

FCC Test Report (CA mode)

Report No.: RF170208C16-2

FCC ID: H8NSS2FII

Test Model: SS2FII Femtocell Multi-band SOHO

Received Date: Feb. 08, 2017

Test Date: Mar. 01 ~ Apr. 17, 2017

Issued Date: Apr. 24, 2017

Applicant: ASKEY COMPUTER CORP.

Address: 10F, No.our negligence, provided,

wish to raise. A failure to raise such issue within the prescribed time
conducted and the correctness of the report contents. Unless specific
e the compliance or non-compliance to the specification.
rsement by TAF or any government agencies

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Release Control Record

Issue No.	Description	Date Issued
RF170208C16-2	Original release	Apr. 24, 2017

1 Certificate of Conformity

Product: Femtocell

Brand: Nokia

Test Model: SS2FII Femtocell Multi-band SOHO

Sample Status: Engineering sample

Applicant: ASKEY COMPUTER CORP.

Test Date: Mar. 01 ~ Apr. 17, 2017

Standards: FCC Part 24, Subpart E
FCC Part 27, Subpart C

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:

Apr. 24, 2017

Pettie Chen / Senior Specialist

Approved by :



Date:

Apr. 24, 2017

Dylan Chiou / Project Engineer

2 Summary of Test Results

FCC Clause		Test Item	Result	Remarks
FCC Part 24 & Part 2	FCC Part 27 & Part 2			
2.1046 24.232	-	Effective radiated power	Pass	Meet the requirement of limit.
-	2.1046 27.50(d)(4)	Equivalent Isotropically Radiated Power	Pass	Meet the requirement of limit.
2.1049 24.238(b)	-	Occupied Bandwidth	Pass	Meet the requirement of limit.
-	2.1049 27.53(m)(6)	Emission Bandwidth	Pass	Meet the requirement of limit.
24.238(b)	2.1051 27.53(h)	Band Edge Measurements	Pass	Meet the requirement of limit.
2.1051 24.238	2.1051 27.53(h)	Conducted Spurious Emissions	Pass	Meet the requirement of limit.
2.1053 24.238	2.1051 27.53(h)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -4.3dB at 7729.60MHz.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (
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2.2 Test Site and Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESIB7	100187	Apr. 18, 2016	Apr. 17, 2017
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100041	Nov. 16, 2016	Nov. 15, 2017
BILOG Antenna SCHWARZBECK	VULB9168	9168-148	Dec. 28, 2016	Dec. 27, 2017
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-1169	Dec. 27, 2016	Dec. 26, 2017
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Dec. 14, 2016	Dec. 13, 2017
Loop Antenna	EM-6879	269	Aug. 11, 2016	Aug. 10, 2017
Preamplifier Agilent	8449B	3008A01638	Feb. 22, 2017	Feb. 21, 2018
Preamplifier Agilent	8447D	2944A10638	Aug. 09, 2016	Aug. 08, 2017
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-02 (248780+MY13377)	Feb. 02, 2017	Feb. 01, 2018
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-03 (274092)	Aug. 09, 2016	Aug. 08, 2017
RF signal cable HUBER+SUHNER	8D-FB	Cable-CH9-01	Aug. 09, 2016	Aug. 08, 2017
Software BV ADT	ADT_Radiated_ V7.6.15.9.4	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021702	NA	NA
Turn Table BV ADT	TT100	TT93021702	NA	NA
Turn Table Controller BV ADT	SC100	SC93021702	NA	NA
High Speed Peak Power Meter	ML2495A	0824012	Aug. 11, 2016	Aug. 10, 2017
Power Sensor	MA2411B	0738171	Aug. 11, 2016	Aug. 10, 2017
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 08, 2016	Jun. 07, 2017
Mini-Circuits Power Splitter	ZN2PD-9G	NA	Jun. 13, 2016	Jun. 12, 2017
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 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	Femtocell
Brand	Nokia
Test Model	SS2FII Femtocell Multi-band SOHO
Sample Status	Engineering sample
Power Supply Rating	12Vdc (Adapter)
Modulation Type	LTE: QPSK, 16QAM, 64QAM
Operating Frequency	LTE Band 2 (Channel Bandwidth 5MHz): 1932.5MHz ~ 1987.5MHz LTE Band 2 (Channel Bandwidth 10MHz): 1935.0MHz ~ 1985.0MHz LTE Band 2 (Channel Bandwidth 15MHz): 1937.5MHz ~ 1982.5MHz LTE Band 2 (Channel Bandwidth 20MHz): 1940.0MHz ~ 1980.0MHz LTE Band 4 (Channel Bandwidth 5MHz): 2112.5MHz ~ 2152.5MHz LTE Band 4 (Channel Bandwidth 10MHz): 2115.0MHz ~ 2150.0MHz LTE Band 4 (Channel Bandwidth 15MHz): 2117.5MHz ~ 2147.5MHz LTE Band 4 (Channel Bandwidth 20MHz): 2120.0MHz ~ 2145.0MHz
Emission Designator	Refer to Note
Max. EIRP Power	QPSK: 630.957mW (28.0dBm) 16QAM: 575.440mW (27.6dBm) 64QAM: 575.440mW (27.6dBm)
Antenna Type	LTE Band 2: Antenna 2: PIFA antenna with 2.9dBi gain Antenna 4: PIFA antenna with 3.7dBi gain LTE Band 4: Antenna 1: PIFA antenna with 3.1dBi gain Antenna 3: PIFA antenna with 2.6dBi gain
Antenna Connector	NA
Accessory Device	Adapter, GPS antenna (Brand: INPAQ, model: GPSGLONASS15D-S6-0341-A, cable: 4.55m non-shielded cable w/o core)
Data Cable Supplied	2.95m non-shielded RJ45 cable w/o core

Note:

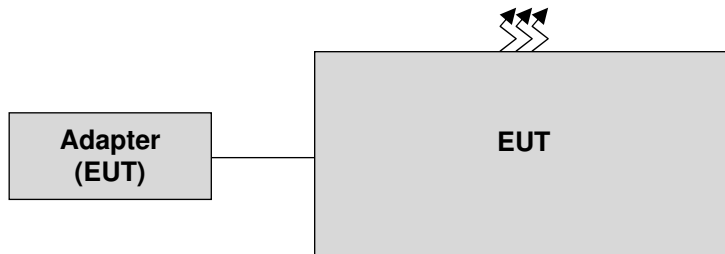
1. The EUT uses following adapter.

Brand	SHENZHEN FRECOM ELECTRONICS CO., LTD
Model	F24W5-120200SPAU
Input Power	100-240Vac, 50/60Hz, 0.6A
Output Power	12Vdc, 2A
Power Line	1.5m DC cable without core attached on adapter

2. Emission Designator as below.

Mode	Output power (W)	Emission Designator
CA mode: LTE Band 2 5M +LTE Band 4 5M (QPSK)	0.631	8M88G7D
CA mode: LTE Band 2 5M+LTE Band 4 5M (16QAM)	0.575	8M90W7D
CA mode: LTE Band 2 5M+LTE Band 4 5M (64QAM)	0.562	8M90W7D
CA mode: LTE Band 2 10M+LTE Band 4 10M (QPSK)	0.550	17M9G7D
CA mode: LTE Band 2 10M+LTE Band 4 10M (16QAM)	0.468	17M9W7D
CA mode: LTE Band 2 10M+LTE Band 4 10M (64QAM)	0.501	17M9W7D
CA mode: LTE Band 2 20M+LTE Band 4 20M (QPSK)	0.501	36M0G7D
CA mode: LTE Band 2 20M+LTE Band 4 20M (16QAM)	0.490	35M9W7D
CA mode: LTE Band 2 20M+LTE Band 4 20M (64QAM)	0.437	35M9W7D
CA mode: LTE Band 2 5M +LTE Band 4 5M (QPSK)	0.562	8M88G7D
CA mode: LTE Band 2 5M+LTE Band 4 5M (16QAM)	0.501	8M90W7D
CA mode: LTE Band 2 5M+LTE Band 4 5M (64QAM)	0.468	8M90W7D
CA mode: LTE Band 2 10M+LTE Band 4 10M (QPSK)	0.589	17M9G7D
CA mode: LTE Band 2 10M+LTE Band 4 10M (16QAM)	0.525	17M9W7D
CA mode: LTE Band 2 10M+LTE Band 4 10M (64QAM)	0.575	17M9W7D
CA mode: LTE Band 2 20M+LTE Band 4 20M (QPSK)	0.575	36M0G7D
CA mode: LTE Band 2 20M+LTE Band 4 20M (16QAM)	0.537	35M9W7D
CA mode: LTE Band 2 20M+LTE Band 4 20M (64QAM)	0.425	35M9W7D

3.2 Configuration of System under Test



Remote site



3.2.1 Description of Support Units

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

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

Note:

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

3.3 Test Mode Applicability and Tested Channel Detail

Following channel(s) was (were) selected for the final test as listed below:

Test Mode	Band	Tested Channel	Band	Tested Channel
1	LTE Band 2 (Channel Bandwidth 5MHz)	625(1932.5MHz), 900(1960.0MHz), 1175(1987.5MHz)	LTE Band 4 (Channel Bandwidth 5MHz)	1975(2112.5MHz), 2175(2132.5MHz), 2375(2152.5MHz)
2	LTE Band 2 (Channel Bandwidth 10MHz)	650(1935.0MHz), 900(1960.0MHz), 1150(1985.0MHz)	LTE Band 4 (Channel Bandwidth 10MHz)	2000(2115.0MHz), 2175(2132.5MHz), 2350(2150.0MHz)
3	LTE Band 2 (Channel Bandwidth 20MHz)	700(1940.0MHz), 900(1960.0MHz), 1100(1980.0MHz)	LTE Band 4 (Channel Bandwidth 20MHz)	2050(2120.0MHz), 2175(2132.5MHz), 2300(2145.0MHz)

Note: Depends on 3GPP TS 36.141 Ver. 13.4.0 clause 4.7 and consult with manufacturer to declare test mode.

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 24

FCC 47 CFR Part 27

KDB 971168 D01 Power Meas License Digital Systems v02r02

ANSI/TIA/EIA-603-D 2010

ANSI/TIA/EIA-603-C 2004

3GPP TS 36.141 version 13.4.0

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

Note: The EUT 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 2 watts e.r.p.

4.1.2 Test Procedures

EIRP / ERP Measurement:

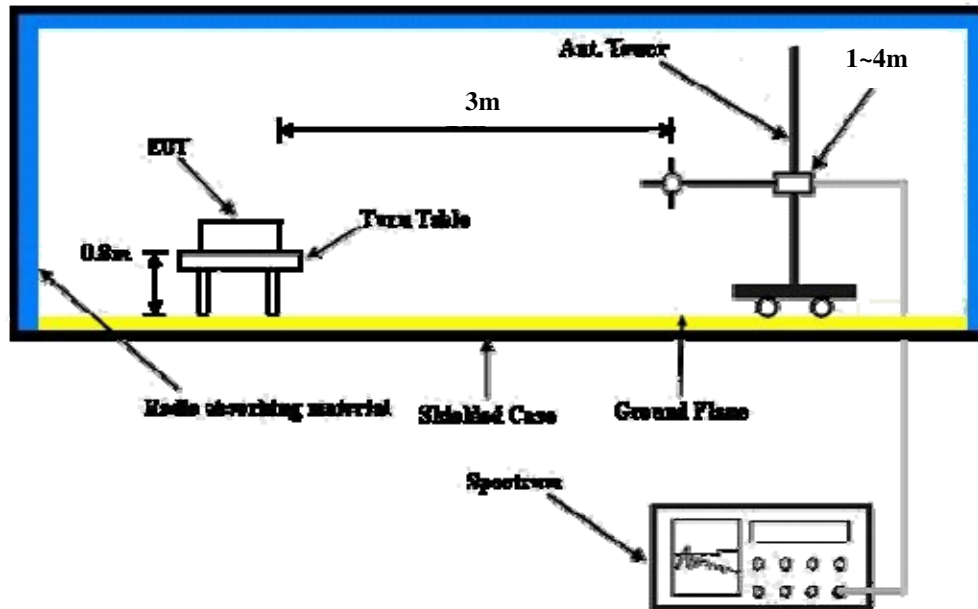
- a. All measurements were done at low, middle and high operational frequency range. RBW and VBW is 10MHz for LTE Mode.
- b. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- c. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value" of step b. Record the power level of S.G
- d. $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}$. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, $E.R.P \text{ power} = E.I.R.P \text{ power} - 2.15\text{dBi}$.

Conducted Power Measurement:

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

Modulation Type: QPSK

EIRP Power (dBm)

MODE	Mode 1: LTE Band 2 5MHz: TX channel 625 + LTE Band 4 5MHz TX channel 1975						
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1932.5						

MODE		Mode 1: LTE Band 2 5MHz: TX channel 900 + LTE Band 4 5MHz TX channel 1975					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1960.0						

MODE		Mode 1: LTE Band 2 5MHz: TX channel 1175 + LTE Band 4 5MHz TX channel 1975					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1987.5						

MODE	Mode 2: LTE Band 2 10MHz: TX channel 650 + LTE Band 4 10MHz TX channel 2000						
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)

1

MODE	Mode 2: LTE Band 2 10MHz: TX channel 900 + LTE Band 4 10MHz TX channel 2000						
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)

1

MODE	Mode 2: LTE Band 2 10MHz: TX channel 1150 + LTE Band 4 10MHz TX channel 2000						
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)

1

MODE	Mode 3: LTE Band 2 20MHz: TX channel 700 + LTE Band 4 20MHz TX channel 2050						
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)

1

MODE	Mode 3: LTE Band 2 20MHz: TX channel 900 + LTE Band 4 20MHz TX channel 2050						
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)

1

MODE	Mode 3: LTE Band 2 20MHz: TX channel 1100 + LTE Band 4 20MHz TX channel 2050						
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)

1

Modulation Type: 16QAM

EIRP Power (dBm)

MODE		Mode 1: LTE Band 2 5MHz: TX channel 625 + LTE Band 4 5MHz TX channel 1975					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1932.5						

MODE		Mode 1: LTE Band 2 5MHz: TX channel 900 + LTE Band 4 5MHz TX channel 1975					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1960.0						

MODE		Mode 1: LTE Band 2 5MHz: TX channel 1175 + LTE Band 4 5MHz TX channel 1975					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1987.5						

MODE	Mode 2: LTE Band 2 10MHz: TX channel 650 + LTE Band 4 10MHz TX channel 2000						
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)

1

MODE	Mode 2: LTE Band 2 10MHz: TX channel 900 + LTE Band 4 10MHz TX channel 2000						
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)

1

MODE	Mode 2: LTE Band 2 10MHz: TX channel 1150 + LTE Band 4 10MHz TX channel 2000						
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)

1

MODE		Mode 3: LTE Band 2 20MHz: TX channel 700 + LTE Band 4 20MHz TX channel 2050					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)

1

MODE	Mode 3: LTE Band 2 20MHz: TX channel 900 + LTE Band 4 20MHz TX channel 2050						
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)

1

MODE	Mode 3: LTE Band 2 20MHz: TX channel 1100 + LTE Band 4 20MHz TX channel 2050						
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)

1

Modulation Type: 64QAM

EIRP Power (dBm)

MODE		Mode 1: LTE Band 2 5MHz: TX channel 625 + LTE Band 4 5MHz TX channel 1975					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1932.5						

MODE		Mode 1: LTE Band 2 5MHz: TX channel 900 + LTE Band 4 5MHz TX channel 1975					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1960.0						

MODE		Mode 1: LTE Band 2 5MHz: TX channel 1175 + LTE Band 4 5MHz TX channel 1975					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1987.5						

MODE		Mode 2: LTE Band 2 10MHz: TX channel 650 + LTE Band 4 10MHz TX channel 2000					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)

1

MODE		Mode 2: LTE Band 2 10MHz: TX channel 900 + LTE Band 4 10MHz TX channel 2000					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)

1

MODE	Mode 2: LTE Band 2 10MHz: TX channel 1150 + LTE Band 4 10MHz TX channel 2000						
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)

1

MODE	Mode 3: LTE Band 2 20MHz: TX channel 700 + LTE Band 4 20MHz TX channel 2050						
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)

1

MODE	Mode 3: LTE Band 2 20MHz: TX channel 900 + LTE Band 4 20MHz TX channel 2050						
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)

1

MODE		Mode 3: LTE Band 2 20MHz: TX channel 1100 + LTE Band 4 20MHz TX channel 2050					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)

1

4.2 Emission Bandwidth Measurement

4.2.1 Test Procedure

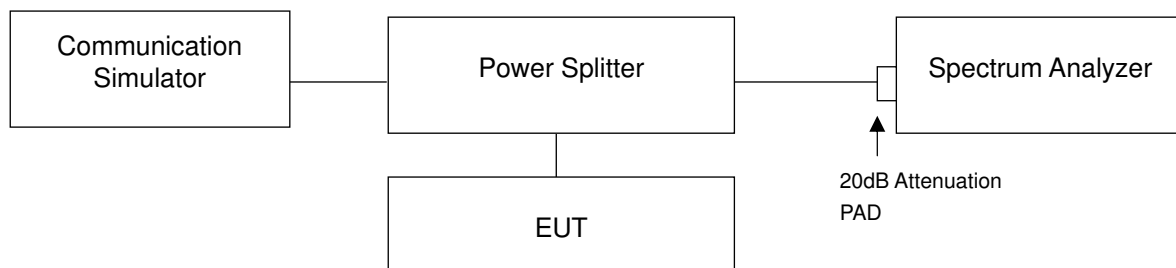
Part 24:

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.

Part 27:

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

4.2.2 Test Setup



4.2.3 Test Result

Mode		Mode 1: LTE Band 2 5MHz: TX channel 625 + LTE Band 4 5MHz TX channel 1975					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
625	1932.5	4.80	4.80	4.80	4.42	4.43	4.45
1975	2112.5	4.82	4.80	4.75	4.45	4.45	4.42
Total		-			8.87		

Mode		Mode 1: LTE Band 2 5MHz: TX channel 625 + LTE Band 4 5MHz TX channel 2375					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
625	1932.5	4.81	4.80	4.83	4.43	4.45	4.45
2375	2152.5	4.80	4.82	4.76	4.43	4.42	4.43
Total		-			8.86		

Mode		Mode 1: LTE Band 2 5MHz: TX channel 900 + LTE Band 4 5MHz TX channel 2175					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
900	1960.0	4.78	4.80	4.81	4.43	4.45	4.45
2175	2132.5	4.79	4.74	4.74	4.45	4.45	4.45
Total		-			8.88		

Mode		Mode 1: LTE Band 2 5MHz: TX channel 1175 + LTE Band 4 5MHz TX channel 1975					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
1175	1987.5	4.82	4.79	4.81	4.45	4.43	4.43
1975	2112.5	4.79	4.80	4.79	4.43	4.42	4.42
Total		-			8.88		

Mode		Mode 1: LTE Band 2 5MHz: TX channel 1175 + LTE Band 4 5MHz TX channel 2375					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
1175	1987.5	4.80	4.80	4.78	4.43	4.42	4.42
2375	2152.5	4.79	4.80	4.82	4.45	4.42	4.45
Total		-			8.88		

Mode		Mode 2: LTE Band 2 10MHz: TX channel 650 + LTE Band 4 10MHz TX channel 2175					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
650	1935.0	9.64	9.67	9.73	8.93	8.90	8.90
2175	2132.5	9.65	9.64	9.68	8.90	8.90	8.93
Total		-			17.83		

Mode		Mode 2: LTE Band 2 10MHz: TX channel 900 + LTE Band 4 10MHz TX channel 2000					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
900	1960.0	9.75	9.69	9.72	8.90	8.93	8.90
2000	2115.0	9.62	9.70	9.68	8.97	8.90	8.93
Total		-			17.87		

Mode		Mode 2: LTE Band 2 10MHz: TX channel 900 + LTE Band 4 10MHz TX channel 2350					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
900	1960.0	9.70	9.68	9.67	8.90	8.90	8.90
2350	2150.0	9.66	9.66	9.66	8.90	8.90	8.90
Total		-			17.80		

Mode		Mode 2: LTE Band 2 10MHz: TX channel 1150 + LTE Band 4 10MHz TX channel 2175					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
1150	1985.0	9.69	9.71	9.67	8.90	8.90	8.93
2175	2132.5	9.65	9.64	9.61	8.90	8.90	8.90
Total		-			17.80		

Mode		Mode 3: LTE Band 2 20MHz: TX channel 700 + LTE Band 4 20MHz TX channel 2050					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
700	1940.0	19.33	19.25	19.29	18.00	17.93	17.93
2050	2120.0	19.35	19.26	19.26	17.93	17.93	17.87
Total		-			35.93		

Mode		Mode 3: LTE Band 2 20MHz: TX channel 700 + LTE Band 4 20MHz TX channel 2300					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
700	1940.0	19.30	19.29	19.30	18.00	17.93	17.93
2300	2145.0	19.33	19.22	19.25	18.00	17.87	17.93
Total		-			36.00		

Mode		Mode 3: LTE Band 2 20MHz: TX channel 900 + LTE Band 4 20MHz TX channel 2175					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
900	1960.0	19.29	19.32	19.24	17.93	17.93	17.87
2175	2132.5	19.11	19.23	19.25	17.93	18.00	17.87
Total		-			35.86		

Mode		Mode 3: LTE Band 2 20MHz: TX channel 1100 + LTE Band 4 20MHz TX channel 2050					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
1100	1980.0	19.27	19.25	19.27	18.07	17.93	18.00
2050	2120.0	19.44	19.26	19.16	17.93	18.00	17.93
Total		-			36.00		

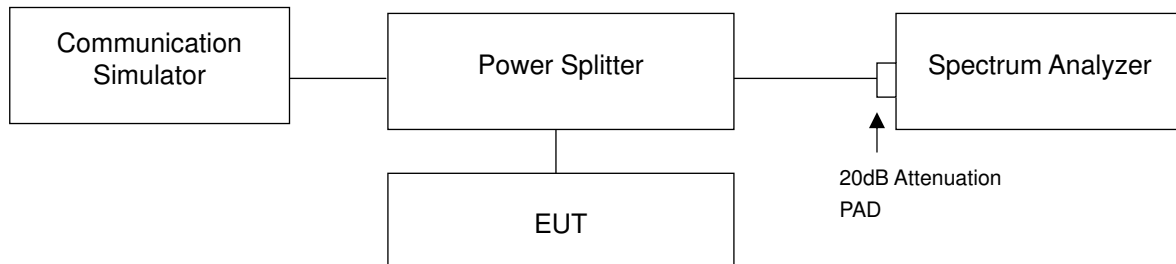
Mode		Mode 3: LTE Band 2 20MHz: TX channel 1100 + LTE Band 4 20MHz TX channel 2300					
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)			Occupied Bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
1100	1980.0	19.20	19.24	19.16	17.93	17.93	17.93
2300	2145.0	19.13	19.24	19.28	17.93	17.87	17.93
Total		-			35.86		

4.3 Band Edge Measurement

4.3.1 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.

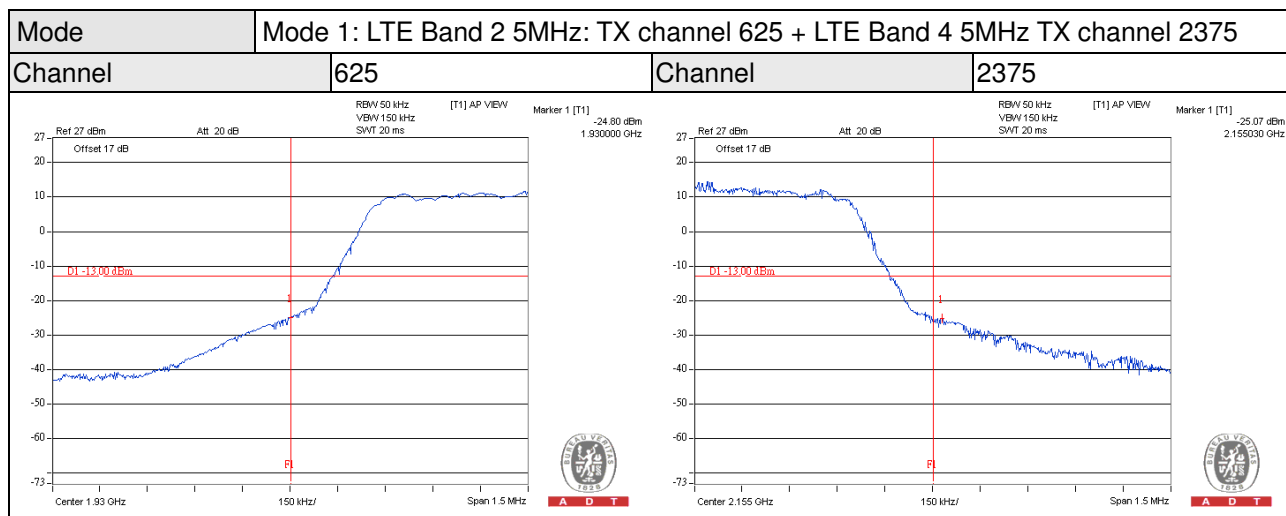
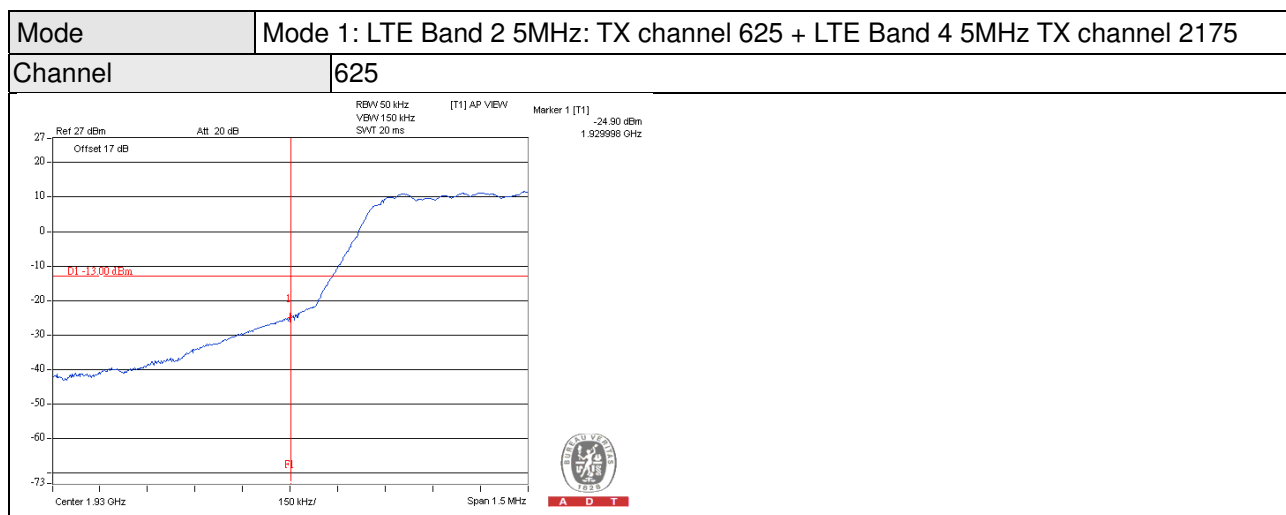
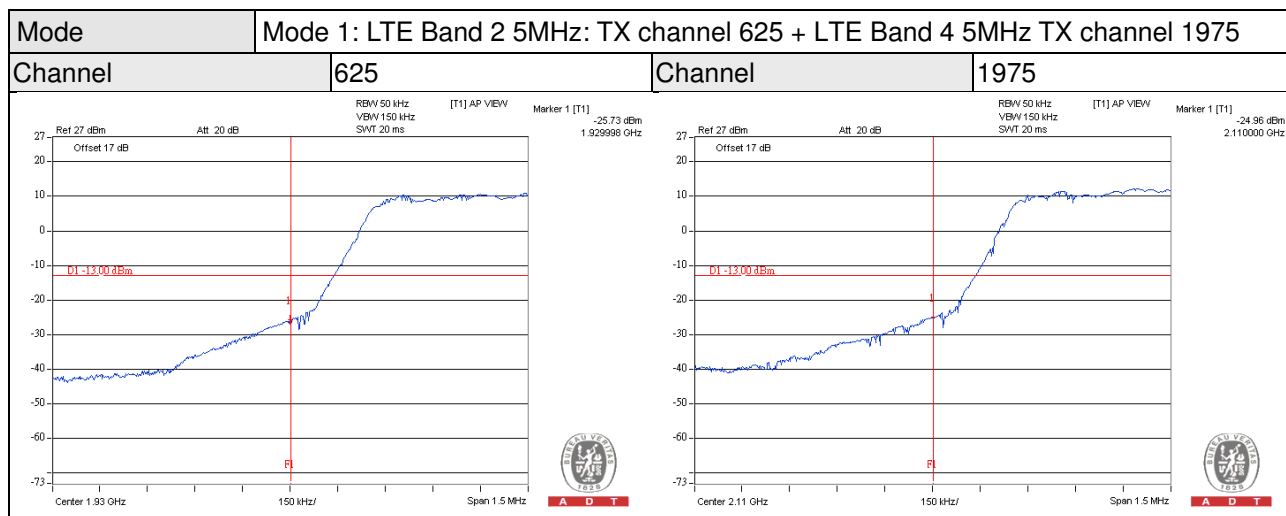
4.3.2 Test Setup



4.3.3 Test Procedures

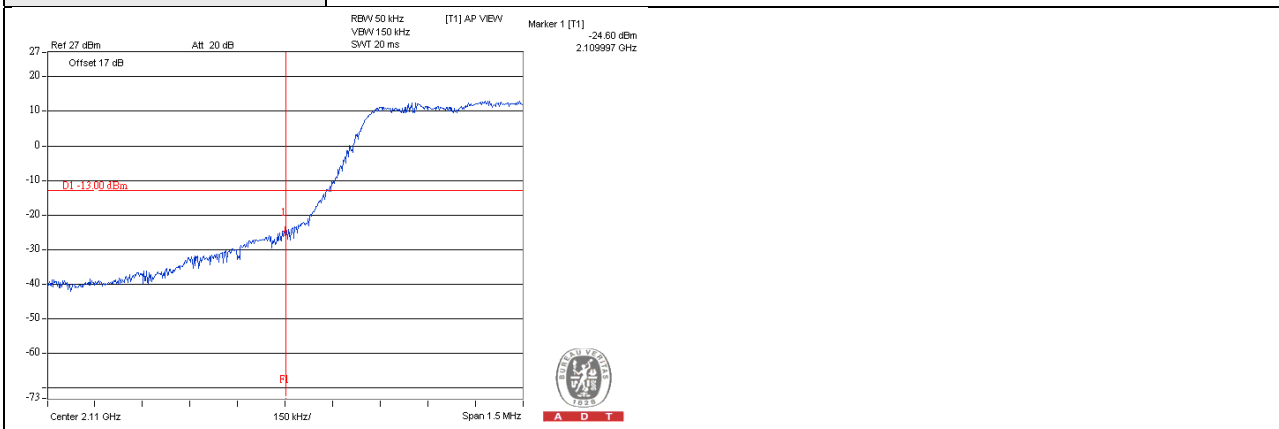
- All measurements were done at low and high operational frequency range.
- The center frequency of spectrum is the band edge frequency and span is 1.5MHz. RB of the spectrum is 50kHz and VB of the spectrum is 150kHz (LTE).
- Record the max trace plot into the test report.

4.3.4 Test Results



Mode Mode 1: LTE Band 2 5MHz: TX channel 900 + LTE Band 4 5MHz TX channel 1975

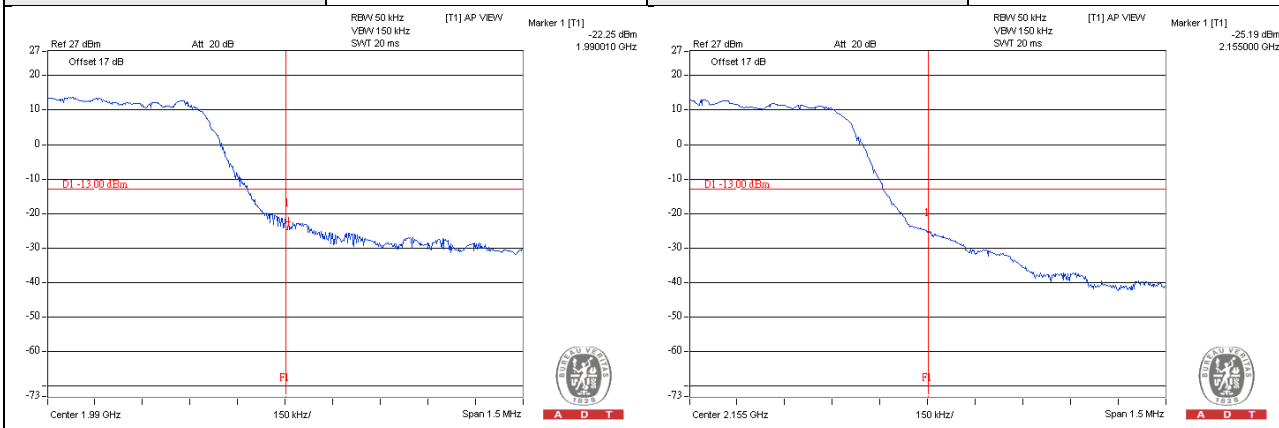
Channel 1975



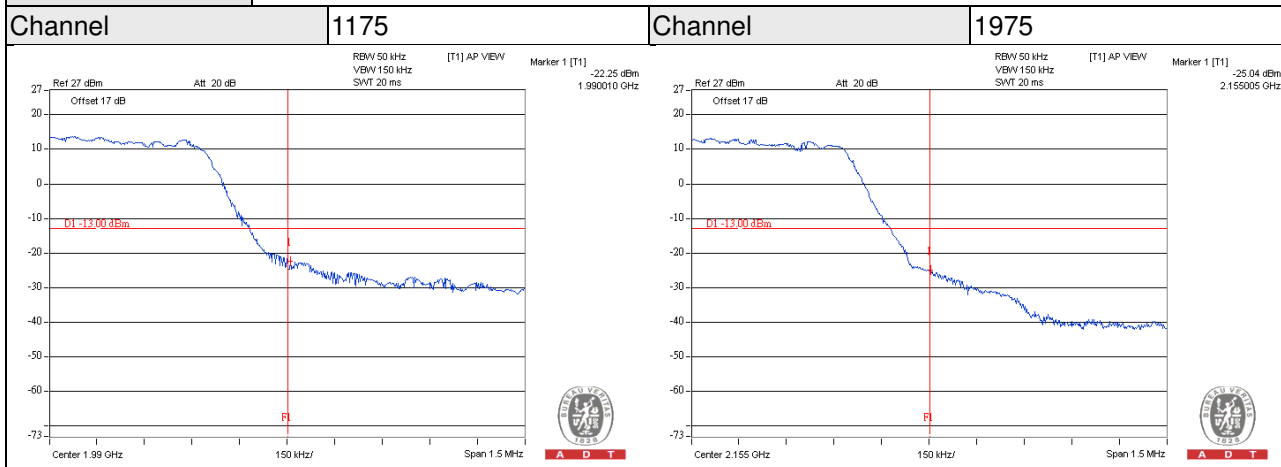
Mode Mode 1: LTE Band 2 5MHz: TX channel 900 + LTE Band 4 5MHz TX channel 2375

Channel 900

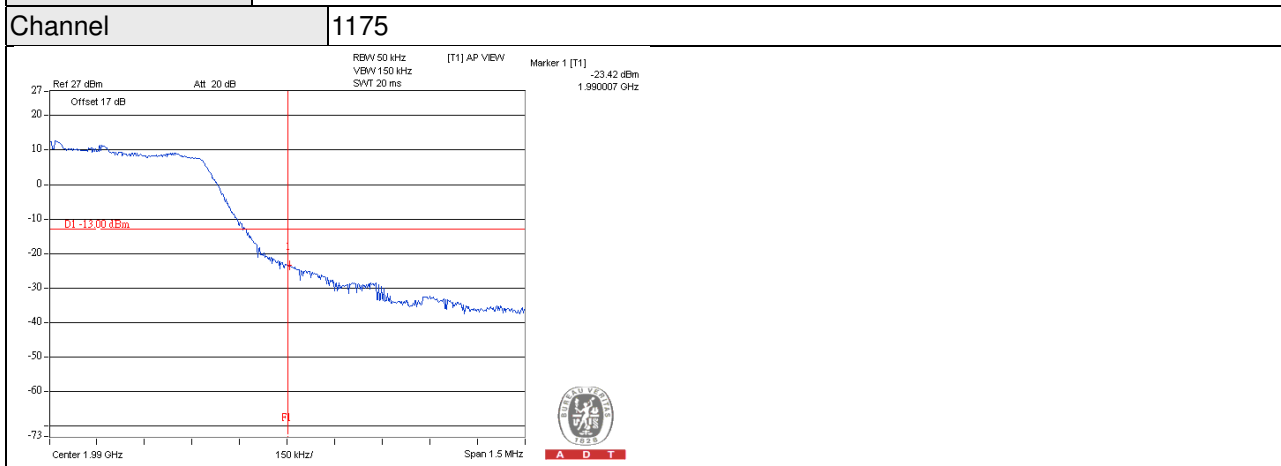
Channel 2375



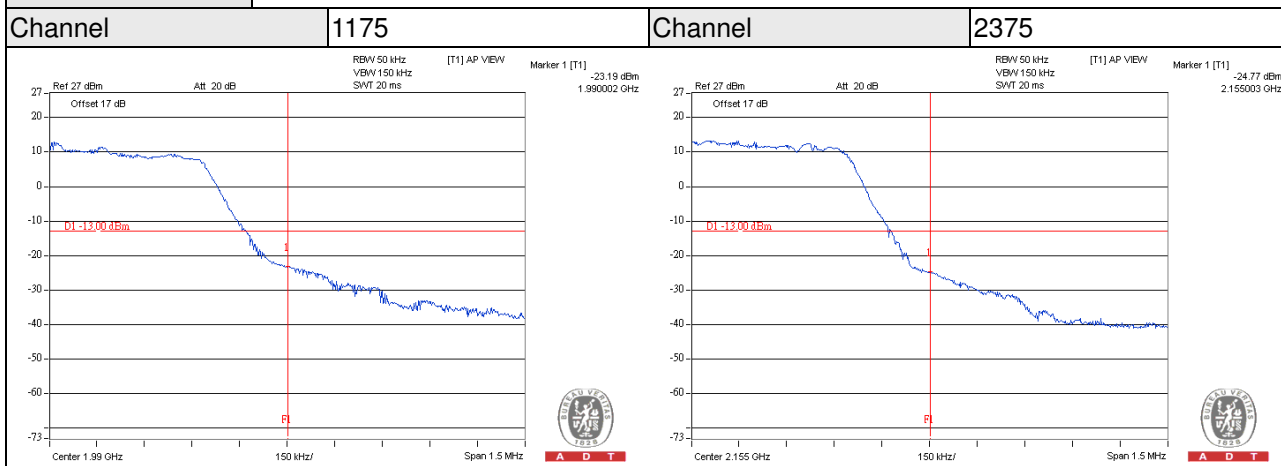
Mode Mode 1: LTE Band 2 5MHz: TX channel 1175 + LTE Band 4 5MHz TX channel 1975



Mode Mode 1: LTE Band 2 5MHz: TX channel 1175 + LTE Band 4 5MHz TX channel 2175

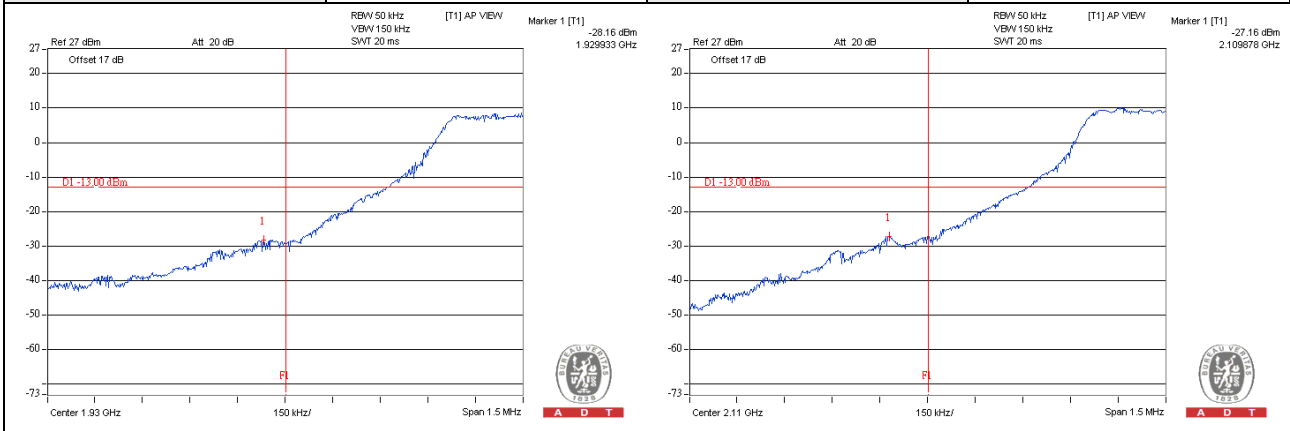


Mode Mode 1: LTE Band 2 5MHz: TX channel 1175 + LTE Band 4 5MHz TX channel 2375



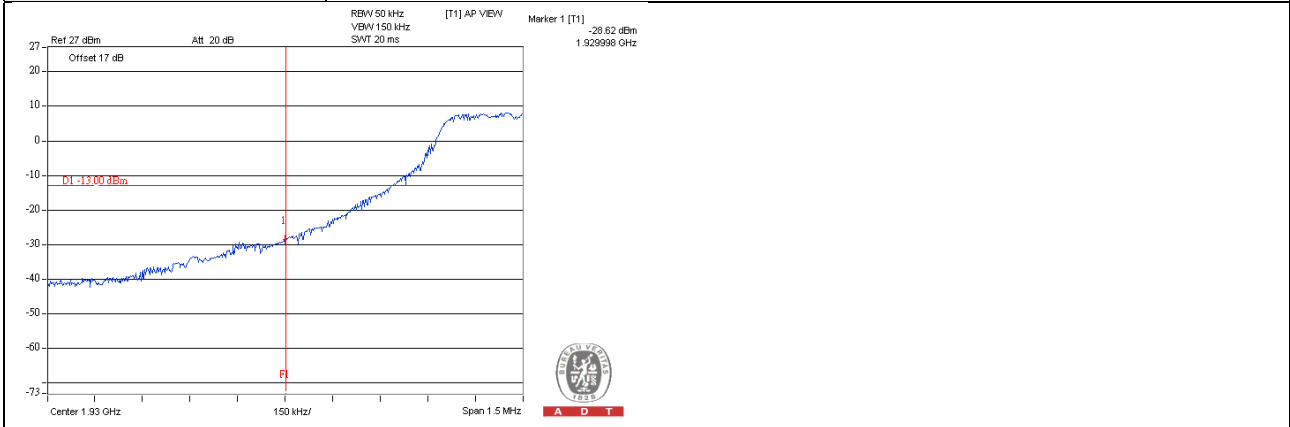
Mode Mode 2: LTE Band 2 10MHz: TX channel 650 + LTE Band 4 10MHz TX channel 2000

Channel 650 Channel 2000



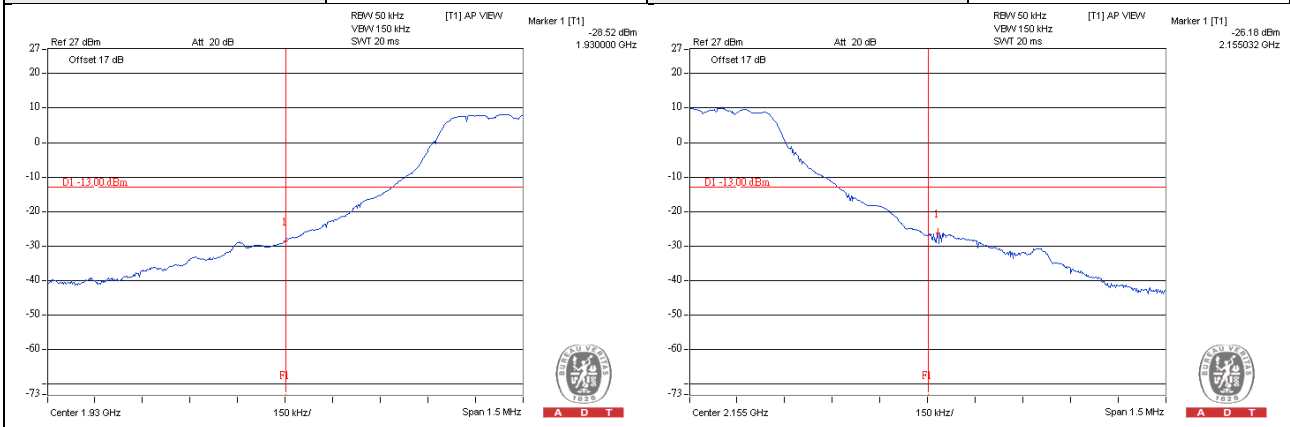
Mode Mode 2: LTE Band 2 10MHz: TX channel 650 + LTE Band 4 10MHz TX channel 2175

Channel 650



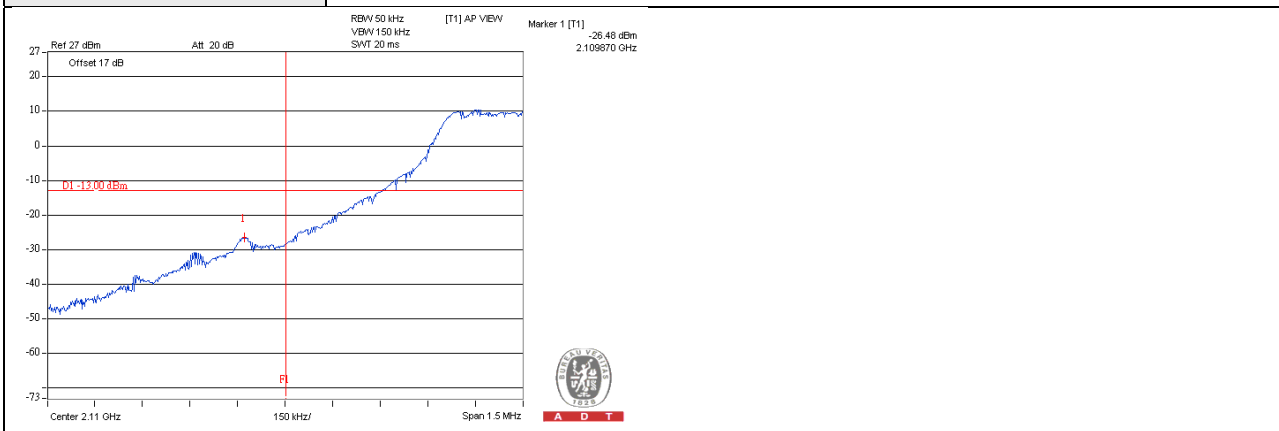
Mode Mode 2: LTE Band 2 10MHz: TX channel 650 + LTE Band 4 10MHz TX channel 2350

Channel 650 Channel 2350



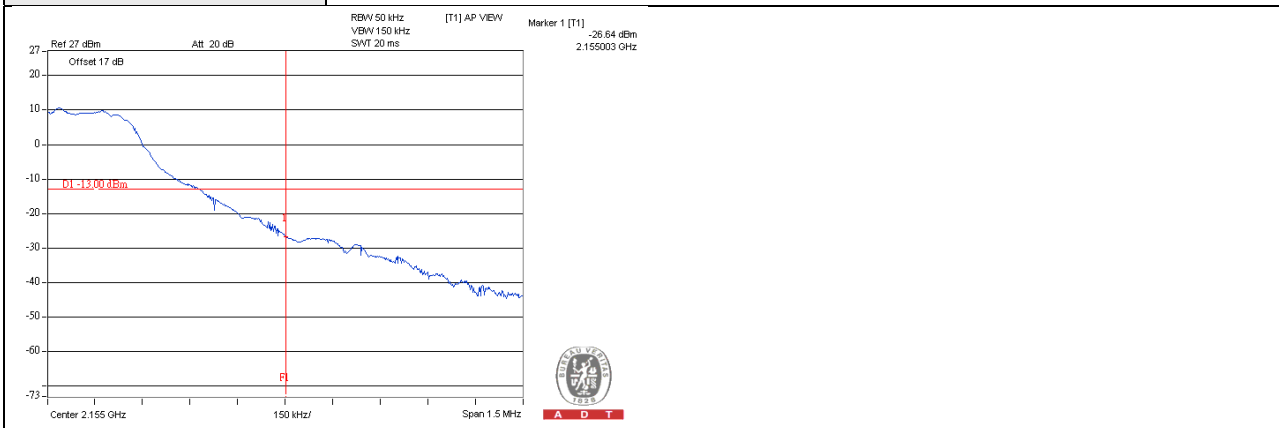
Mode Mode 2: LTE Band 2 10MHz: TX channel 900 + LTE Band 4 10MHz TX channel 2000

Channel 2000



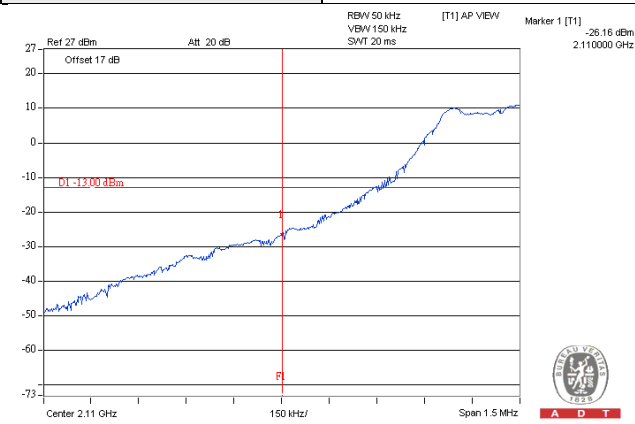
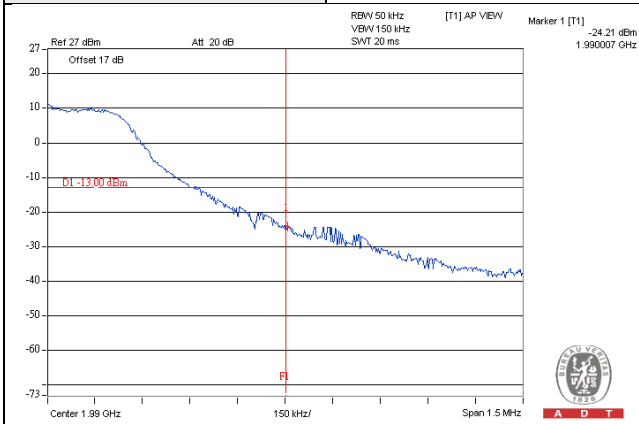
Mode Mode 2: LTE Band 2 10MHz: TX channel 900 + LTE Band 4 10MHz TX channel 2350

Channel 2350



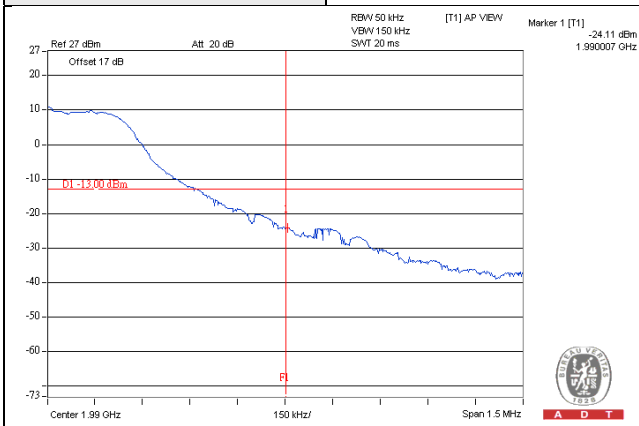
Mode Mode 2: LTE Band 2 10MHz: TX channel 1150 + LTE Band 4 10MHz TX channel 2000

Channel 1150 Channel 2000



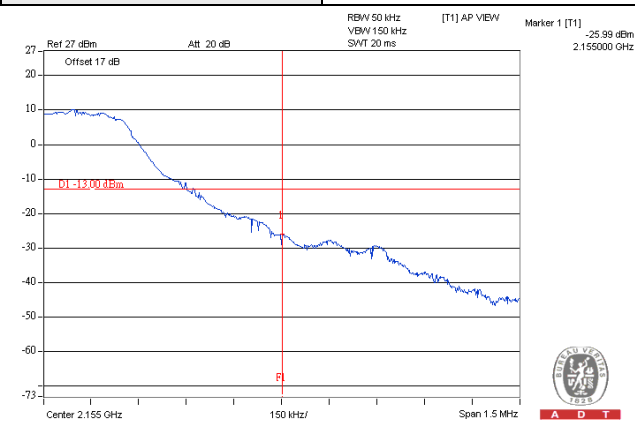
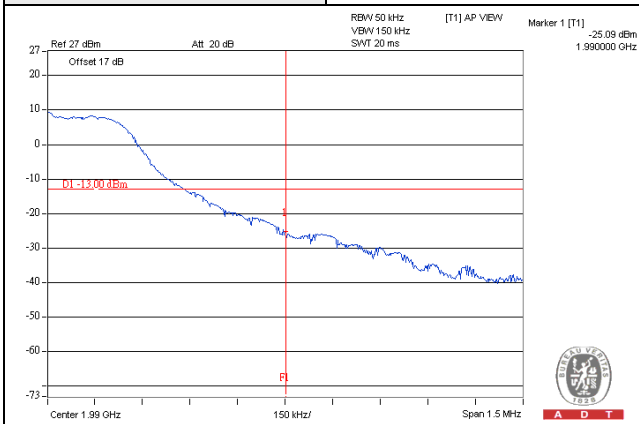
Mode Mode 2: LTE Band 2 10MHz: TX channel 1150 + LTE Band 4 10MHz TX channel 2175

Channel 1150



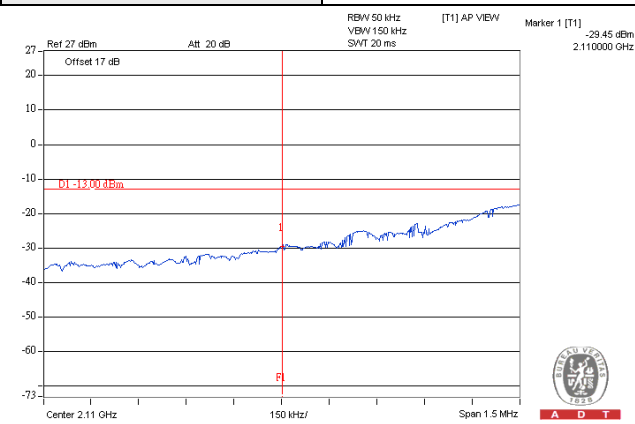
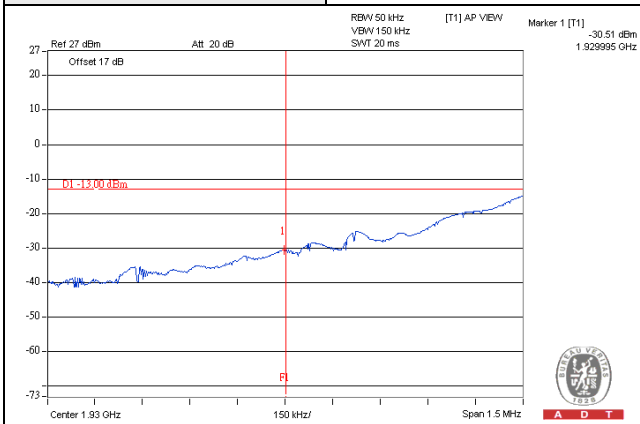
Mode Mode 2: LTE Band 2 10MHz: TX channel 1150 + LTE Band 4 10MHz TX channel 2350

Channel 1150 Channel 2350



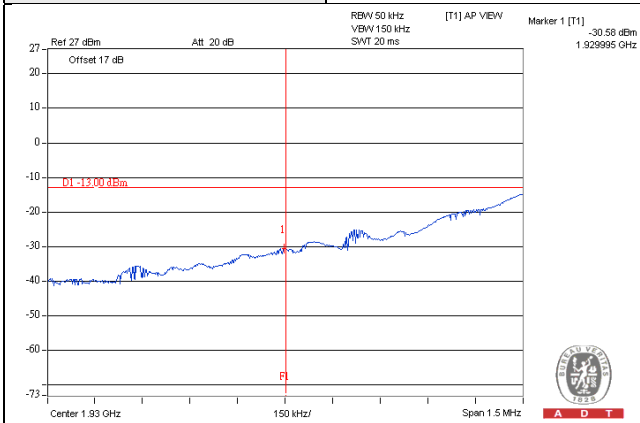
Mode Mode 3: LTE Band 2 20MHz: TX channel 700 + LTE Band 4 20MHz TX channel 2050

Channel 700 Channel 2050



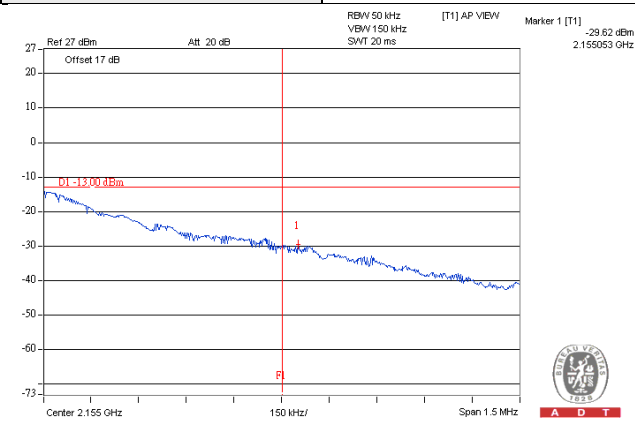
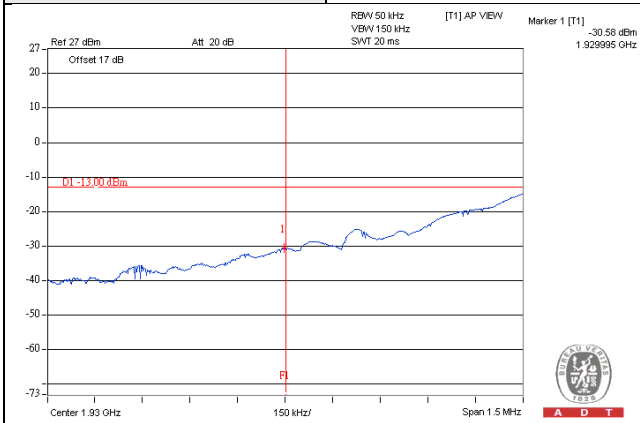
Mode Mode 3: LTE Band 2 20MHz: TX channel 700 + LTE Band 4 20MHz TX channel 2175

Channel 700



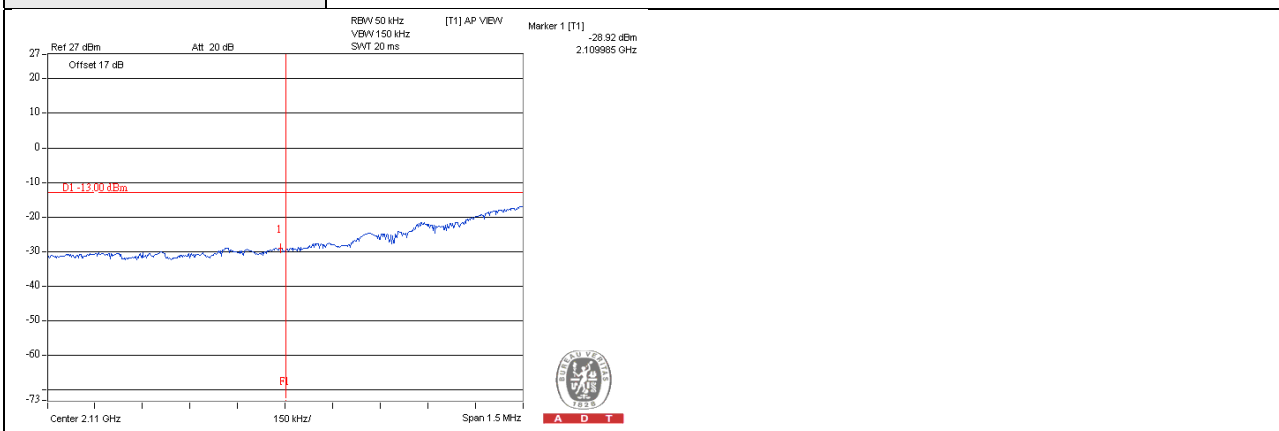
Mode Mode 3: LTE Band 2 20MHz: TX channel 700 + LTE Band 4 20MHz TX channel 2300

Channel 700 Channel 2300



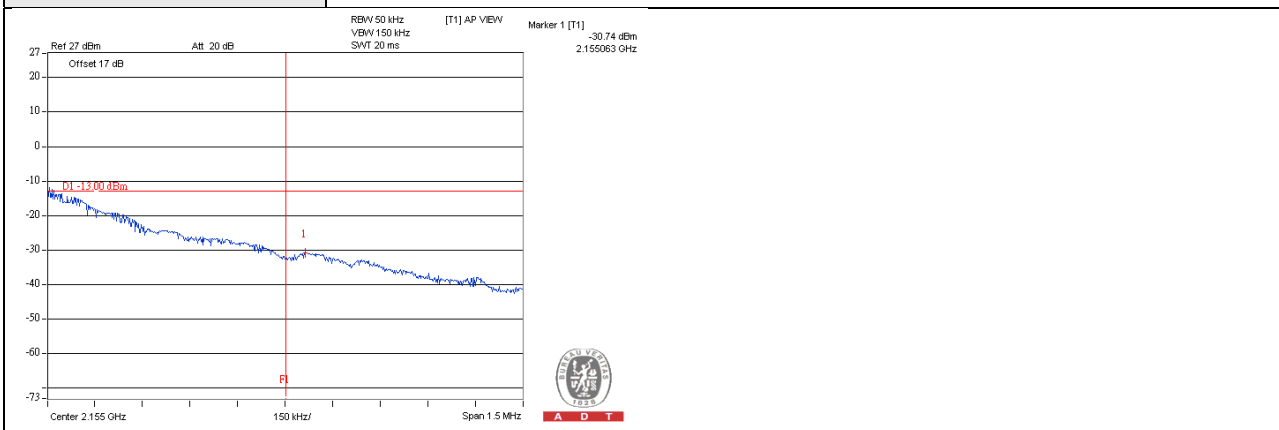
Mode Mode 3: LTE Band 2 20MHz: TX channel 900 + LTE Band 4 20MHz TX channel 2050

Channel 2050



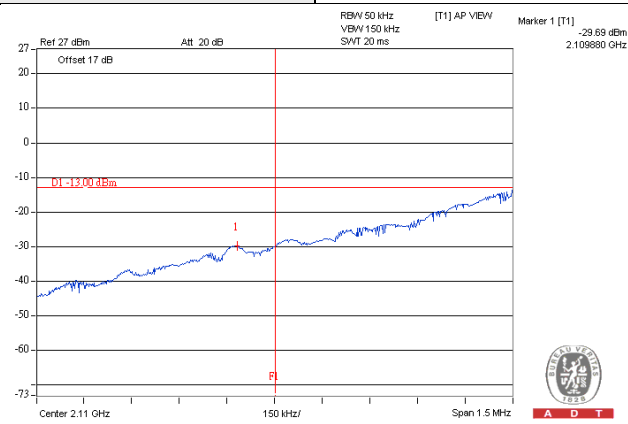
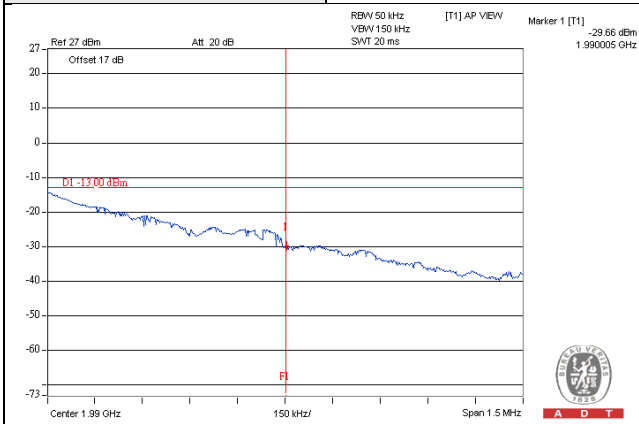
Mode Mode 3: LTE Band 2 20MHz: TX channel 900 + LTE Band 4 20MHz TX channel 2300

Channel 2300



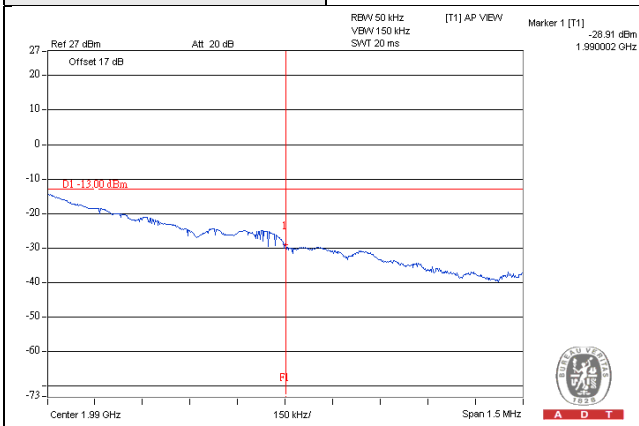
Mode Mode 3: LTE Band 2 20MHz: TX channel 1100 + LTE Band 4 20MHz TX channel 2050

Channel 1100 Channel 2050



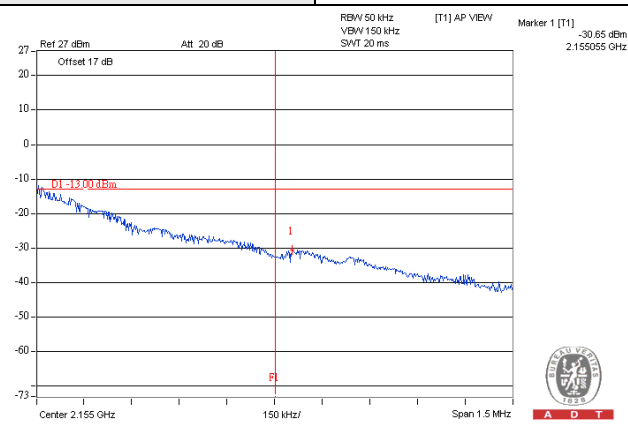
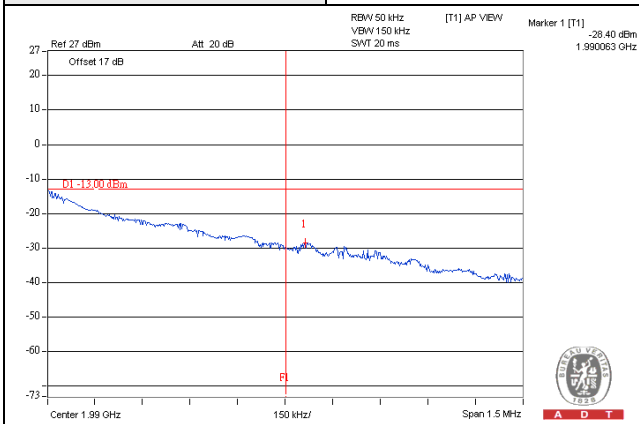
Mode Mode 3: LTE Band 2 20MHz: TX channel 1100 + LTE Band 4 20MHz TX channel 2175

Channel 1100



Mode Mode 3: LTE Band 2 20MHz: TX channel 1100 + LTE Band 4 20MHz TX channel 2300

Channel 1100 Channel 2300

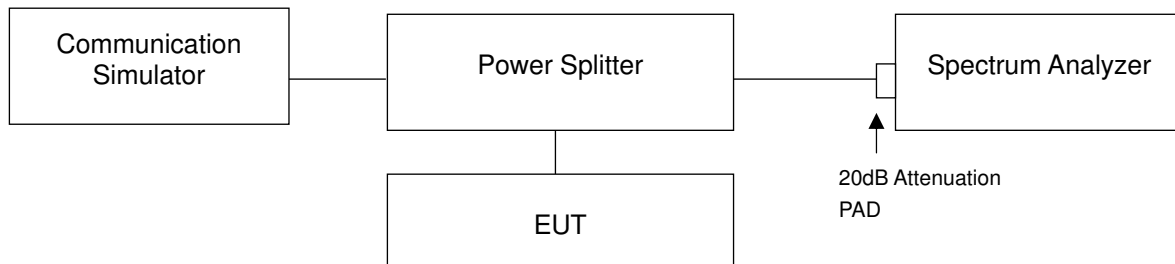


4.4 Conducted Spurious Emissions

4.4.1 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 .

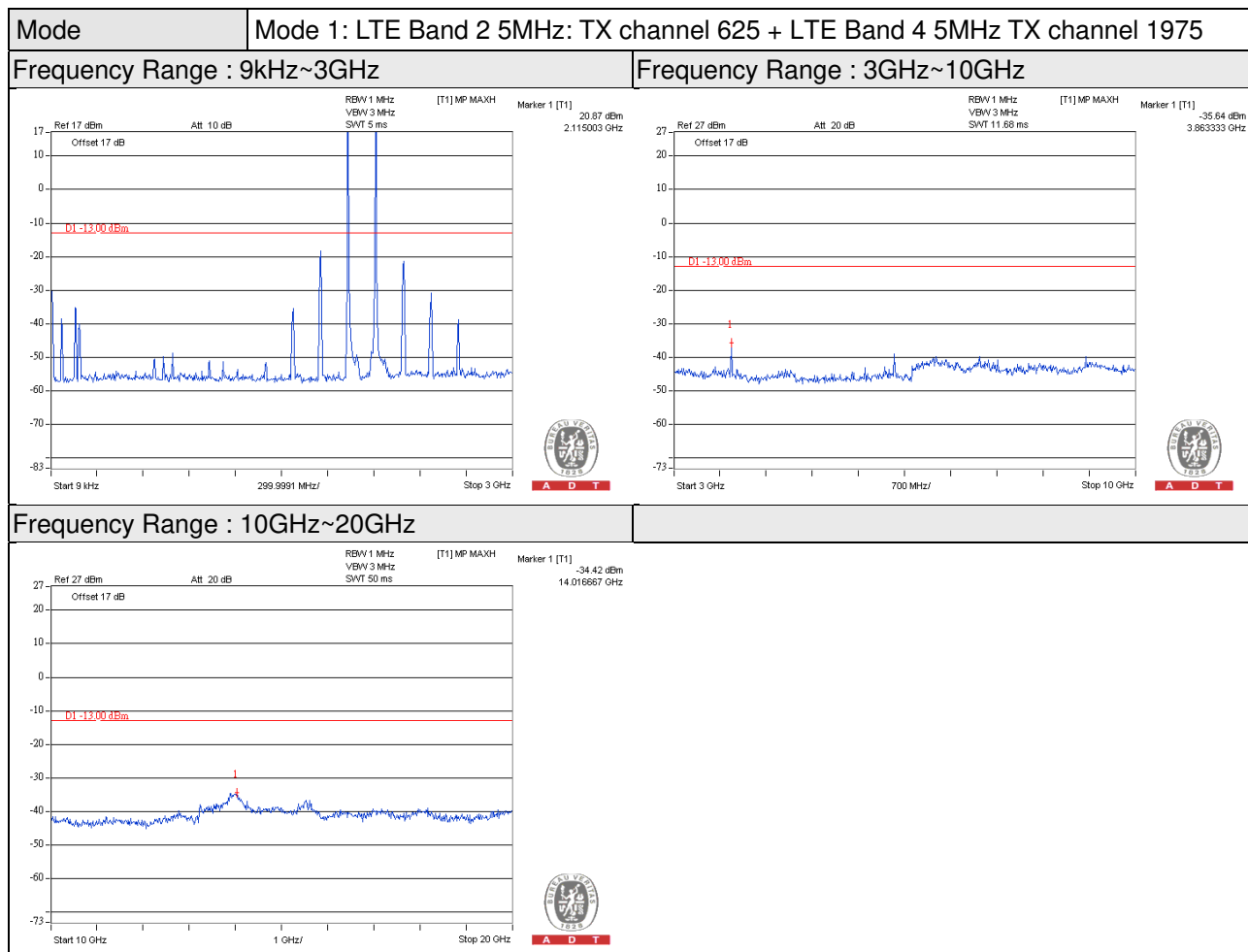
4.4.2 Test Setup



4.4.3 Test Procedure

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

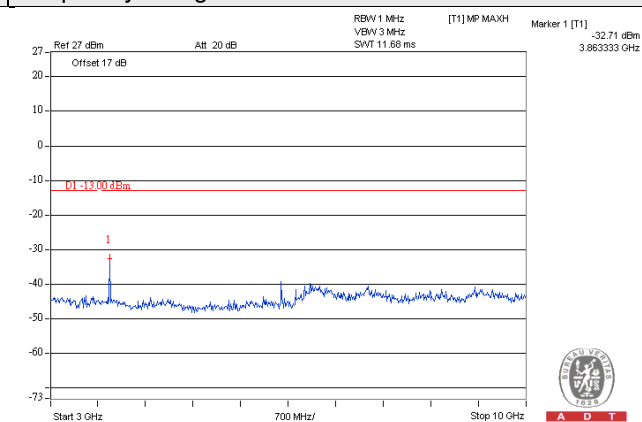
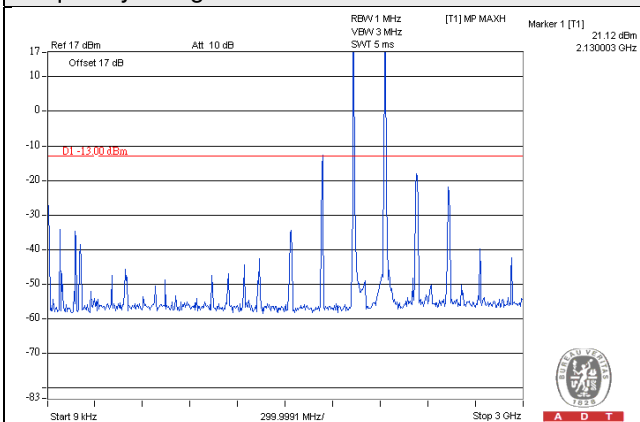
4.4.4 Test Results



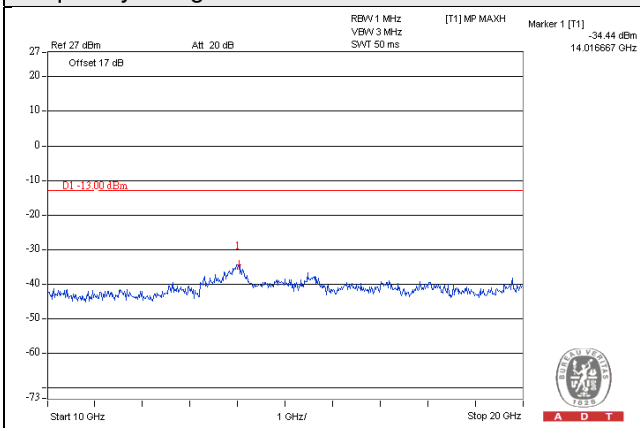
Mode Mode 1: LTE Band 2 5MHz: TX channel 625 + LTE Band 4 5MHz TX channel 2175

Frequency Range : 9kHz~3GHz

Frequency Range : 3GHz~10GHz



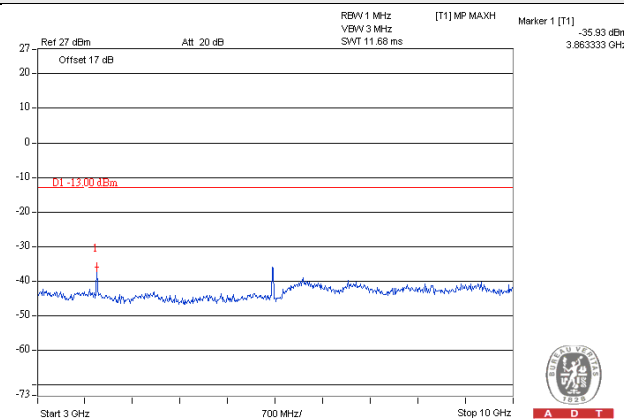
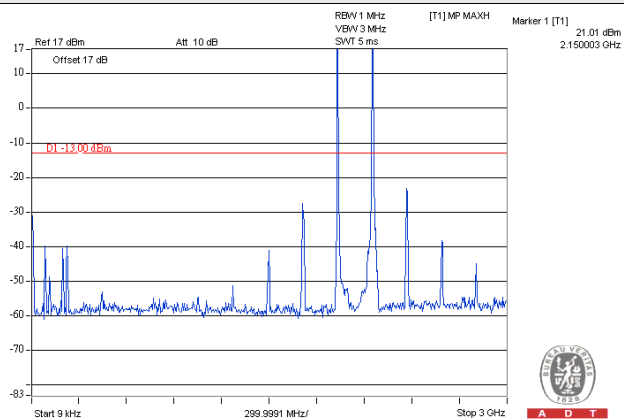
Frequency Range : 10GHz~20GHz



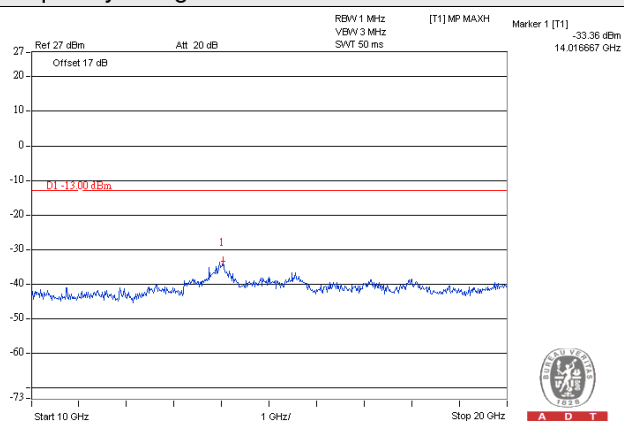
Mode Mode 1: LTE Band 2 5MHz: TX channel 625 + LTE Band 4 5MHz TX channel 2375

Frequency Range : 9kHz~3GHz

Frequency Range : 3GHz~10GHz



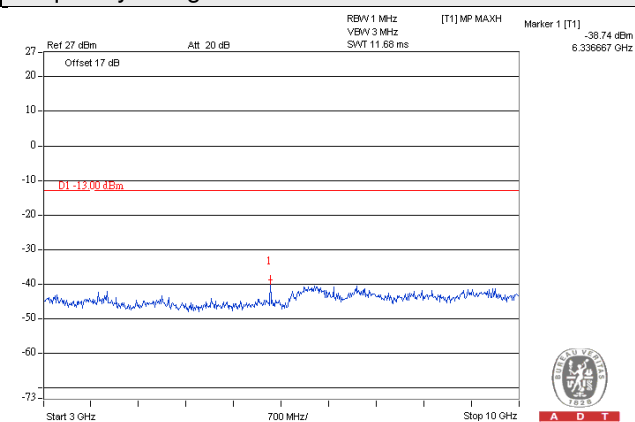
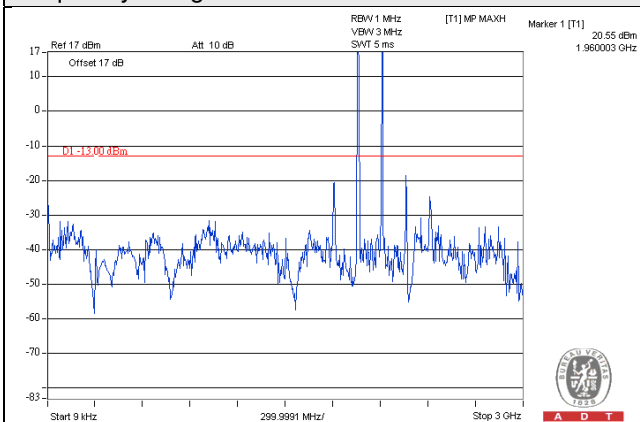
Frequency Range : 10GHz~20GHz



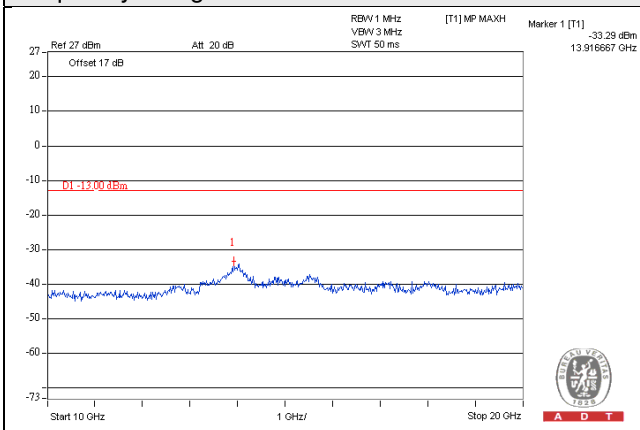
Mode Mode 1: LTE Band 2 5MHz: TX channel 900 + LTE Band 4 5MHz TX channel 1975

Frequency Range : 9kHz~3GHz

Frequency Range : 3GHz~10GHz



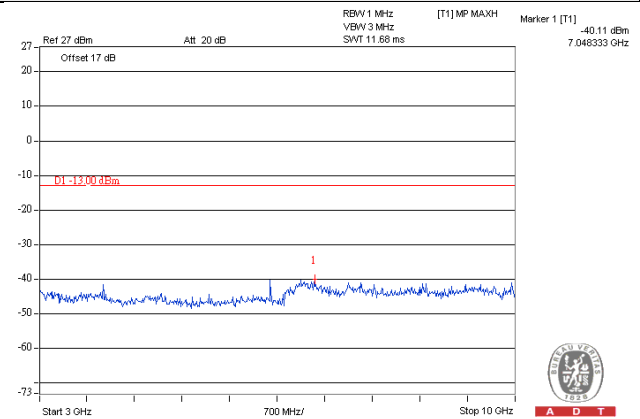
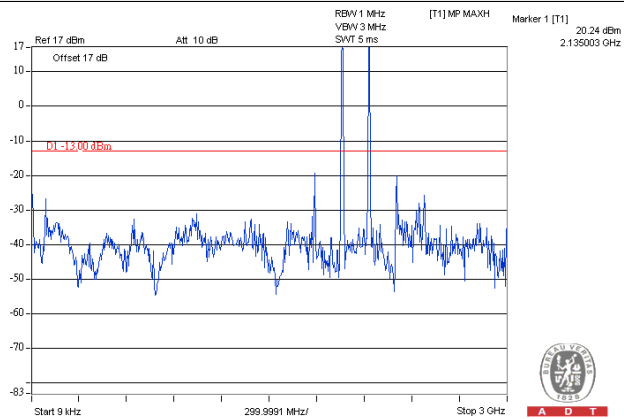
Frequency Range : 10GHz~20GHz



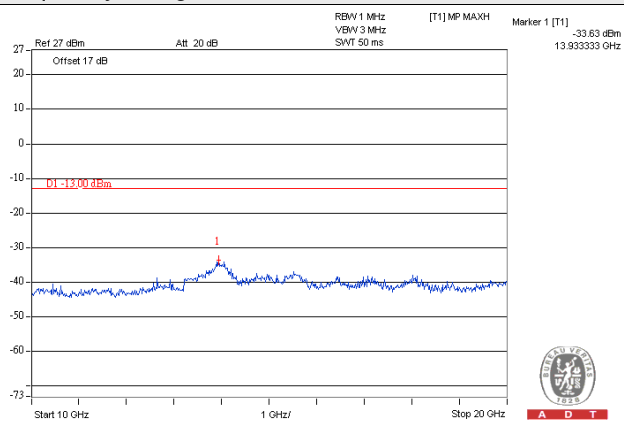
Mode Mode 1: LTE Band 2 5MHz: TX channel 900 + LTE Band 4 5MHz TX channel 2175

Frequency Range : 9kHz~3GHz

Frequency Range : 3GHz~10GHz



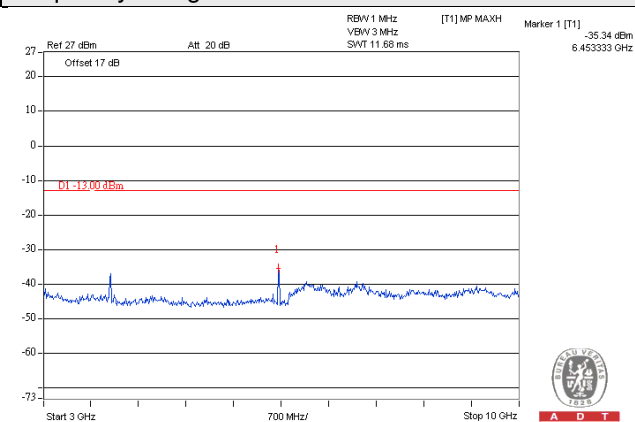
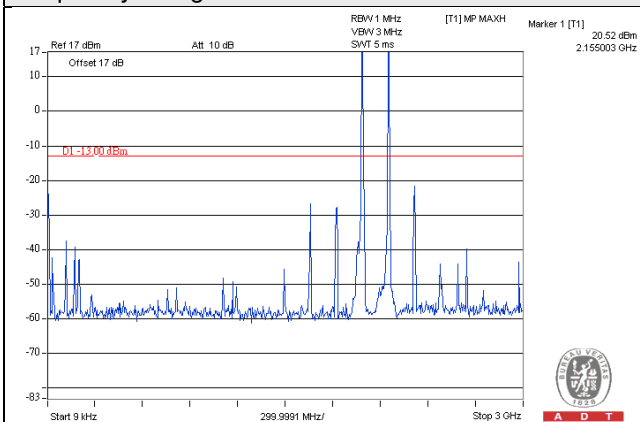
Frequency Range : 10GHz~20GHz



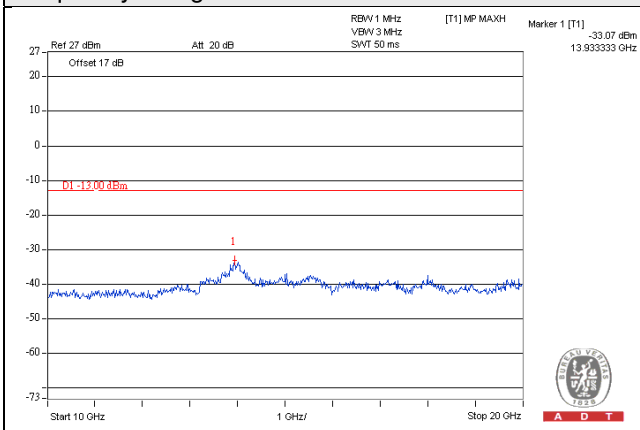
Mode Mode 1: LTE Band 2 5MHz: TX channel 900 + LTE Band 4 5MHz TX channel 2375

Frequency Range : 9kHz~3GHz

Frequency Range : 3GHz~10GHz



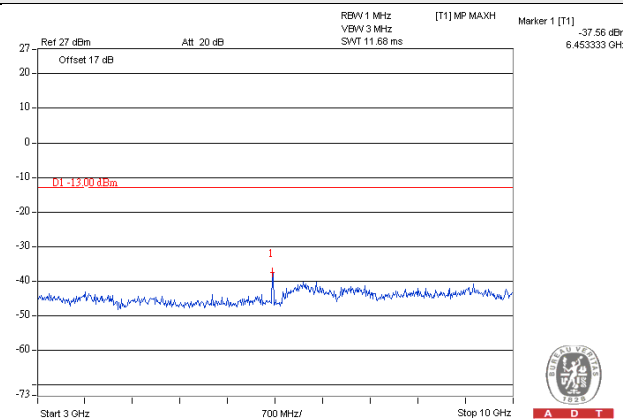
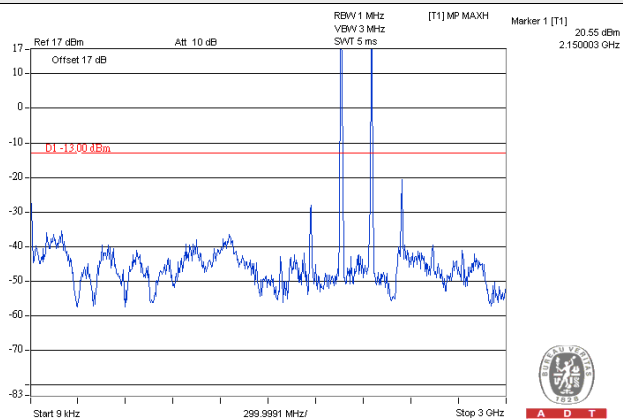
Frequency Range : 10GHz~20GHz



Mode Mode 1: LTE Band 2 5MHz: TX channel 1175 + LTE Band 4 5MHz TX channel 1975

Frequency Range : 9kHz~3GHz

Frequency Range : 3GHz~10GHz



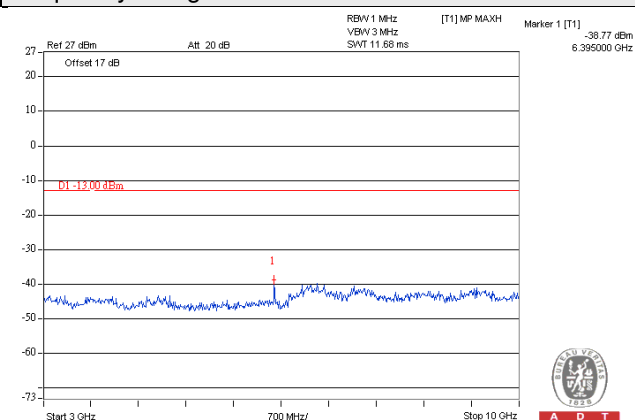
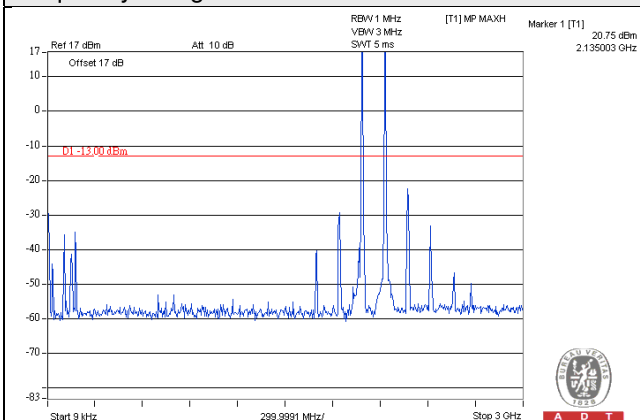
Frequency Range : 10GHz~20GHz



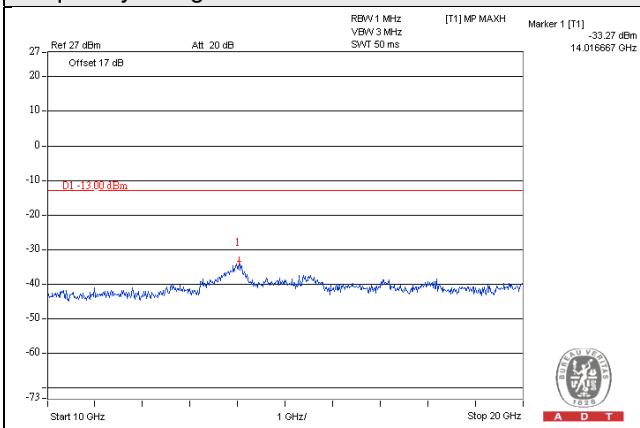
Mode Mode 1: LTE Band 2 5MHz: TX channel 1175 + LTE Band 4 5MHz TX channel 2175

Frequency Range : 9kHz~3GHz

Frequency Range : 3GHz~10GHz



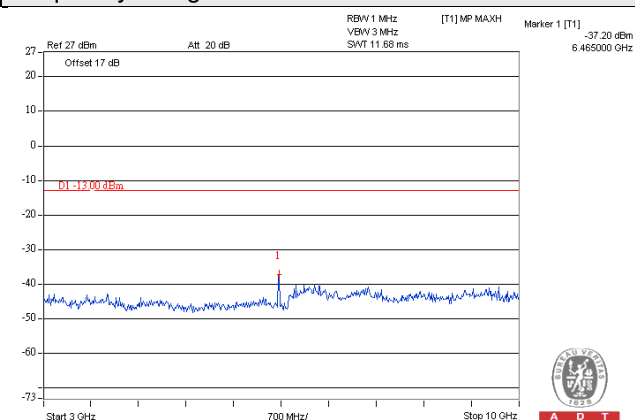
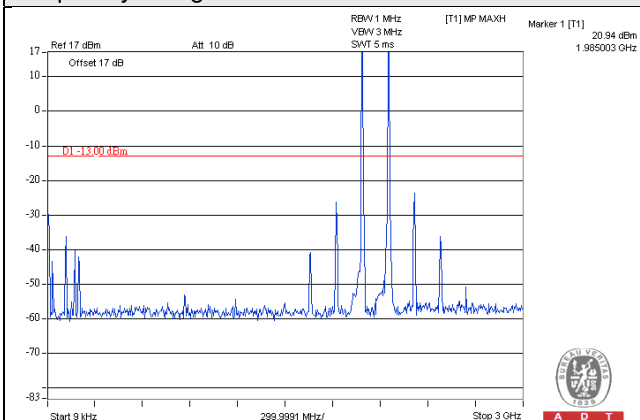
Frequency Range : 10GHz~20GHz



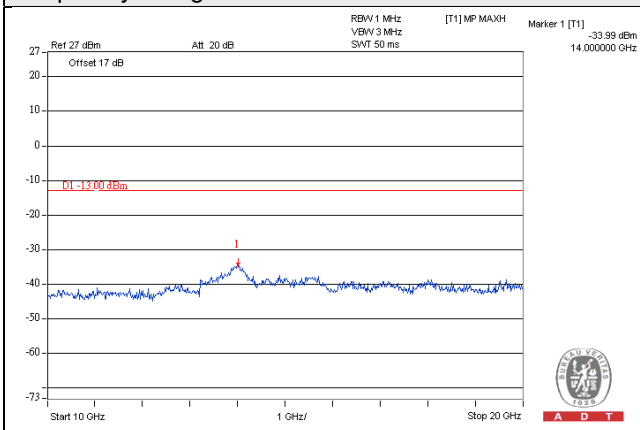
Mode Mode 1: LTE Band 2 5MHz: TX channel 1175 + LTE Band 4 5MHz TX channel 2375

Frequency Range : 9kHz~3GHz

Frequency Range : 3GHz~10GHz



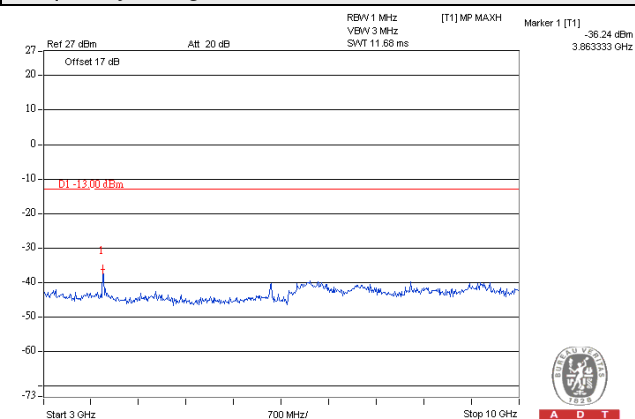
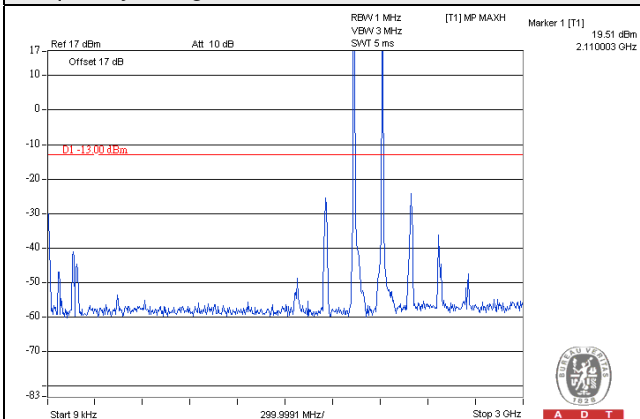
Frequency Range : 10GHz~20GHz



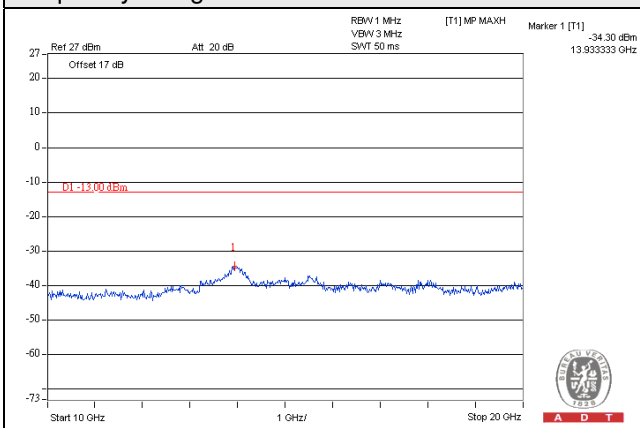
Mode Mode 2: LTE Band 2 10MHz: TX channel 650 + LTE Band 4 10MHz TX channel 2000

Frequency Range : 9kHz~3GHz

Frequency Range : 3GHz~10GHz



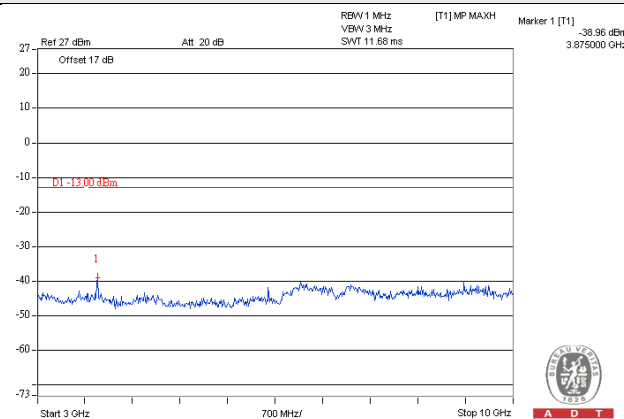
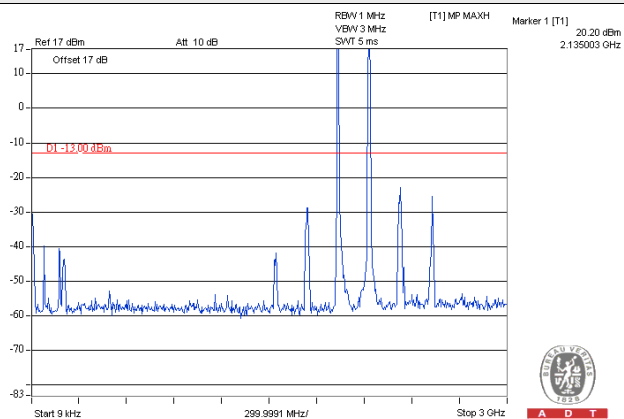
Frequency Range : 10GHz~20GHz



Mode Mode 2: LTE Band 2 10MHz: TX channel 650 + LTE Band 4 10MHz TX channel 2175

Frequency Range : 9kHz~3GHz

Frequency Range : 3GHz~10GHz



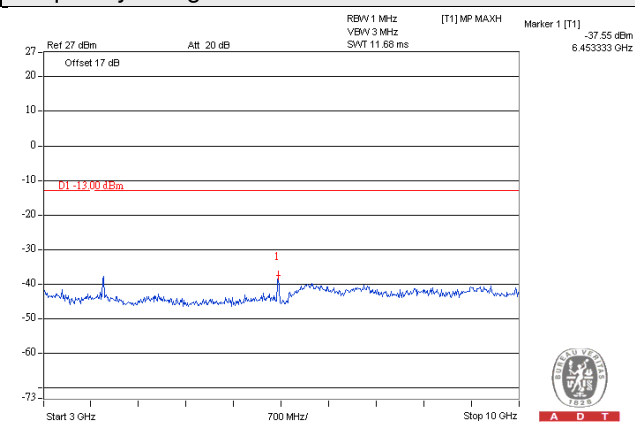
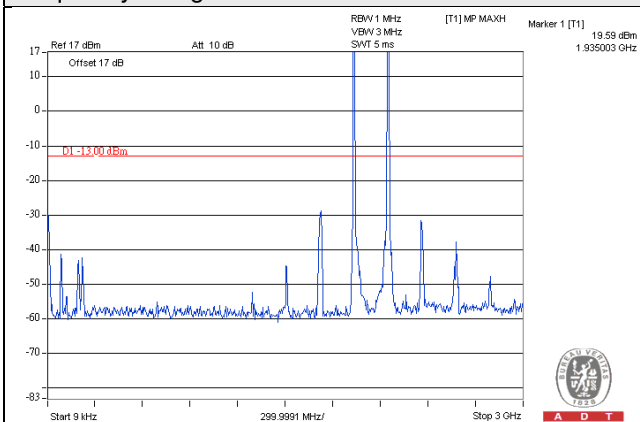
Frequency Range : 10GHz~20GHz



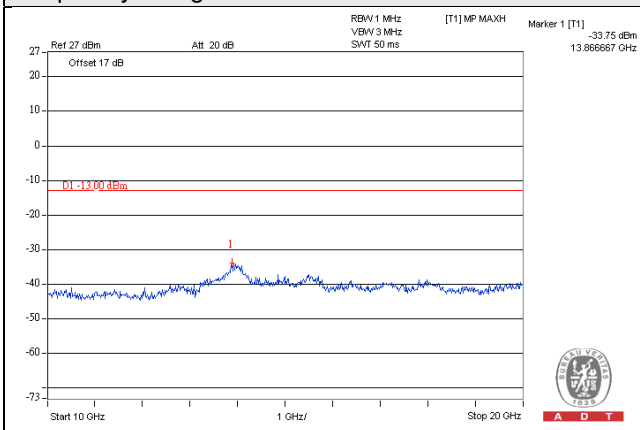
Mode Mode 2: LTE Band 2 10MHz: TX channel 650 + LTE Band 4 10MHz TX channel 2350

Frequency Range : 9kHz~3GHz

Frequency Range : 3GHz~10GHz



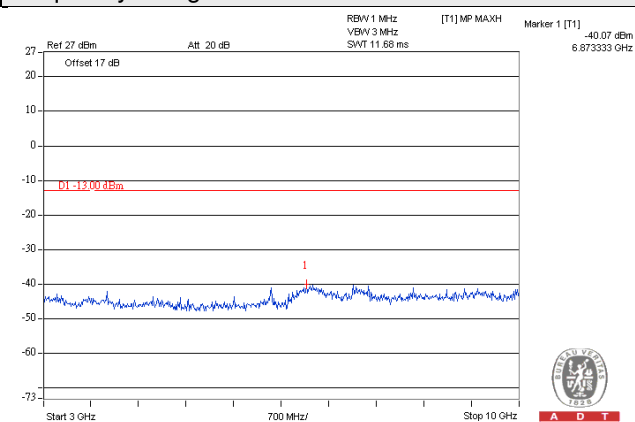
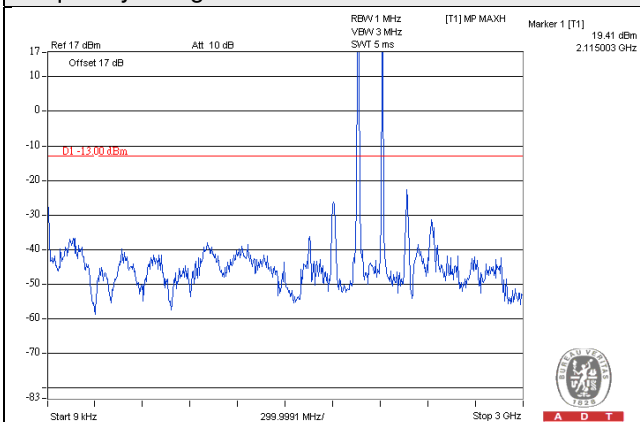
Frequency Range : 10GHz~20GHz



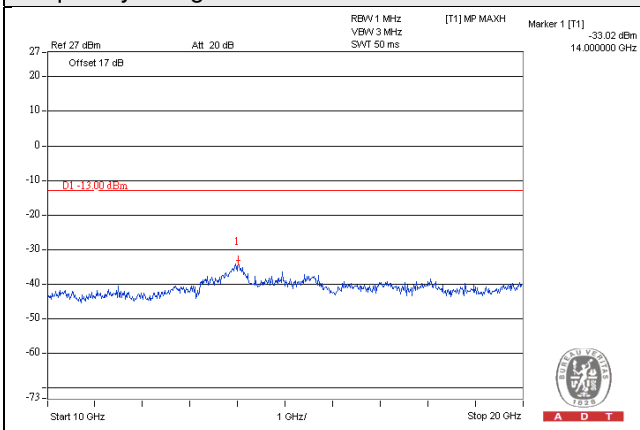
Mode Mode 2: LTE Band 2 10MHz: TX channel 900 + LTE Band 4 10MHz TX channel 2000

Frequency Range : 9kHz~3GHz

Frequency Range : 3GHz~10GHz



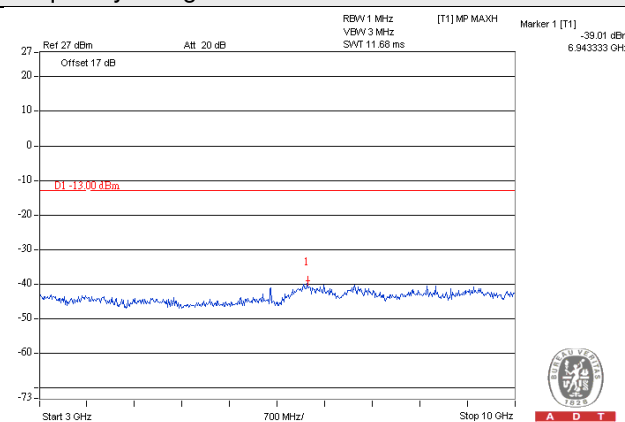
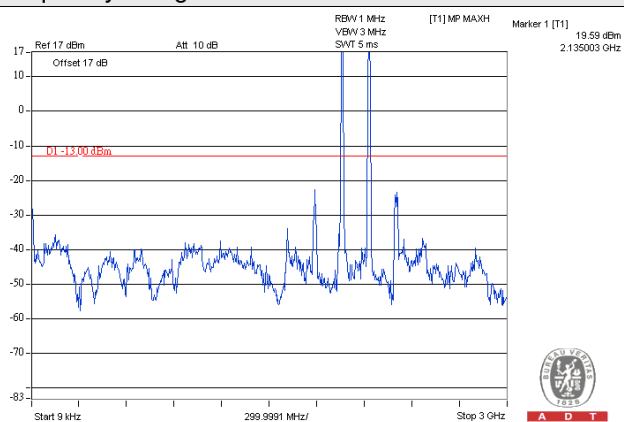
Frequency Range : 10GHz~20GHz



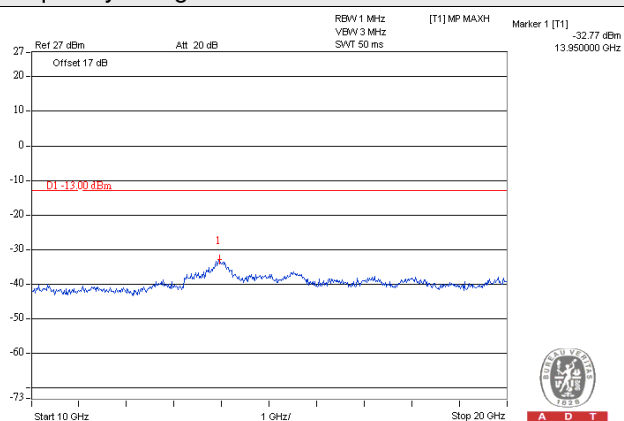
Mode Mode 2: LTE Band 2 10MHz: TX channel 900 + LTE Band 4 10MHz TX channel 2175

Frequency Range : 9kHz~3GHz

Frequency Range : 3GHz~10GHz



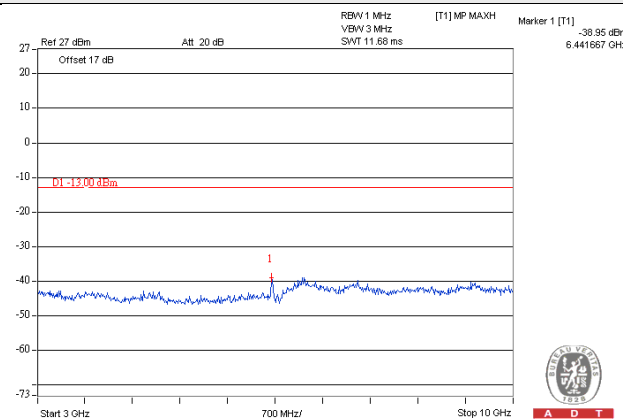
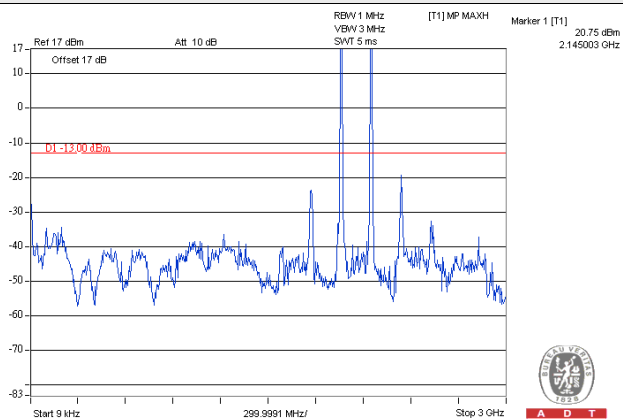
Frequency Range : 10GHz~20GHz



Mode Mode 2: LTE Band 2 10MHz: TX channel 900 + LTE Band 4 10MHz TX channel 2350

Frequency Range : 9kHz~3GHz

Frequency Range : 3GHz~10GHz



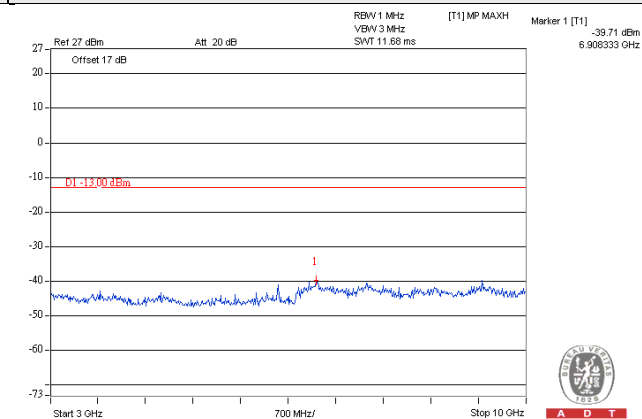
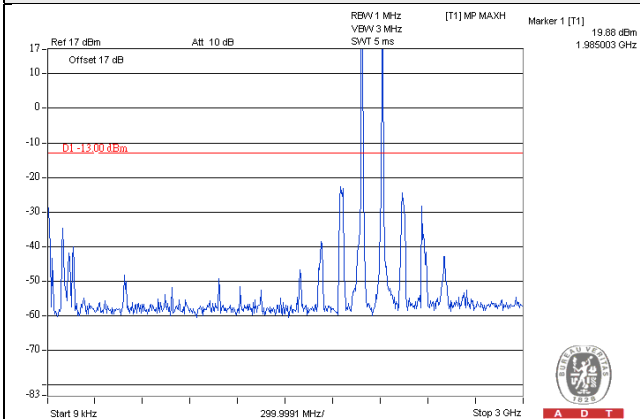
Frequency Range : 10GHz~20GHz



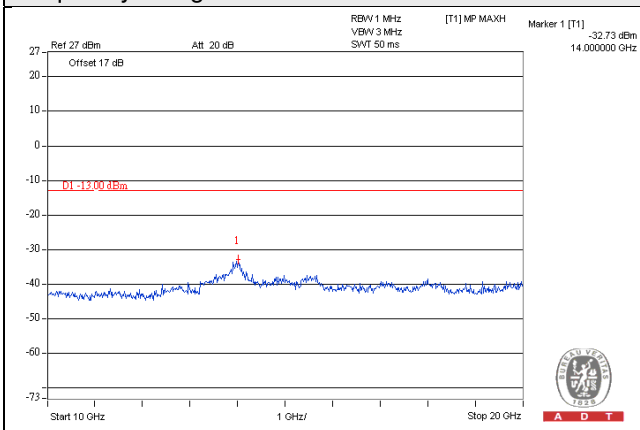
Mode Mode 2: LTE Band 2 10MHz: TX channel 1150 + LTE Band 4 10MHz TX channel 2000

Frequency Range : 9kHz~3GHz

Frequency Range : 3GHz~10GHz



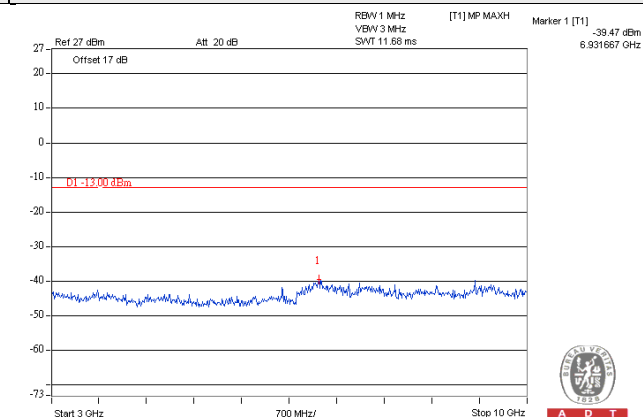
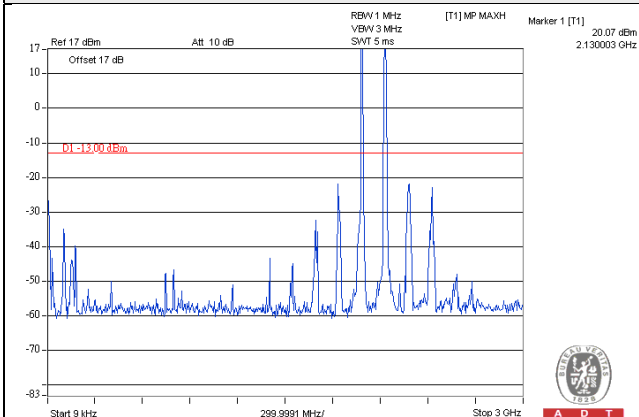
Frequency Range : 10GHz~20GHz



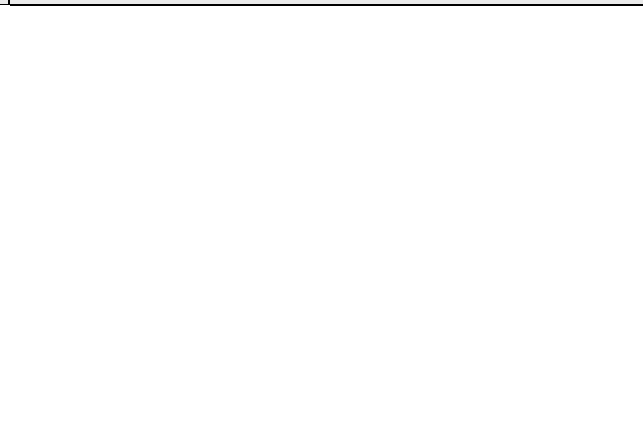
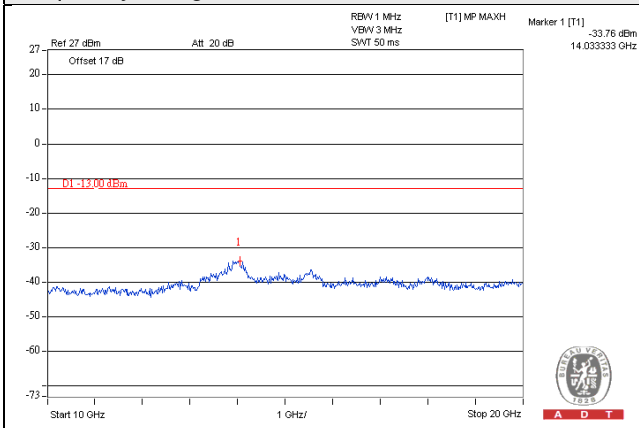
Mode Mode 2: LTE Band 2 10MHz: TX channel 1150 + LTE Band 4 10MHz TX channel 2175

Frequency Range : 9kHz~3GHz

Frequency Range : 3GHz~10GHz



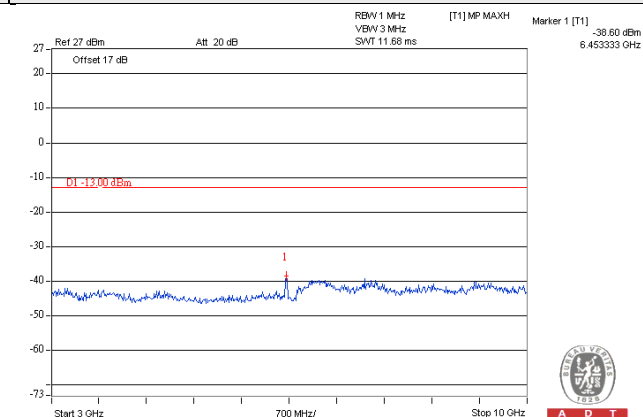
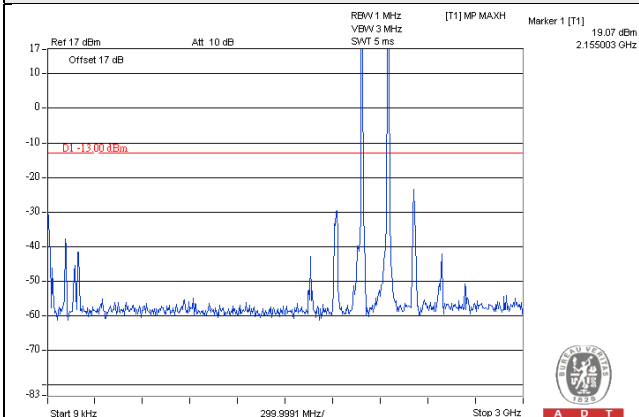
Frequency Range : 10GHz~20GHz



Mode Mode 2: LTE Band 2 10MHz: TX channel 1150 + LTE Band 4 10MHz TX channel 2350

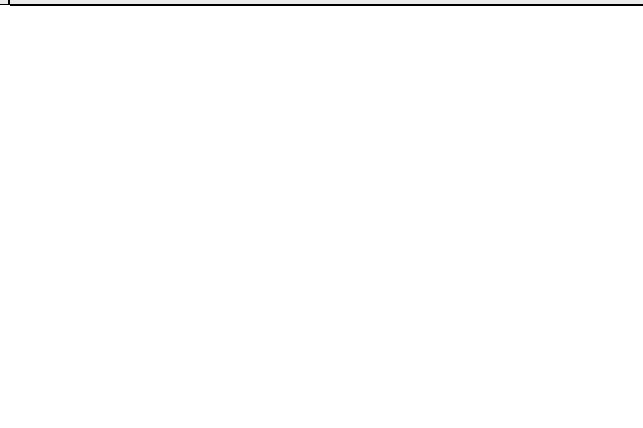
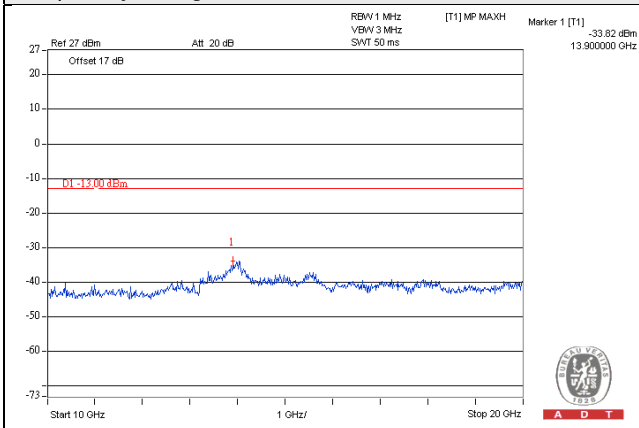
Frequency Range : 9kHz~3GHz

Frequency Range : 3GHz~10GHz



Frequency Range : 10GHz~20GHz

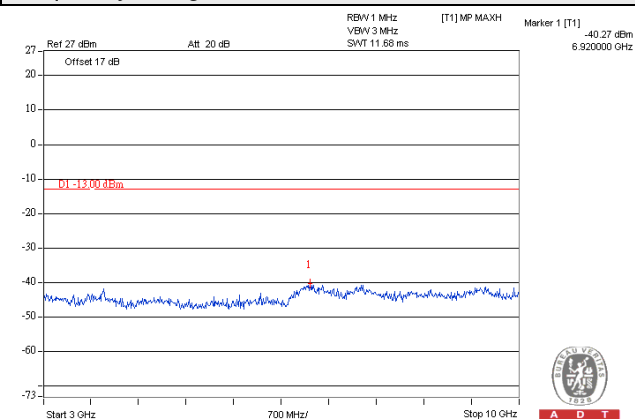
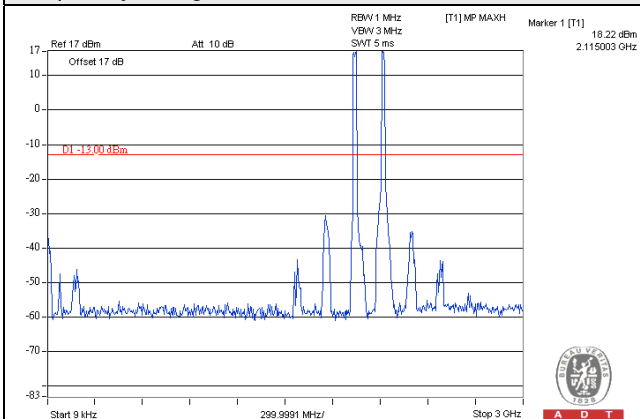
Frequency Range : 20GHz~30GHz



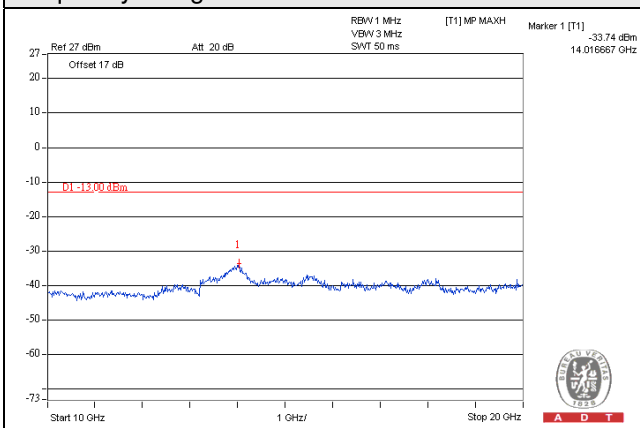
Mode Mode 3: LTE Band 2 20MHz: TX channel 700 + LTE Band 4 20MHz TX channel 2050

Frequency Range : 9kHz~3GHz

Frequency Range : 3GHz~10GHz



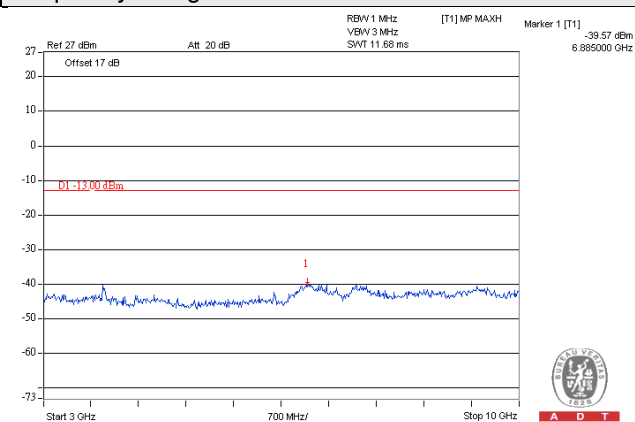
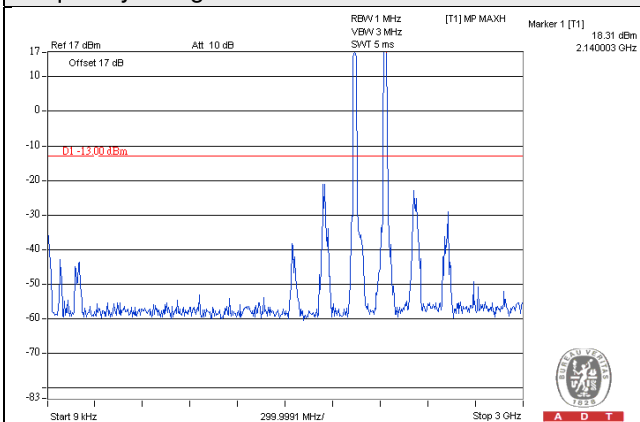
Frequency Range : 10GHz~20GHz



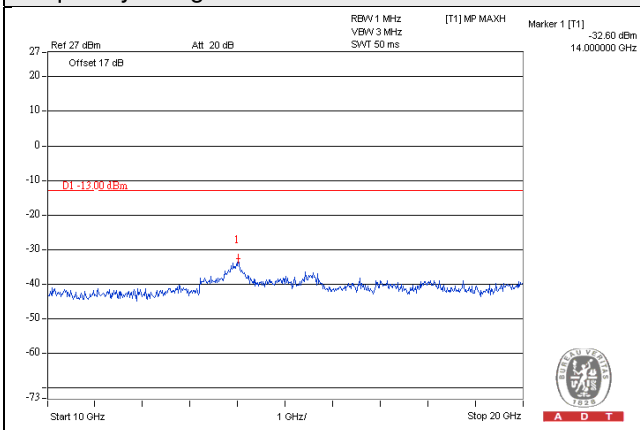
Mode Mode 3: LTE Band 2 20MHz: TX channel 700 + LTE Band 4 20MHz TX channel 2175

Frequency Range : 9kHz~3GHz

Frequency Range : 3GHz~10GHz



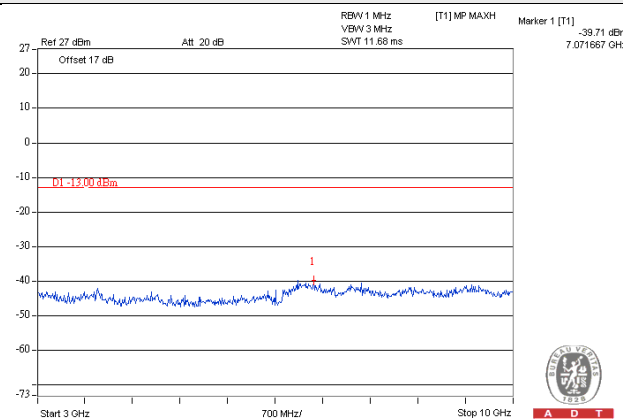
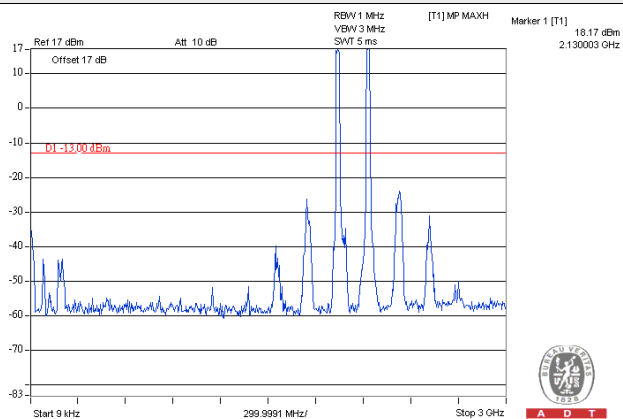
Frequency Range : 10GHz~20GHz



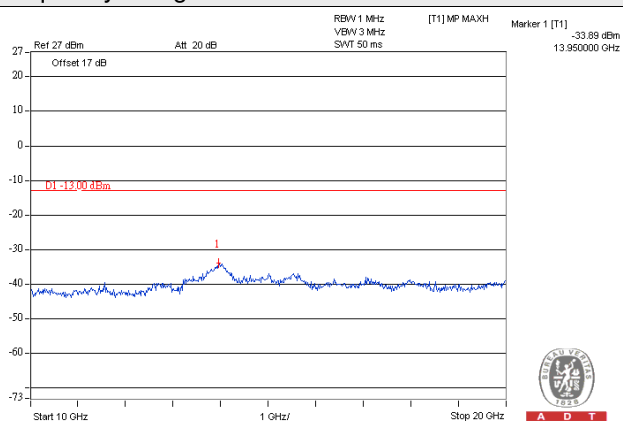
Mode Mode 3: LTE Band 2 20MHz: TX channel 700 + LTE Band 4 20MHz TX channel 2300

Frequency Range : 9kHz~3GHz

Frequency Range : 3GHz~10GHz



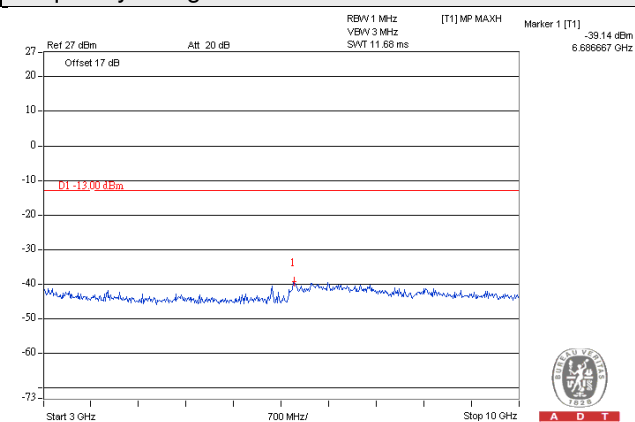
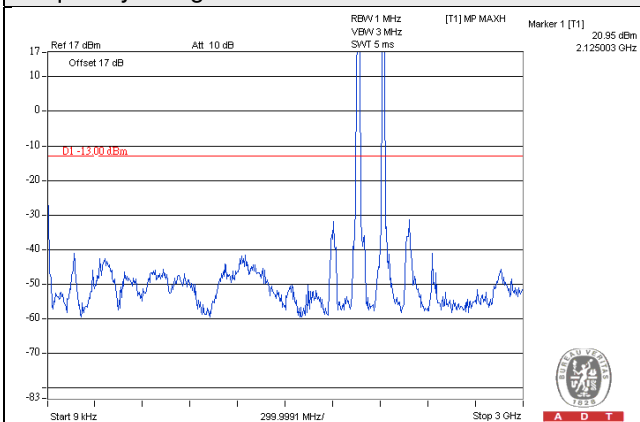
Frequency Range : 10GHz~20GHz



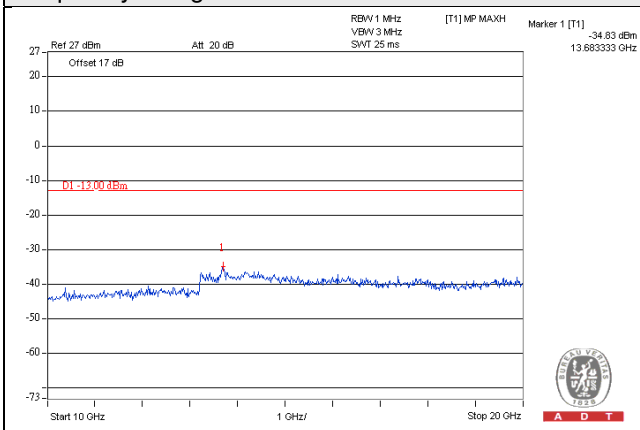
Mode Mode 3: LTE Band 2 20MHz: TX channel 900 + LTE Band 4 20MHz TX channel 2050

Frequency Range : 9kHz~3GHz

Frequency Range : 3GHz~10GHz



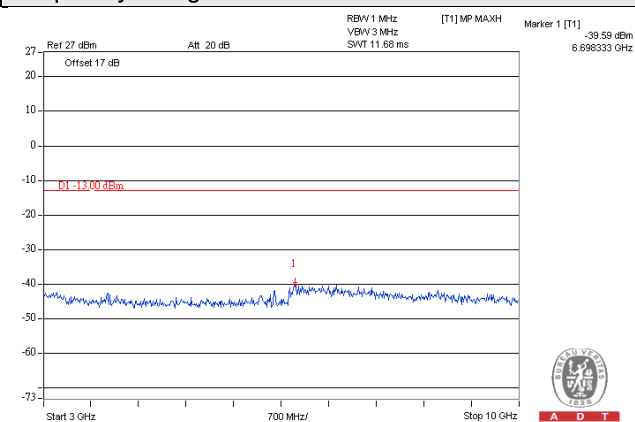
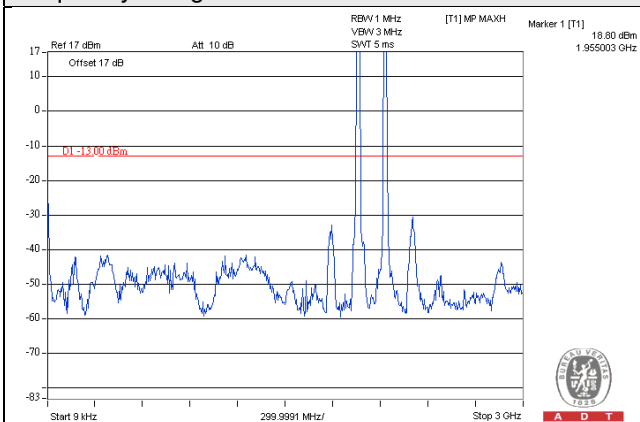
Frequency Range : 10GHz~20GHz



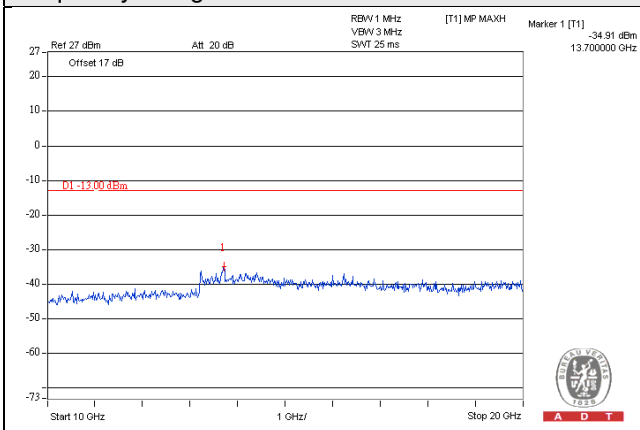
Mode Mode 3: LTE Band 2 20MHz: TX channel 900 + LTE Band 4 20MHz TX channel 2175

Frequency Range : 9kHz~3GHz

Frequency Range : 3GHz~10GHz



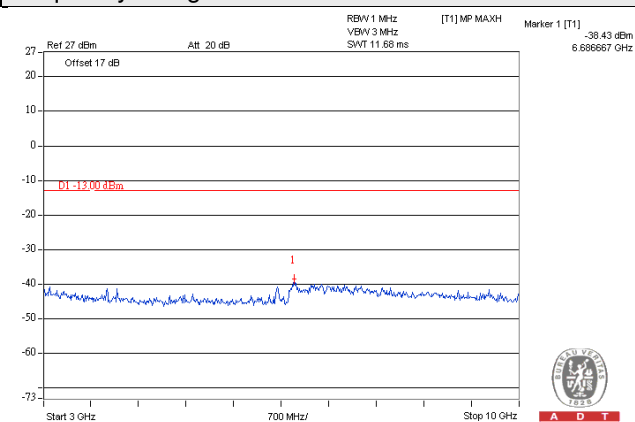
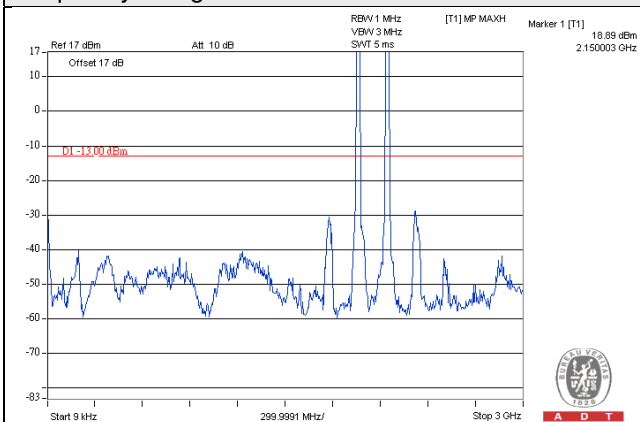
Frequency Range : 10GHz~20GHz



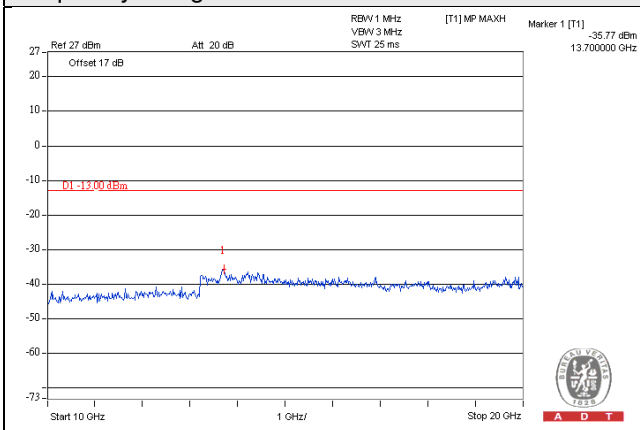
Mode Mode 3: LTE Band 2 20MHz: TX channel 900 + LTE Band 4 20MHz TX channel 2300

Frequency Range : 9kHz~3GHz

Frequency Range : 3GHz~10GHz



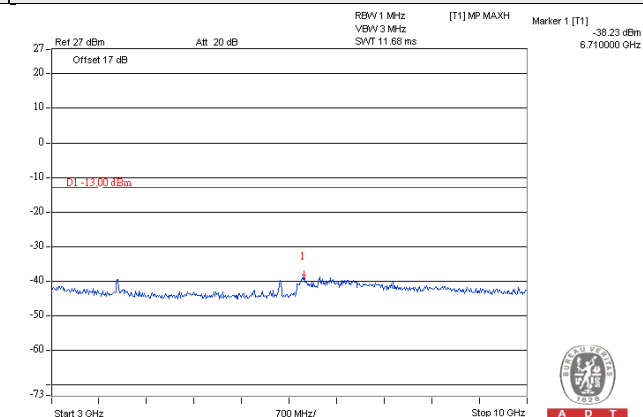
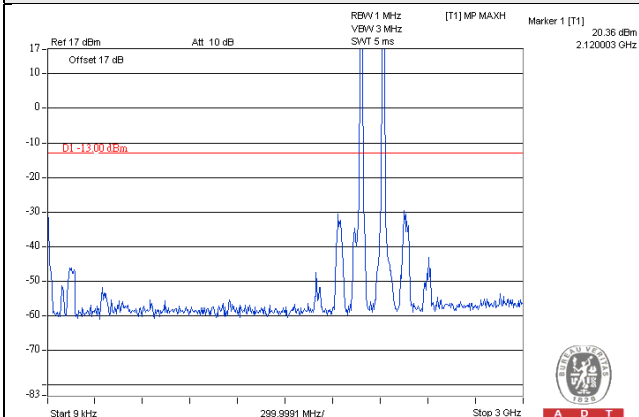
Frequency Range : 10GHz~20GHz



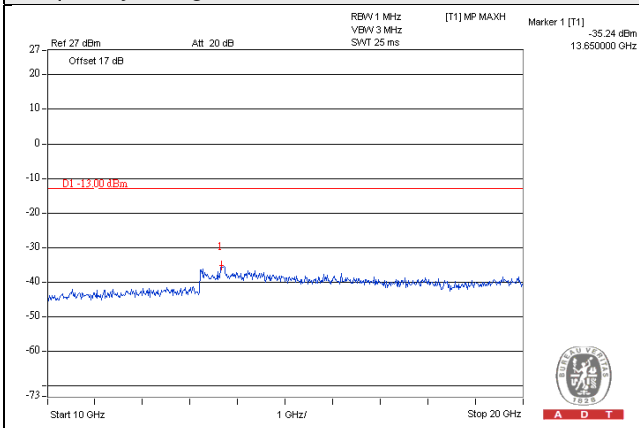
Mode Mode 3: LTE Band 2 20MHz: TX channel 1100 + LTE Band 4 20MHz TX channel 2050

Frequency Range : 9kHz~3GHz

Frequency Range : 3GHz~10GHz



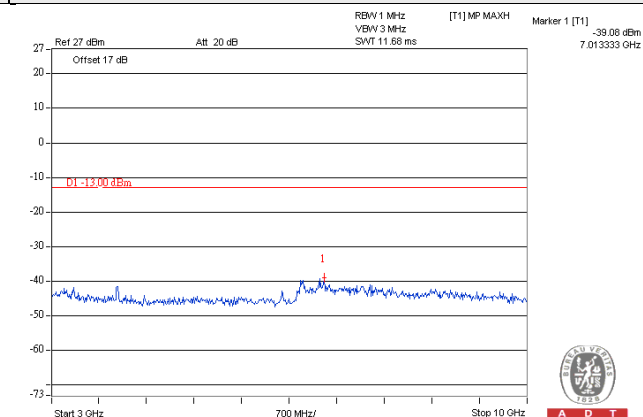
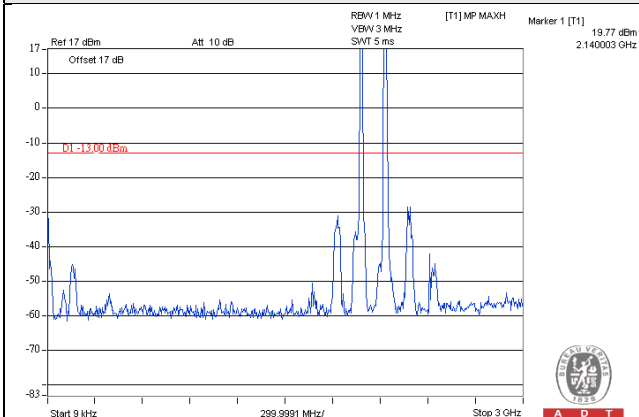
Frequency Range : 10GHz~20GHz



Mode Mode 3: LTE Band 2 20MHz: TX channel 1100 + LTE Band 4 20MHz TX channel 2175

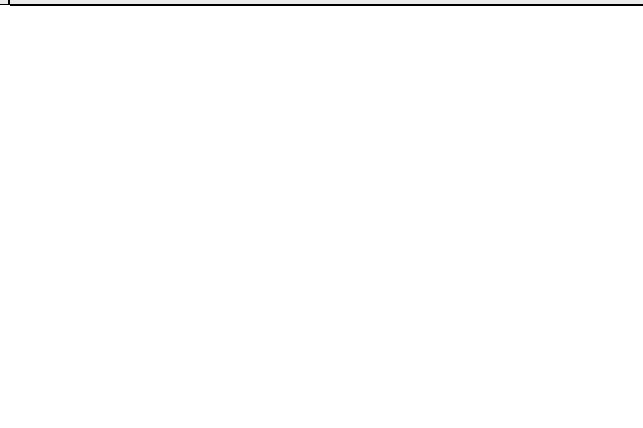
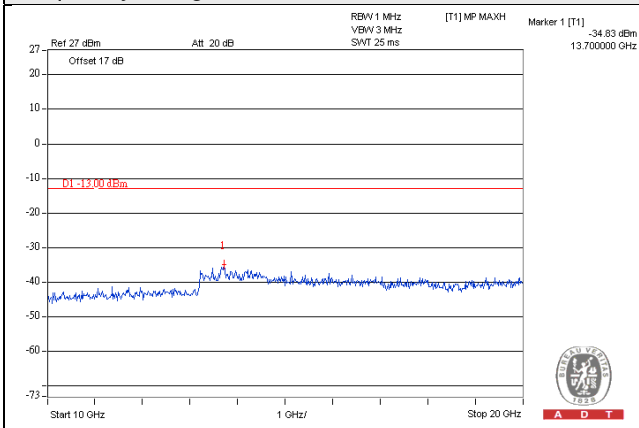
Frequency Range : 9kHz~3GHz

Frequency Range : 3GHz~10GHz



Frequency Range : 10GHz~20GHz

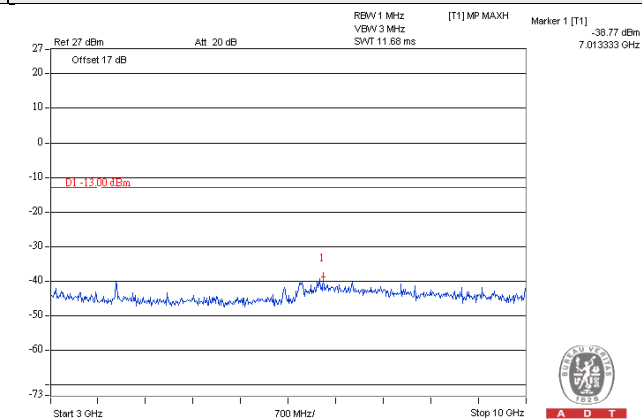
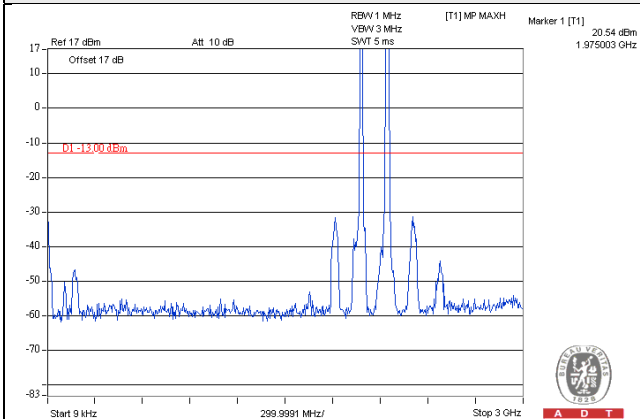
Frequency Range : 20GHz~40GHz



Mode Mode 3: LTE Band 2 20MHz: TX channel 1100 + LTE Band 4 20MHz TX channel 2300

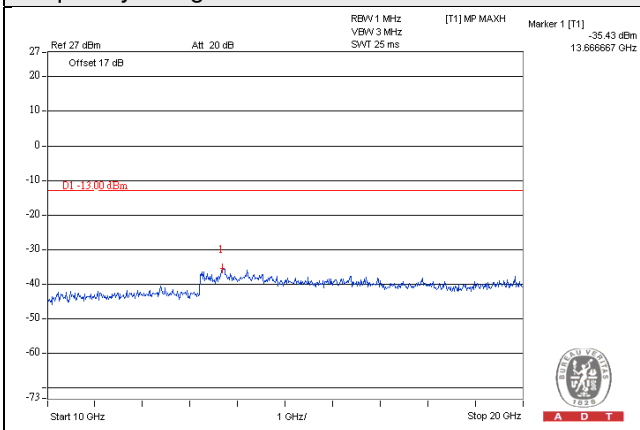
Frequency Range : 9kHz~3GHz

Frequency Range : 3GHz~10GHz



Frequency Range : 10GHz~20GHz

Frequency Range : 20GHz~30GHz



4.5 Radiated Emission Measurement

4.5.1 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 .

4.5.2 Test Procedure

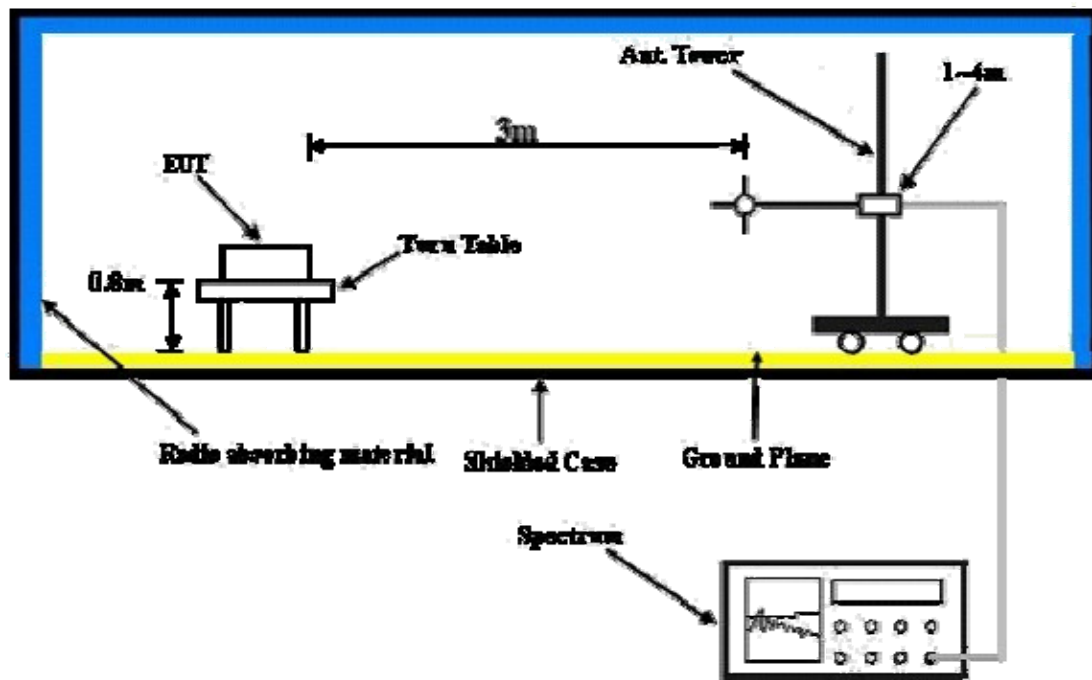
- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 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. $\text{EIRP} = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}$.
- d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, $\text{E.R.P power} = \text{E.I.R.P power} - 2.15\text{dBi}$.

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

4.5.3 Deviation from Test Standard

No deviation.

4.5.4 Test Setup



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

4.5.5 Test Results

Below 1GHz

Mode	Mode 1: LTE Band 2 5MHz: TX channel 625 + LTE Band 4 5MHz TX channel 1975
------	---

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)

1	35.82						
---	-------	--	--	--	--	--	--

Mode	Mode 3: LTE Band 2 20MHz: TX channel 700 + LTE Band 4 20MHz TX channel 2050
------	---

Antenna Polarity & Test Distance: Horizontal at 3 M							
---	--	--	--	--	--	--	--

No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	33.88						

Above 1GHz

Mode	Mode 1: LTE Band 2 5MHz: TX channel 625 + LTE Band 4 5MHz TX channel 1975
------	---

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)

1

Mode	Mode 1: LTE Band 2 5MHz: TX channel 625 + LTE Band 4 5MHz TX channel 2375
------	---

Antenna Polarity & Test Distance: Horizontal at 3 M							
---	--	--	--	--	--	--	--

No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
-----	-------------	---------------	-----------------------	------------------------	------------	-------------	-------------

1

Mode	Mode 1: LTE Band 2 5MHz: TX channel 900 + LTE Band 4 5MHz TX channel 2175
------	---

Antenna Polarity & Test Distance: Horizontal at 3 M							
---	--	--	--	--	--	--	--

No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1							

Mode	Mode 1: LTE Band 2 5MHz: TX channel 1175 + LTE Band 4 5MHz TX channel 1975
------	--

Antenna Polarity & Test Distance: Horizontal at 3 M							
---	--	--	--	--	--	--	--

No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1							

Mode	Mode 1: LTE Band 2 5MHz: TX channel 1175 + LTE Band 4 5MHz TX channel 2375
------	--

Antenna Polarity & Test Distance: Horizontal at 3 M							
---	--	--	--	--	--	--	--

No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1							

Mode	Mode 2: LTE Band 2 10MHz: TX channel 650 + LTE Band 4 10MHz TX channel 2175
------	---

Antenna Polarity & Test Distance: Horizontal at 3 M							
---	--	--	--	--	--	--	--

No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
-----	-------------	---------------	-----------------------	------------------------	------------	-------------	-------------

1

Mode	Mode 2: LTE Band 2 10MHz: TX channel 900 + LTE Band 4 10MHz TX channel 2000
------	---

Antenna Polarity & Test Distance: Horizontal at 3 M							
---	--	--	--	--	--	--	--

No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1							

Mode	Mode 2: LTE Band 2 10MHz: TX channel 900 + LTE Band 4 10MHz TX channel 2350
------	---

Antenna Polarity & Test Distance: Horizontal at 3 M							
---	--	--	--	--	--	--	--

No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
-----	-------------	---------------	-----------------------	------------------------	------------	-------------	-------------

1

Mode	Mode 2: LTE Band 2 10MHz: TX channel 1150 + LTE Band 4 10MHz TX channel 2175
------	--

Antenna Polarity & Test Distance: Horizontal at 3 M							
---	--	--	--	--	--	--	--

No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1							

Mode	Mode 3: LTE Band 2 20MHz: TX channel 700 + LTE Band 4 20MHz TX channel 2050
------	---

Antenna Polarity & Test Distance: Horizontal at 3 M							
---	--	--	--	--	--	--	--

No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1							

Mode	Mode 3: LTE Band 2 20MHz: TX channel 700 + LTE Band 4 20MHz TX channel 2300
------	---

Antenna Polarity & Test Distance: Horizontal at 3 M							
---	--	--	--	--	--	--	--

No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
-----	-------------	---------------	-----------------------	------------------------	------------	-------------	-------------

1

Mode	Mode 3: LTE Band 2 20MHz: TX channel 900 + LTE Band 4 20MHz TX channel 2175
------	---

Antenna Polarity & Test Distance: Horizontal at 3 M							
---	--	--	--	--	--	--	--

No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
-----	-------------	---------------	-----------------------	------------------------	------------	-------------	-------------

1

Mode	Mode 3: LTE Band 2 20MHz: TX channel 1100 + LTE Band 4 20MHz TX channel 2050
------	--

Antenna Polarity & Test Distance: Horizontal at 3 M							
---	--	--	--	--	--	--	--

No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1							

Mode	Mode 3: LTE Band 2 20MHz: TX channel 1100 + LTE Band 4 20MHz TX channel 2300
------	--

Antenna Polarity & Test Distance: Horizontal at 3 M							
---	--	--	--	--	--	--	--

No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1							

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: 886-3-6668565

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Tel: 886-3-3183232

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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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