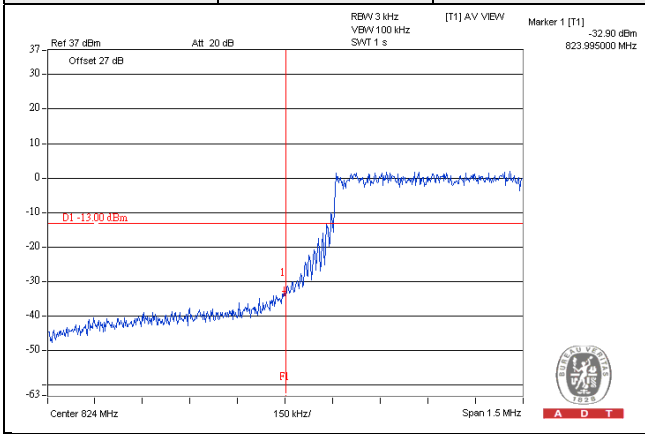
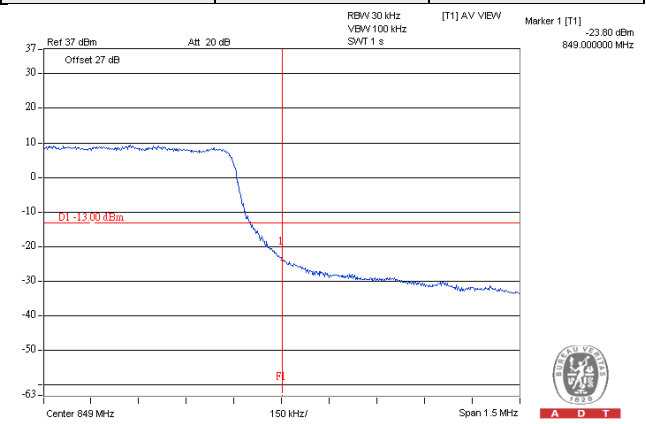
4.4.4 Test Results

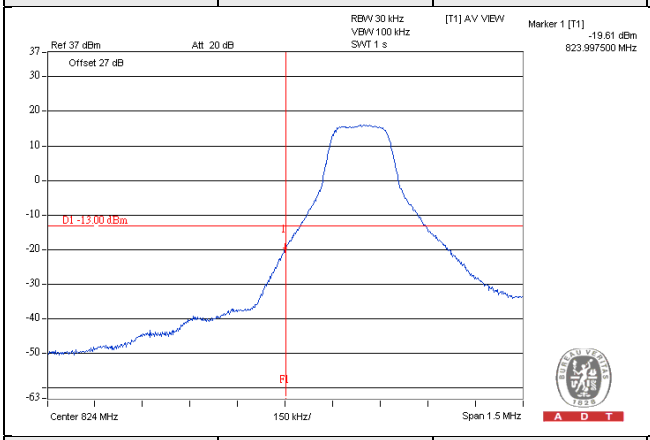
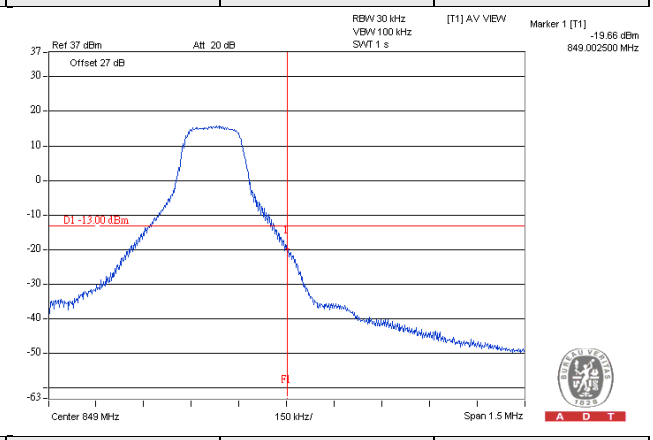
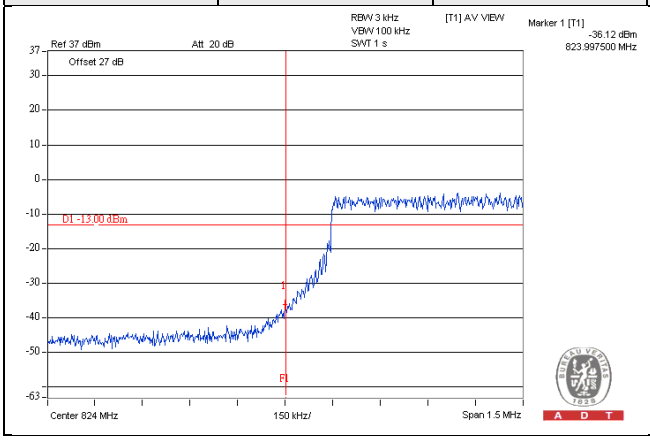
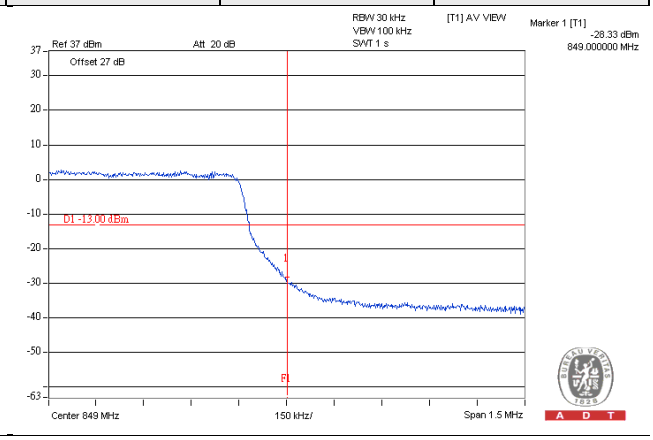
LTE Band 5					
Channel Bandwidth 1.4MHz					
Channel	20407	1 RB	Channel	20643	1 RB
					
Channel	20407	6 RB	Channel	20643	6 RB
					

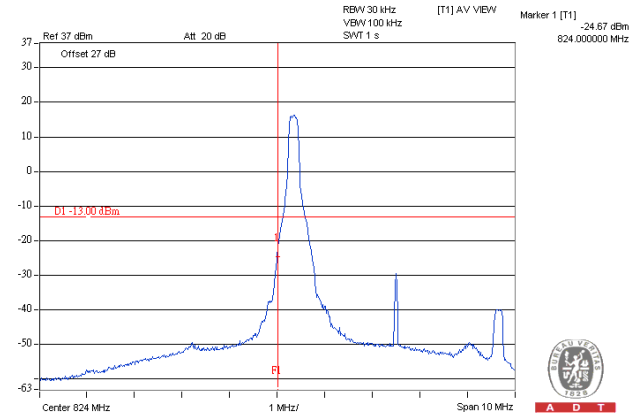
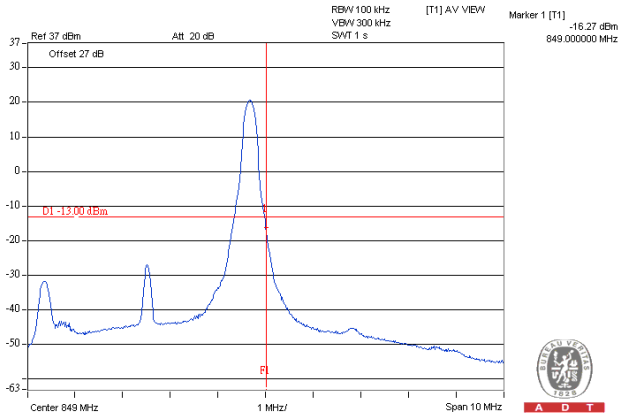
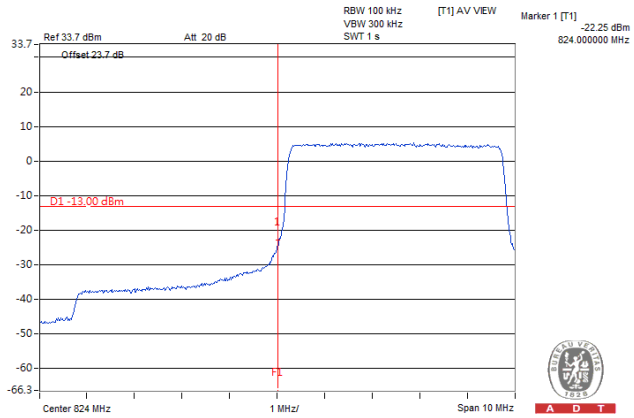
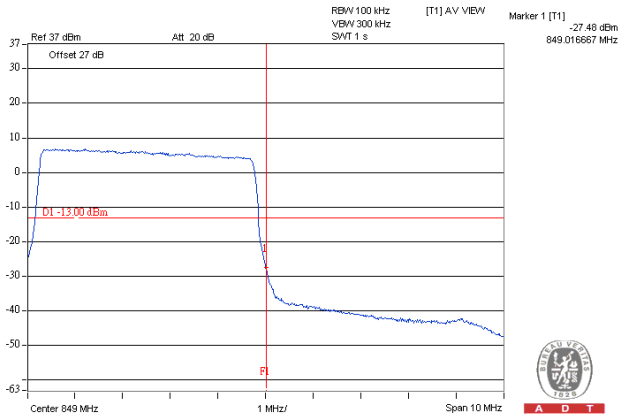
LTE Band 5					
Channel Bandwidth 3MHz					
Channel	20415	1 RB	Channel	20635	1 RB
					
Channel	20415	15 RB	Channel	20635	15 RB
					

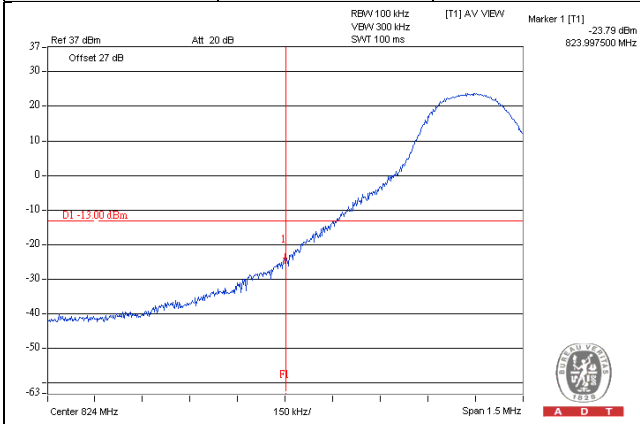
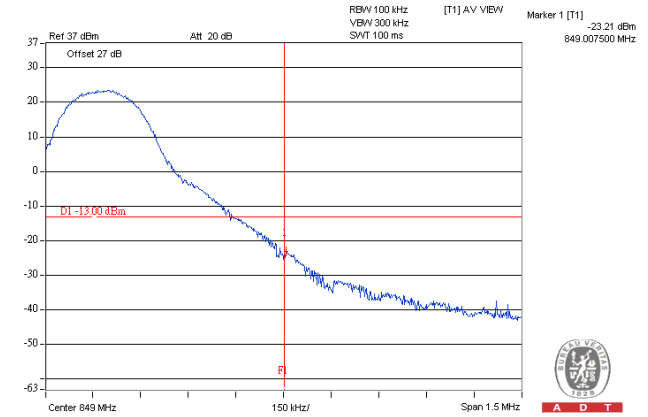
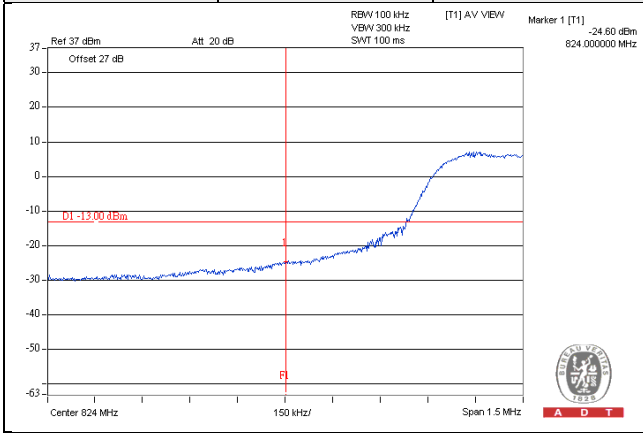
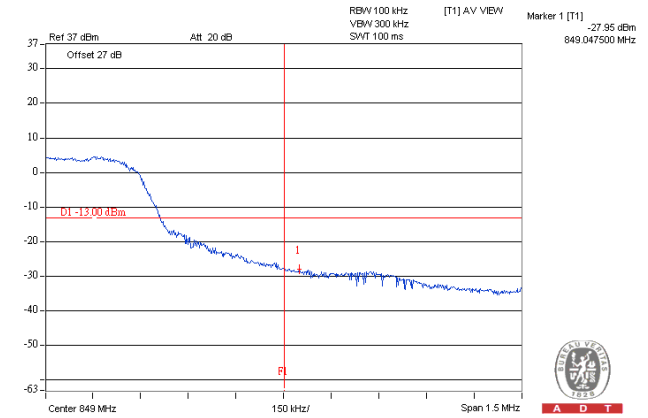
LTE Band 5					
Channel Bandwidth 5MHz					
Channel	20425	1 RB	Channel	20625	1 RB
					
Channel	20425	25 RB	Channel	20625	25 RB
					

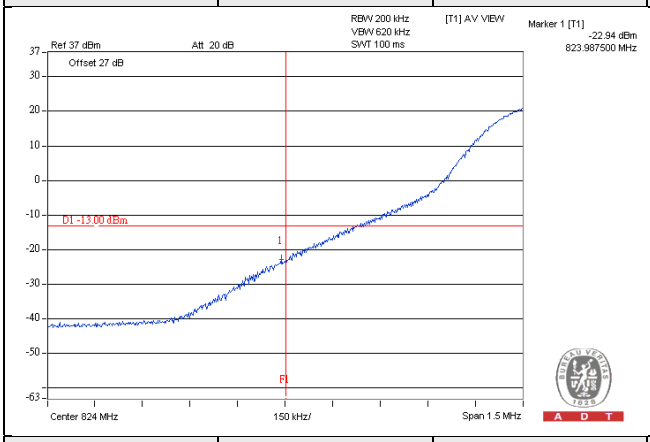
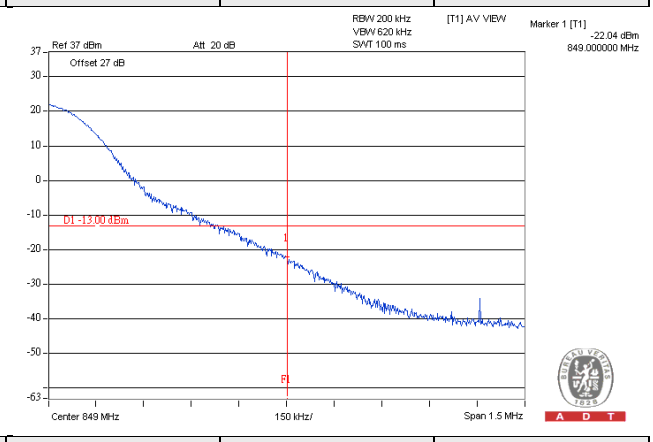
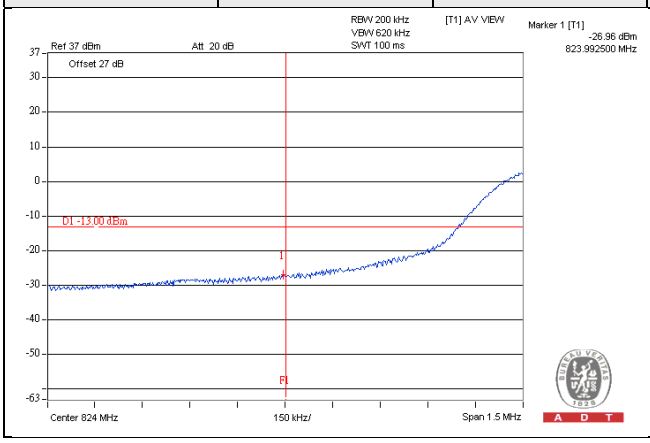
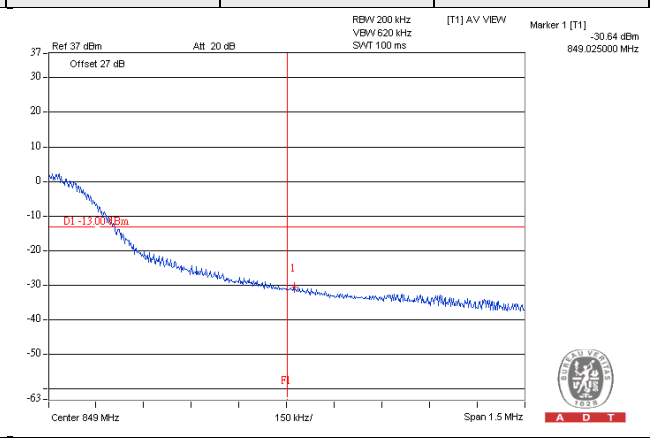
LTE Band 5					
Channel Bandwidth 10MHz					
Channel	20450	1 RB	Channel	20600	1 RB
					
Channel	20450	50 RB	Channel	20600	50 RB
					

LTE Band 26					
Channel Bandwidth 1.4MHz					
Channel	26797	1 RB	Channel	27033	1 RB
					
Channel	26797	6 RB	Channel	27033	6 RB
					

LTE Band 26					
Channel Bandwidth 3MHz					
Channel	26805	1 RB	Channel	27025	1 RB
					
Channel	26805	15 RB	Channel	27025	15 RB
					

LTE Band 26					
Channel Bandwidth 5MHz					
Channel	26815	1 RB	Channel	27015	1 RB
					
Channel	26815	25 RB	Channel	27015	25 RB
					

LTE Band 26					
Channel Bandwidth 10MHz					
Channel	26840	1 RB	Channel	26990	1 RB
					
Channel	26840	50 RB	Channel	26990	50 RB
					

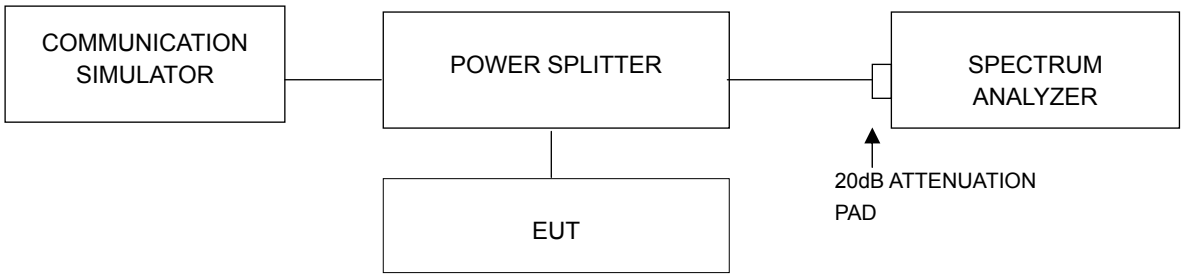
LTE Band 26					
Channel Bandwidth 15MHz					
Channel	26865	1 RB	Channel	26965	1 RB
					
Channel	26865	75 RB	Channel	26965	75 RB
					

4.5 Peak To Average Ratio

4.5.1 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

4.5.2 Test Setup

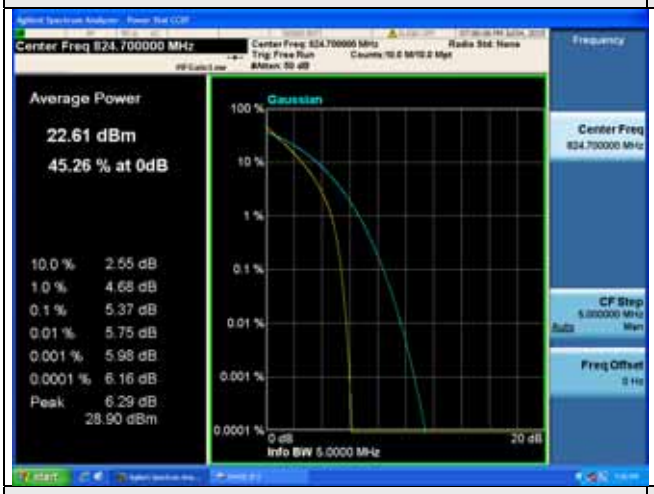
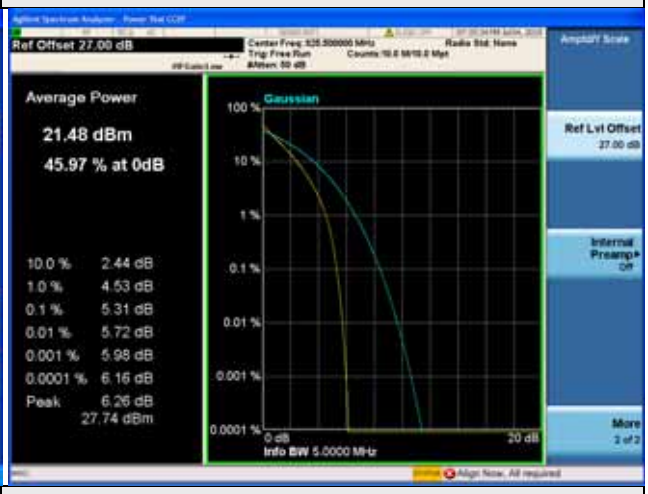
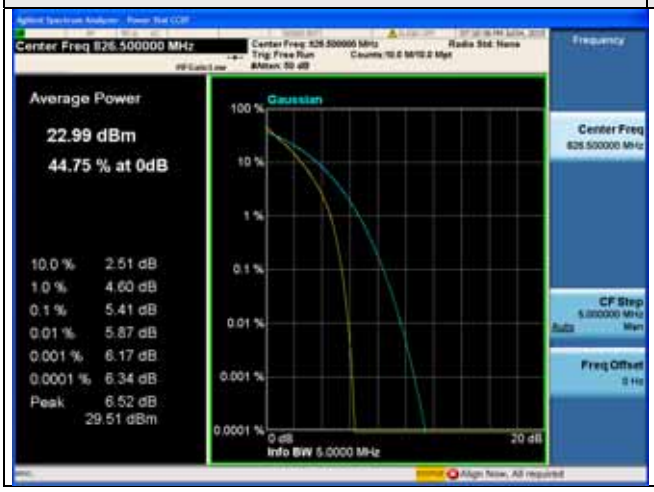


4.5.3 Test Procedures

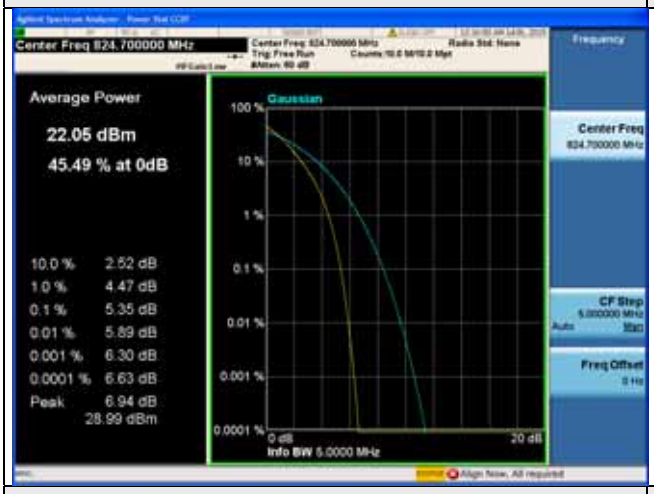
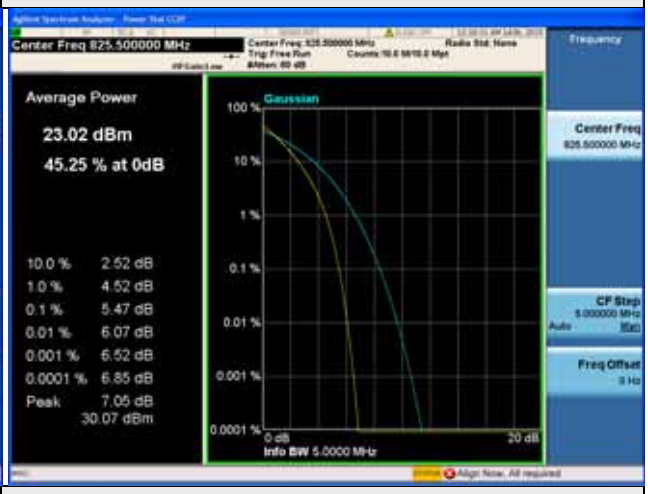
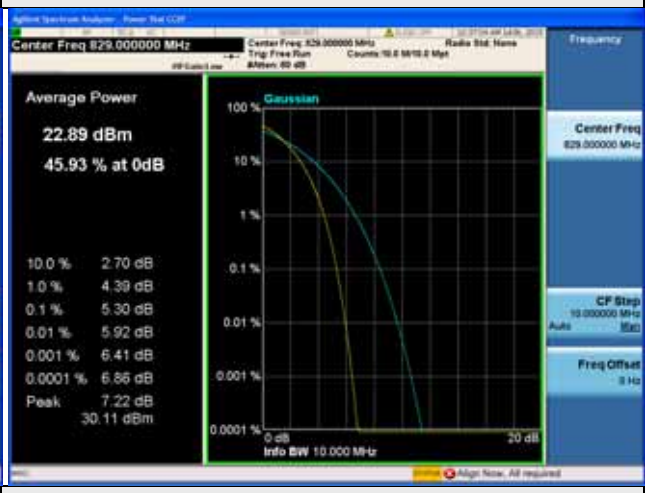
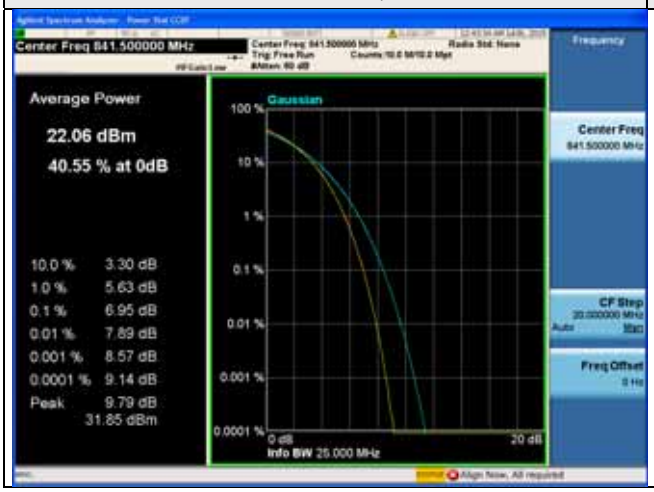
1. Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Record the maximum PAPR level associated with a probability of 0.1%.

4.5.4 Test Results

LTE Band 5							
Channel Bandwidth 1.4MHz				Channel Bandwidth 3MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM			QPSK	16QAM
20407	824.7	5.37	5.18	20415	825.5	5.16	5.31
20525	836.5	4.96	4.97	20525	836.5	5.11	5.11
20643	848.3	4.52	4.41	20635	847.5	4.75	4.77
Channel Bandwidth 5MHz				Channel Bandwidth 10MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM			QPSK	16QAM
20425	826.5	5.41	5.40	20450	829	4.81	4.79
20525	836.5	5.24	5.24	20525	836.5	4.85	4.84
20625	846.5	5.08	5.04	20600	844	4.75	4.75

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

LTE Band 26							
Channel Bandwidth 1.4MHz				Channel Bandwidth 3MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM			QPSK	16QAM
26797	824.7	5.34	5.35	26805	825.5	5.47	4.59
26915	836.5	5.20	5.19	26915	836.5	5.34	4.45
27033	848.3	4.96	4.95	27025	847.5	5.23	4.38
Channel Bandwidth 5MHz				Channel Bandwidth 10MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM			QPSK	16QAM
26815	826.5	4.57	4.63	26840	829	5.30	5.03
26915	836.5	4.43	4.49	26915	836.5	5.04	4.90
27015	846.5	4.50	4.49	26990	844	5.01	4.99
Channel Bandwidth 15MHz							
Channel	Frequency (MHz)	Peak To Average Ratio (dB)					
		QPSK	16QAM				
26865	831.5	6.44	6.42				
26965	841.5	6.52	6.95				

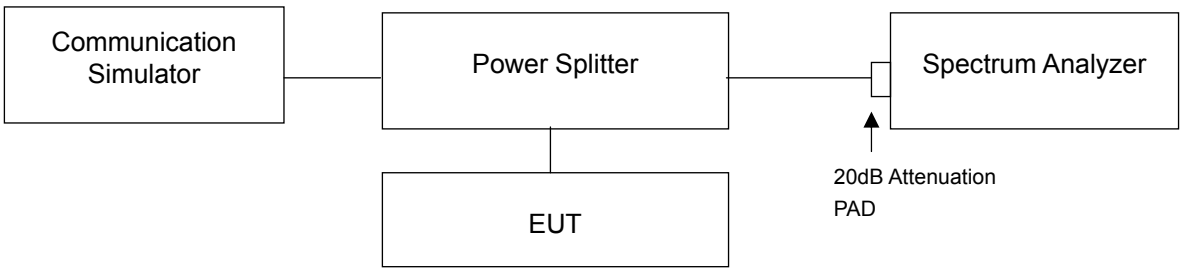
Spectrum Plot Of Worst Value	
1.4MHz / 16QAM	3MHz / QPSK
	
5MHz / 16QAM	10MHz / QPSK
	
15MHz / 16QAM	
	

4.6 Conducted Spurious Emissions

4.6.1 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.

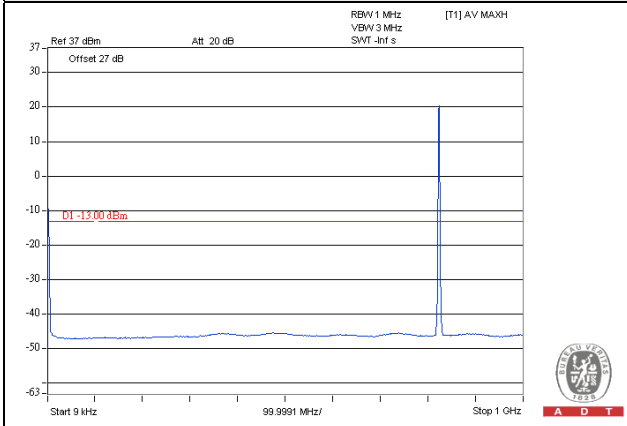
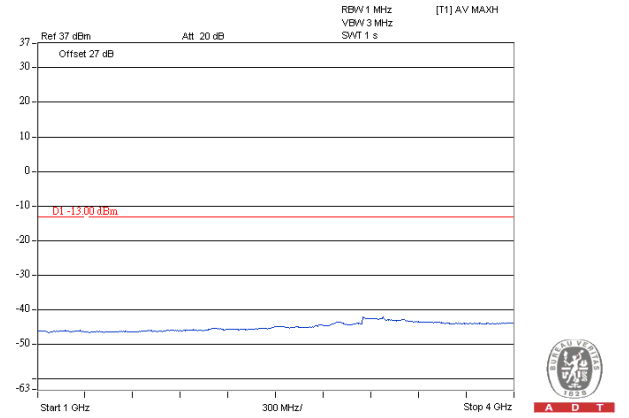
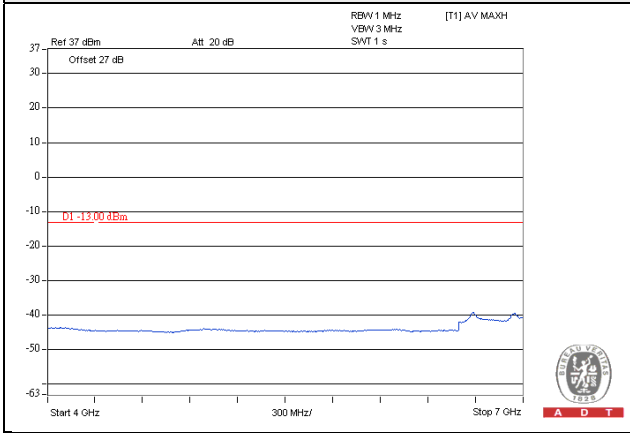
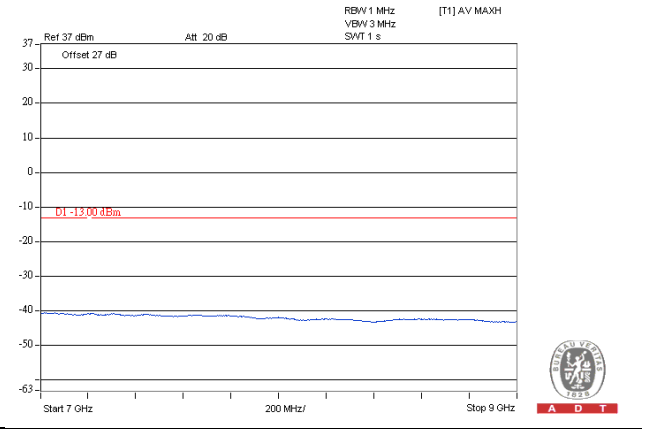
4.6.2 Test Setup

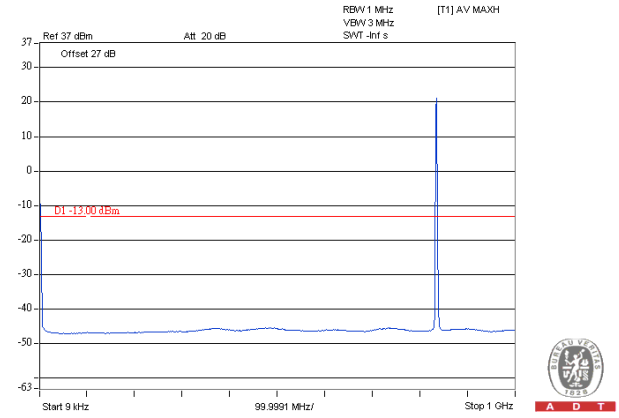
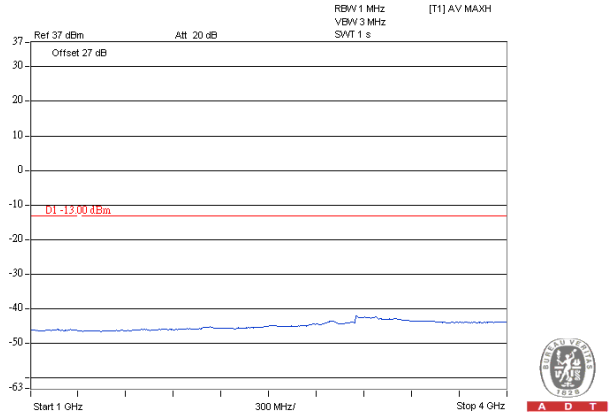
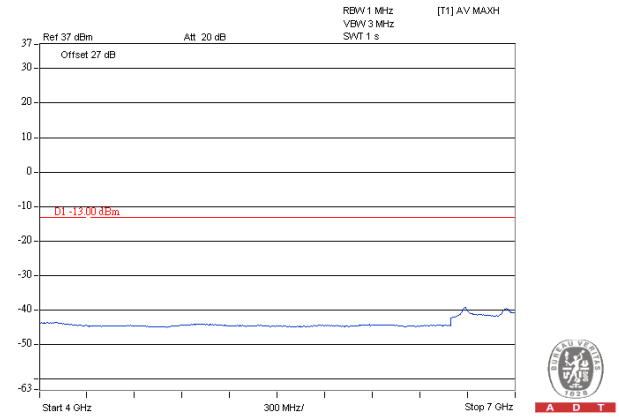
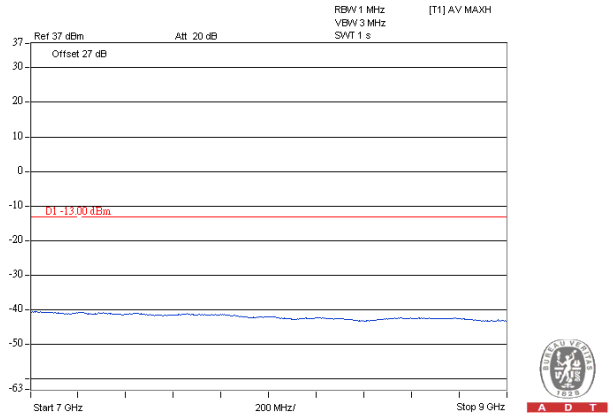


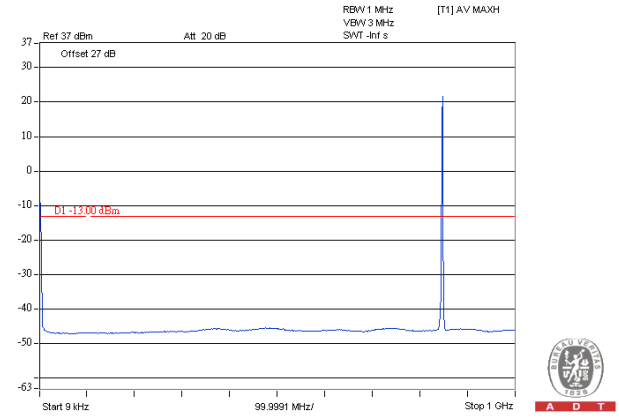
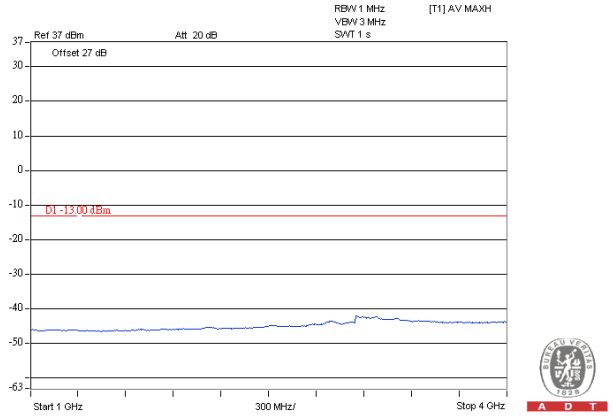
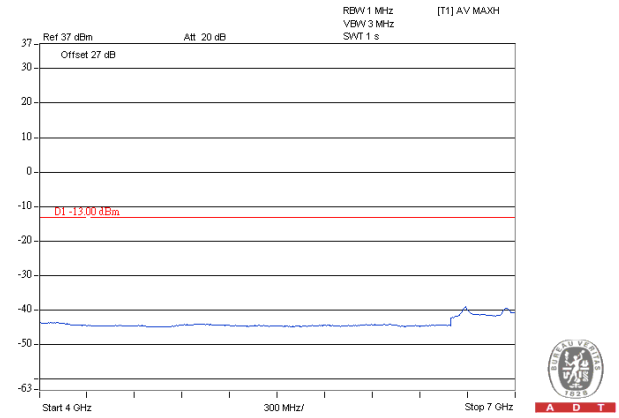
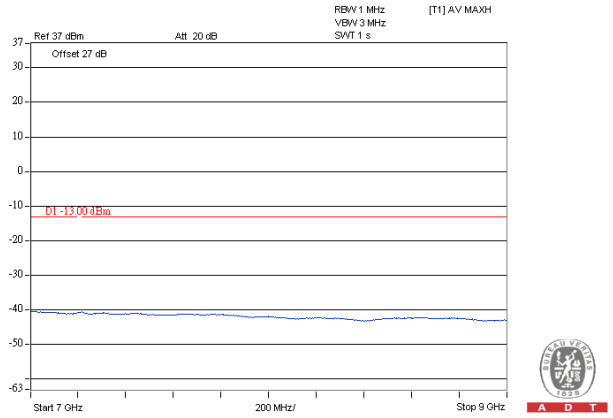
4.6.3 Test Procedure

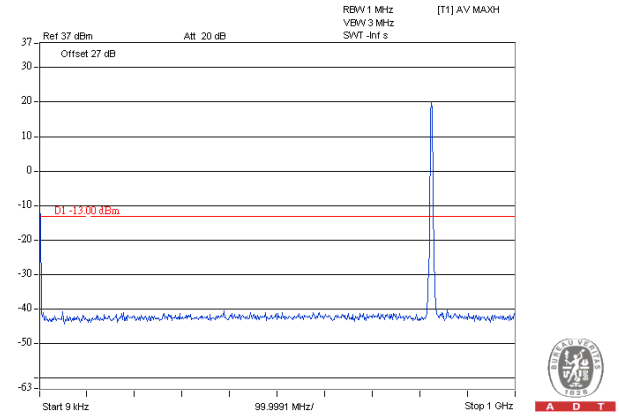
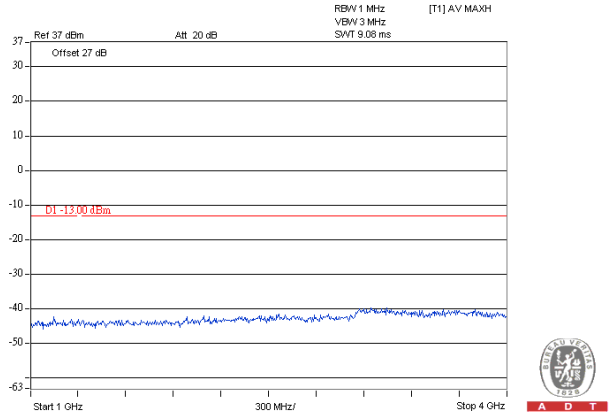
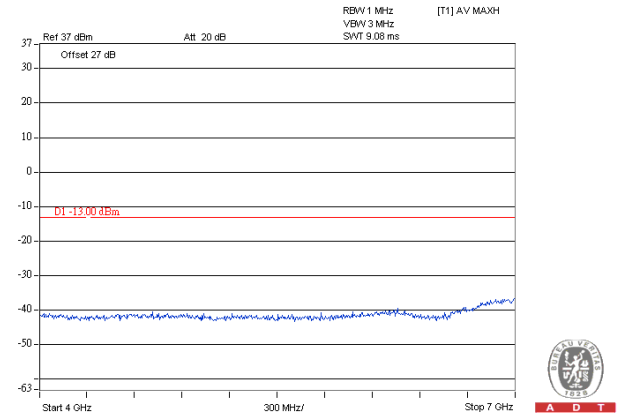
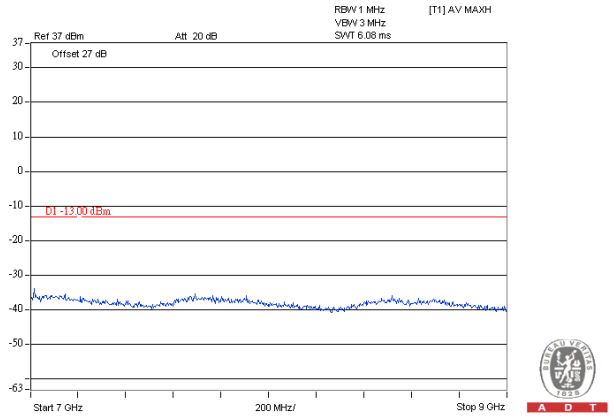
a. The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
b. Measuring frequency range is from 9 kHz to 9GHz. 20dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

4.6.4 Test Results

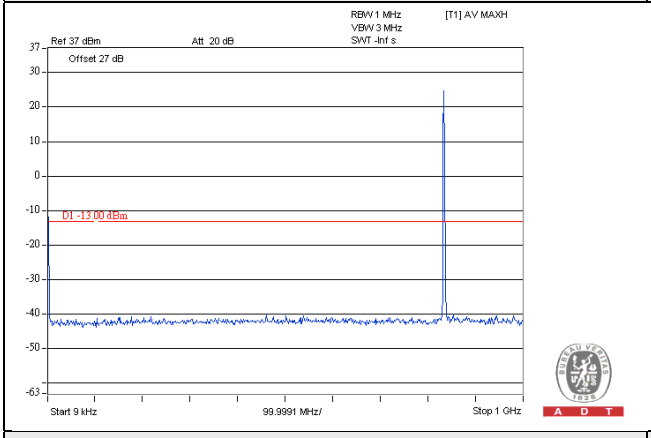
LTE Band 5 Channel Band width: 1.4MHz	
Channel 20407	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~4GHz
	
Frequency Range : 4GHz~7GHz	Frequency Range : 7GHz~9GHz
	

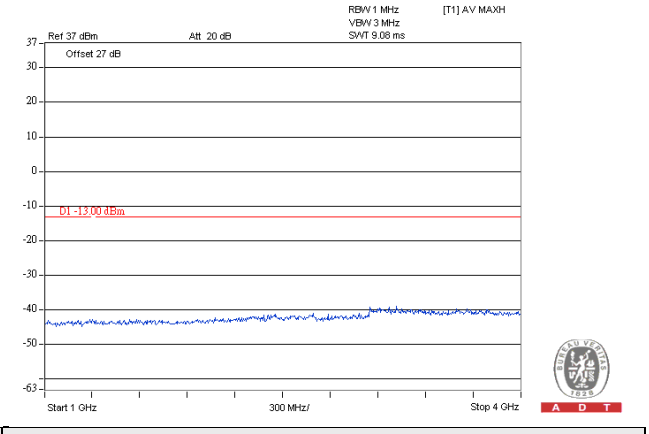
LTE Band 5 Channel Band width: 1.4MHz	
Channel 20525	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~4GHz
	
Frequency Range : 4GHz~7GHz	Frequency Range : 7GHz~9GHz
	

LTE Band 5 Channel Band width: 1.4MHz	
Channel 20643	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~4GHz
	
Frequency Range : 4GHz~7GHz	Frequency Range : 7GHz~9GHz
	

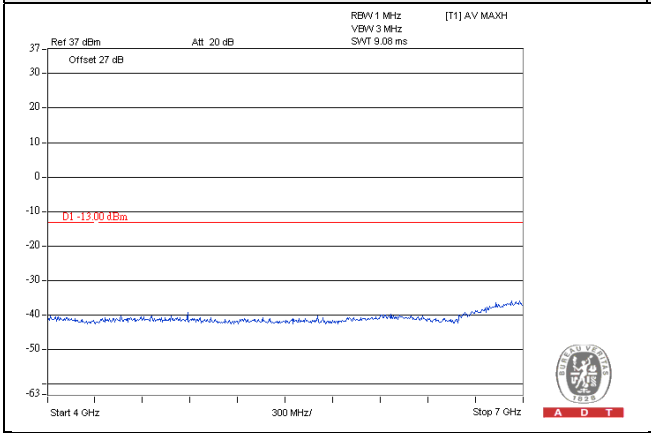
LTE Band 5 Channel Band width: 3MHz	
Channel 20415	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~4GHz
	
Frequency Range : 4GHz~7GHz	Frequency Range : 7GHz~9GHz
	

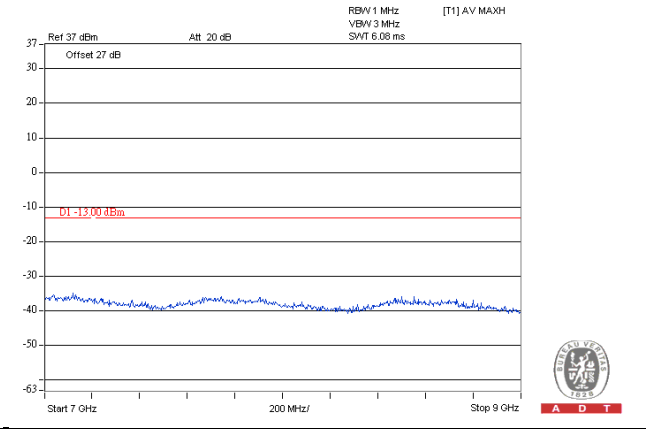
LTE Band 5 Channel Band width: 3MHz	
Channel 20525	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~4GHz

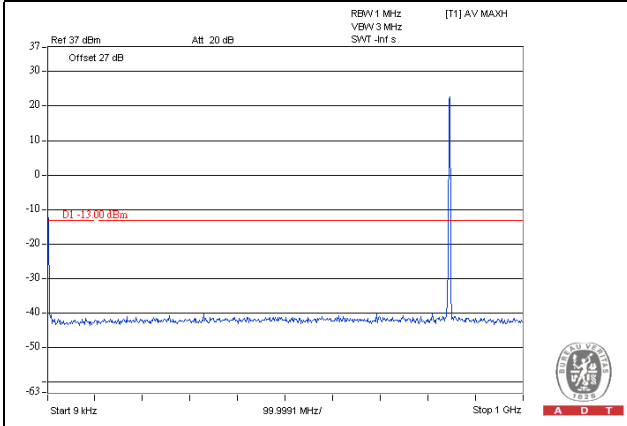
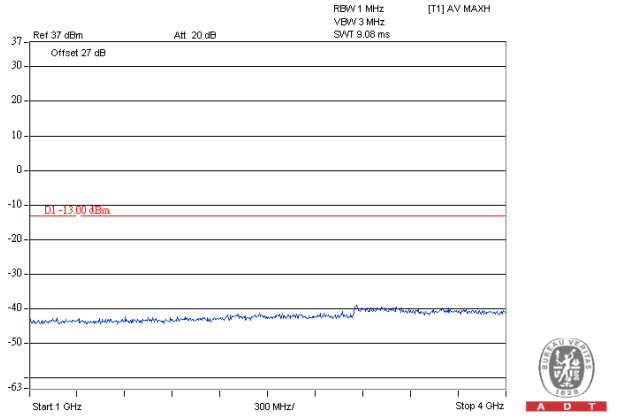
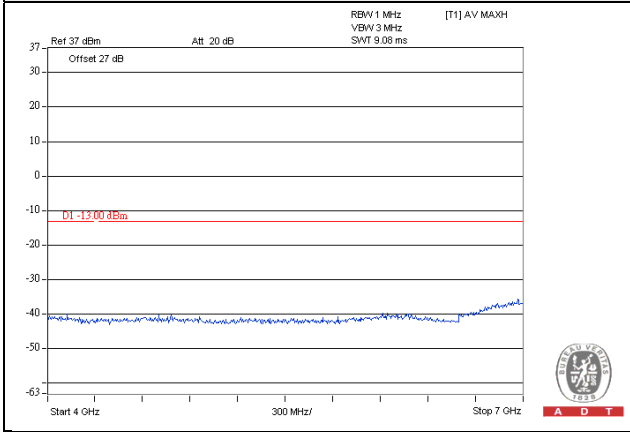
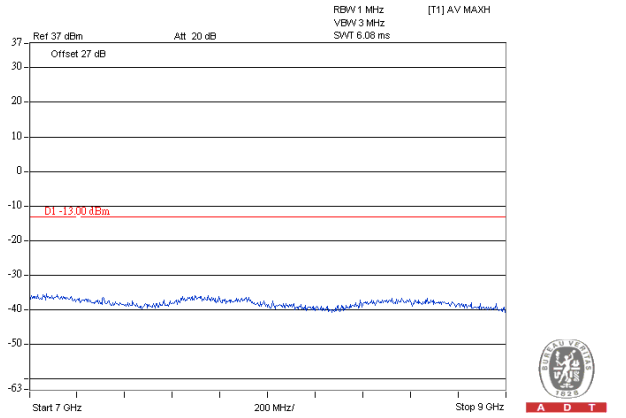


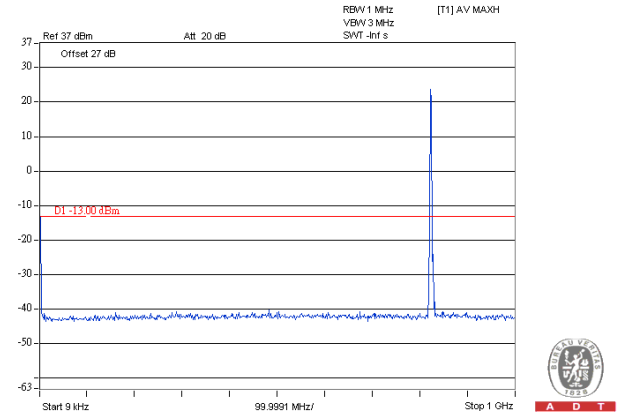
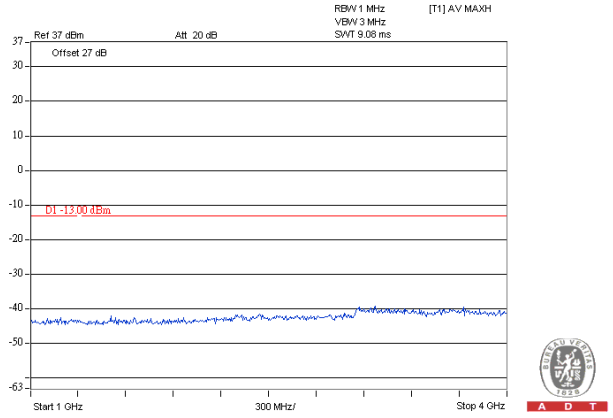
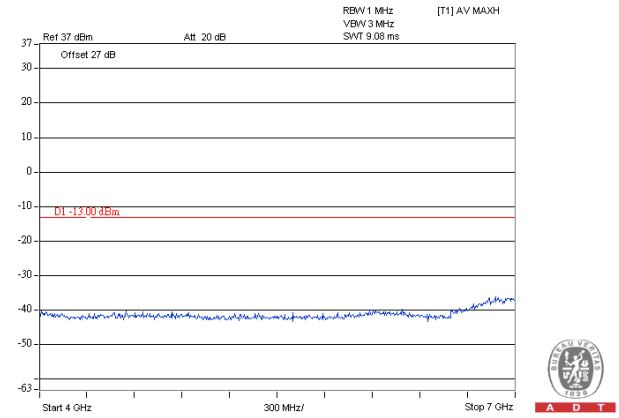
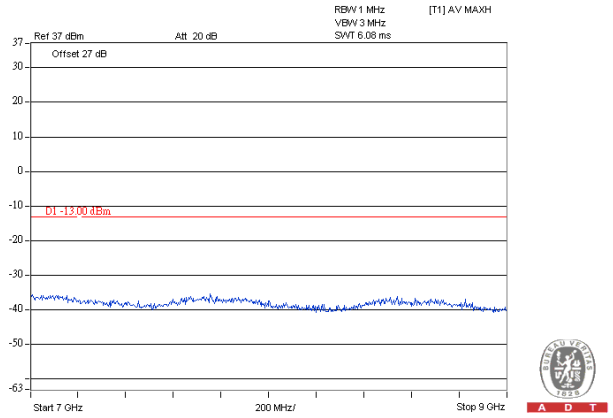


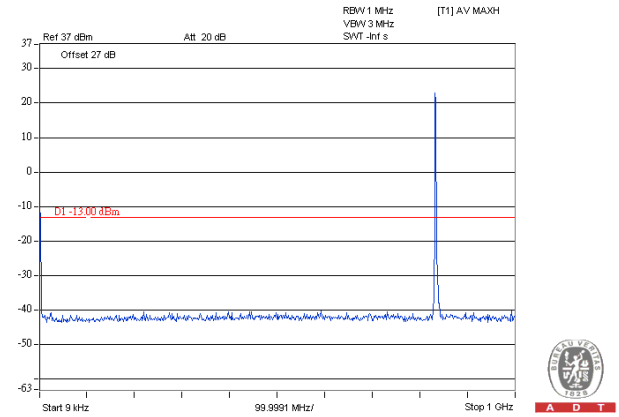
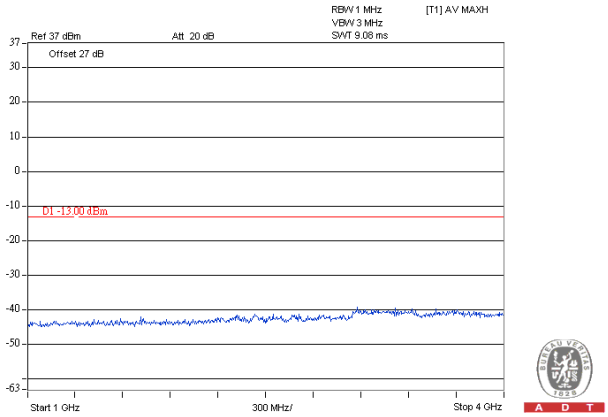
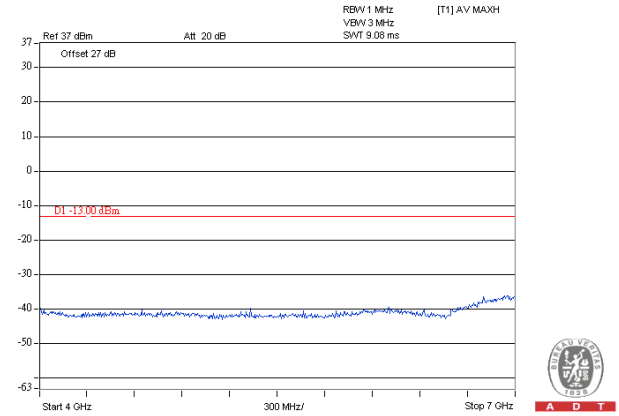
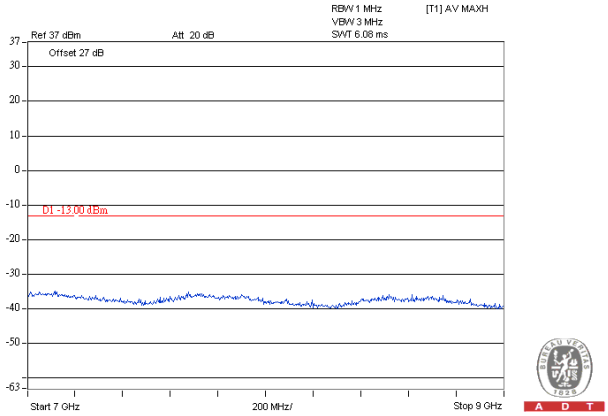
Frequency Range : 4GHz~7GHz	Frequency Range : 7GHz~9GHz

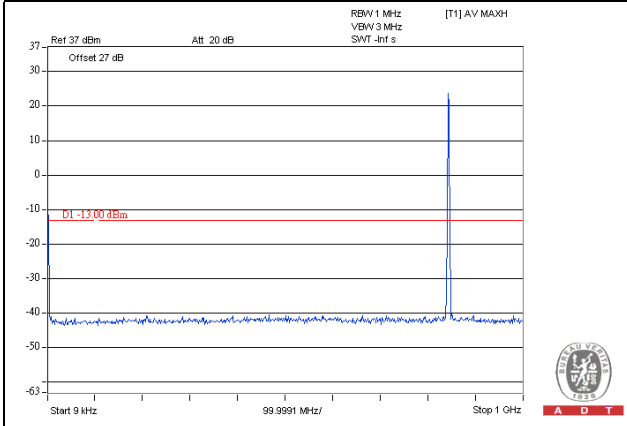
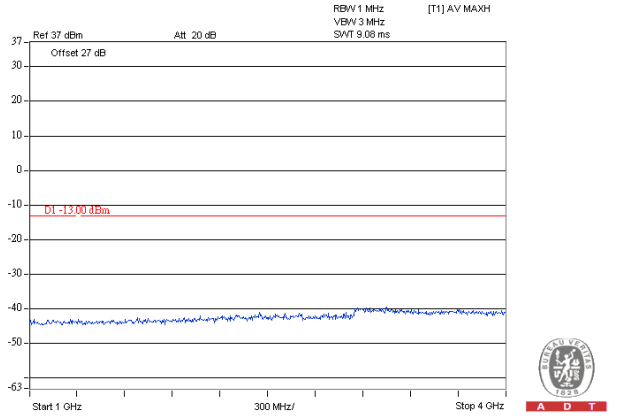
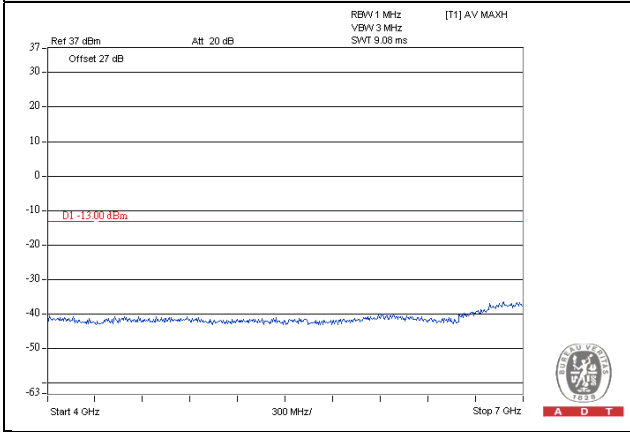
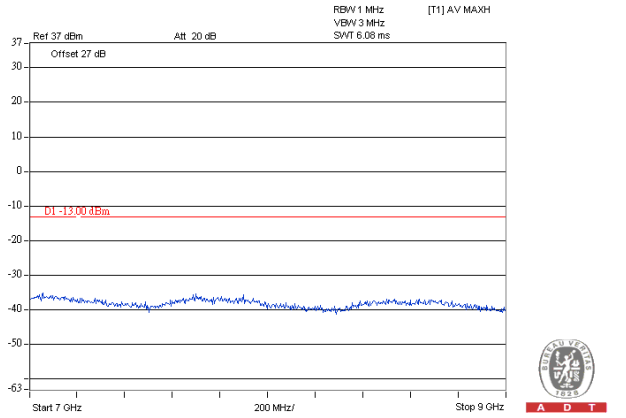


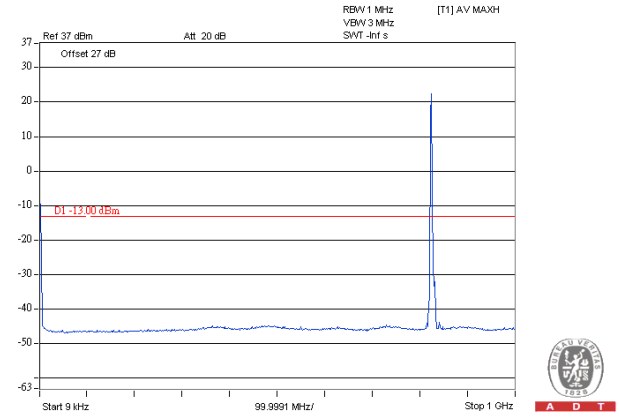
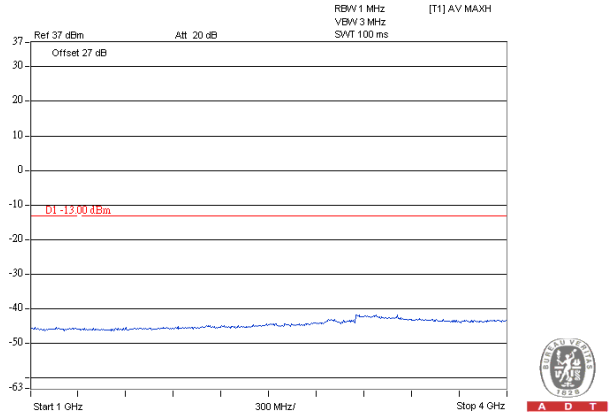
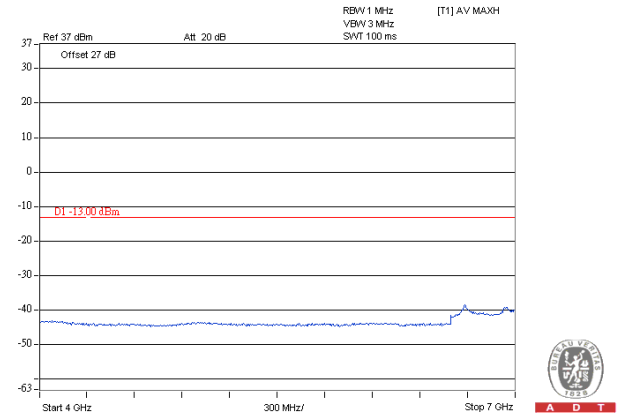
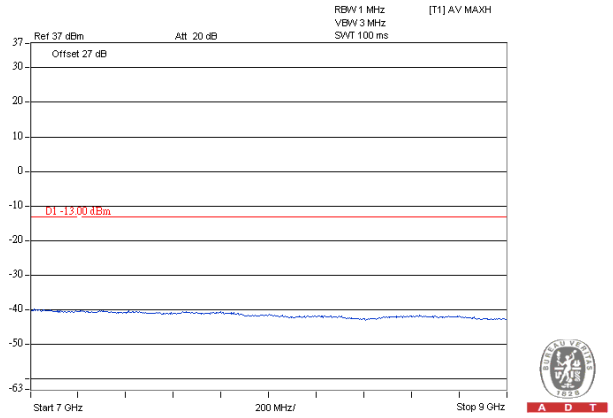


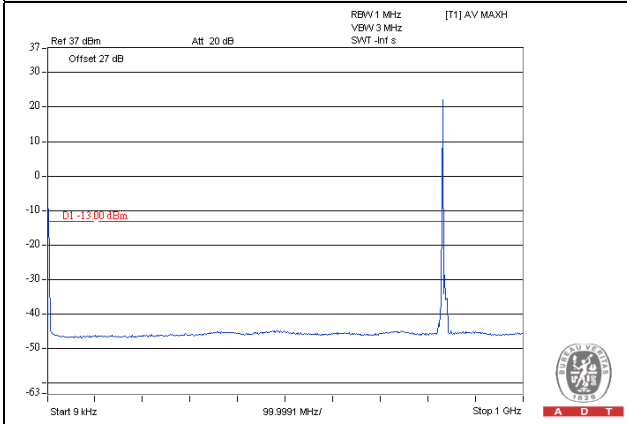
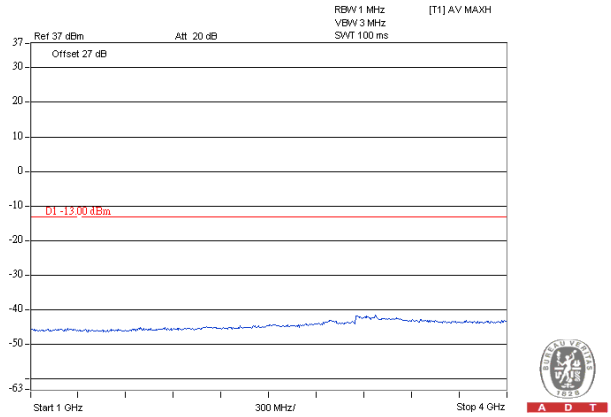
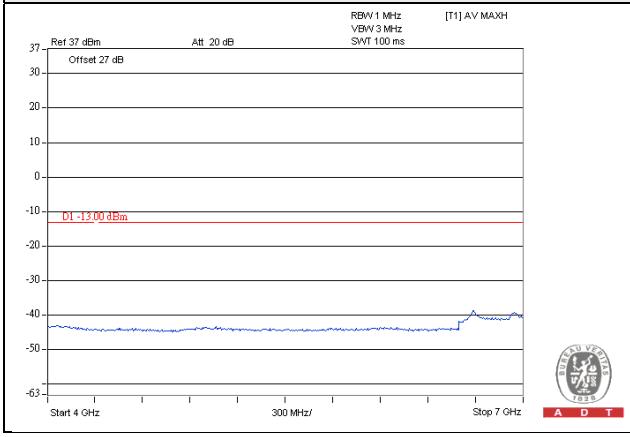
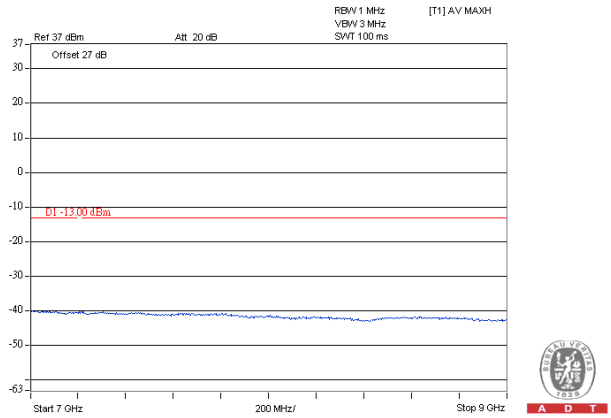
LTE Band 5 Channel Band width: 3MHz	
Channel 20635	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~4GHz
	
Frequency Range : 4GHz~7GHz	Frequency Range : 7GHz~9GHz
	

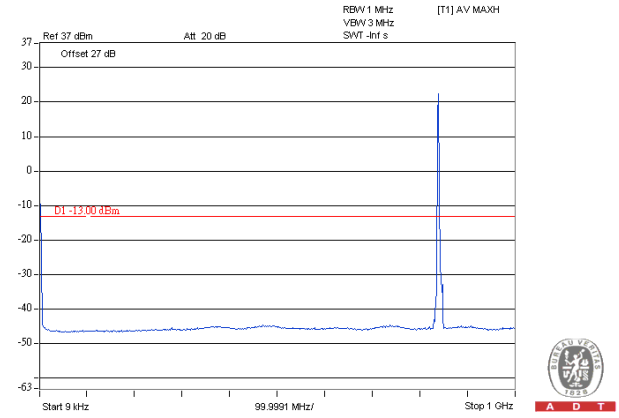
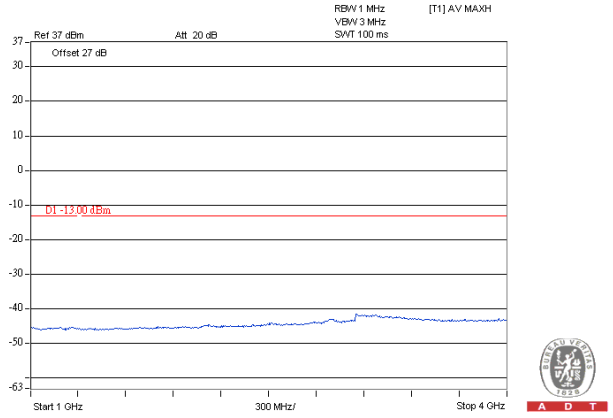
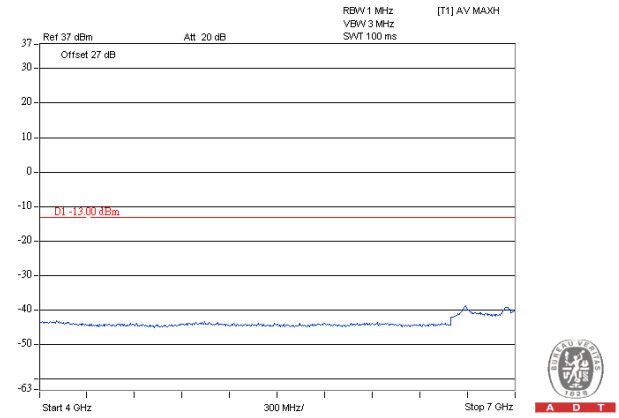
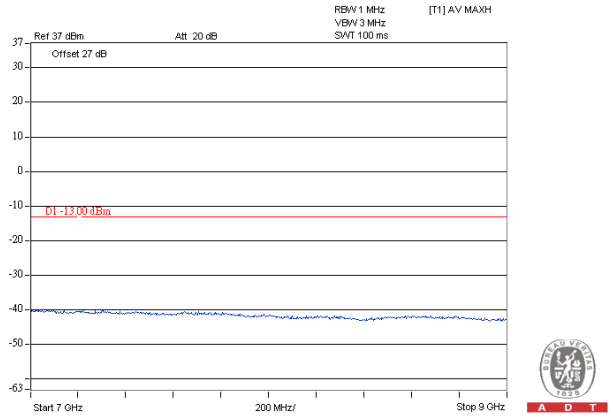
LTE Band 5 Channel Band width: 5MHz	
Channel 20425	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~4GHz
	
Frequency Range : 4GHz~7GHz	Frequency Range : 7GHz~9GHz
	

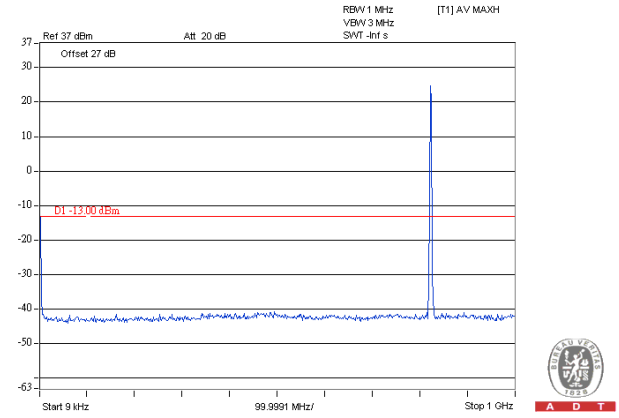
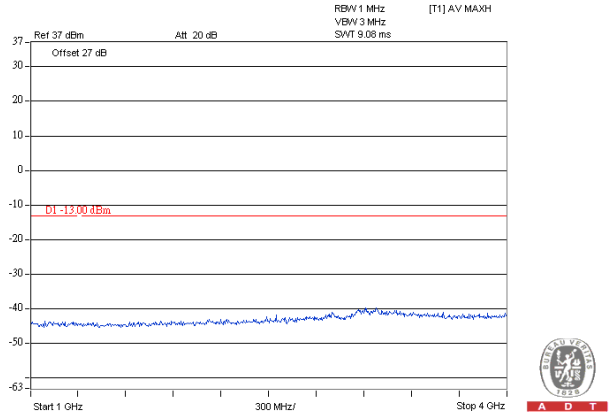
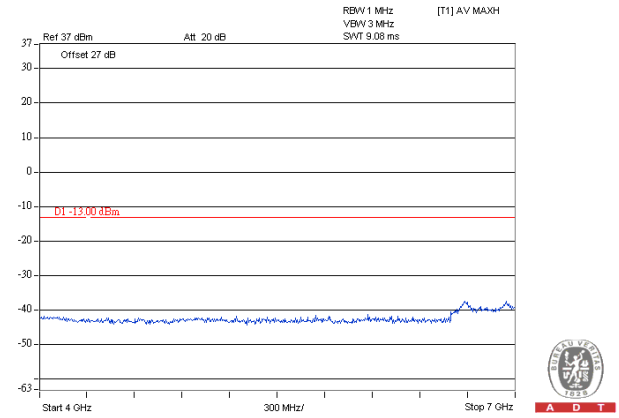
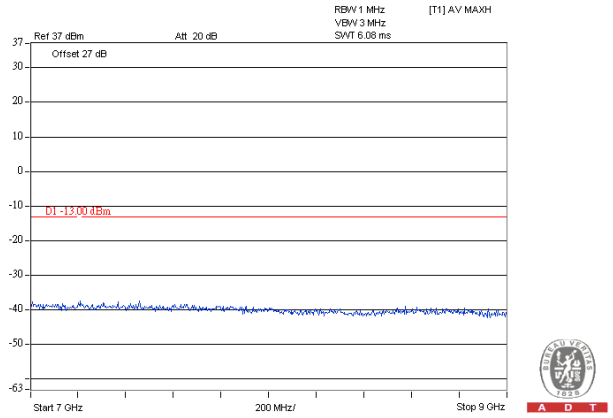
LTE Band 5 Channel Band width: 5MHz	
Channel 20525	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~4GHz
	
Frequency Range : 4GHz~7GHz	Frequency Range : 7GHz~9GHz
	

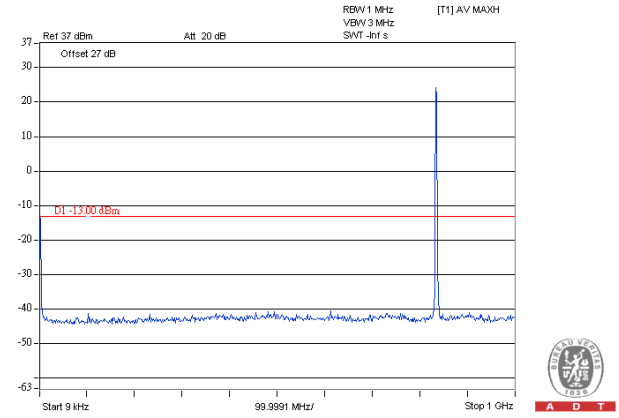
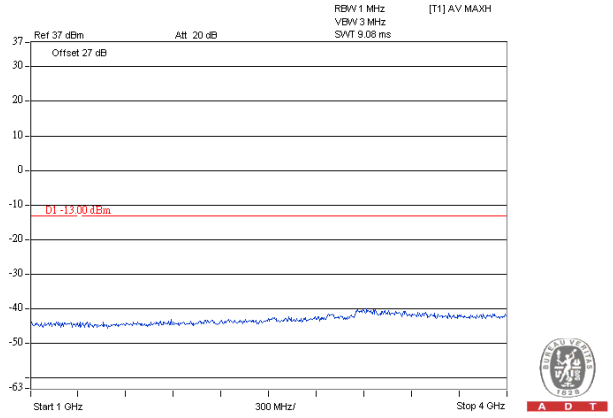
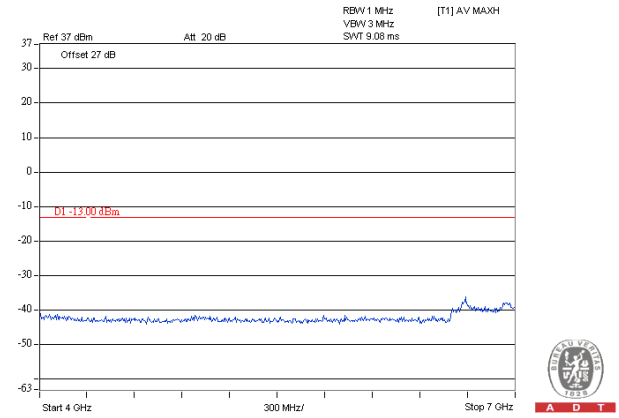
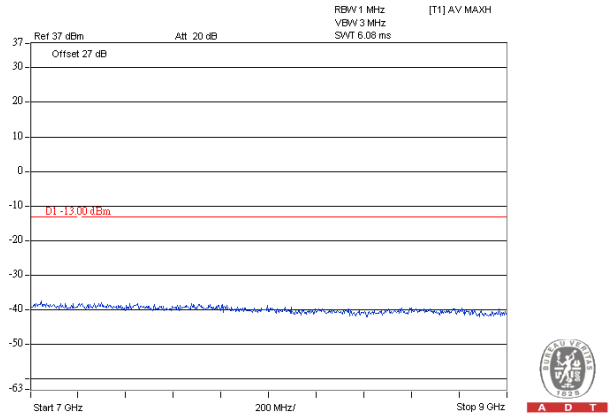
LTE Band 5 Channel Band width: 5MHz	
Channel 20625	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~4GHz
	
Frequency Range : 4GHz~7GHz	Frequency Range : 7GHz~9GHz
	

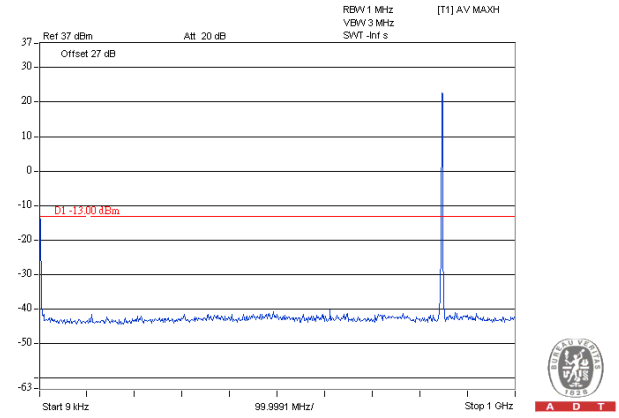
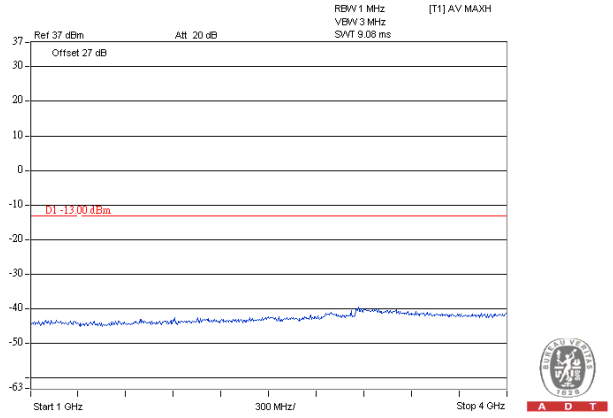
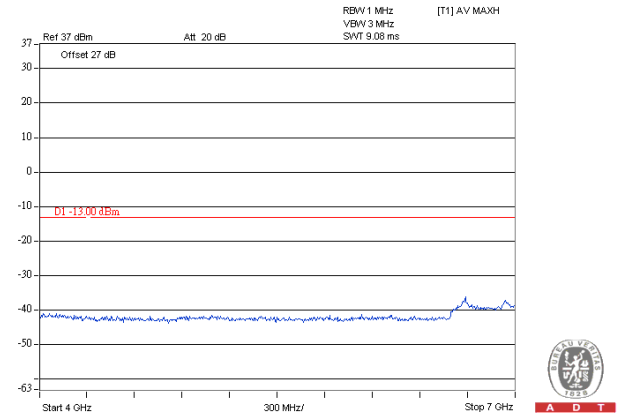
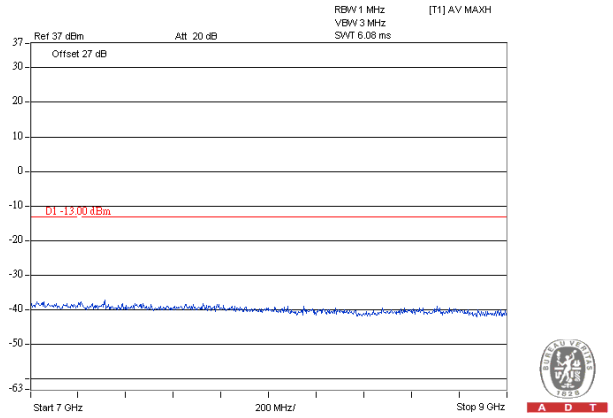
LTE Band 5 Channel Band width: 10MHz	
Channel 20450	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~4GHz
	
Frequency Range : 4GHz~7GHz	Frequency Range : 7GHz~9GHz
	

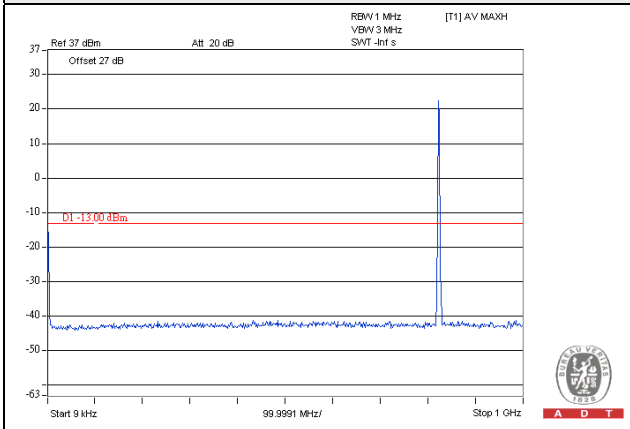
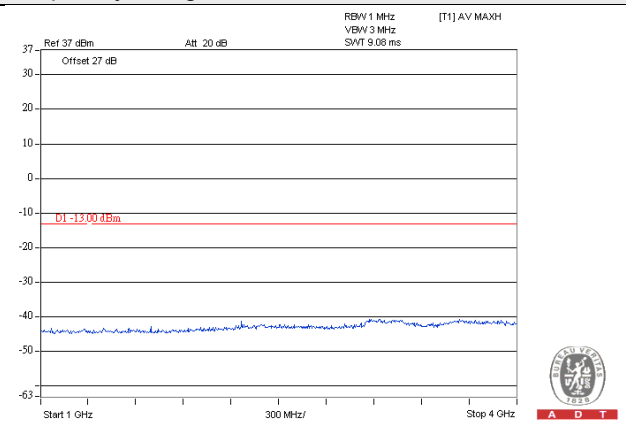
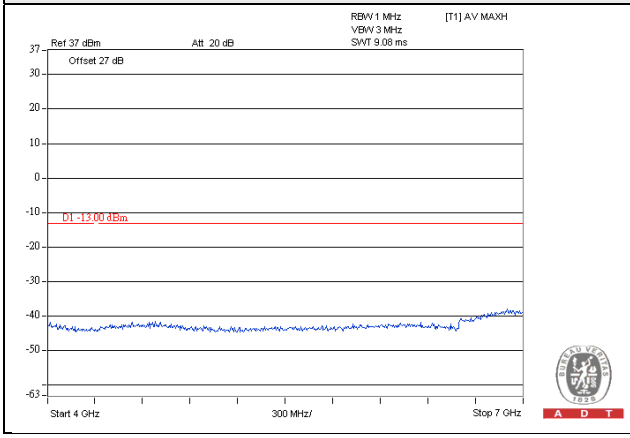
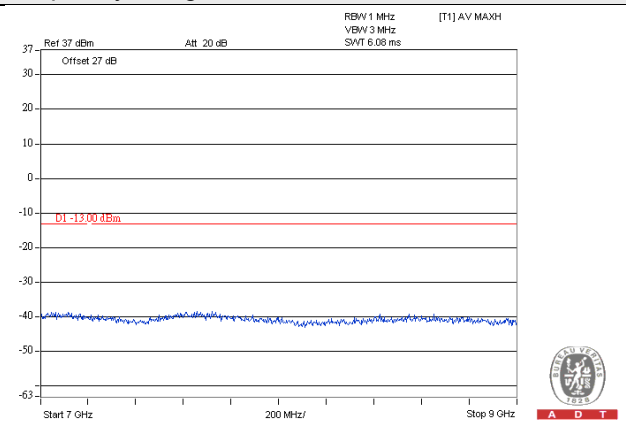
LTE Band 5 Channel Band width: 10MHz	
Channel 20525	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~4GHz
	
Frequency Range : 4GHz~7GHz	Frequency Range : 7GHz~9GHz
	

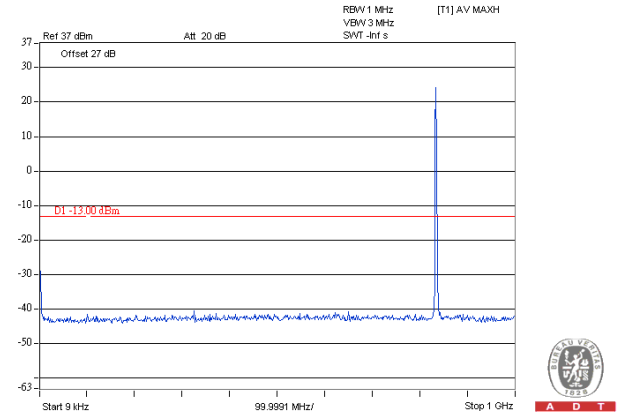
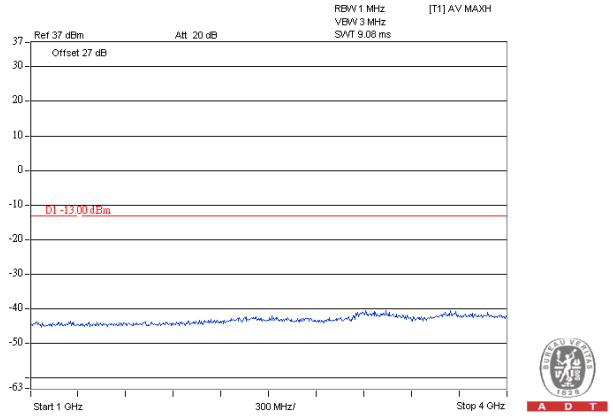
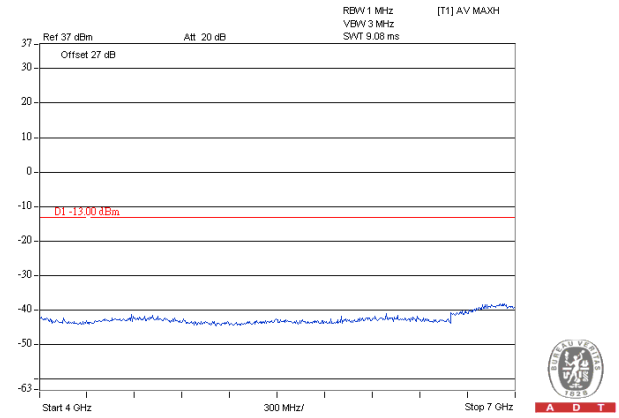
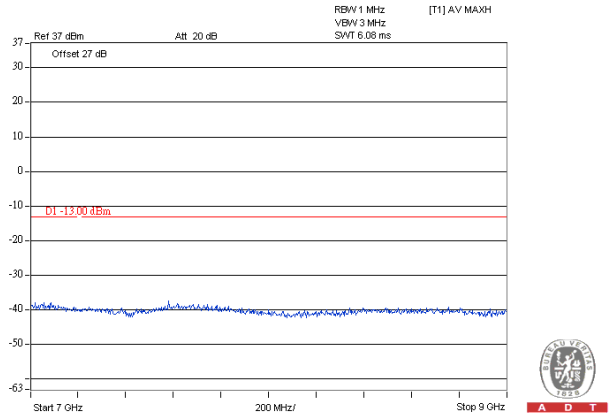
LTE Band 5 Channel Band width: 10MHz	
Channel 20600	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~4GHz
	
Frequency Range : 4GHz~7GHz	Frequency Range : 7GHz~9GHz
	

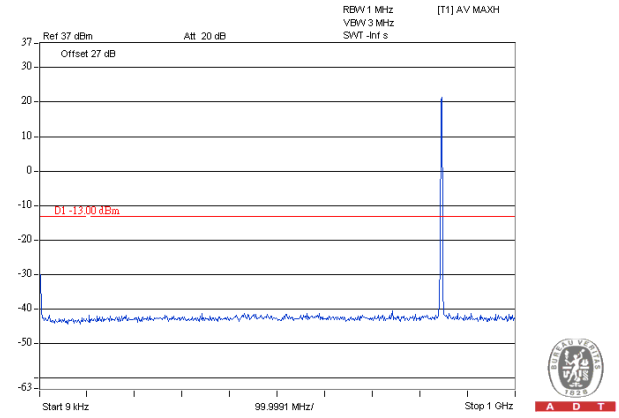
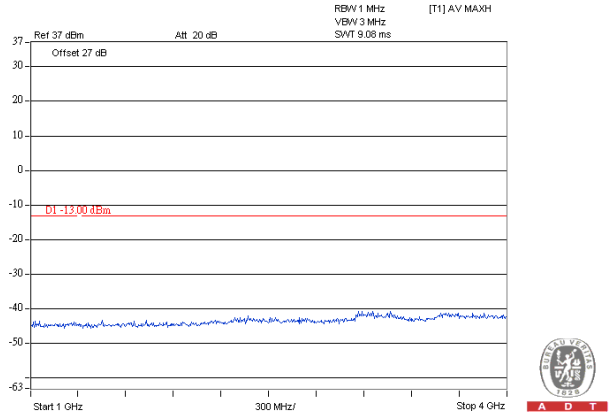
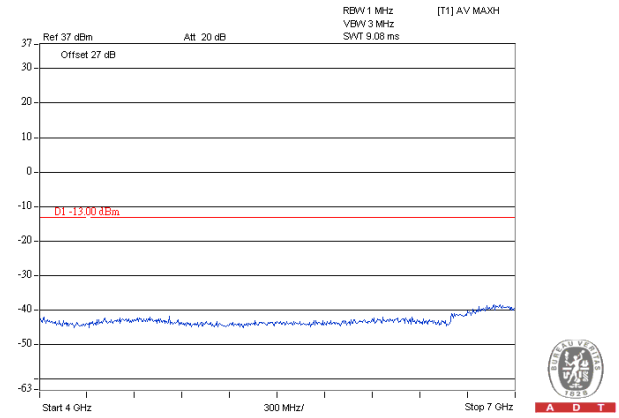
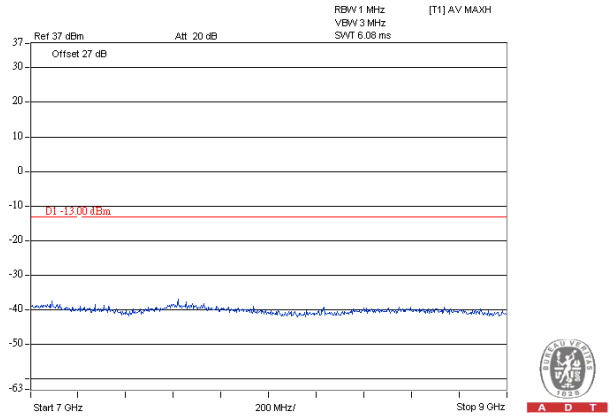
LTE Band 26 Channel Band width: 1.4MHz	
Channel 26797	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~4GHz
	
Frequency Range : 4GHz~7GHz	Frequency Range : 7GHz~9GHz
	

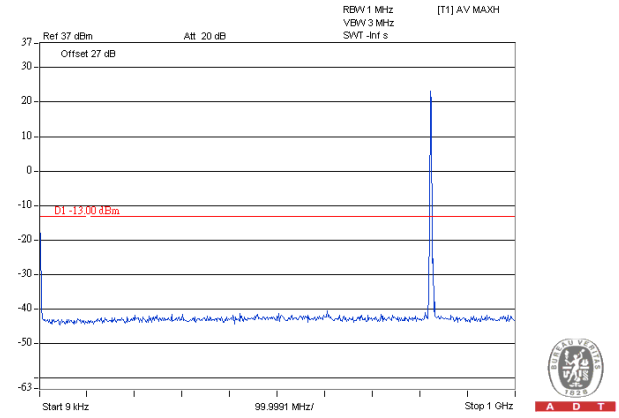
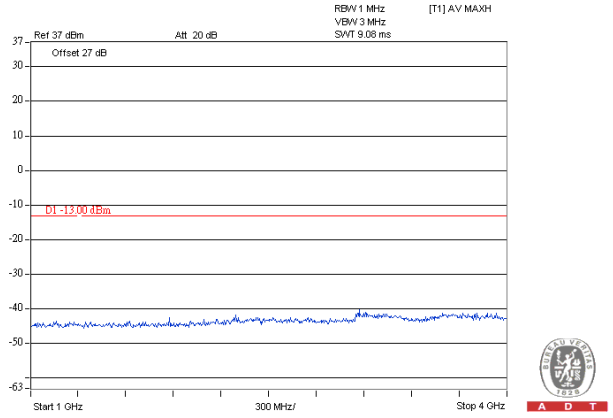
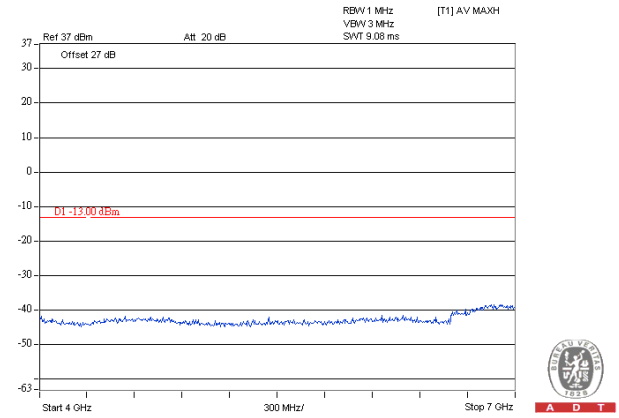
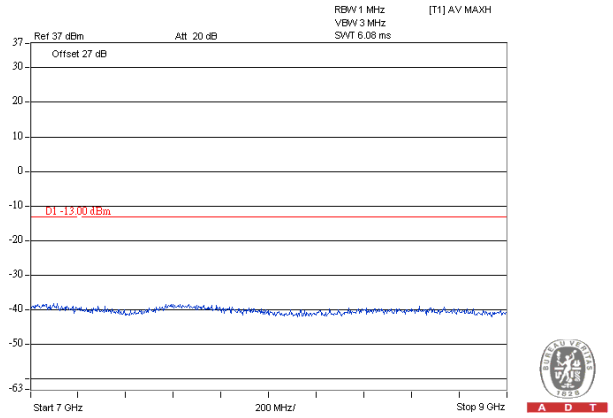
LTE Band 26 Channel Band width: 1.4MHz	
Channel 26915	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~4GHz
	
Frequency Range : 4GHz~7GHz	Frequency Range : 7GHz~9GHz
	

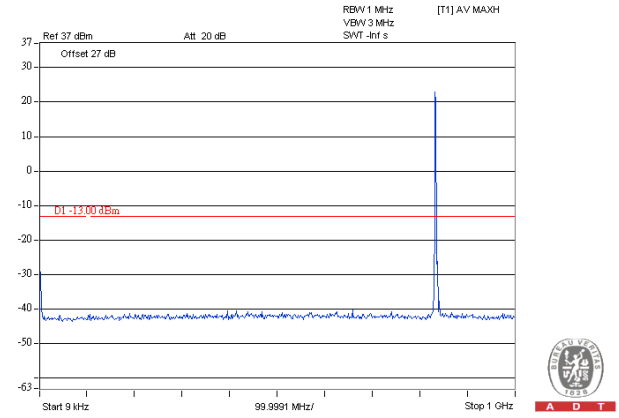
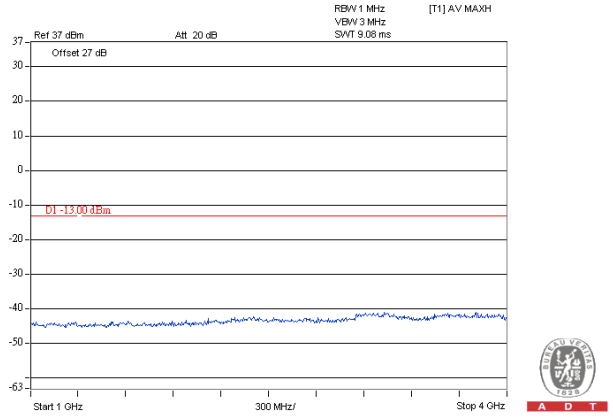
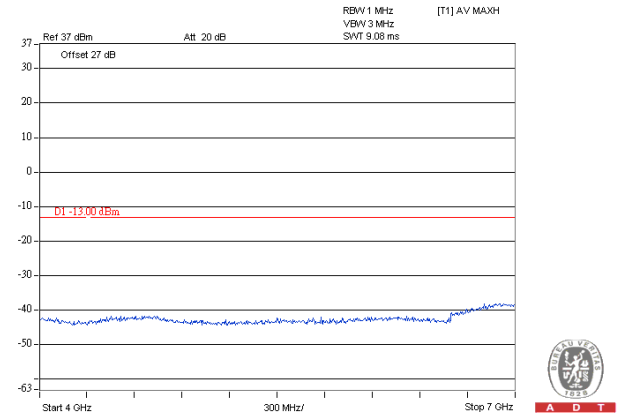
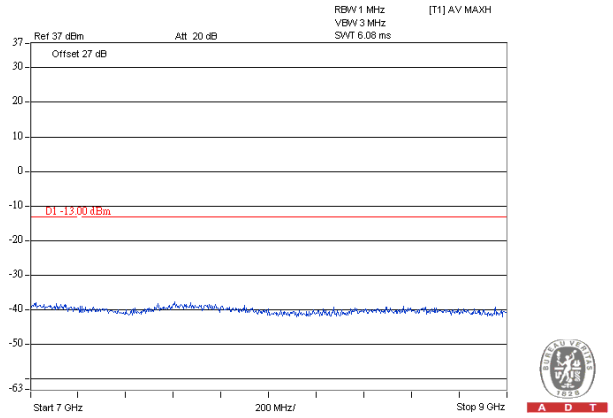
LTE Band 26 Channel Band width: 1.4MHz	
Channel 27033	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~4GHz
	
Frequency Range : 4GHz~7GHz	Frequency Range : 7GHz~9GHz
	

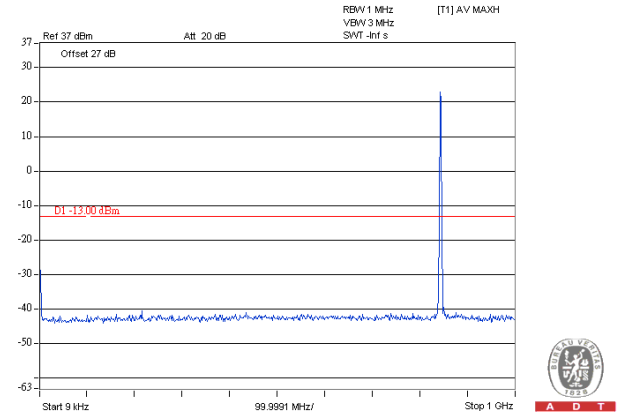
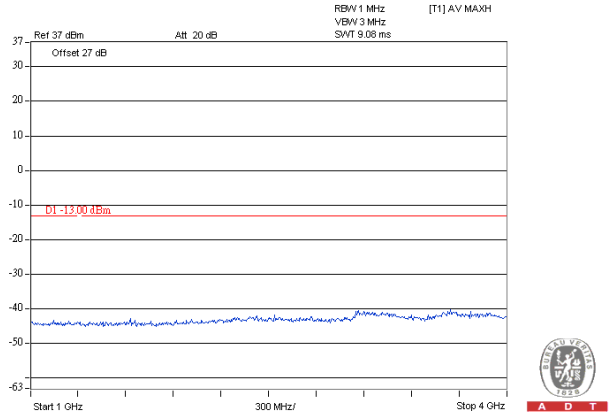
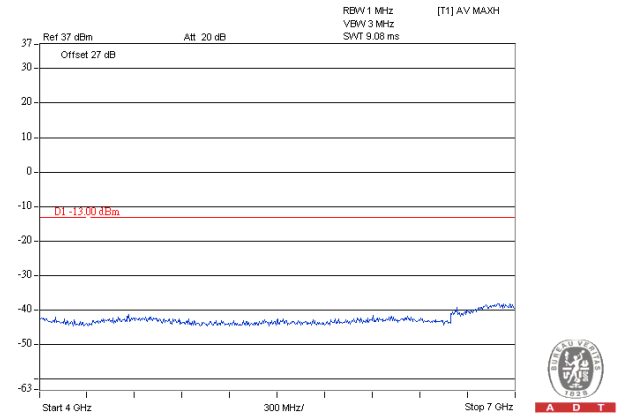
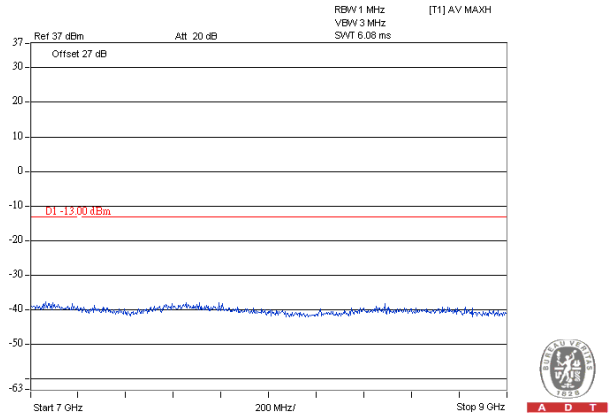
LTE Band 26 Channel Band width: 3MHz	
Channel 26805	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~4GHz
	
Frequency Range : 4GHz~7GHz	Frequency Range : 7GHz~9GHz
	

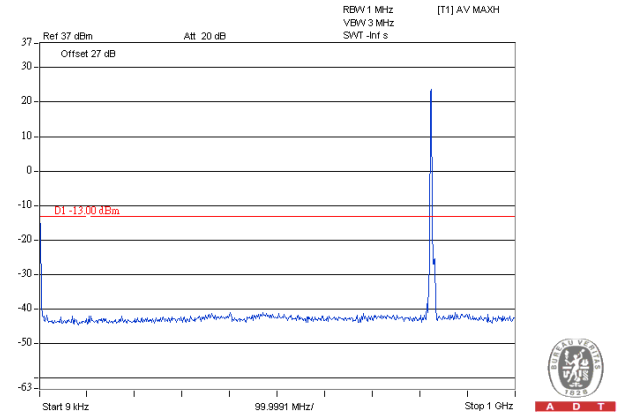
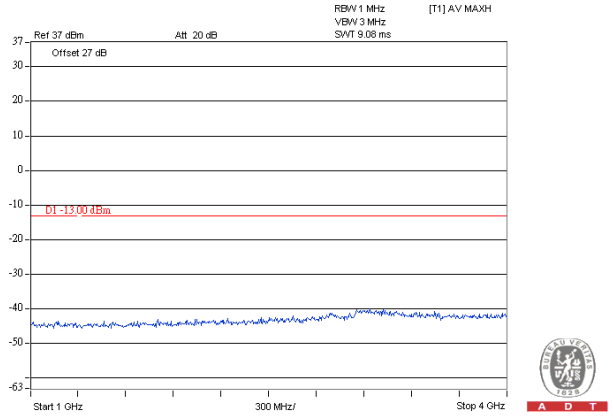
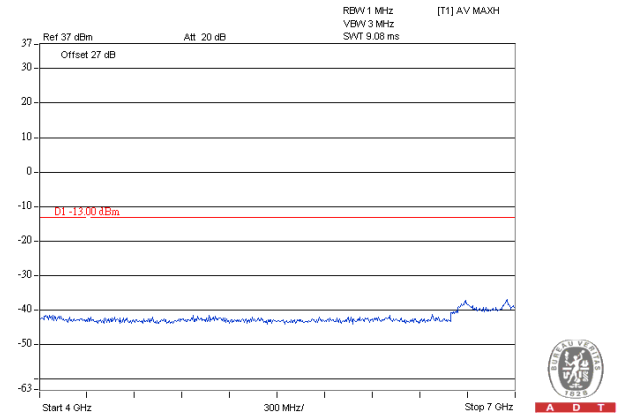
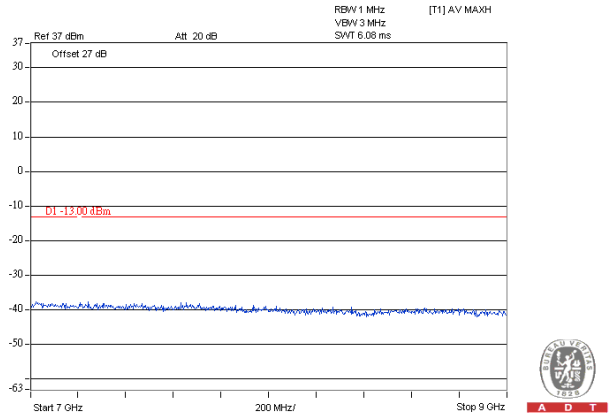
LTE Band 26 Channel Band width: 3MHz	
Channel 26915	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~4GHz
	
Frequency Range : 4GHz~7GHz	Frequency Range : 7GHz~9GHz
	

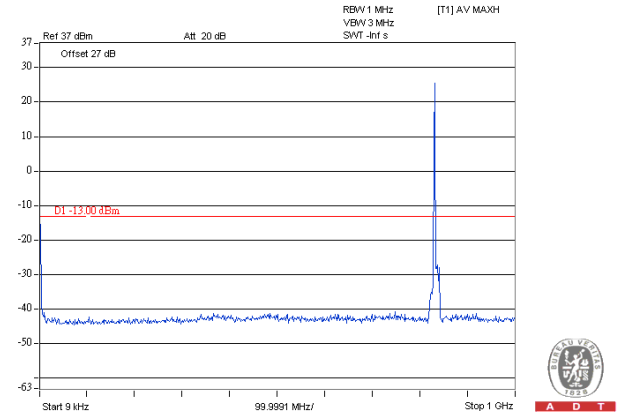
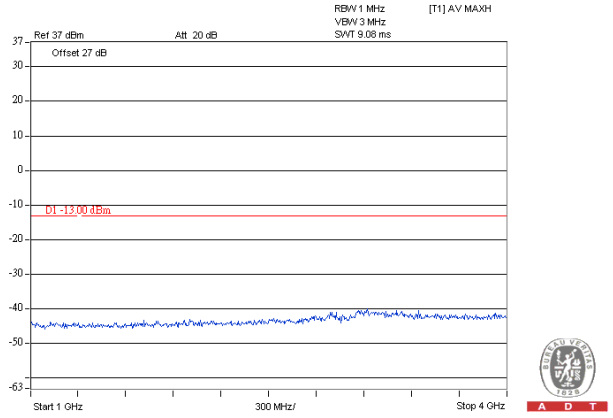
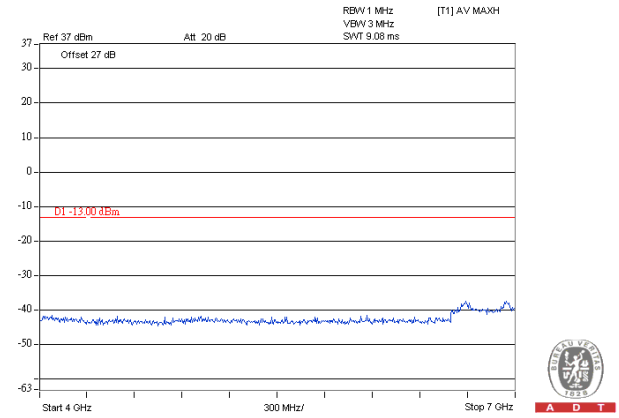
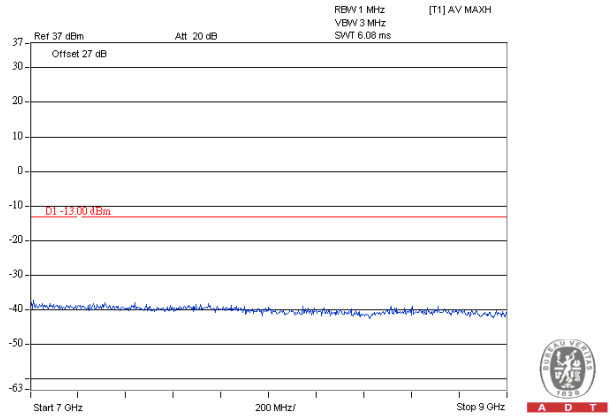
LTE Band 26 Channel Band width: 3MHz	
Channel 27025	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~4GHz
	
Frequency Range : 4GHz~7GHz	Frequency Range : 7GHz~9GHz
	

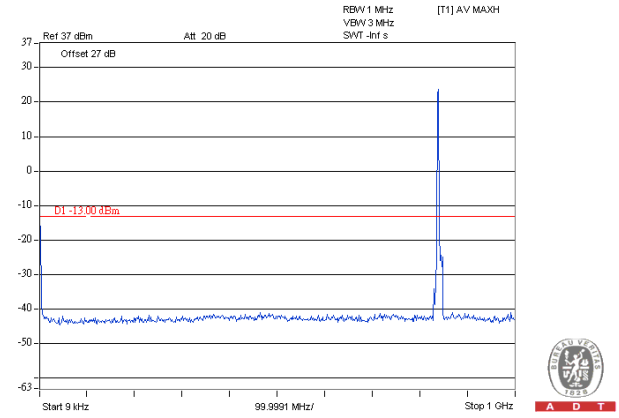
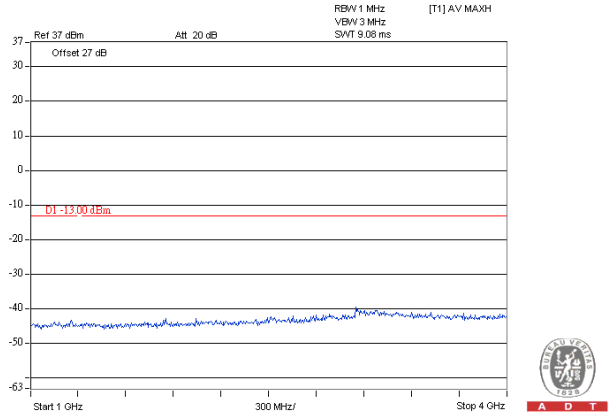
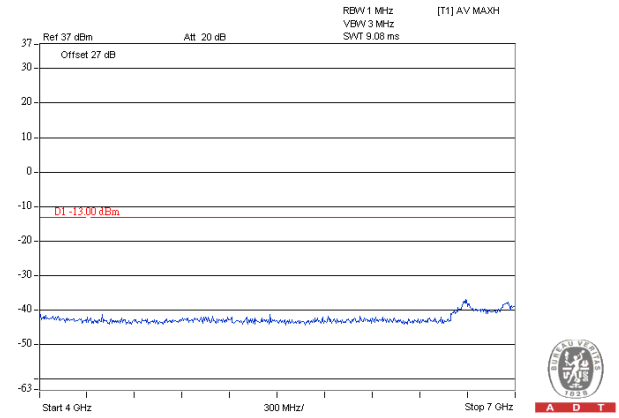
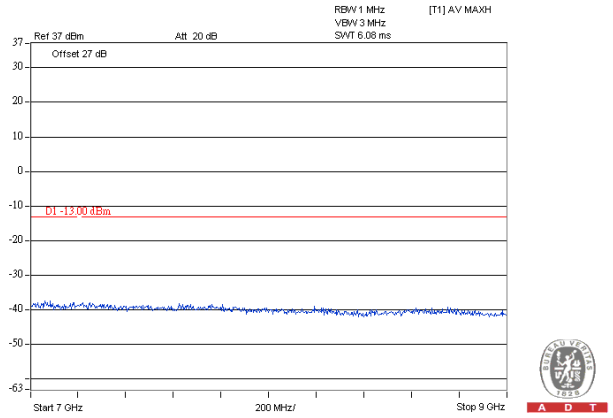
LTE Band 26 Channel Band width: 5MHz	
Channel 26815	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~4GHz
	
Frequency Range : 4GHz~7GHz	Frequency Range : 7GHz~9GHz
	

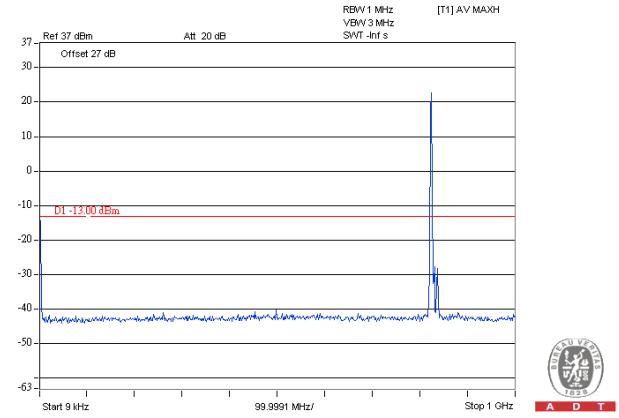
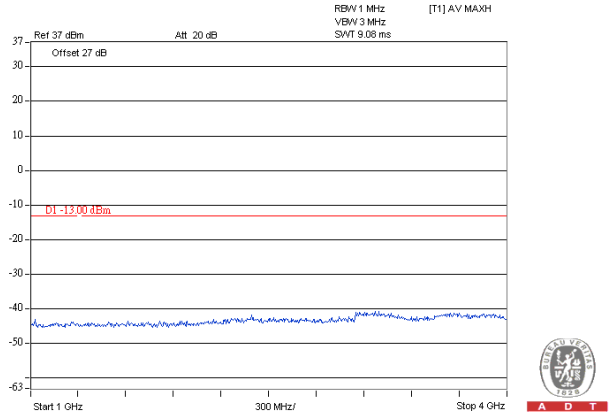
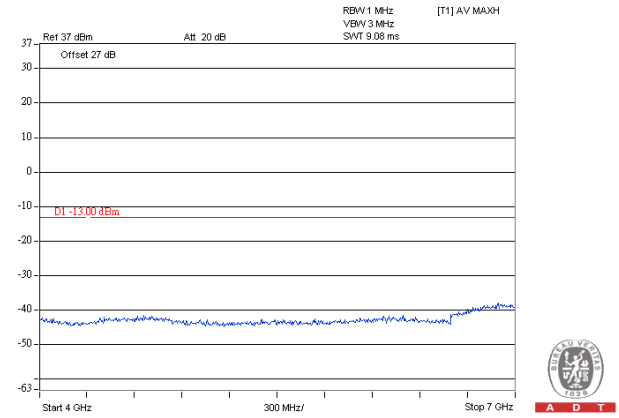
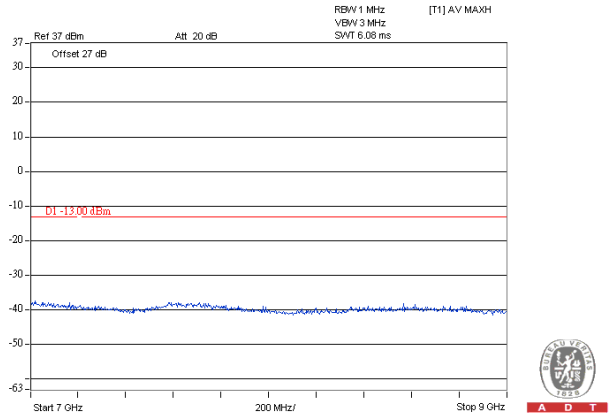
LTE Band 26 Channel Band width: 5MHz	
Channel 26915	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~4GHz
	
Frequency Range : 4GHz~7GHz	Frequency Range : 7GHz~9GHz
	

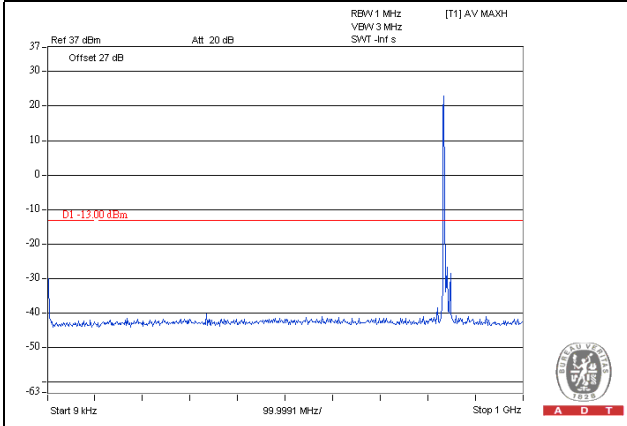
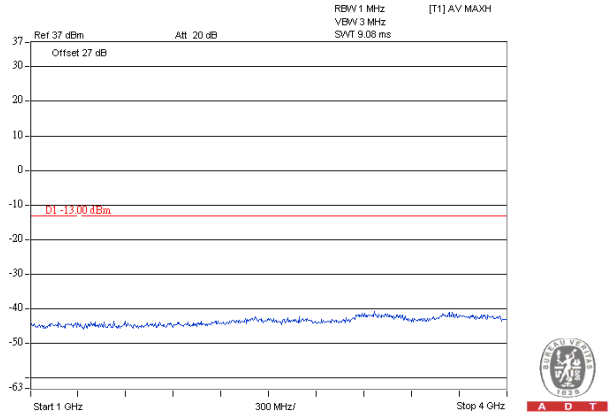
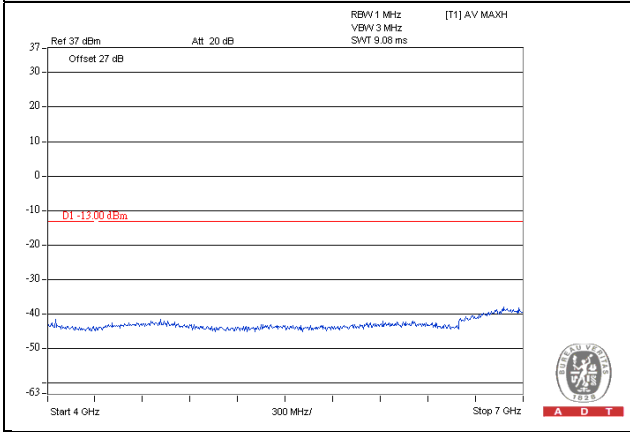
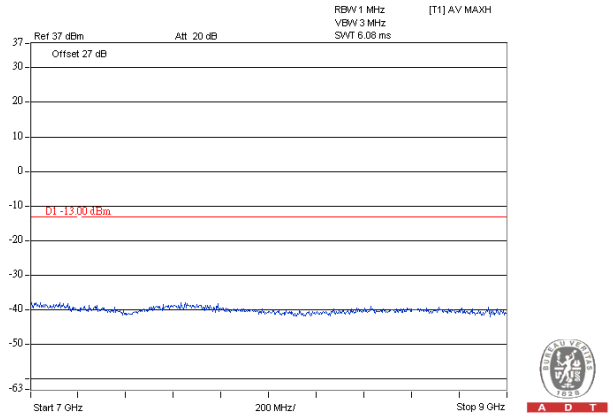
LTE Band 26 Channel Band width: 5MHz	
Channel 27015	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~4GHz
	
Frequency Range : 4GHz~7GHz	Frequency Range : 7GHz~9GHz
	

LTE Band 26 Channel Band width: 10MHz	
Channel 26840	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~4GHz
	
Frequency Range : 4GHz~7GHz	Frequency Range : 7GHz~9GHz
	

LTE Band 26 Channel Band width: 10MHz	
Channel 26915	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~4GHz
	
Frequency Range : 4GHz~7GHz	Frequency Range : 7GHz~9GHz
	

LTE Band 26 Channel Band width: 10MHz	
Channel 26990	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~4GHz
	
Frequency Range : 4GHz~7GHz	Frequency Range : 7GHz~9GHz
	

LTE Band 26 Channel Band width: 15MHz	
Channel 26865	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~4GHz
	
Frequency Range : 4GHz~7GHz	Frequency Range : 7GHz~9GHz
	

LTE Band 26 Channel Band width: 15MHz	
Channel 26965	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~4GHz
	
Frequency Range : 4GHz~7GHz	Frequency Range : 7GHz~9GHz
	

4.7 Radiated Emission Measurement

4.7.1 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.

4.7.2 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.

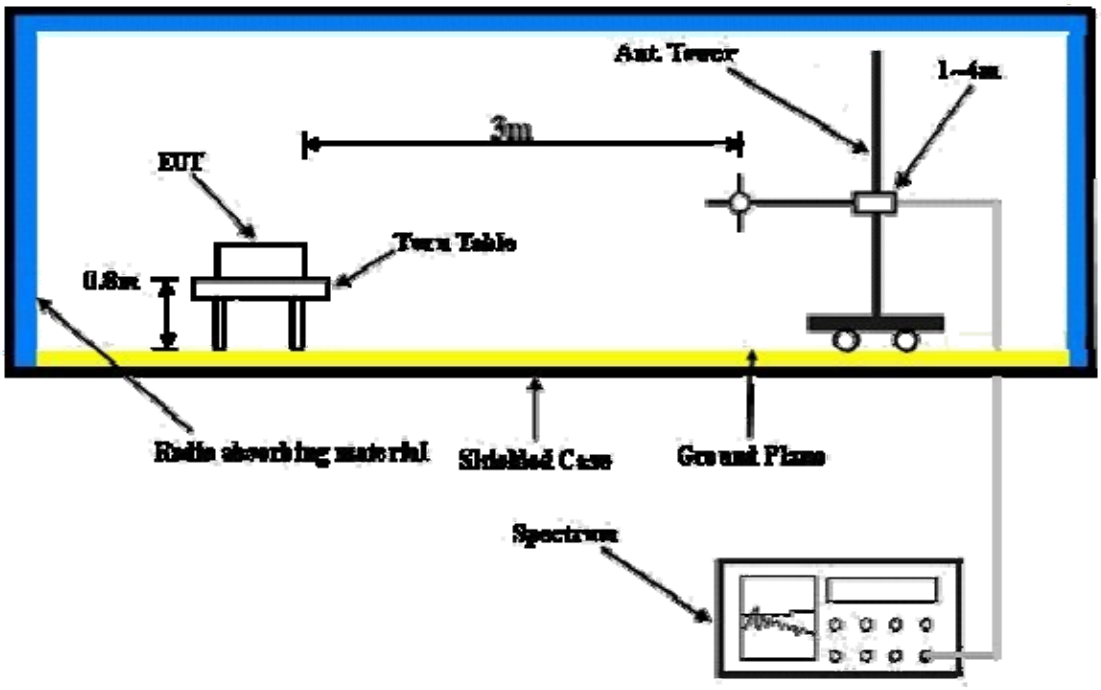
d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.R.P power - 2.15dBi.

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

4.7.3 Deviation from Test Standard

No deviation.

4.7.4 Test Setup



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

4.7.5 Test Results

Below 1GHz

LTE Band 5

Channel Bandwidth: 1.4MHz

Mode	TX channel 20407	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	80.44	-43.20	-50.80	0.50	-50.30	-13.00	-37.30
2	136.70	-45.50	-50.40	-3.20	-53.60	-13.00	-40.60
3	167.74	-40.90	-46.80	-2.90	-49.70	-13.00	-36.70
4	196.84	-37.00	-45.00	-2.50	-47.50	-13.00	-34.50
5	208.48	-41.00	-49.50	-2.00	-51.50	-13.00	-38.50
6	260.86	-43.60	-49.00	-1.50	-50.50	-13.00	-37.50
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	53.28	-40.80	-43.60	-6.20	-49.80	-13.00	-36.80
2	134.76	-43.50	-46.10	-3.20	-49.30	-13.00	-36.30
3	187.14	-39.20	-41.00	-2.70	-43.70	-13.00	-30.70
4	233.70	-47.20	-49.90	-1.70	-51.60	-13.00	-38.60
5	262.80	-45.60	-45.10	-1.60	-46.70	-13.00	-33.70
6	317.12	-48.40	-54.60	4.10	-50.50	-13.00	-37.50

Remarks:

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

Channel Bandwidth: 3MHz

Mode	TX channel 20415	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	35.82	-56.10	-38.80	-15.90	-54.70	-13.00	-41.70
2	80.44	-43.00	-50.60	0.50	-50.10	-13.00	-37.10
3	136.70	-44.80	-49.70	-3.20	-52.90	-13.00	-39.90
4	198.78	-36.20	-44.40	-2.40	-46.80	-13.00	-33.80
5	264.74	-43.80	-48.80	-1.60	-50.40	-13.00	-37.40
6	317.12	-53.20	-63.50	4.10	-59.40	-13.00	-46.40
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	82.38	-46.90	-53.90	0.40	-53.50	-13.00	-40.50
2	132.82	-43.40	-46.40	-3.30	-49.70	-13.00	-36.70
3	185.20	-39.50	-41.70	-2.80	-44.50	-13.00	-31.50
4	264.74	-45.60	-45.10	-1.60	-46.70	-13.00	-33.70
5	319.06	-48.20	-54.50	4.00	-50.50	-13.00	-37.50
6	435.46	-50.00	-55.90	3.60	-52.30	-13.00	-39.30

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

Channel Bandwidth: 5MHz

Mode	TX channel 20525	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	35.82	-57.10	-39.90	-15.90	-55.80	-13.00	-42.80
2	82.38	-42.30	-50.30	0.40	-49.90	-13.00	-36.90
3	196.84	-37.50	-45.50	-2.50	-48.00	-13.00	-35.00
4	260.86	-43.80	-49.10	-1.50	-50.60	-13.00	-37.60
5	441.28	-57.50	-63.40	3.50	-59.90	-13.00	-46.90
6	588.72	-60.20	-65.00	3.80	-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	97.90	-42.90	-51.70	-1.40	-53.10	-13.00	-40.10
2	134.76	-43.90	-46.40	-3.20	-49.60	-13.00	-36.60
3	187.14	-39.90	-41.70	-2.70	-44.40	-13.00	-31.40
4	260.86	-45.20	-44.90	-1.50	-46.40	-13.00	-33.40
5	317.12	-48.50	-54.70	4.10	-50.60	-13.00	-37.60
6	435.46	-50.10	-56.00	3.60	-52.40	-13.00	-39.40

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

Channel Bandwidth: 10MHz

Mode	TX channel 20450	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	35.82	-57.10	-39.90	-15.90	-55.80	-13.00	-42.80
2	80.44	-43.20	-50.70	0.50	-50.20	-13.00	-37.20
3	194.90	-38.10	-46.10	-2.60	-48.70	-13.00	-35.70
4	262.80	-43.80	-49.00	-1.60	-50.60	-13.00	-37.60
5	319.06	-52.60	-62.80	4.00	-58.80	-13.00	-45.80
6	439.34	-57.50	-63.40	3.50	-59.90	-13.00	-46.90
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	59.10	-47.80	-52.90	-3.80	-56.70	-13.00	-43.70
2	134.76	-43.50	-46.00	-3.20	-49.20	-13.00	-36.20
3	187.14	-40.20	-42.10	-2.70	-44.80	-13.00	-31.80
4	262.80	-45.60	-45.10	-1.60	-46.70	-13.00	-33.70
5	317.12	-49.00	-55.20	4.10	-51.10	-13.00	-38.10
6	435.46	-49.50	-55.40	3.60	-51.80	-13.00	-38.80

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

LTE Band 26

Channel Bandwidth: 1.4MHz

Mode	TX channel 26915	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	45.50	-56.40	-47.30	-10.40	-57.70	-13.00	-44.70
2	80.40	-46.70	-54.20	0.50	-53.70	-13.00	-40.70
3	134.80	-45.60	-50.50	-3.20	-53.70	-13.00	-40.70
4	165.80	-48.60	-54.40	-3.00	-57.40	-13.00	-44.40
5	204.60	-43.40	-51.50	-2.00	-53.50	-13.00	-40.50
6	258.90	-50.10	-55.80	-1.50	-57.30	-13.00	-44.30
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	134.80	-43.50	-46.10	-3.20	-49.30	-13.00	-36.30
2	196.80	-43.40	-43.90	-2.50	-46.40	-13.00	-33.40
3	260.90	-51.10	-50.80	-1.50	-52.30	-13.00	-39.30
4	423.80	-50.30	-56.20	3.40	-52.80	-13.00	-39.80
5	730.30	-50.60	-49.80	3.60	-46.20	-13.00	-33.20
6	747.80	-52.50	-51.40	3.70	-47.70	-13.00	-34.70

Remarks:

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

Channel Bandwidth: 3MHz

Mode	TX channel 26915	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	80.40	-46.50	-54.00	0.50	-53.50	-13.00	-40.50
2	132.80	-45.80	-50.70	-3.30	-54.00	-13.00	-41.00
3	204.60	-43.40	-51.50	-2.00	-53.50	-13.00	-40.50
4	220.10	-45.40	-53.70	-1.90	-55.60	-13.00	-42.60
5	260.90	-50.10	-55.50	-1.50	-57.00	-13.00	-44.00
6	734.20	-58.80	-60.40	3.70	-56.70	-13.00	-43.70
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	57.20	-45.20	-49.60	-4.70	-54.30	-13.00	-41.30
2	134.80	-44.50	-47.00	-3.20	-50.20	-13.00	-37.20
3	198.80	-43.90	-44.60	-2.40	-47.00	-13.00	-34.00
4	260.90	-51.50	-51.10	-1.50	-52.60	-13.00	-39.60
5	317.10	-52.50	-58.70	4.10	-54.60	-13.00	-41.60
6	429.60	-50.60	-56.60	3.50	-53.10	-13.00	-40.10

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

Channel Bandwidth: 5MHz

Mode	TX channel 26915	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	80.40	-47.00	-54.50	0.50	-54.00	-13.00	-41.00
2	109.50	-47.00	-54.60	-2.50	-57.10	-13.00	-44.10
3	132.80	-45.60	-50.60	-3.30	-53.90	-13.00	-40.90
4	204.60	-43.40	-51.50	-2.00	-53.50	-13.00	-40.50
5	222.10	-45.50	-53.90	-1.90	-55.80	-13.00	-42.80
6	260.90	-50.20	-55.60	-1.50	-57.10	-13.00	-44.10
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	132.80	-43.40	-46.40	-3.30	-49.70	-13.00	-36.70
2	198.80	-43.40	-44.10	-2.40	-46.50	-13.00	-33.50
3	260.90	-51.60	-51.20	-1.50	-52.70	-13.00	-39.70
4	315.20	-51.60	-57.90	4.00	-53.90	-13.00	-40.90
5	435.50	-50.80	-56.60	3.60	-53.00	-13.00	-40.00
6	627.50	-57.90	-58.70	3.60	-55.10	-13.00	-42.10

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

Channel Bandwidth: 10MHz

Mode	TX channel 26915	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	35.80	-58.40	-41.10	-15.90	-57.00	-13.00	-44.00
2	82.40	-45.80	-53.80	0.40	-53.40	-13.00	-40.40
3	132.80	-45.00	-50.00	-3.30	-53.30	-13.00	-40.30
4	204.60	-43.00	-51.10	-2.00	-53.10	-13.00	-40.10
5	260.90	-50.40	-55.80	-1.50	-57.30	-13.00	-44.30
6	780.80	-60.90	-61.90	4.00	-57.90	-13.00	-44.90
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	132.80	-42.50	-45.60	-3.30	-48.90	-13.00	-35.90
2	202.70	-43.60	-45.10	-2.10	-47.20	-13.00	-34.20
3	260.90	-52.00	-51.60	-1.50	-53.10	-13.00	-40.10
4	317.10	-52.00	-58.20	4.10	-54.10	-13.00	-41.10
5	435.50	-51.10	-57.00	3.60	-53.40	-13.00	-40.40
6	691.50	-56.00	-56.00	3.50	-52.50	-13.00	-39.50

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

Channel Bandwidth: 15MHz

Mode	TX channel 26965	Frequency Range	Below 1000 MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	82.40	-46.70	-54.60	0.40	-54.20	-13.00	-41.20
2	132.80	-45.50	-50.50	-3.30	-53.80	-13.00	-40.80
3	156.10	-51.40	-55.40	-2.90	-58.30	-13.00	-45.30
4	202.70	-43.10	-51.20	-2.10	-53.30	-13.00	-40.30
5	225.90	-45.00	-53.30	-1.70	-55.00	-13.00	-42.00
6	262.80	-49.90	-55.20	-1.60	-56.80	-13.00	-43.80
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	57.20	-45.70	-50.00	-4.70	-54.70	-13.00	-41.70
2	134.80	-43.50	-46.10	-3.20	-49.30	-13.00	-36.30
3	194.90	-43.00	-43.60	-2.60	-46.20	-13.00	-33.20
4	260.90	-51.80	-51.40	-1.50	-52.90	-13.00	-39.90
5	317.10	-52.80	-59.00	4.10	-54.90	-13.00	-41.90
6	429.60	-50.20	-56.20	3.50	-52.70	-13.00	-39.70

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

Above 1GHz

LTE Band 5

Channel Bandwidth: 1.4MHz

Mode	TX channel 20407	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Ted 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	-61.87	-54.11	0.91	-53.20	-13.00	-40.20
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	1649.40	-62.35	-55.06	0.91	-54.15	-13.00	-41.15

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

Mode	TX channel 20525	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Ted 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	-60.57	-52.94	0.82	-52.12	-13.00	-39.12
Antenna Polarity & Test Distance: 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	-60.94	-53.62	0.82	-52.80	-13.00	-39.80

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

Mode	TX channel 20643	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Ted 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	-59.88	-52.39	0.75	-51.64	-13.00	-38.64
Antenna Polarity & Test Distance: 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	-59.88	-52.56	0.75	-51.81	-13.00	-38.81

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

Channel Bandwidth: 3 MHz

Mode	TX channel 20415	Frequency Range	Above 1000MHz
Environmental Conditions	27deg. C, 62%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1651.00	-62.40	-54.70	0.90	-53.80	-13.00	-40.80
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	1651.00	-62.20	-55.00	0.90	-54.10	-13.00	-41.10

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

Mode	TX channel 20525	Frequency Range	Above 1000MHz
Environmental Conditions	27deg. C, 62%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1673.00	-62.20	-54.50	0.80	-53.70	-13.00	-40.70
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	1673.00	-62.40	-55.10	0.80	-54.30	-13.00	-41.30

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

Mode	TX channel 20635	Frequency Range	Above 1000MHz
Environmental Conditions	27deg. C, 62%RH	Input Power	120Vac, 60Hz
Tested By	Tank Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1695.00	-61.20	-53.70	0.70	-53.00	-13.00	-40.00
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	1695.00	-60.80	-53.40	0.70	-52.70	-13.00	-39.70

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

Channel Bandwidth: 5MHz

Mode	TX channel 20425	Frequency Range	Above 1000MHz
Environmental Conditions	18deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Nick Hsu		

Antenna Polarity & Test Distance: 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	-62.10	-54.40	0.90	-53.50	-13.00	-40.50
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	1653.00	-62.40	-55.20	0.90	-54.30	-13.00	-41.30

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

Mode	TX channel 20525	Frequency Range	Above 1000MHz
Environmental Conditions	18deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Nick Hsu		

Antenna Polarity & Test Distance: 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	-62.00	-54.40	0.80	-53.60	-13.00	-40.60
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	1673.00	-60.40	-53.10	0.80	-52.30	-13.00	-39.30

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

Mode	TX channel 20625	Frequency Range	Above 1000MHz
Environmental Conditions	18deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Nick Hsu		

Antenna Polarity & Test Distance: 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	-63.00	-55.40	0.70	-54.70	-13.00	-41.70
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	1693.00	-60.40	-53.10	0.70	-52.40	-13.00	-39.40

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

Channel Bandwidth: 10MHz

Mode	TX channel 20450	Frequency Range	Above 1000MHz
Environmental Conditions	18deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Nick Hsu		

Antenna Polarity & Test Distance: 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	-62.80	-55.20	0.90	-54.30	-13.00	-41.30
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	1658.00	-61.40	-54.10	0.90	-53.20	-13.00	-40.20

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

Mode	TX channel 20525	Frequency Range	Above 1000MHz
Environmental Conditions	18deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Nick Hsu		

Antenna Polarity & Test Distance: 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	-62.80	-55.10	0.80	-54.30	-13.00	-41.30
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	1673.00	-61.00	-53.70	0.80	-52.90	-13.00	-39.90

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

Mode	TX channel 20600	Frequency Range	Above 1000MHz
Environmental Conditions	18deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Nick Hsu		

Antenna Polarity & Test Distance: 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	-62.00	-54.30	0.70	-53.60	-13.00	-40.60
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	1688.00	-60.80	-53.40	0.70	-52.70	-13.00	-39.70

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

LTE Band 26

Channel Bandwidth: 1.4MHz

Mode	TX channel 26797	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Ted 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	-60.42	-52.66	0.91	-51.75	-13.00	-38.75
Antenna Polarity & Test Distance: 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	-60.06	-52.77	0.91	-51.86	-13.00	-38.86

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

Mode	TX channel 26915	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Ted 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	-56.82	-49.19	0.82	-48.37	-13.00	-35.37
Antenna Polarity & Test Distance: 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	-59.24	-51.92	0.82	-51.10	-13.00	-38.10

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

Mode	TX channel 27033	Frequency Range	Above 1000MHz
Environmental Conditions	25deg. C, 65%RH	Input Power	120Vac, 60Hz
Tested By	Ted 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	-54.86	-47.37	0.75	-46.62	-13.00	-33.62
Antenna Polarity & Test Distance: 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	-58.62	-51.30	0.75	-50.55	-13.00	-37.55

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

Channel Bandwidth: 3MHz

Mode	TX channel 26805	Frequency Range	Above 1000MHz
Environmental Conditions	18deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Nick Hsu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1651.00	-58.89	-56.79	5.48	-51.31	-13.00	-38.31
2	2476.50	-38.20	-37.06	6.44	-30.62	-13.00	-17.62
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1651.00	-58.75	-55.59	5.48	-50.11	-13.00	-37.11
2	2476.50	-42.56	-40.36	6.44	-33.92	-13.00	-20.92

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

Mode	TX channel 26915	Frequency Range	Above 1000MHz
Environmental Conditions	18deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Nick Hsu		

Antenna Polarity & Test Distance: 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	-61.40	-59.36	5.54	-53.82	-13.00	-40.82
2	**2509.50**	**-37.34**	**-36.21**	**6.45**	**-29.76**	**-13.00**	**-16.76**
Antenna Polarity & Test Distance: 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	-59.36	-56.26	5.54	-50.72	-13.00	-37.72
2	2509.50	-42.90	-40.71	6.45	-34.26	-13.00	-21.26

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

Mode	TX channel 27025	Frequency Range	Above 1000MHz
Environmental Conditions	18deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Nick Hsu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1695.00	-60.47	-58.48	5.59	-52.89	-13.00	-39.89
2	2542.50	-40.97	-39.83	6.44	-33.39	-13.00	-20.39
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1695.00	-60.08	-57.03	5.59	-51.44	-13.00	-38.44
2	2542.50	-45.87	-43.67	6.44	-37.23	-13.00	-24.23

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

Channel Bandwidth: 5MHz

Mode	TX channel 26815	Frequency Range	Above 1000MHz
Environmental Conditions	18deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Nick Hsu		

Antenna Polarity & Test Distance: 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	-60.95	-58.86	5.49	-53.37	-13.00	-40.37
2	2479.50	-38.37	-37.23	6.44	-30.79	-13.00	-17.79
Antenna Polarity & Test Distance: 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	-60.11	-56.96	5.49	-51.47	-13.00	-38.47
2	2479.50	-43.15	-40.95	6.44	-34.51	-13.00	-21.51

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

Mode	TX channel 26915	Frequency Range	Above 1000MHz
Environmental Conditions	18deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Nick Hsu		

Antenna Polarity & Test Distance: 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	-61.84	-59.80	5.54	-54.26	-13.00	-41.26
2	2509.50	-39.36	-38.23	6.45	-31.78	-13.00	-18.78
Antenna Polarity & Test Distance: 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	-60.43	-57.33	5.54	-51.79	-13.00	-38.79
2	2509.50	-43.44	-41.25	6.45	-34.80	-13.00	-21.80

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

Mode	TX channel 27015	Frequency Range	Above 1000MHz
Environmental Conditions	18deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Nick Hsu		

Antenna Polarity & Test Distance: 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	-62.90	-60.91	5.59	-55.32	-13.00	-42.32
2	2539.50	-39.48	-38.33	6.43	-31.90	-13.00	-18.90
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	1693.00	-60.63	-57.58	5.59	-51.99	-13.00	-38.99
2	2539.50	-47.76	-45.55	6.43	-39.12	-13.00	-26.12

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

Channel Bandwidth: 10MHz

Mode	TX channel 26840	Frequency Range	Above 1000MHz
Environmental Conditions	18deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Nick Hsu		

Antenna Polarity & Test Distance: 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	-60.78	-58.71	5.51	-53.20	-13.00	-40.20
2	2487.00	-39.15	-38.02	6.45	-31.57	-13.00	-18.57
Antenna Polarity & Test Distance: 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	-61.15	-58.02	5.51	-52.51	-13.00	-39.51
2	2487.00	-43.97	-41.78	6.45	-35.33	-13.00	-22.33

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

Mode	TX channel 26915	Frequency Range	Above 1000MHz
Environmental Conditions	18deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Nick Hsu		

Antenna Polarity & Test Distance: 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	-61.53	-59.49	5.54	-53.95	-13.00	-40.95
2	2509.50	-38.63	-37.50	6.45	-31.05	-13.00	-18.05
Antenna Polarity & Test Distance: 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	-61.87	-58.77	5.54	-53.23	-13.00	-40.23
2	2509.50	-43.33	-41.14	6.45	-34.69	-13.00	-21.69

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

Mode	TX channel 26990	Frequency Range	Above 1000MHz
Environmental Conditions	18deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Nick Hsu		

Antenna Polarity & Test Distance: 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	-61.47	-59.46	5.57	-53.89	-13.00	-40.89
2	2532.00	-40.65	-39.51	6.44	-33.07	-13.00	-20.07
Antenna Polarity & Test Distance: 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	-60.88	-57.81	5.57	-52.24	-13.00	-39.24
2	2532.00	-44.98	-42.78	6.44	-36.34	-13.00	-23.34

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

Channel Bandwidth: 15MHz

Mode	TX channel 26865	Frequency Range	Above 1000MHz
Environmental Conditions	18deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Nick Hsu		

Antenna Polarity & Test Distance: 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	-61.84	-59.77	5.51	-54.26	-13.00	-41.26
2	2494.50	-38.91	-37.77	6.44	-31.33	-13.00	-18.33
Antenna Polarity & Test Distance: 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	-60.81	-57.68	5.51	-52.17	-13.00	-39.17
2	2494.50	-44.35	-42.15	6.44	-35.71	-13.00	-22.71

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

Mode	TX channel 26965	Frequency Range	Above 1000MHz
Environmental Conditions	18deg. C, 70%RH	Input Power	120Vac, 60Hz
Tested By	Nick Hsu		

Antenna Polarity & Test Distance: 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	-61.49	-59.47	5.56	-53.91	-13.00	-40.91
2	2524.50	-39.46	-38.32	6.44	-31.88	-13.00	-18.88
Antenna Polarity & Test Distance: 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	-61.37	-58.29	5.56	-52.73	-13.00	-39.73
2	2524.50	-44.08	-41.88	6.44	-35.44	-13.00	-22.44

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

5 Pictures of Test Arrangements

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

Appendix – Information on the Testing Laboratories

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

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

Linko EMC/RF Lab
Tel: 886-2-26052180
Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab
Tel: 886-3-5935343
Fax: 886-3-5935342

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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