FCC TEST REPORT

(PART 27)

REPORT NO.:	RF111221C21-7
MODEL NO.:	PJ53100
FCC ID:	NM8PJ53100
RECEIVED:	Dec. 21, 2011
TESTED:	Jan. 05 ~ Jan. 11, 2012
ISSUED:	Jan. 19, 2012

APPLICANT: HTC Corporation

ADDRESS: 23, Xinghua Rd., Taoyuan 330, Taiwan, R.O.C.

ISSUED BY: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

LAB ADDRESS: No. 47, 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 Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
Original release	N/A	Jan. 19, 2012

1 CERTIFICATION

PRODUCT:	Smart Phone
MODEL NO.:	PJ53100
BRAND:	HTC
APPLICANT:	HTC Corporation
TESTED:	Jan. 05 ~ Jan. 11, 2012
TEST SAMPLE:	Production Unit
TEST STANDARDS:	**FCC Part 27, Subpart C, L** **FCC Part 2** ANSI C63.4-2003

The above equipment (model: PJ53100) 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:** Jan. 19, 2012
Pettie Chen / Specialist

APPROVED BY : _____ , **DATE:** Jan. 19, 2012
Gary Chang / Technical Manager

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

OPERATING BAND: 776-788 MHz			
STANDARD SECTION	**TEST TYPE AND LIMIT**	**RESULT**	**REMARK**
2.1046 27.50(C)(10)	Maximum Peak Output Power Limit: max. 3 watts e.r.p peak power	PASS	Meet the requirement of limit. Minimum passing margin is 24.38dBm at 782MHz.
2.1055 27.54	Frequency Stability	PASS	Meet the requirement of limit.
2.1049 27.53(g)	Occupied Bandwidth	PASS	Meet the requirement of limit.
27.50(d)(5)	Peak to average ratio	PASS	Meet the requirement of limit.
27.53(g)	Band Edge Measurements	PASS	Meet the requirement of limit.
2.1051 27.53(g)	Conducted Spurious Emissions	PASS	Meet the requirement of limit.
2.1053 27.53(g)	Radiated Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -16.15dB at 1573.0MHz.

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	UNCERTAINTY
Conducted emissions	9kHz~30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	2.93 dB
	200MHz ~1000MHz	2.95 dB
	1GHz ~ 18GHz	2.26 dB
	18GHz ~ 40GHz	1.94 dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Smart Phone	
MODEL NO.	PJ53100	
FCC ID	NM8PJ53100	
POWER SUPPLY	5.0Vdc (adapter or host equipment) 3.7Vdc or 3.8Vdc (Li-ion battery)	
OPERATION TEMPERATURE RANGE	-10°C ~ 55°C	
MODULATION TECHNOLOGY	**LTE Band 13**	QPSK, 16QAM
FREQUENCY RANGE	**LTE Band 13** **Channel Bandwidth: 5MHz**	779.5 ~784.5MHz
	LTE Band 13 **Channel Bandwidth: 10MHz**	782MHz
MAX. ERP POWER (W)	**LTE Band 13**	0.27W
CATEGORY	LTE: 3	
ANTENNA TYPE	Internal monopole antenna	
DATA CABLE	Refer to users' manual	
I/O PORTS	Refer to Note as below	
ACCESSORY DEVICES	Refer to Note as below	

NOTE:

1. The EUT's accessories list refers to Ext Pho_NM8PJ53100.
2. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

LTE Band 13:

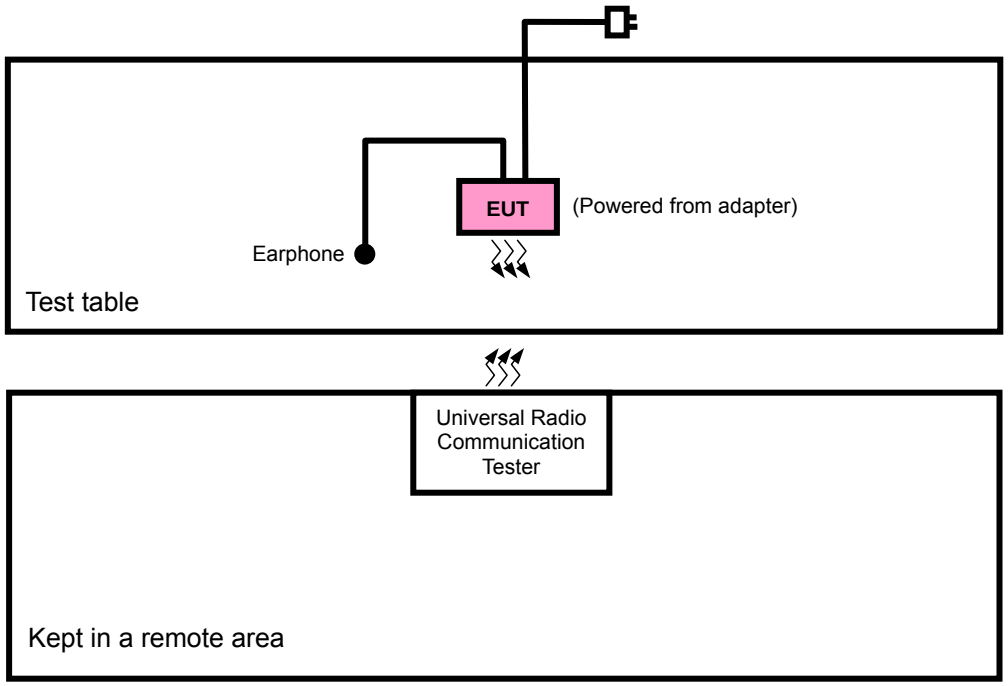
Three channels had been tested for each channel bandwidth.

5MHz	
Channel	**Frequency(MHz)**
23205	779.5
23230	782.0
23255	784.5

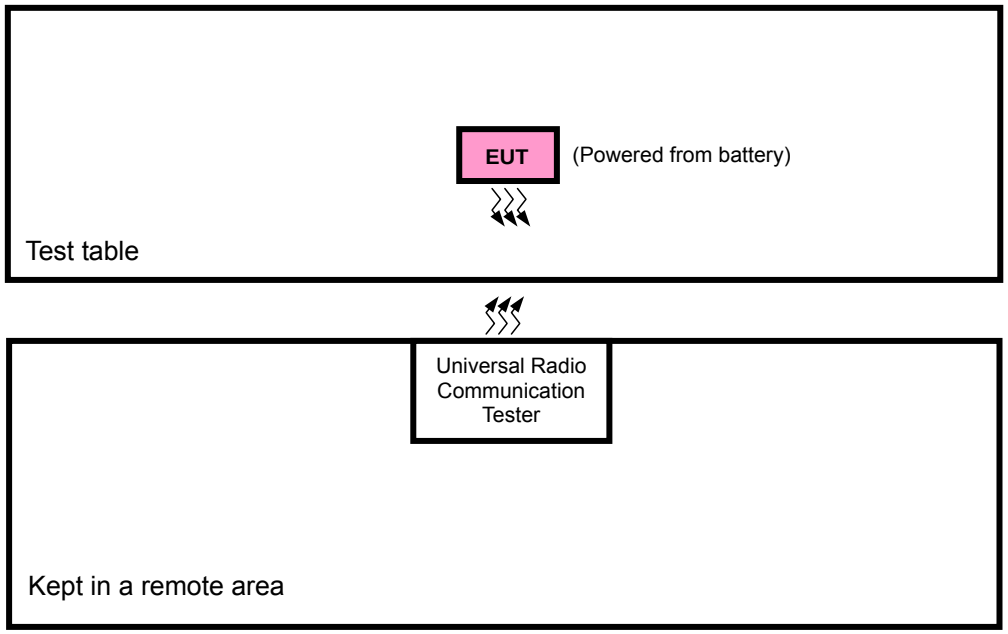
10MHz	
Channel	**Frequency(MHz)**
23230	782.0

3.2.1 CONFIGURATION OF SYSTEM UNDER TEST

<For Radiated Emission Test>



<For Output Power Test>



3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO							DESCRIPTION
	OP	FS	OB	PA	BE	CE	RE	
-	V	V	V	V	V	V	V	-

Where **OP:** Output power
FS: Frequency stability
OB: Occupied bandwidth
PA: Peak to Average Ratio
BE: Band edge
CE: Conducted spurious emissions
RE: Radiated emission

OUTPUT POWER MEASUREMENT:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, XYZ axis and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION TECHNOLOGY	AXIS
-	23205~ 23255	23205, 23230, 23255	5MHz	QPSK	Y
-	23230	23230	10MHz	QPSK	Y

FREQUENCY STABILITY MEASUREMENT:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION TECHNOLOGY
-	23230	23230	5MHz, 10MHz	QPSK

OCCUPIED BANDWIDTH MEASUREMENT:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION TECHNOLOGY
-	23230	23230	5MHz, 10MHz	QPSK, 16QAM

PEAK TO AVERAGE RATIO:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, XYZ axis and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION TECHNOLOGY
-	23230	23230	5MHz, 10MHz	QPSK

BAND EDGE MEASUREMENT:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, XYZ axis and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION TECHNOLOGY
-	23230	23230	5MHz, 10MHz	QPSK

CONDUCTED SPURIOUS EMISSIONS MEASUREMENT:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and antenna ports (if EUT with antenna diversity architecture).

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

EUT CONFIGURE MODE	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION TECHNOLOGY
-	23230	23230	5MHz, 10MHz	QPSK

RADIATED EMISSION MEASUREMENT:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, XYZ axis and antenna ports (if EUT with antenna diversity architecture).

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

EUT CONFIGURE MODE	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION TECHNOLOGY	AXIS
-	23230	23230	5MHz, 10MHz	QPSK	Y

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
OP	25deg. C, 53%RH	3.8Vdc	Phoenix Chen
FS	25deg. C, 53%RH	3.8Vdc	Phoenix Chen
OB	25deg. C, 53%RH	3.8Vdc	Phoenix Chen
PA	25deg. C, 53%RH	3.8Vdc	Phoenix Chen
BE	25deg. C, 53%RH	3.8Vdc	Phoenix Chen
CE	25deg. C, 53%RH	3.8Vdc	Phoenix Chen
RE	25deg. C, 65%RH	120Vac, 60Hz	Kay Wu

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC 47 CFR Part 2

FCC 47 CFR Part 27

ANSI C63.4-2003

ANSI/TIA/EIA-603-C 2004

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

3.4 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.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Universal Radio Communication Tester	R&S	CMU200	104484	NA
2	Radio Communication Analyzer	Anritsu	MT8820C	6201010284	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	NA

NOTE:

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

4 TEST TYPES AND RESULTS

4.1 OUTPUT POWER MEASUREMENT

4.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

Portable stations (hand-held devices) operating in the 779-793 MHz band are limited to 3 watts ERP

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCI	100744	Apr. 19, 2011	Apr. 18, 2012
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Aug. 04, 2011	Aug. 03, 2012
BILOG Antenna SCHWARZBECK	VULB9168	9168-156	Apr. 12, 2011	Apr. 11, 2012
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-563	Sep. 06, 2011	Sep. 05, 2012
HORN Antenna SCHWARZBECK	BBHA 9170	148	Jul. 20, 2011	Jul. 19, 2012
Preamplifier Agilent	8449B	3008A01911	Oct. 29, 2011	Oct. 28, 2012
Preamplifier Agilent	8447D	2944A10638	Oct. 29, 2011	Oct. 28, 2012
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	295013/4 283403/4	Aug. 19, 2011	Aug. 18, 2012
RF signal cable Worken	8D-FB	Cable-HYCH9-01	Aug. 13, 2011	Aug. 12, 2012
Software	ADT_Radiated_ V7.6.15.9.2	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 Table Controller EMCO	2090	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 460141.
5. The IC Site Registration No. is IC 7450F-4.

4.1.3 TEST PROCEDURES

EIRP / ERP MEASUREMENT:

a. The EUT was set up for the maximum power with LTE link data modulation. The power was measured with R&S Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high operational frequency range). RWB and VBW is 10MHz for LTE.

b. E.I.R.P power 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 a. Record the power level of S.G

d. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn

e. E.R.P = E.I.R.P- 2.15 dB

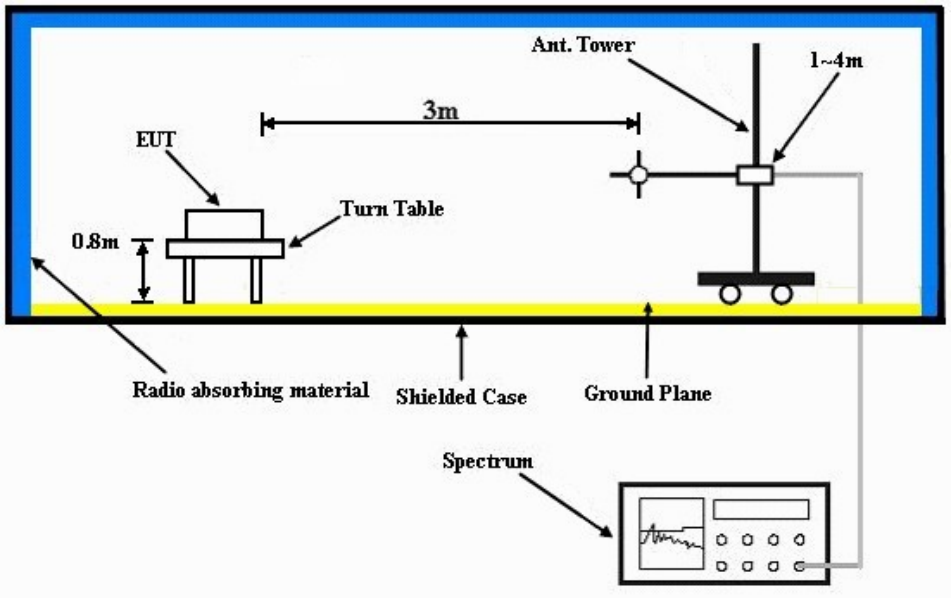
CONDUCTED POWER MEASUREMENT:

a. The EUT was set up for the maximum power with LTE link data modulation and link up with simulator.

b. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

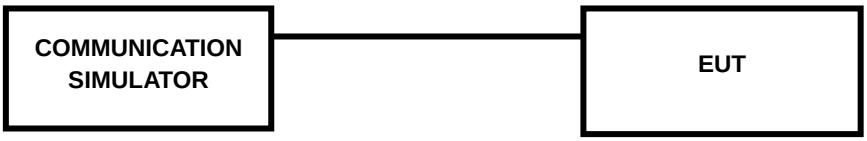
4.1.4 TEST SETUP

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).

4.1.5 EUT OPERATING CONDITIONS

a. The EUT makes a call to the communication simulator.

b. The communication simulator station system controlled an EUT to export maximum output power under transmission mode and specific channel frequency.

4.1.6 TEST RESULTS

CONDUCTED OUTPUT POWER (dBm)

LTE Band 13								
BW	Modulation	CH	Frequency (MHz)	RB	RB Offset	MPR	Target Power	Measured Power
5 MHz	QPSK	23230	782	1	0	0	25.5	25.45
		23230	782	1	24	0	25.5	25.43
		23230	782	12	6	1	25.5	24.65
		23230	782	25	0	1	25.5	24.69
	16QAM	23230	782	1	0	1	25.5	24.72
		23230	782	1	24	1	25.5	24.74
		23230	782	12	6	2	25.5	23.59
		23230	782	25	0	2	25.5	23.63
10MHz	QPSK	23230	782	1	0	0	25.5	25.49
		23230	782	1	49	0	25.5	25.46
		23230	782	25	12	1	25.5	24.81
		23230	782	50	0	1	25.5	24.70
	16QAM	23230	782	1	0	1	25.5	24.72
		23230	782	1	49	1	25.5	24.77
		23230	782	25	12	2	25.5	23.77
		23230	782	50	0	2	25.5	23.85

ERP (dBm)

CHANNEL BANDWIDTH: 5MHz

Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	ERP(dBm)	ERP(W)	Polarization (H/V)
Y	23205	779.5	-9.98	35.43	23.30	0.21	H
	23230	782.0	-10.94	35.40	22.31	0.17	
	23255	784.5	-11.71	35.30	21.44	0.14	
	23205	779.5	-13.86	38.53	22.52	0.18	V
	23230	782.0	-14.12	38.23	21.96	0.16	
	23255	784.5	-15.39	37.91	20.37	0.11	

CHANNEL BANDWIDTH: 10MHz

Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	ERP(dBm)	ERP(W)	Polarization (H/V)
Y	23230	782	-9.02	35.40	24.23	0.26	H
	23230	782	-11.70	38.23	24.38	0.27	V

4.2 FREQUENCY STABILITY MEASUREMENT

4.2.1 LIMITS OF FREQUENCY STABILIITY MEASUREMENT

According to the FCC part 27.54 shall be tested the frequency stability. The rule is defined that" The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
* Hewlett Packard RF cable	8120-6192	01428251	NA	NA
* Suhner RF cable	Sucoflex104	257029	Sep. 11, 2011	Sep. 10, 2012
* WIT Standard Temperature & Humidity Chamber	MHU-225AU	920842	Jun. 15, 2011	Jun. 14, 2012

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. "*" = These equipments are used for the final measurement.

3. The test was performed in ADT RF OVEN room.

4.2.3 TEST PROCEDURE

a. Because of the measure the carrier frequency under the condition of the AFC lock, it shall be used the mobile station in the LTE link mode. This is accomplished with the use of the communication simulator station. The oven room could control the temperatures and humidity.

b. Power must be removed when changing from one temperature to another or one voltage to another voltage. Power warm up is at least 15 min and power applied should perform before recording frequency error.

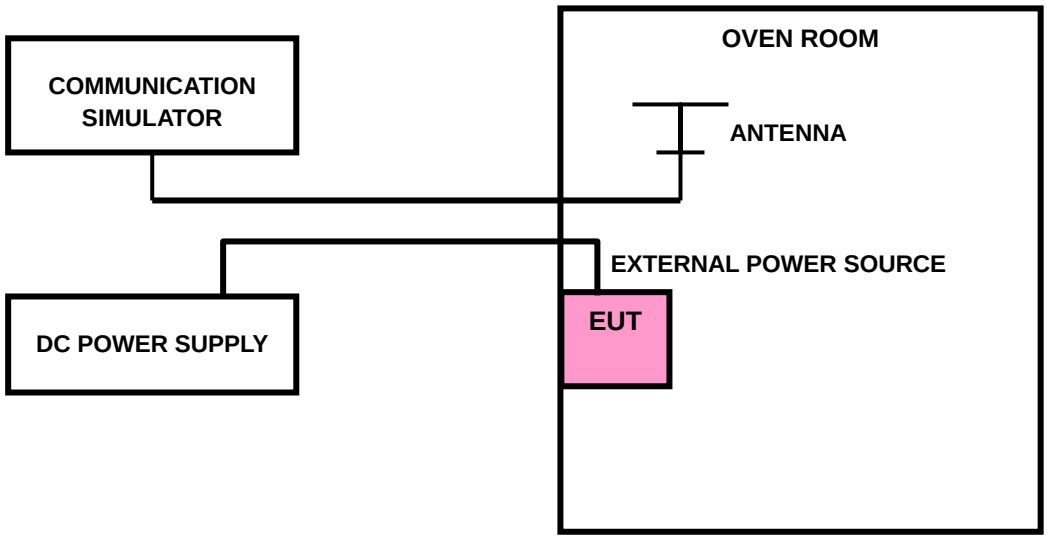
c. EUT is connected the external power supply to control the DC input power. The various Volts from the minimum 3.6 Volts to 4.2 Volts. Each step shall be record the frequency error rate.

d. The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the ±0.5℃ during the measurement testing.

e. 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.

4.2.4 TEST SETUP



4.2.5 TEST RESULTS

CHANNEL BANDWIDTH: 5MHz

AFC FREQUENCY ERROR vs. VOLTAGE		
VOLTAGE (Volts)	**MEASURED ERROR (ppm)**	**LIMIT (ppm)**
3.8	-0.0025	2.5
3.6	0.0033	2.5
4.2	0.0014	2.5

NOTE: The applicant defined the normal working voltage of the host equipment is from3.6Vdc to 4.2Vdc.

AFC FREQUENCY ERROR vs. TEMP.		
TEMP. (℃)	**MEASURED ERROR (ppm)**	**LIMIT (ppm)**
-10	-0.0030	2.5
0	0.0034	2.5
10	-0.0022	2.5
20	0.0038	2.5
30	0.0016	2.5
40	0.0028	2.5
50	-0.0040	2.5
55	-0.0051	2.5

CHANNEL BANDWIDTH: 10MHz

AFC FREQUENCY ERROR vs. VOLTAGE		
VOLTAGE (Volts)	**MEASURED ERROR (ppm)**	**LIMIT (ppm)**
3.8	-0.002	2.5
3.6	-0.004	2.5
4.2	-0.002	2.5

NOTE: The applicant defined the normal working voltage of the host equipment is from 3.6Vdc to 4.2Vdc.

AFC FREQUENCY ERROR vs. TEMP.		
TEMP. (℃)	**MEASURED ERROR (ppm)**	**LIMIT (ppm)**
-10	0.0035	2.5
0	0.0033	2.5
10	0.0019	2.5
20	-0.0020	2.5
30	0.0026	2.5
40	0.0023	2.5
50	0.0038	2.5
55	-0.0056	2.5

4.3 OCCUPIED BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT

The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 %of the total mean power of a given emission.

4.3.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
* Mini-Circuits Power Splitter	ZAPD-4	NA	Mar. 24, 2011	Mar. 23, 2012
* Hewlett Packard RF cable	8120-6192	274388	Oct. 22, 2011	Oct. 21, 2012
* JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA
* Suhner RF cable	Sucoflex104	274403/4	Aug. 20, 2011	Aug. 19, 2012
* ROHDE & SCHWARZ Spectrum Analyzer	E4446A	MY44360128	Feb. 22, 2011	Feb. 21, 2012

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. "*" = These equipments are used for the final measurement.

4.3.3 TEST SETUP

Same as Item 4.1.4 (Conducted Power Setup)

4.3.4 TEST PROCEDURES

a. The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

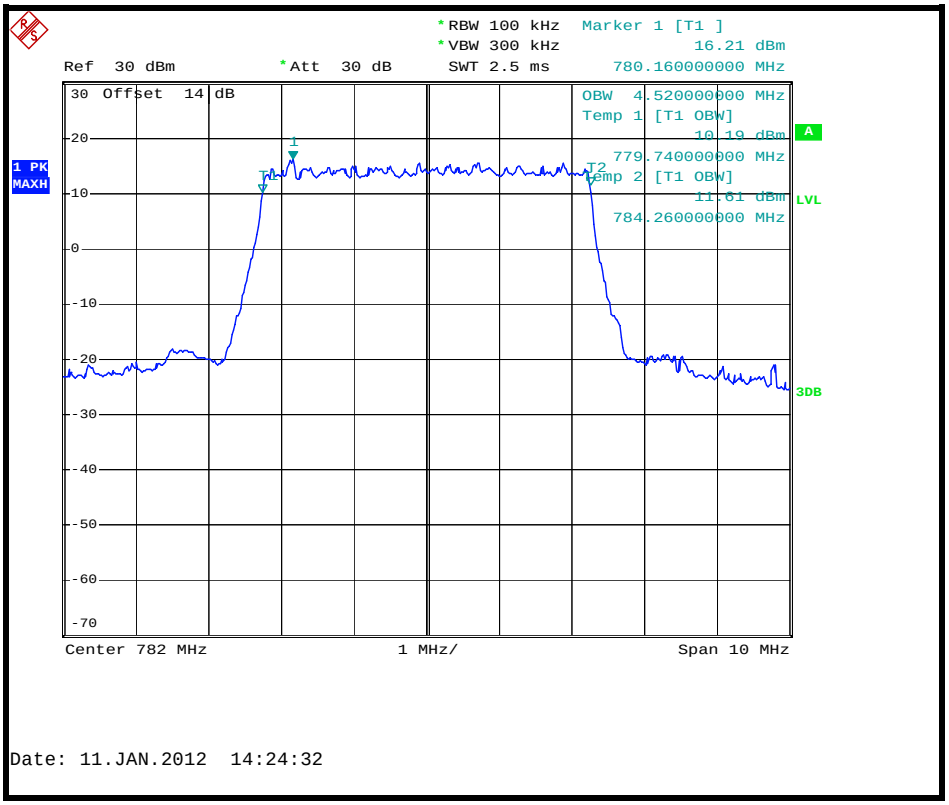
b. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

4.3.5 TEST RESULTS

CHANNEL BANDWIDTH: 5MHz / QPSK

FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)
782	4.52

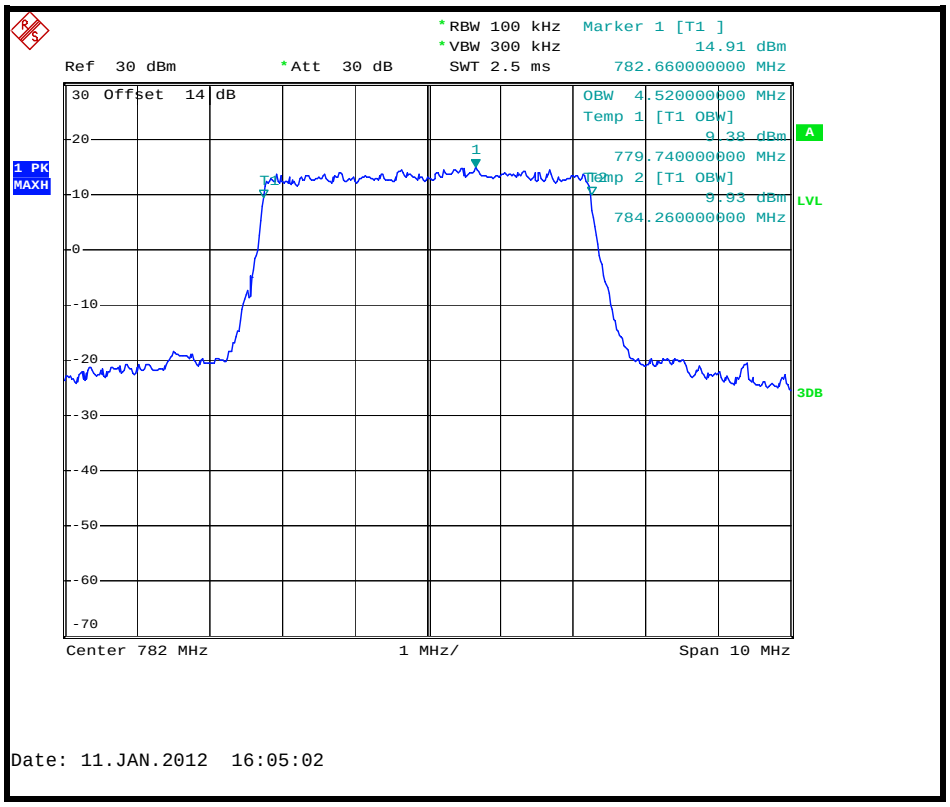
CH 23230



CHANNEL BANDWIDTH: 5MHz / 16QAM

FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)
782	4.52

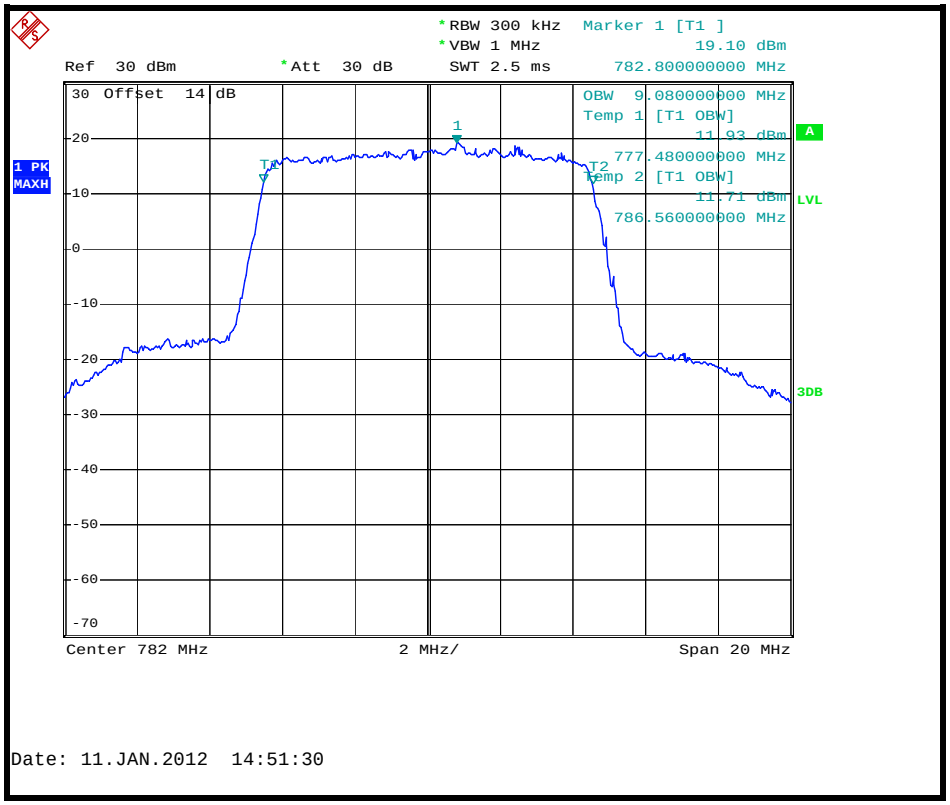
CH 23230



CHANNEL BANDWIDTH: 10MHz / QPSK

FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)
782	9.08

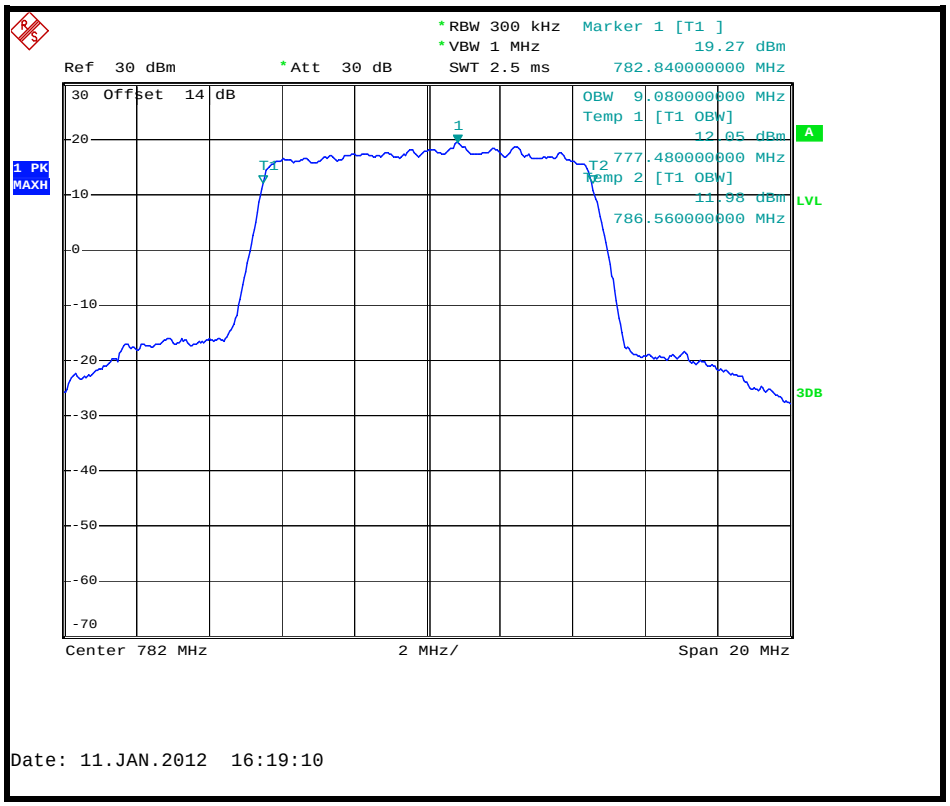
CH 23230



CHANNEL BANDWIDTH: 10MHz / 16QAM

FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)
782	9.08

CH 23230



4.4 PEAK TO AVERAGE RATIO

4.4.1 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

4.4.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
* ROHDE & SCHWARZ Spectrum Analyzer	FSP40	100039	Feb. 23, 2011	Feb. 22, 2012
* Agilent Spectrum Analyzer	E4446A	MY43360128	Feb. 22, 2011	Feb. 21, 2012
* Mini-Circuits Power Splitter	ZN2PD-9G	NA	May 25, 2011	May 24, 2012
* Hewlett Packard RF cable	8120-6192	274388	Oct. 22, 2011	Oct. 21, 2012
* JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA
* Suhner RF cable	Sucoflex104	274403/4	Aug. 20, 2011	Aug. 19, 2012

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. "*" = These equipments are used for the final measurement.

4.4.3 TEST SETUP

Same as Item 4.2.4 (Conducted Power Setup)

4.4.4 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%.

4.4.5 EUT OPERATING CONDITION

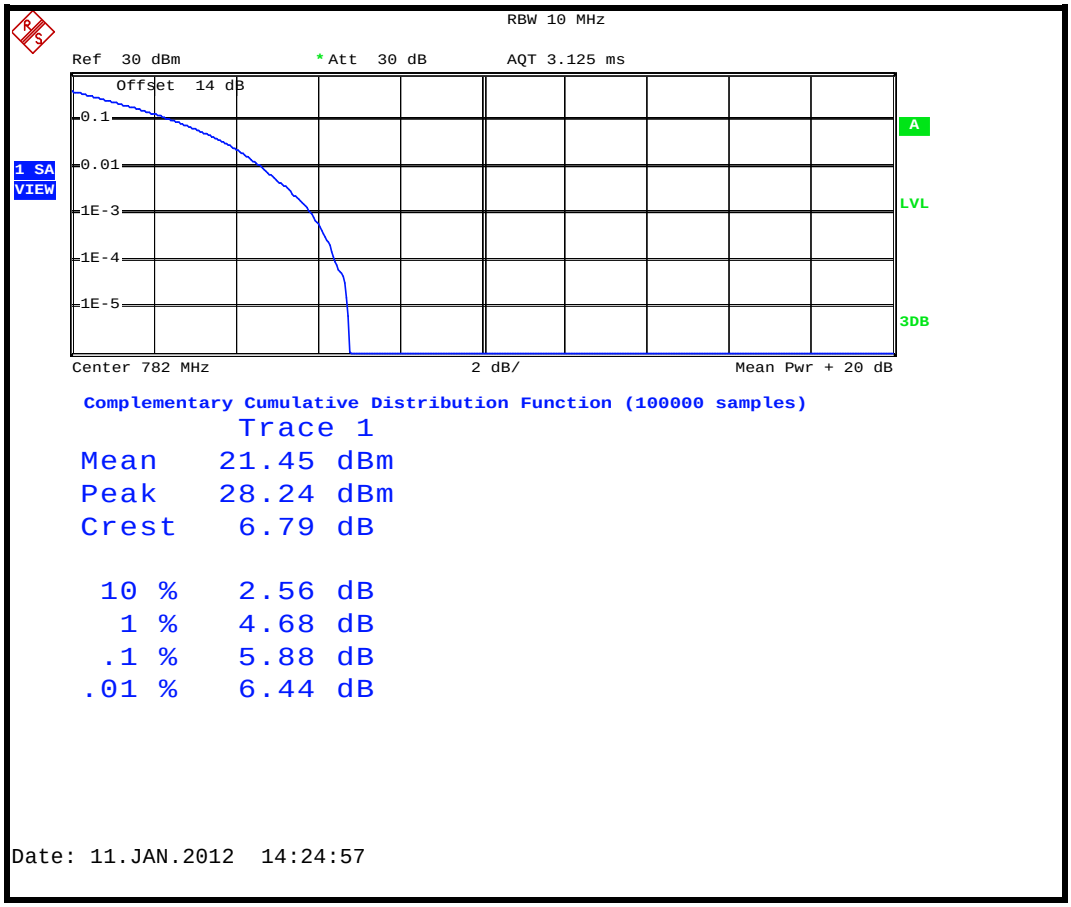
Same as Item 4.1.5

4.4.6 TEST RESULTS

CHANNEL BANDWIDTH: 5MHz / QPSK

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
782	5.88

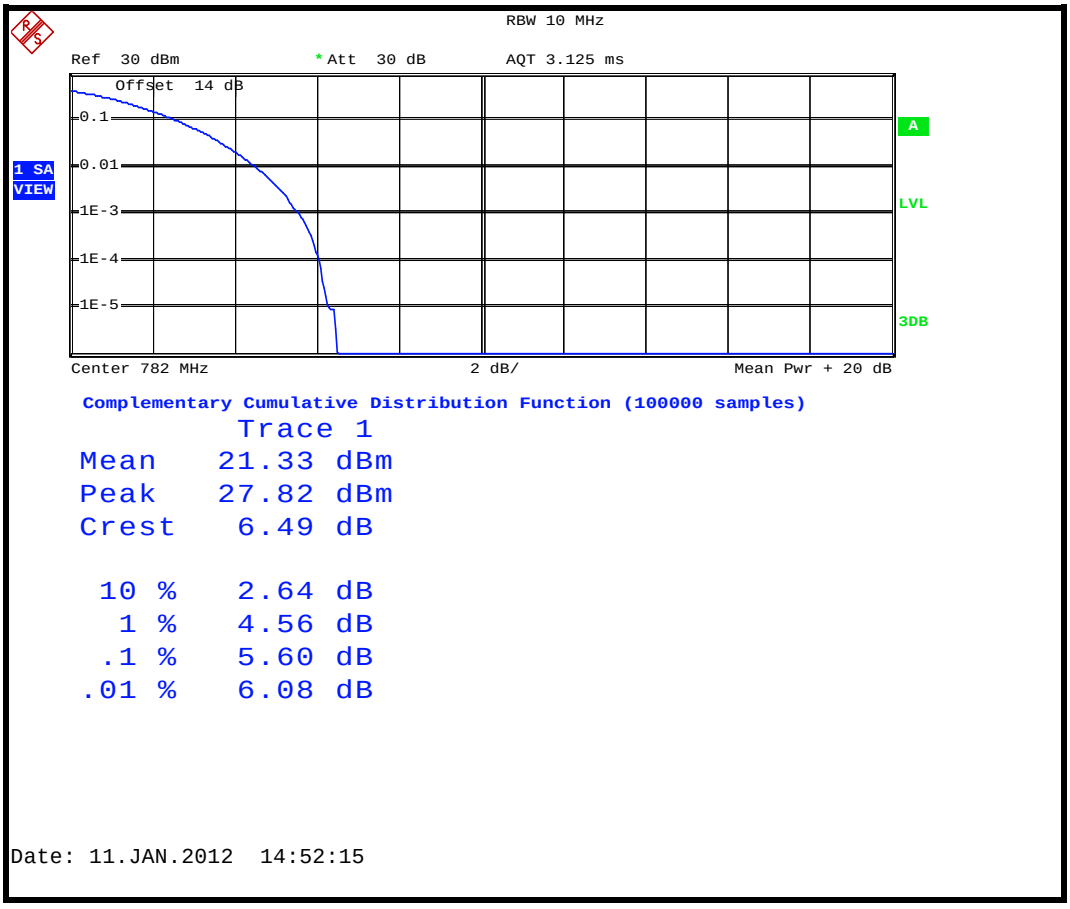
CH 23230



CHANNEL BANDWIDTH: 10MHz / QPSK

FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
782	5.60

CH 23230



4.5 BAND EDGE MEASUREMENT

4.5.1 LIMITS OF BAND EDGE MEASUREMENT

On any frequency outside the 777–787 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB.

4.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
* ROHDE & SCHWARZ Spectrum Analyzer	FSP40	100039	Feb. 23, 2011	Feb. 22, 2012
* Mini-Circuits Power Splitter	ZN2PD-9G	NA	May 25, 2011	May 24, 2012
* Hewlett Packard RF cable	8120-6192	274388	Oct. 22, 2011	Oct. 21, 2012
* JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA
* Suhner RF cable	Sucoflex104	274403/4	Aug. 20, 2011	Aug. 19, 2012

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. "*" = These equipments are used for the final measurement.

4.5.3 TEST SETUP

Same as Item 4.1.4 (Conducted Power Setup)

4.5.4 TEST PROCEDURES

a. The EUT was set up for the maximum peak power with LTE link data modulation. The power was measured with R&S Spectrum Analyzer. All measurements were done at 2 channels (low and high operational frequency range.).

b. The band edge measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

c. The center frequency of spectrum is the band edge frequency and span is 1 MHz. RB of the spectrum is 100kHz and VB of the spectrum is 300kHz.

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

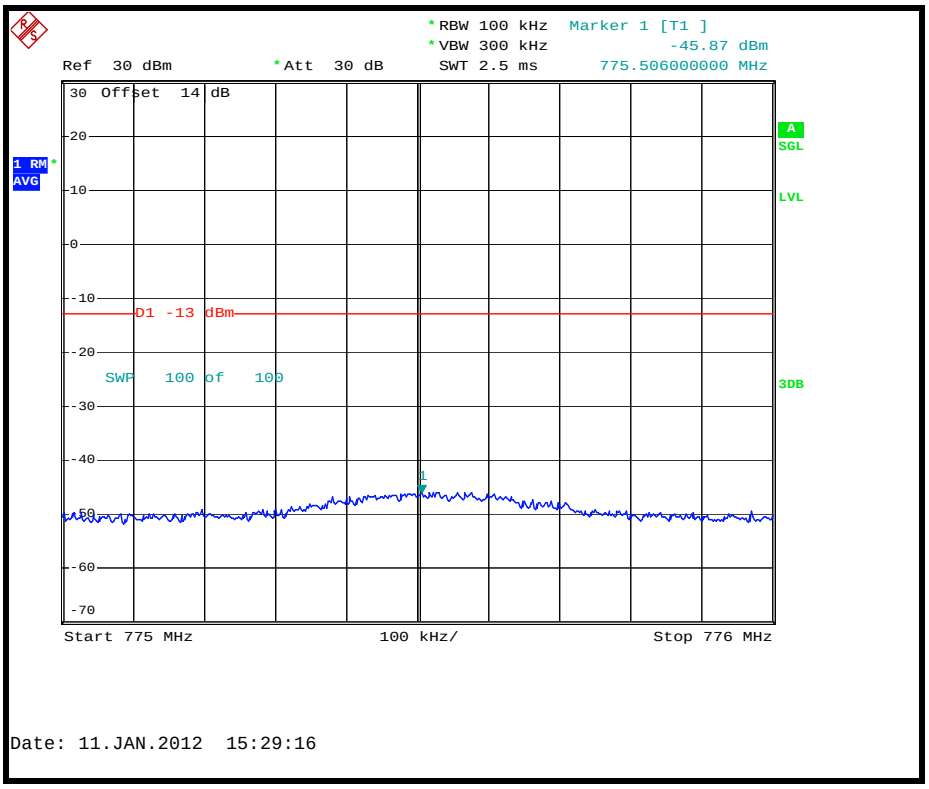
4.5.5 EUT OPERATING CONDITION

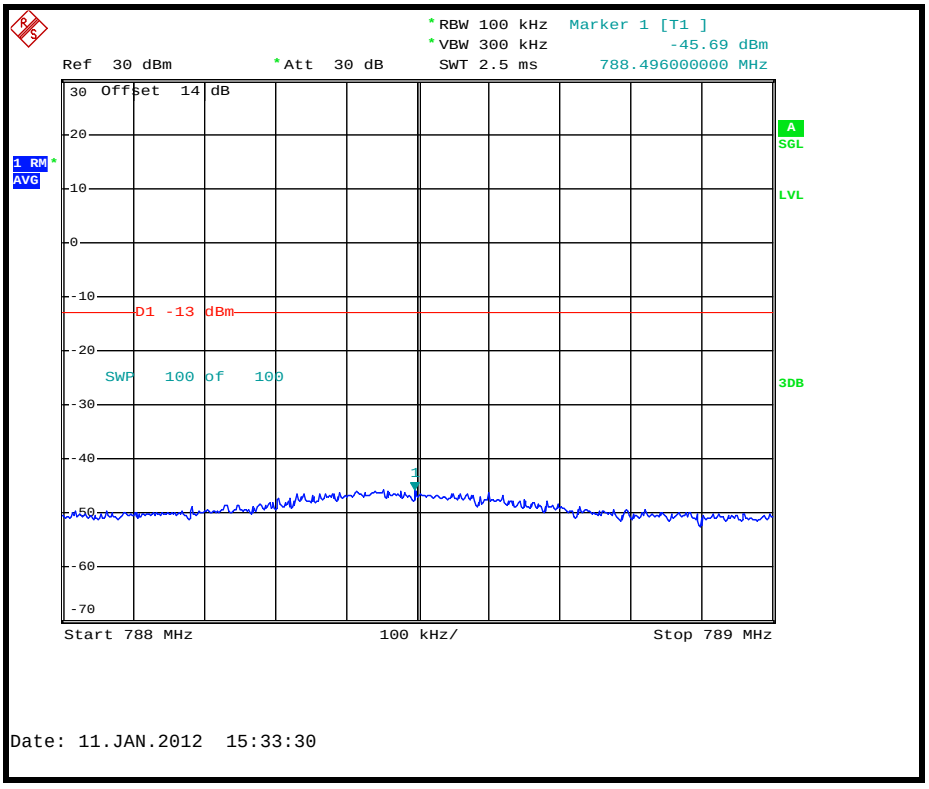
a. The EUT makes a call to the communication simulator.

b. The communication simulator station system controlled an EUT to export maximum output power under transmission mode and specific channel frequency.

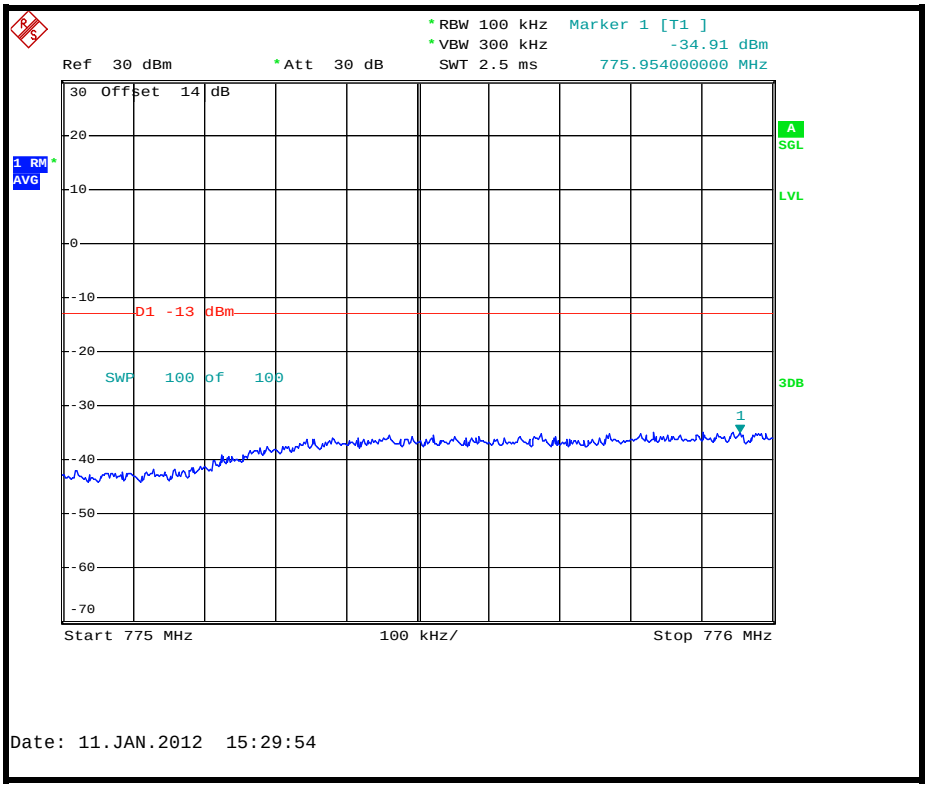
4.5.6 TEST RESULTS

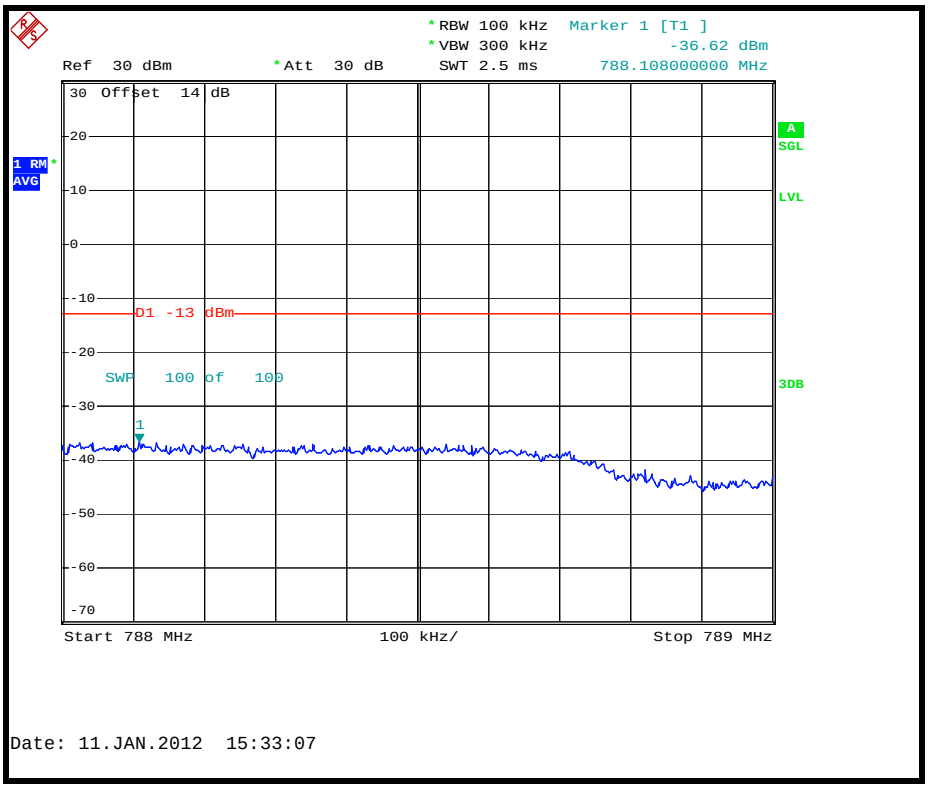
CHANNEL BANDWIDTH: 5MHz / QPSK / 1 RB



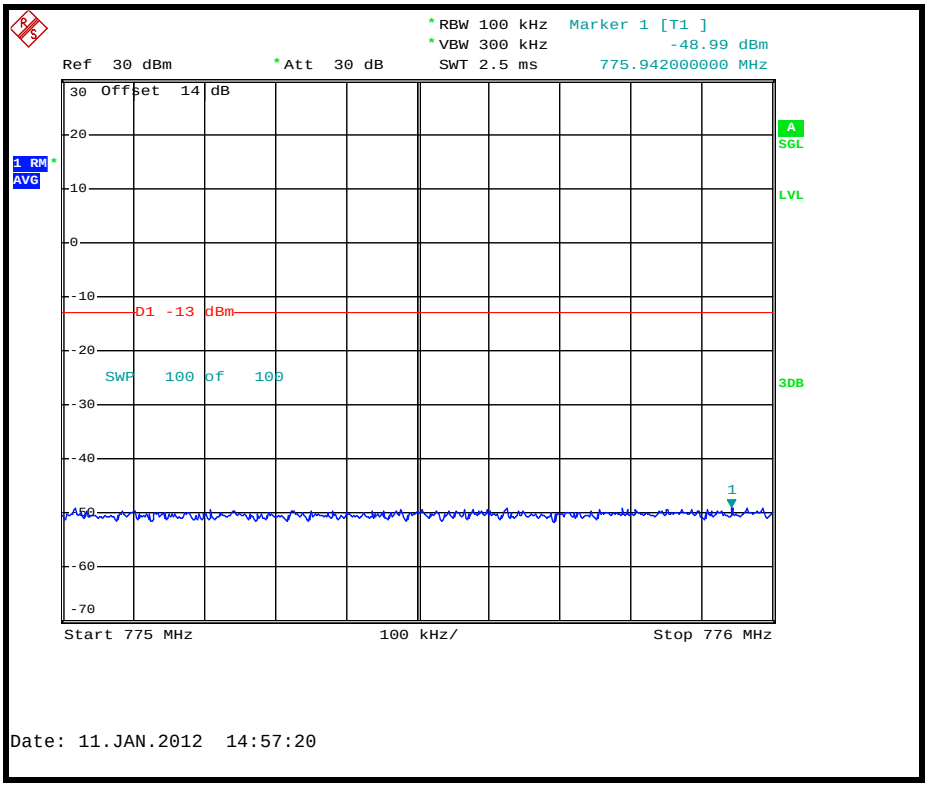


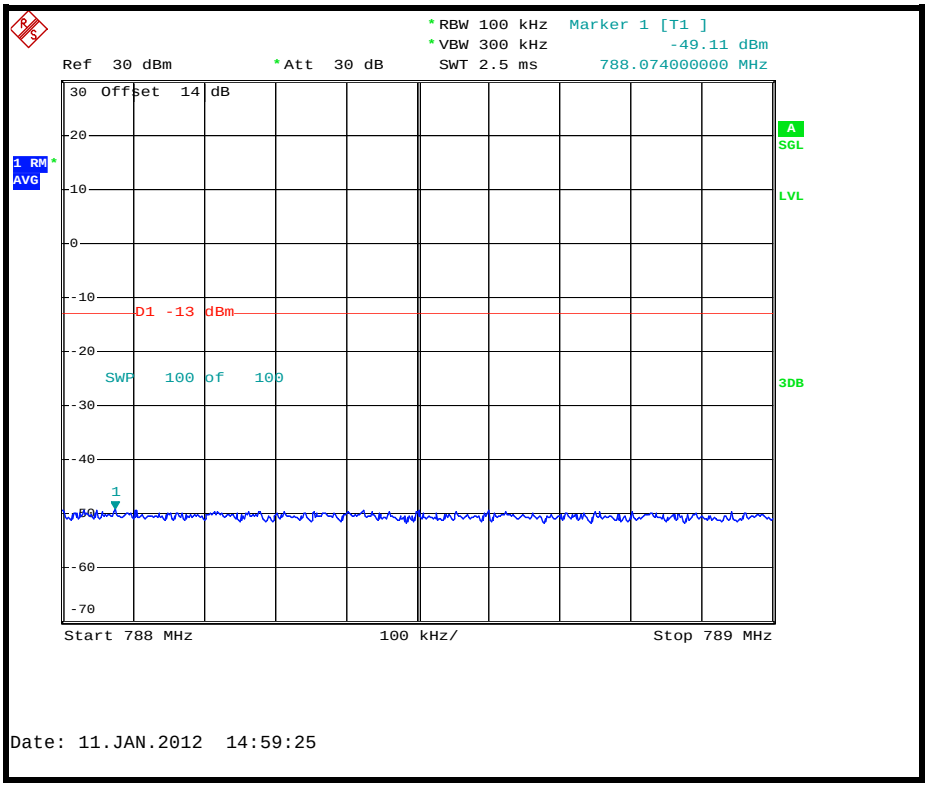
CHANNEL BANDWIDTH: 5MHz / QPSK / 25 RB



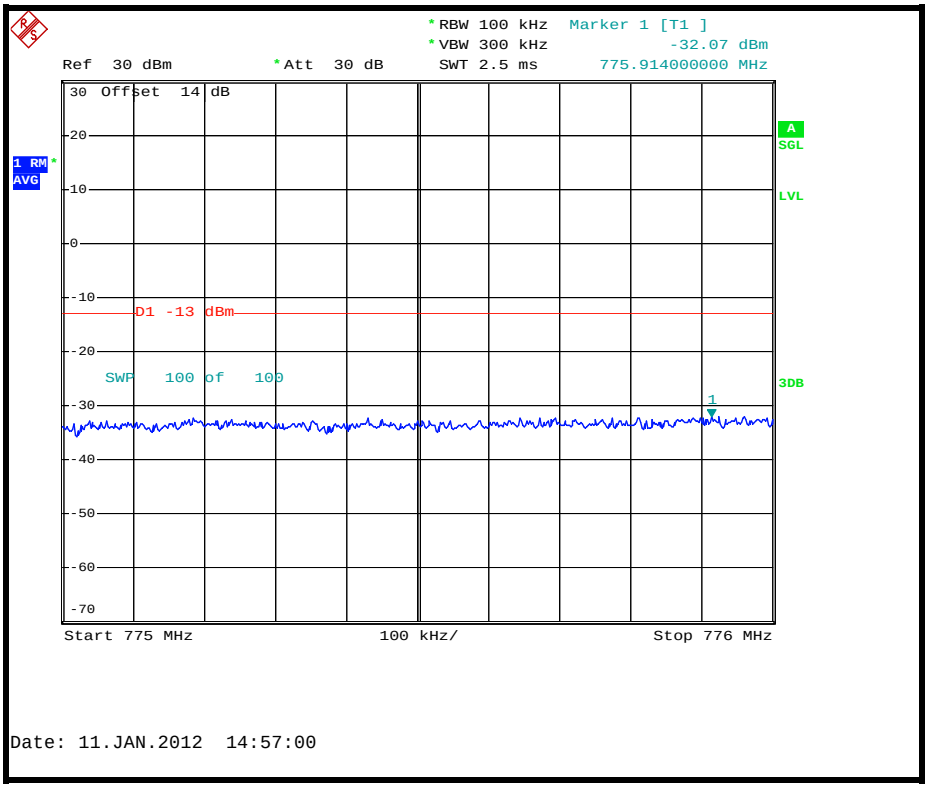


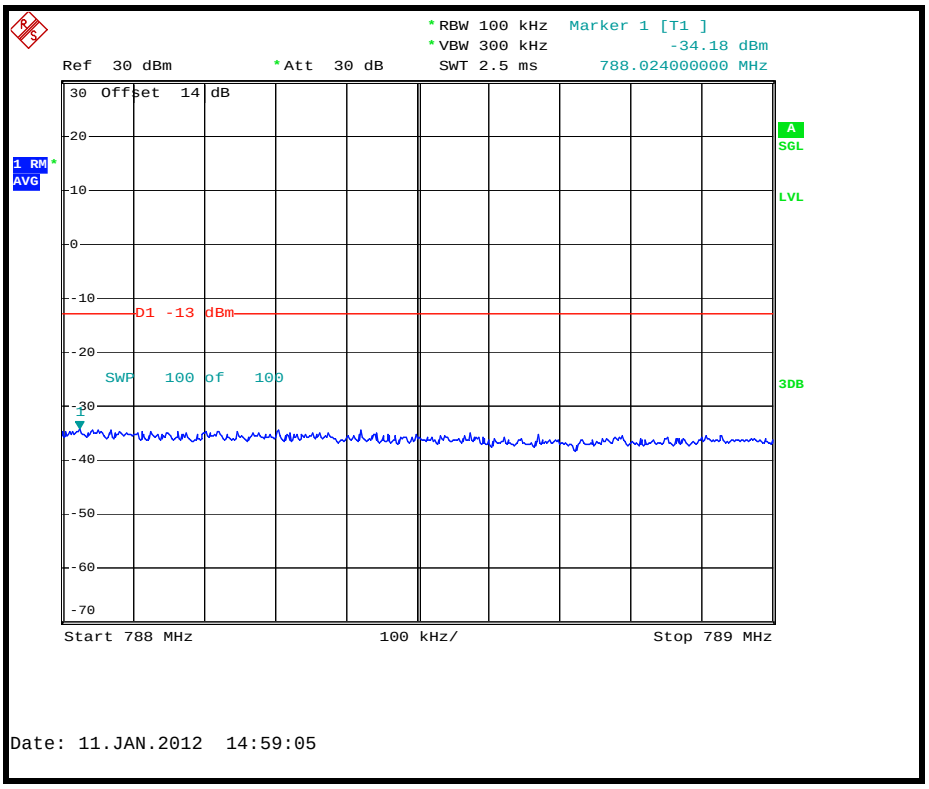
CHANNEL BANDWIDTH: 10MHz / QPSK / 1 RB





CHANNEL BANDWIDTH: 10MHz / QPSK / 50 RB





4.6 CONDUCTED SPURIOUS EMISSIONS

4.6.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 +10 log10(P) dB. The limit of emission equal to –13dBm

On all frequencies between 763–775 MHz and 793–805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations.

4.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
* ROHDE & SCHWARZ Spectrum Analyzer	FSP40	100039	Feb. 23, 2011	Feb. 22, 2012
* Wainwright Instruments Band Reject Filter	WRCG 1710/1785-1690/1805-60/12SS	SN1	Oct. 28, 2011	Oct. 27, 2012
* Wainwright Instruments High Pass Filter	WHK3.1/18G-10SS	SN3	Jun. 14, 2011	Jun. 13, 2012
* Mini-Circuits Power Splitter	ZAPD-4	NA	Mar. 24, 2011	Mar. 23, 2012
* Hewlett Packard RF cable	8120-6192	274388	Oct. 22, 2011	Oct. 21, 2012
* JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA
* Suhner RF cable	Sucoflex104	274403/4	Aug. 20, 2011	Aug. 19, 2012

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. "*" = These equipments are used for the final measurement.

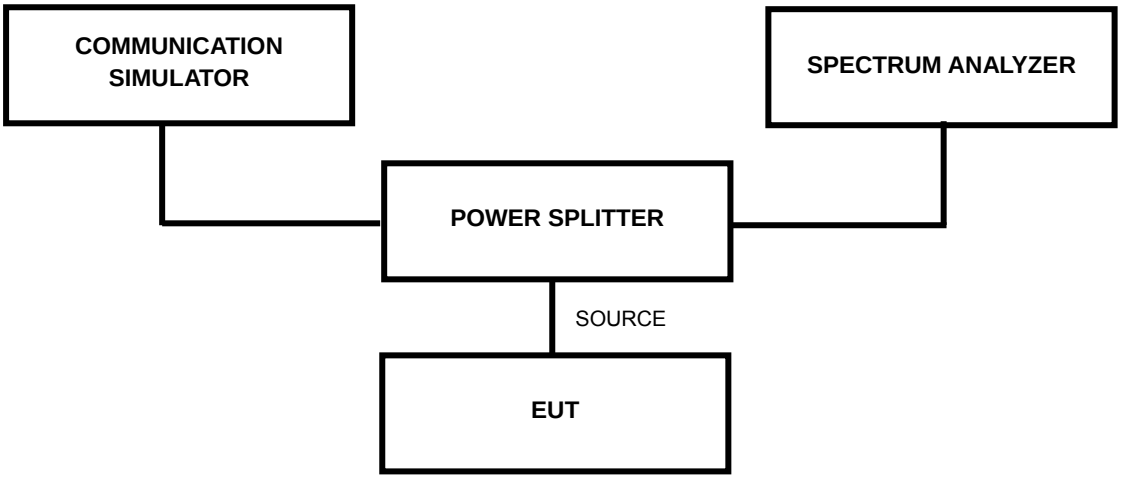
4.6.3 TEST PROCEDURE

a. The EUT was set up for the maximum peak power with LTE link data modulation. The power was measured with R&S Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high operational frequency range.).

b. The conducted spurious emission used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

c. When the spectrum scanned from 30MHz to 8GHz. The spectrum set RB=1MHz, VB=3MHz.

4.6.4 TEST SETUP



4.6.5 EUT OPERATING CONDITIONS

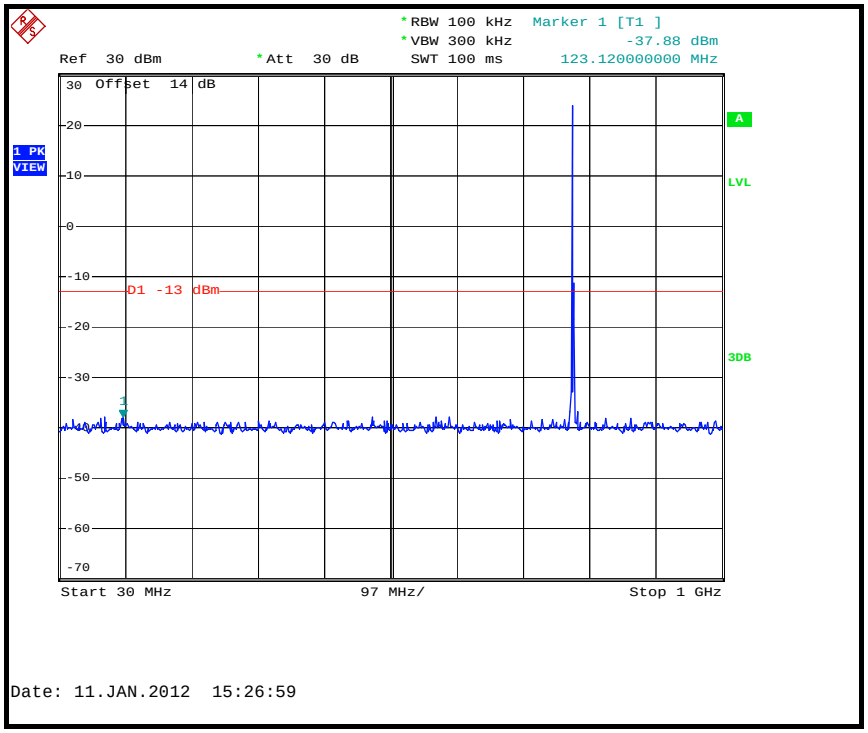
a. The EUT makes a phone call to the communication simulator.

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

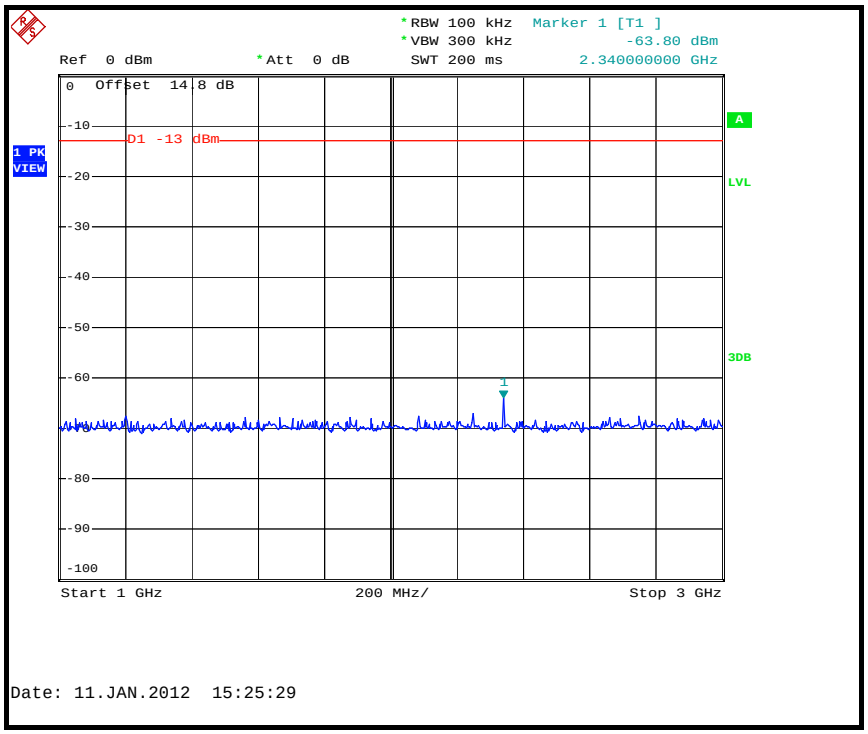
4.6.6 TEST RESULTS

CHANNEL BANDWIDTH: 5MHz / QPSK / 0 RB Offset

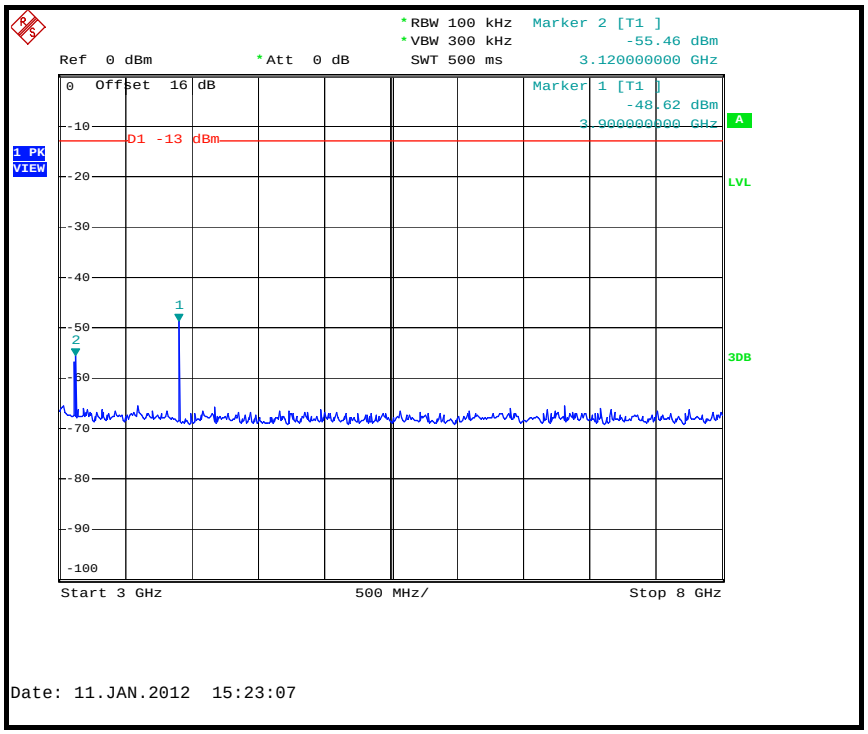
CH 23230: 30MHz ~ 1GHz



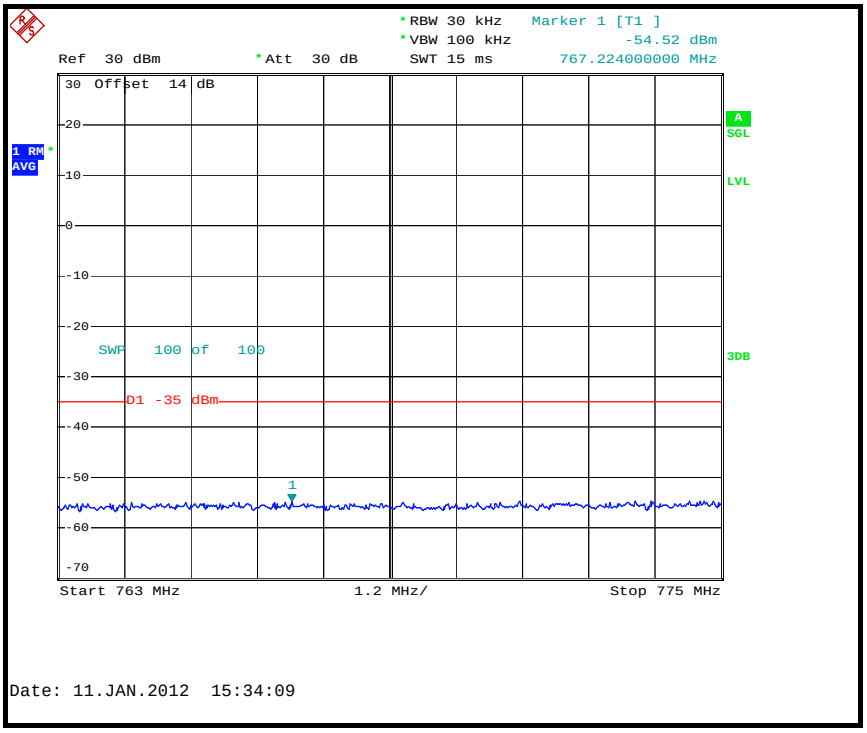
1GHz ~ 3GHz



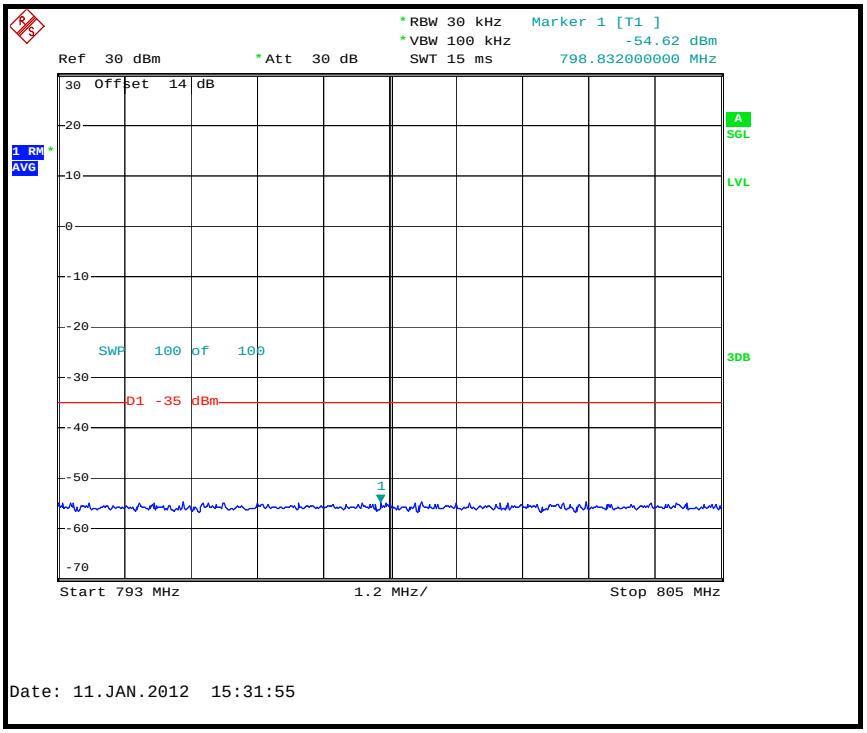
3GHz ~ 8GHz


*RBW 100 kHz
*VBW 300 kHz
Ref 0 dBm
*Att 0 dB
SWT 500 ms
Marker 2 [T1]
-55.46 dBm
3.120000000 GHz
Marker 1 [T1]
-48.62 dBm
3.900000000 GHz
0 Offset 16 dB
D1 -13 dBm
1 PK VIEW
A
LVL
3DB
Start 3 GHz
500 MHz/
Stop 8 GHz
Date: 11.JAN.2012 15:23:07

Emission in the 763–775 MHz band

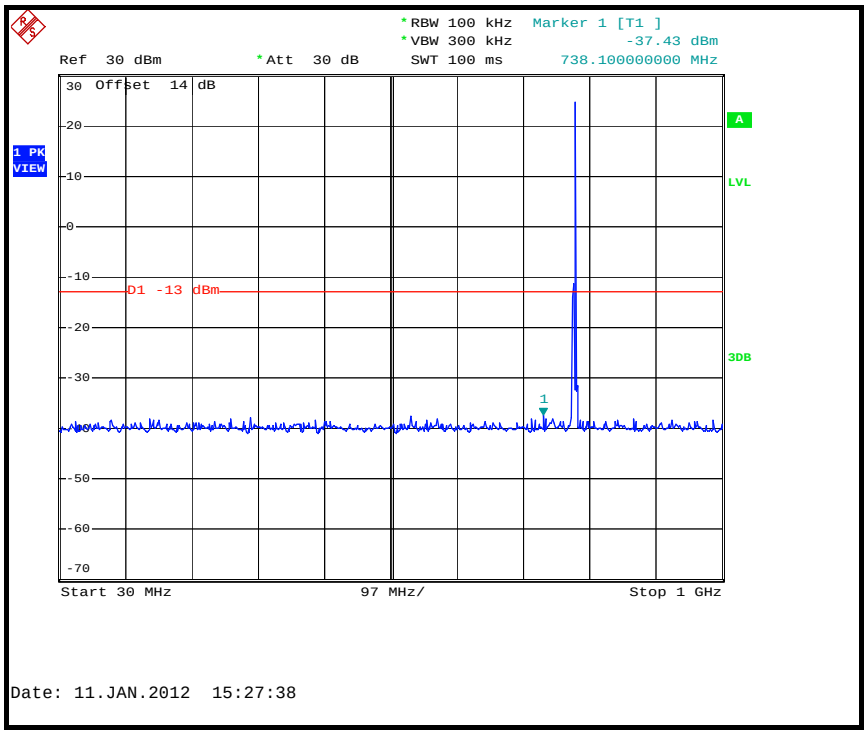


Emission in the 793–805 MHz band

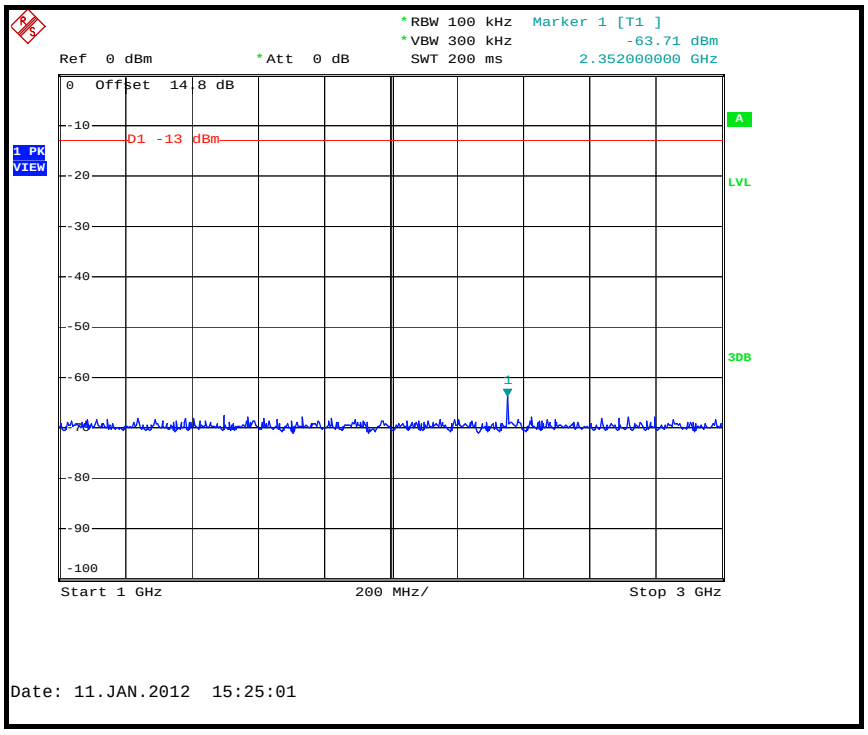


CHANNEL BANDWIDTH: 5MHz / QPSK / 24 RB Offset

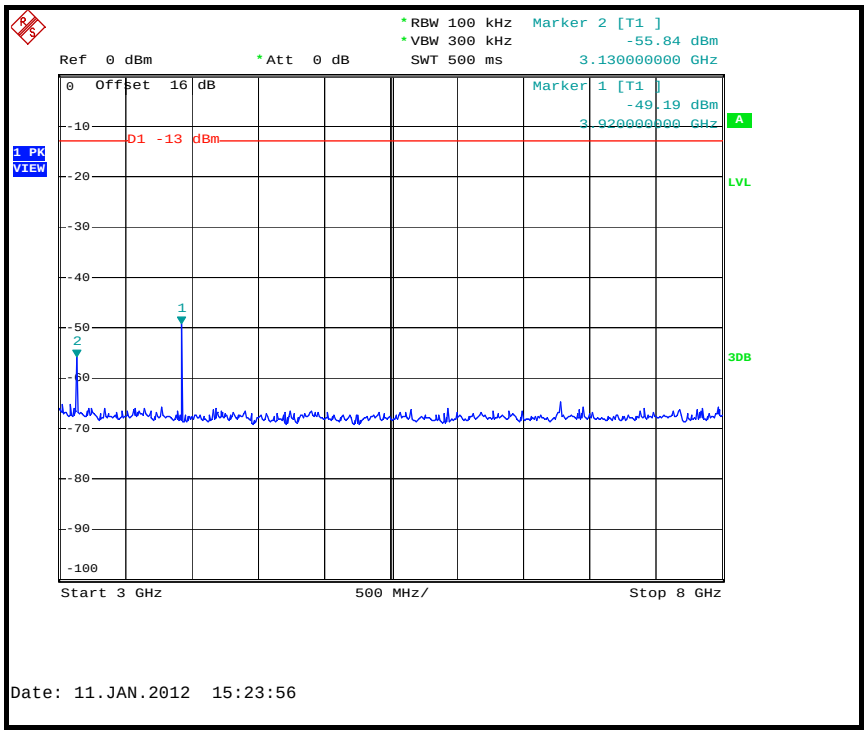
CH 23230: 30MHz ~ 1GHz



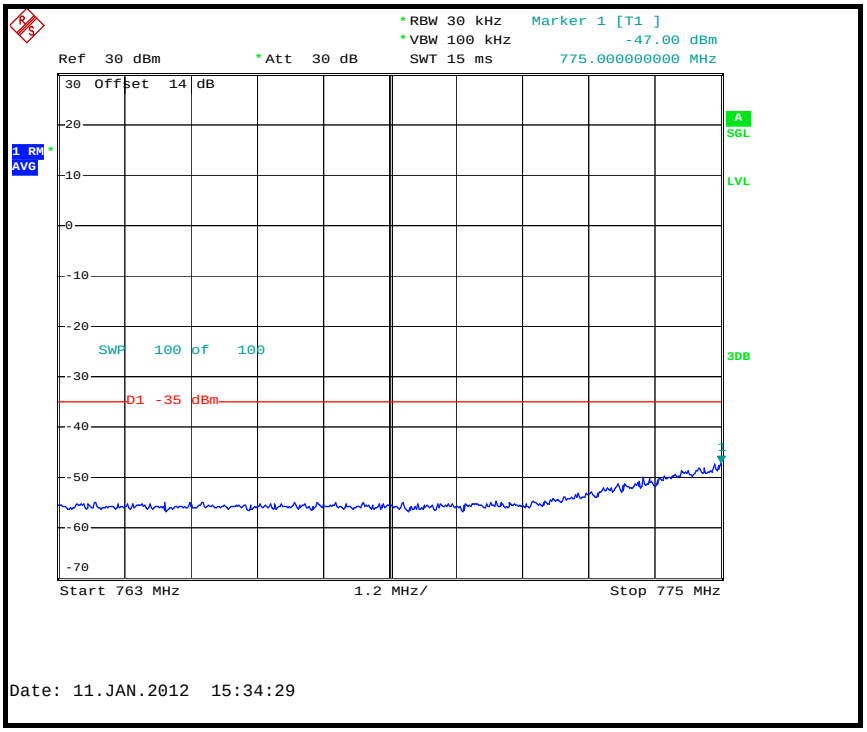
1GHz ~ 3GHz



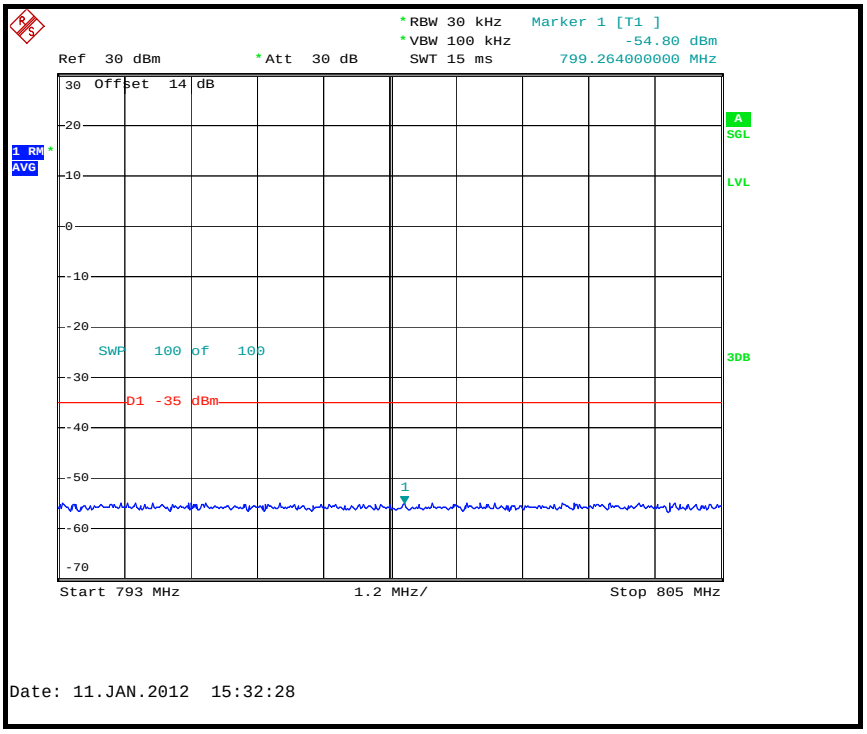
3GHz ~ 8GHz


*RBW 100 kHz
*VBW 300 kHz
SWT 500 ms
Marker 2 [T1]
-55.84 dBm
3.130000000 GHz
Ref 0 dBm
*Att 0 dB
0 Offset 16 dB
Marker 1 [T1]
-49.19 dBm
3.920000000 GHz
D1 -13 dBm
1 PK VIEW
A
LVL
3DB
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Start 3 GHz
500 MHz/
Stop 8 GHz
Date: 11.JAN.2012 15:23:56

Emission in the 763–775 MHz band

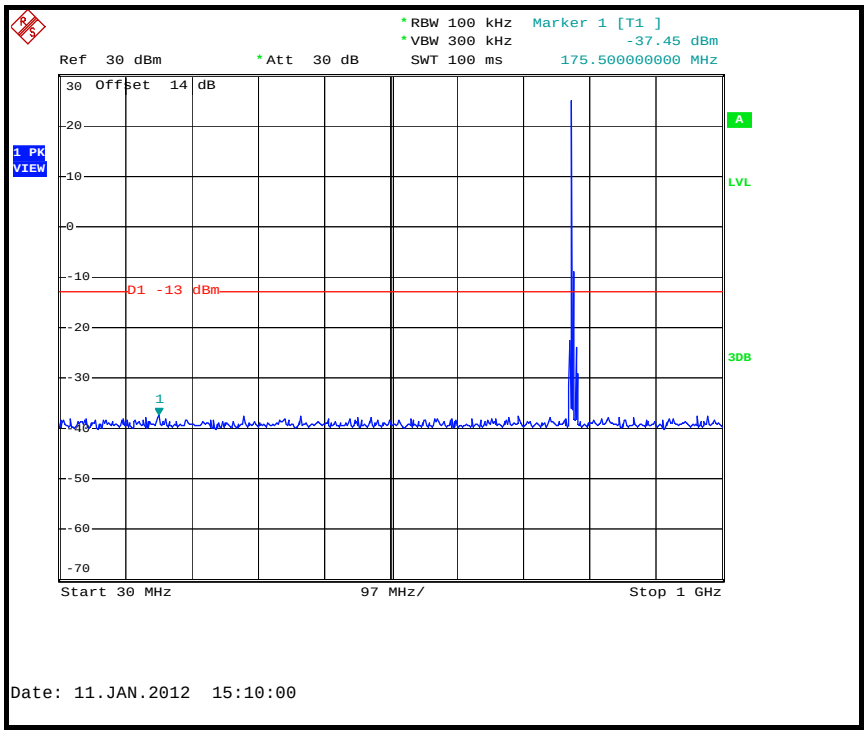


Emission in the 793–805 MHz band

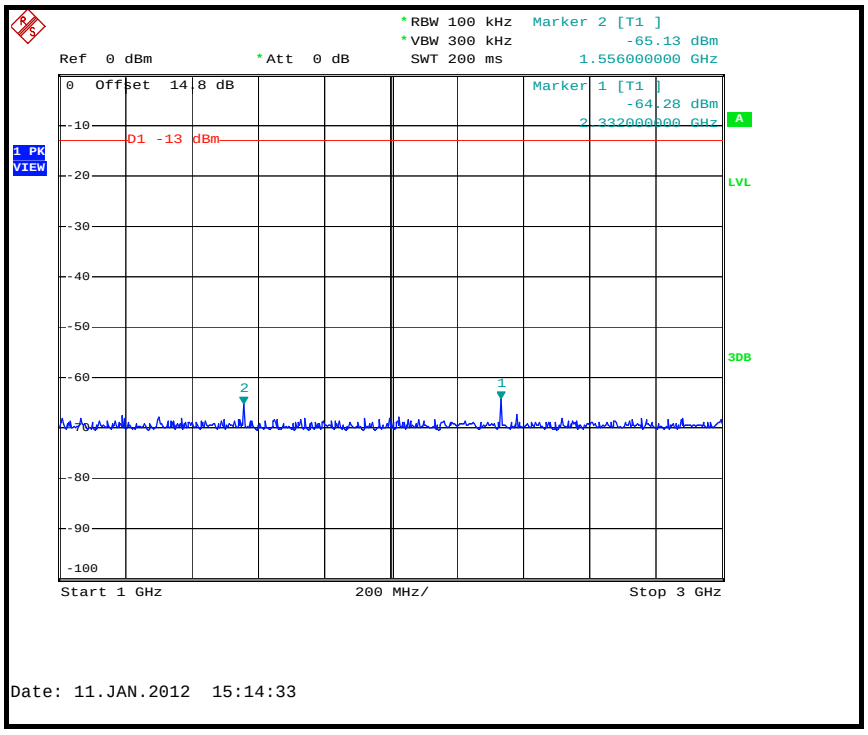


CHANNEL BANDWIDTH: 10MHz / QPSK / 0 RB Offset

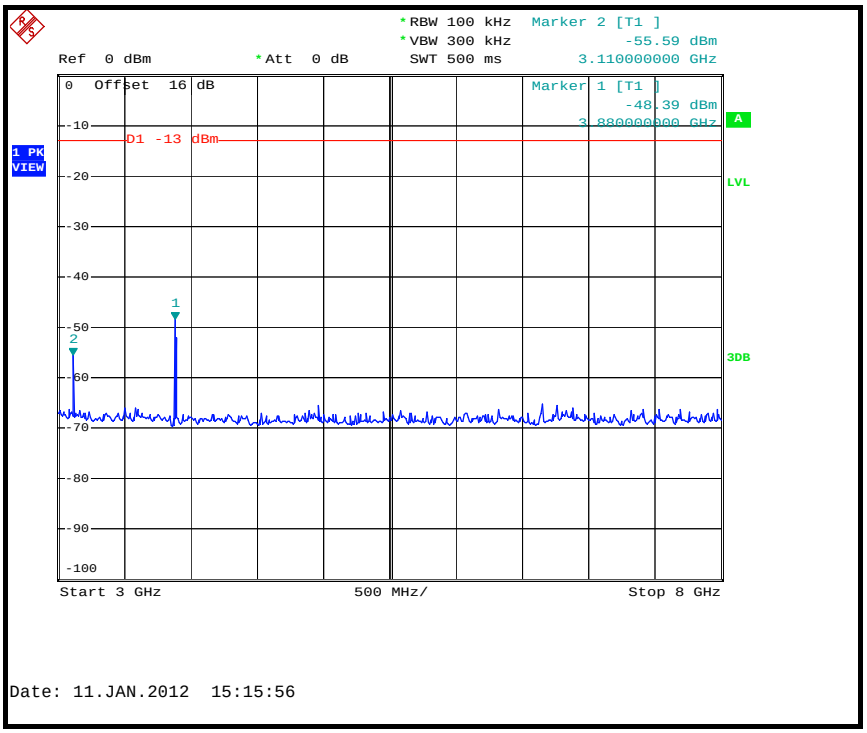
CH 23230: 30MHz ~ 1GHz



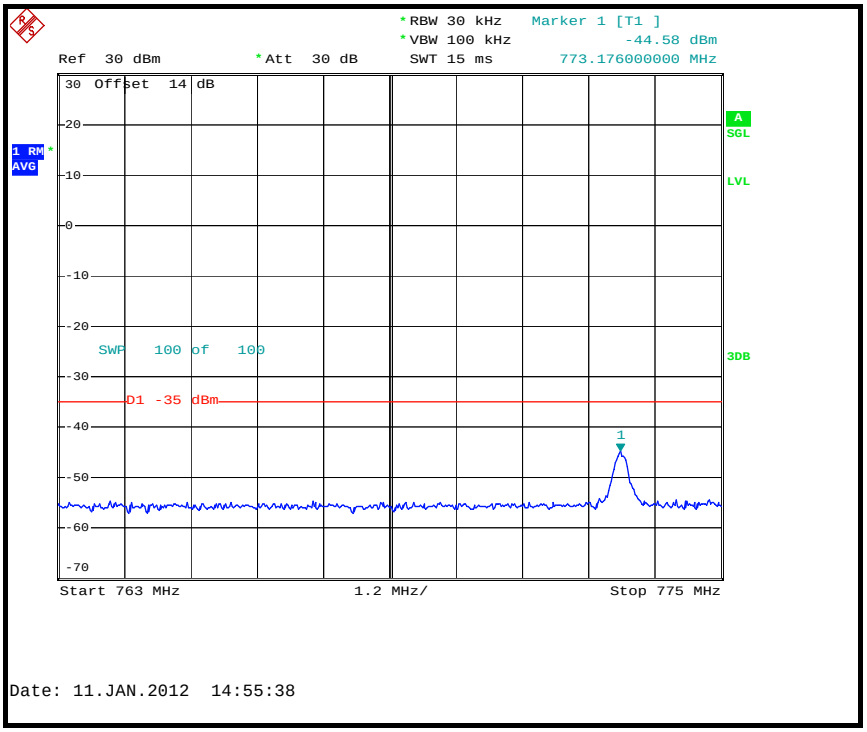
1GHz ~ 3GHz



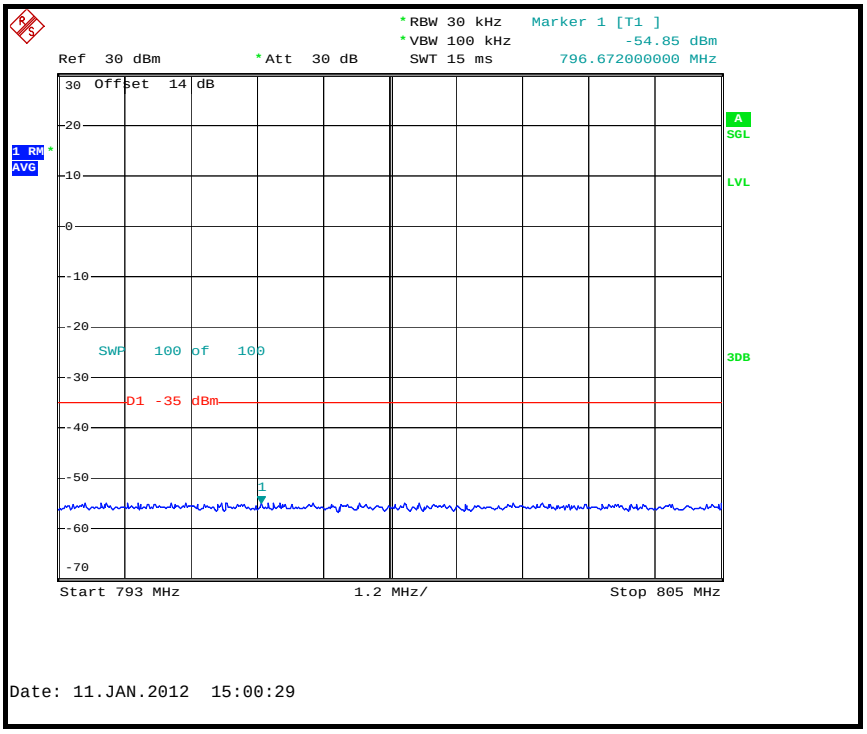
3GHz ~ 8GHz


*RBW 100 kHz
*VBW 300 kHz
SWT 500 ms
Marker 2 [T1]
-55.59 dBm
3.110000000 GHz
Ref 0 dBm
*Att 0 dB
0 Offset 16 dB
Marker 1 [T1]
-48.39 dBm
3.880000000 GHz
D1 -13 dBm
1 PK VIEW
A
LVL
3DB
Start 3 GHz
500 MHz/
Stop 8 GHz
Date: 11.JAN.2012 15:15:56

Emission in the 763–775 MHz band

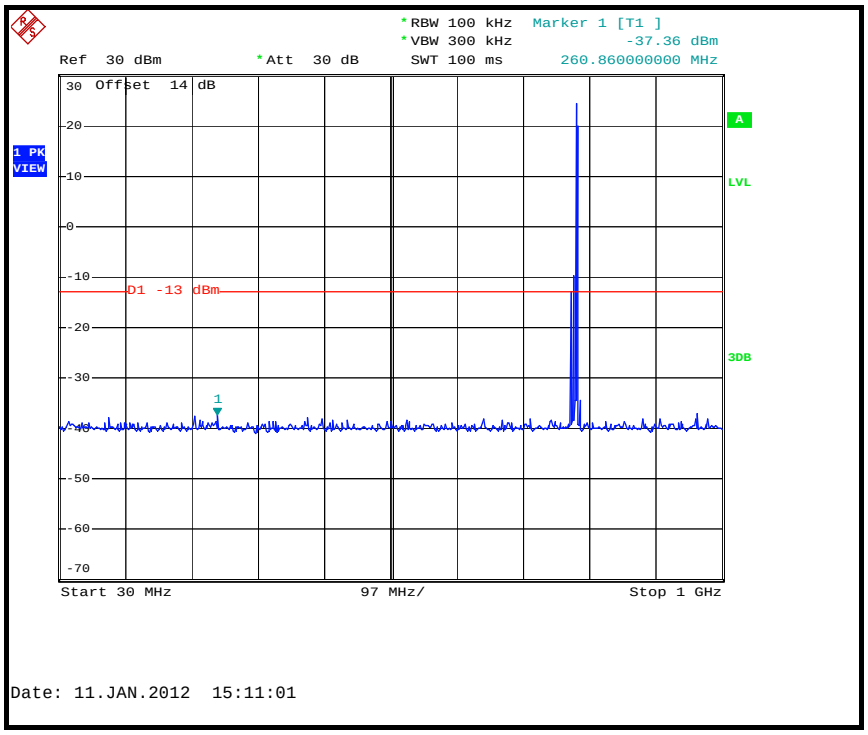


Emission in the 793–805 MHz band

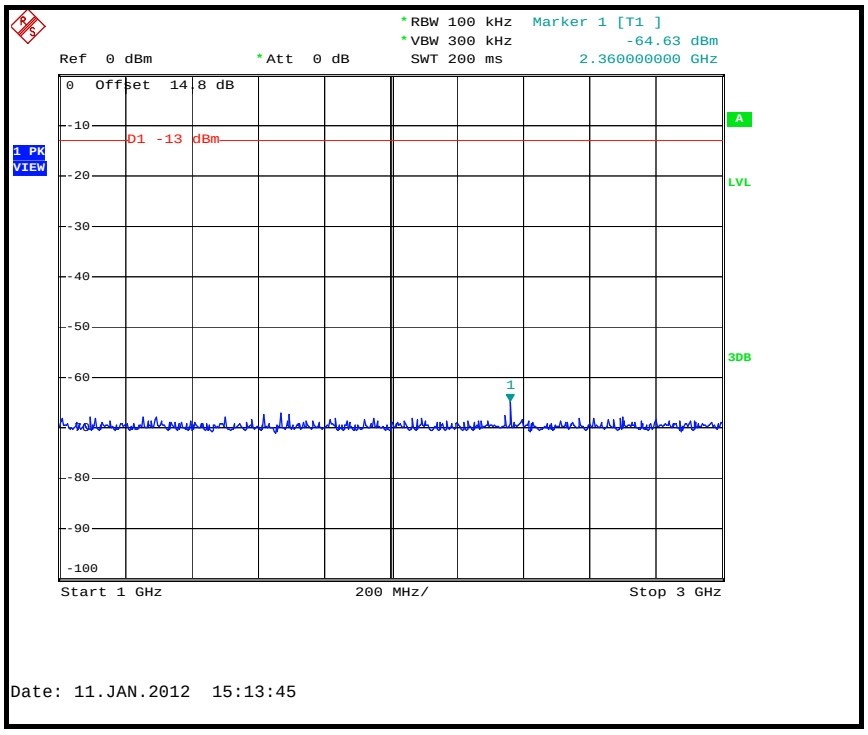


CHANNEL BANDWIDTH: 10MHz / QPSK / 49 RB Offset

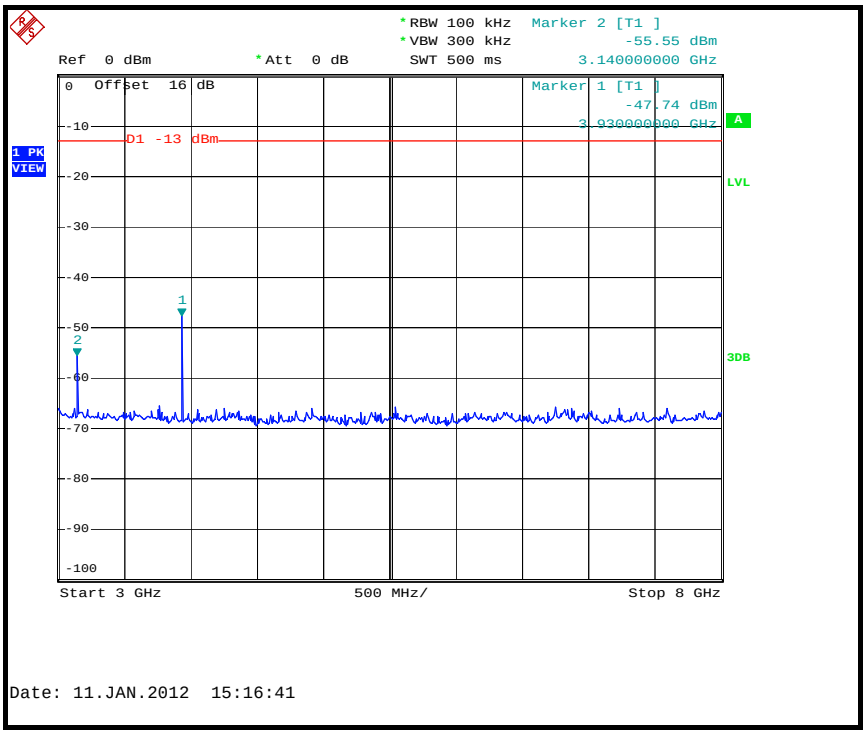
CH 23230: 30MHz ~ 1GHz



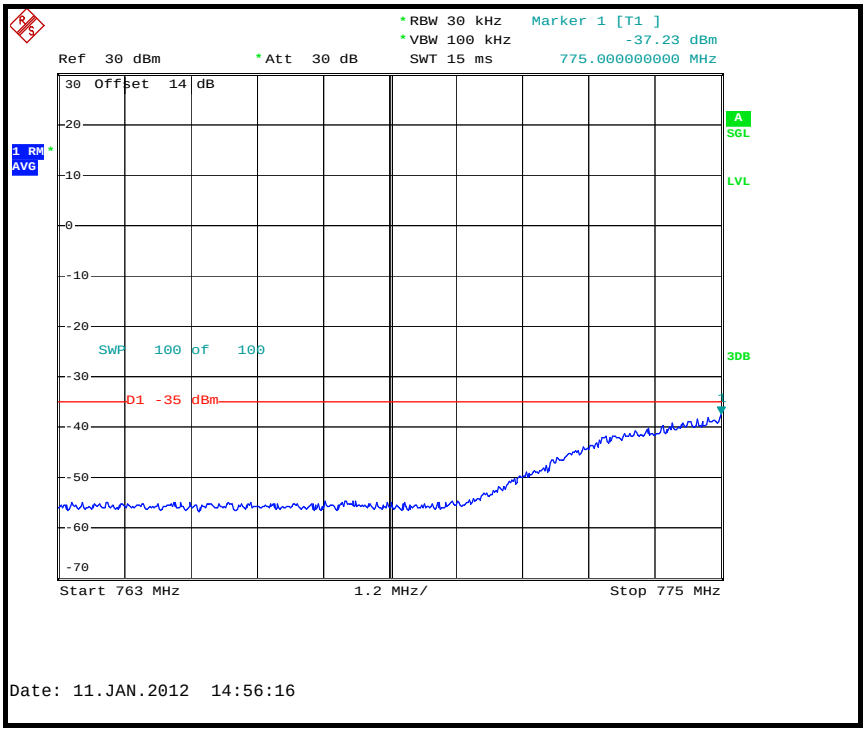
1GHz ~ 3GHz



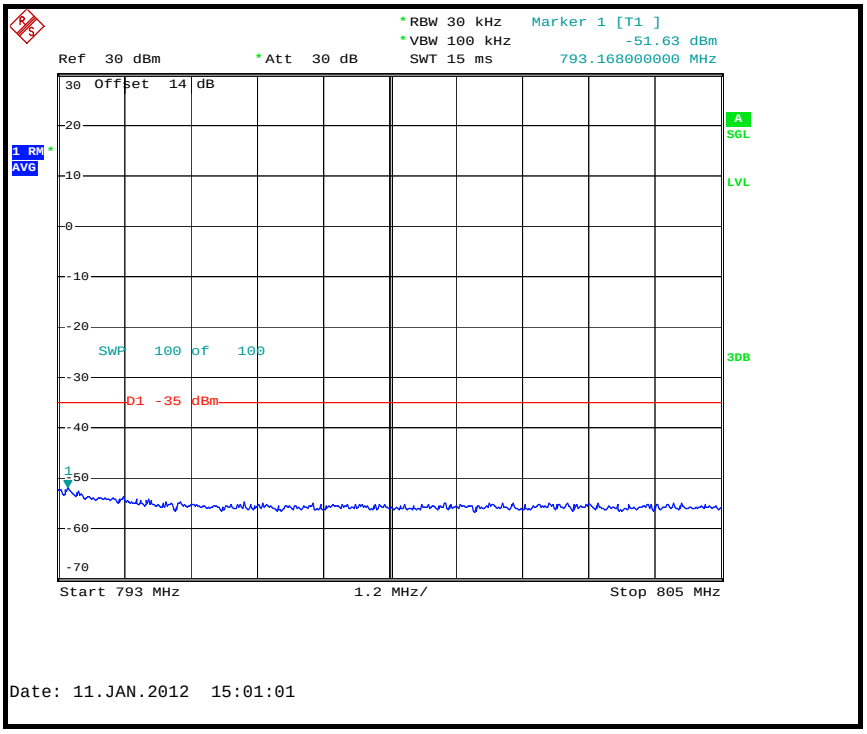
3GHz ~ 8GHz


*RBW 100 kHz
*VBW 300 kHz
SWT 500 ms
Marker 2 [T1]
-55.55 dBm
3.140000000 GHz
Ref 0 dBm
*Att 0 dB
0 Offset 16 dB
Marker 1 [T1]
-47.74 dBm
3.930000000 GHz
D1 -13 dBm
1 PK VIEW
A
LVL
3DB
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Start 3 GHz
500 MHz/
Stop 8 GHz
Date: 11.JAN.2012 15:16:41

Emission in the 763–775 MHz band



Emission in the 793–805 MHz band



4.7 RADIATED EMISSION MEASUREMENT

4.7.1 LIMITS OF RADIATED EMISSION MEASUREMENT

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 +10 log10(P) dB. The limit of emission equal to –13dBm

4.7.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCI	100744	Apr. 19, 2011	Apr. 18, 2012
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Feb. 23, 2011	Feb. 22, 2012
BILOG Antenna SCHWARZBECK	VULB9168	9168-156	Apr. 12, 2011	Apr. 11, 2012
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-563	Sep. 06, 2011	Sep. 05, 2012
HORN Antenna SCHWARZBECK	BBHA 9170	148	Jul. 20, 2011	Jul. 19, 2012
Preamplifier Agilent	8449B	3008A01911	Oct. 29, 2011	Oct. 28, 2012
Preamplifier Agilent	8447D	2944A10638	Oct. 29, 2011	Oct. 28, 2012
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	295013/4 283403/4	Aug. 19, 2011	Aug. 18, 2012
RF signal cable Worken	8D-FB	Cable-HYCH9-01	Aug. 13, 2011	Aug. 12, 2012
Software	ADT_Radiated_ V7.6.15.9.2	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 Table Controller EMCO	2090	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 460141.
5. The IC Site Registration No. is IC 7450F-4.

4.7.3 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the receiving antenna, which was mounted on antenna tower and its position at 0.8 m above the ground.

c. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading and recorded the value.

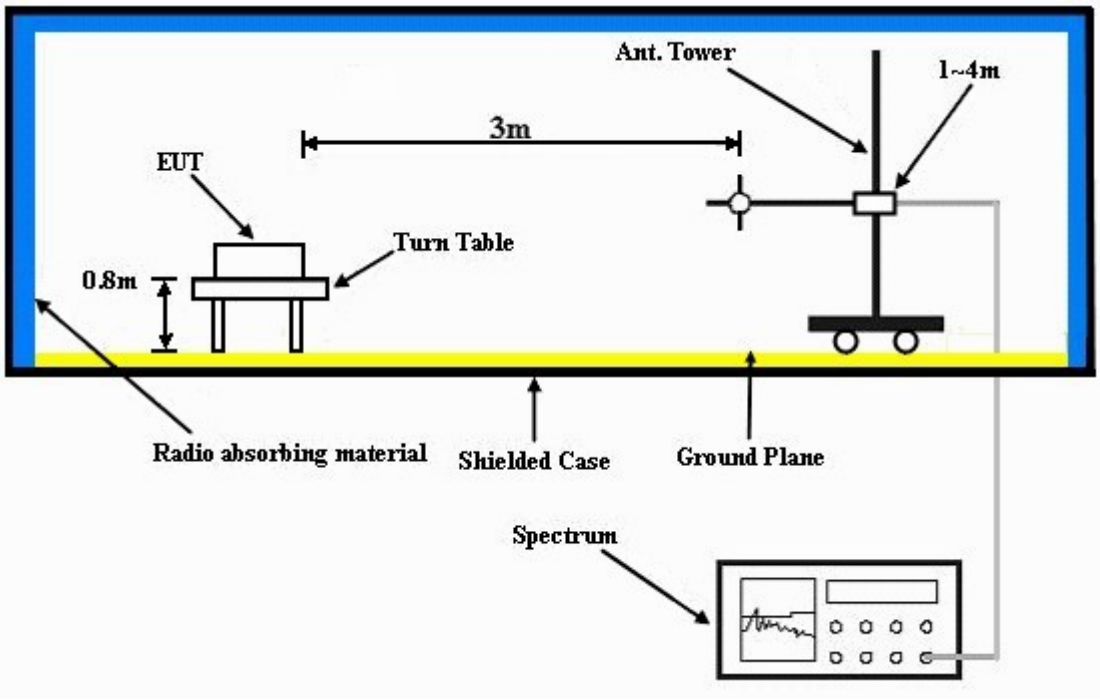
d. Repeat step a ~ c for horizontal polarization.

NOTE: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

4.7.4 DEVIATION FROM TEST STANDARD

No deviation

4.7.5 TEST SETUP



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

4.7.6 EUT OPERATING CONDITIONS

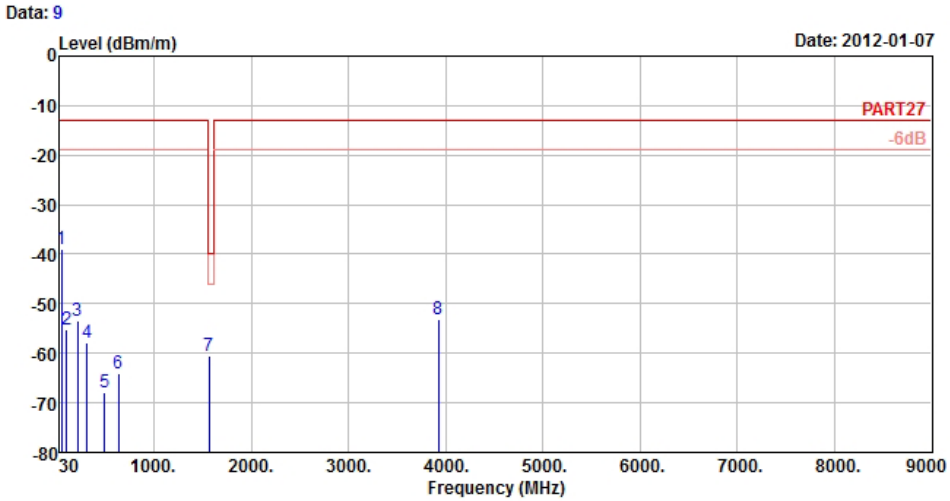
a. The EUT makes a call to the communication simulator.

b. The communication simulator station system controlled an EUT to export maximum output power under transmission mode and specific channel frequency.

4.7.7 TEST RESULTS

CHANNEL BANDWIDTH: 5MHz

MODE	Channel 23230	Modulation	QPSK
RB / Offset	1 / 24	Polarization	Horizontal

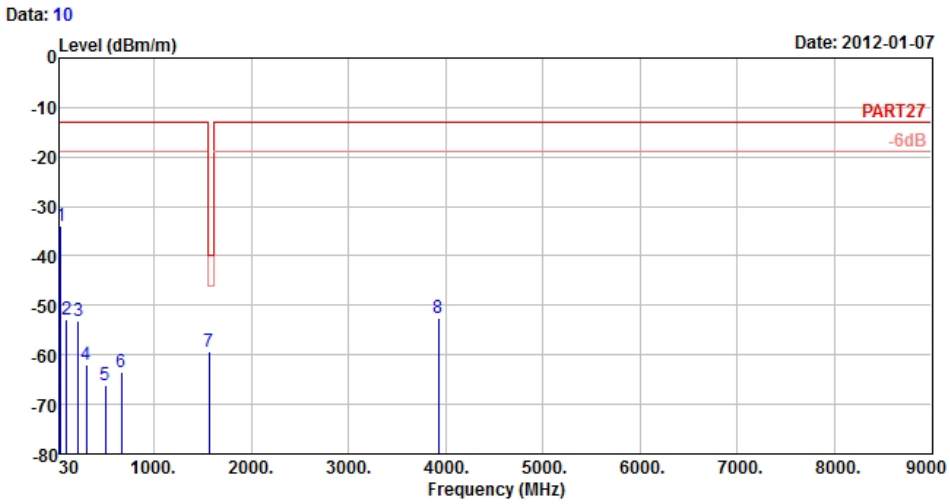


Site : 966 Chamber 2
Condition: PART27 3m EIRP_RSE _1G~19G HORIZONTAL
EUT : RJ53100
Mode : LTE Band13 CH23230 QPSK(1,24) 5M
Plane : Y

	Freq	Level	Limit Line	Read Level	Over Limit	Factor	Remark
	MHz	dBm/m	dBm/m	dBm	dB	dB/m	
1	44.85	-39.06	-13.00	-37.87	-26.06	-1.19	Peak
2	97.23	-55.19	-13.00	-44.74	-42.19	-10.45	Peak
3	210.36	-53.37	-13.00	-45.90	-40.37	-7.47	Peak
4	313.30	-57.76	-13.00	-51.48	-44.76	-6.28	Peak
5	491.10	-67.78	-13.00	-64.44	-54.78	-3.34	Peak
6	636.00	-64.18	-13.00	-64.48	-51.18	0.30	Peak
7 pp	1567.00	-60.60	-40.00	-46.69	-20.60	-13.91	Peak
8	3922.00	-53.13	-13.00	-46.06	-40.13	-7.07	Peak

CHANNEL BANDWIDTH: 5MHz

MODE	Channel 23230	Modulation	QPSK
RB / Offset	1 / 24	Polarization	Vertical

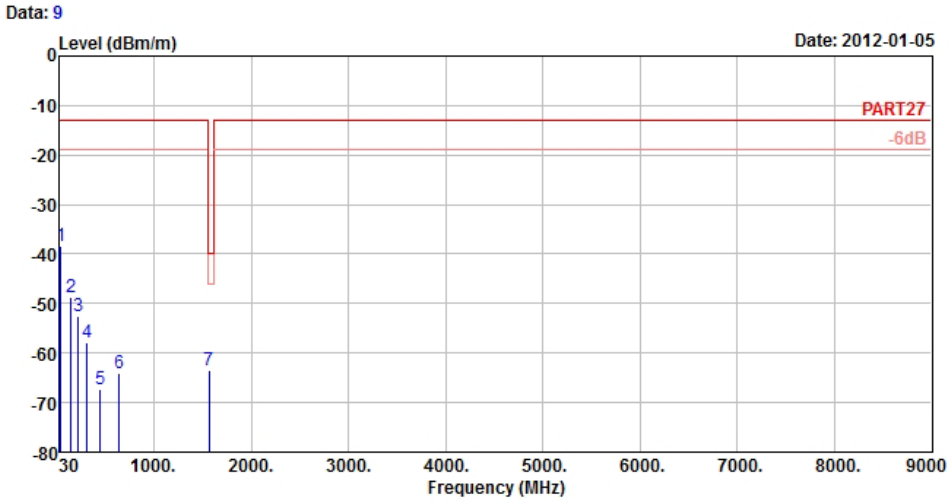


Site : 966 Chamber 2
Condition: PART27 3m EIRP_RSE _1G~19G VERTICAL
EUT : RJ53100
Mode : LTE Band13 CH23230 QPSK(1,24) 5M
Plane : Y

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1	39.72	-33.80	-32.27	-13.00	-20.80	-1.53	Peak
2	96.42	-52.85	-42.38	-13.00	-39.85	-10.47	Peak
3	221.43	-53.24	-46.25	-13.00	-40.24	-6.99	Peak
4	301.40	-62.10	-55.73	-13.00	-49.10	-6.37	Peak
5	497.40	-66.05	-62.89	-13.00	-53.05	-3.16	Peak
6	666.10	-63.50	-64.34	-13.00	-50.50	0.84	Peak
7 pp	1567.00	-59.44	-45.53	-40.00	-19.44	-13.91	Peak
8	3922.00	-52.64	-45.57	-13.00	-39.64	-7.07	Peak

CHANNEL BANDWIDTH: 5MHz

MODE	Channel 23230	Modulation	QPSK
RB / Offset	25 / 0	Polarization	Horizontal

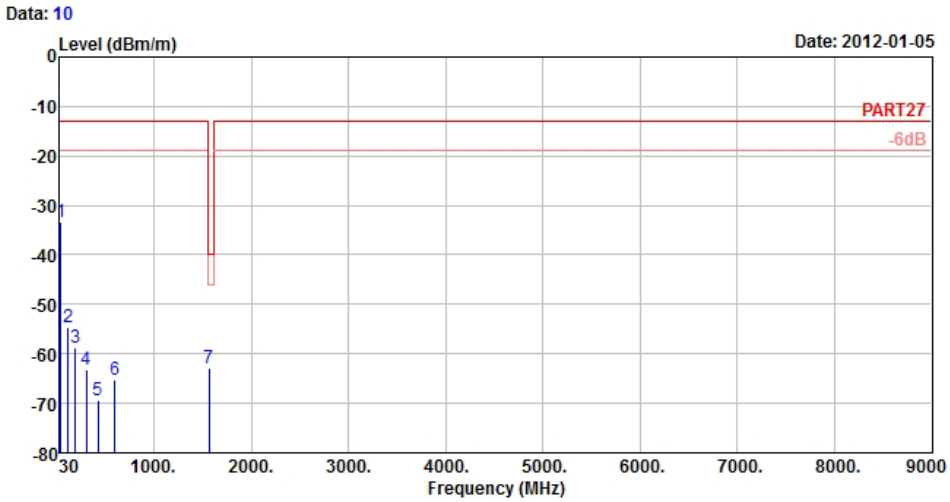


Site : 966 Chamber 2
Condition: PART27 3m EIRP_RSE _1G~19G HORIZONTAL
EUT : RJ53100
Mode : LTE Band13 CH23230 QPSK(25,0) 5M
Plane : Y

	Freq	Level	Limit Line	Read Level	Over Limit	Factor	Remark
	MHz	dBm/m	dBm/m	dBm	dB	dB/m	
1	36.48	-38.40	-13.00	-36.25	-25.40	-2.15	Peak
2	144.21	-48.59	-13.00	-42.61	-35.59	-5.98	Peak
3	220.62	-52.65	-13.00	-45.66	-39.65	-6.99	Peak
4	313.30	-57.82	-13.00	-51.54	-44.82	-6.28	Peak
5	447.70	-67.24	-13.00	-62.83	-54.24	-4.41	Peak
6	641.60	-63.97	-13.00	-64.37	-50.97	0.40	Peak
7 pp	1564.00	-63.57	-40.00	-49.41	-23.57	-14.16	Peak

CHANNEL BANDWIDTH: 5MHz

MODE	Channel 23230	Modulation	QPSK
RB / Offset	25 / 0	Polarization	Vertical

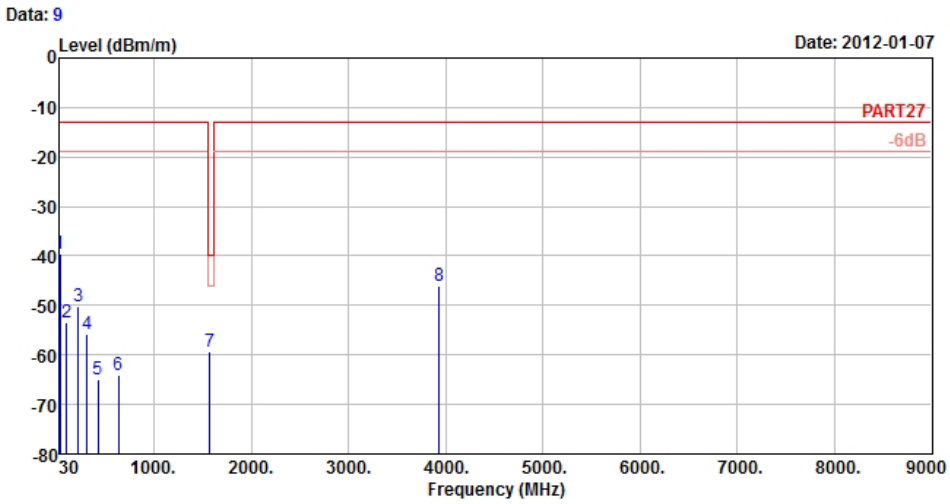


Site : 966 Chamber 2
Condition: PART27 3m EIRP_RSE _1G~19G VERTICAL
EUT : RJ53100
Mode : LTE Band13 CH23230 QPSK(25,0) 5M
Plane : Y

	Freq	Level	Limit Line	Read Level	Over Limit	Factor	Remark
	MHz	dBm/m	dBm/m	dBm	dB	dB/m	
1 pp	39.72	-33.50	-13.00	-31.97	-20.50	-1.53	Peak
2	115.59	-54.47	-13.00	-43.73	-41.47	-10.74	Peak
3	193.35	-58.65	-13.00	-51.50	-45.65	-7.15	Peak
4	300.00	-63.09	-13.00	-56.71	-50.09	-6.38	Peak
5	426.70	-69.38	-13.00	-64.43	-56.38	-4.95	Peak
6	597.50	-65.14	-13.00	-64.71	-52.14	-0.43	Peak
7	1564.00	-62.81	-40.00	-48.65	-22.81	-14.16	Peak

CHANNEL BANDWIDTH: 10MHz

MODE	Channel 23230	Modulation	QPSK
RB / Offset	1 / 49	Polarization	Horizontal

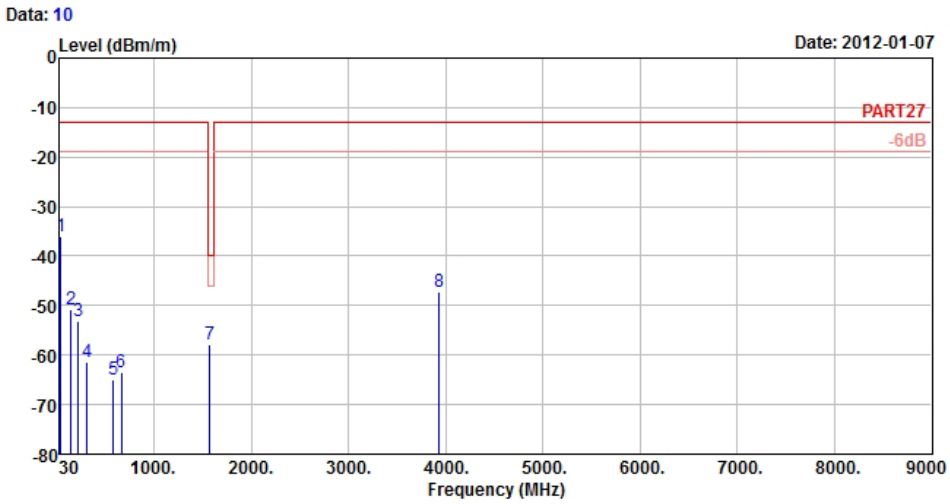


Site : 966 Chamber 2
Condition: PART27 3m EIRP_RSE _1G~19G HORIZONTAL
EUT : RJ53100
Mode : LTE Band13 CH23230 QPSK(1,49) 10M
Plane : Y

	Freq	Level	Limit Line	Read Level	Over Limit	Factor	Remark
	MHz	dBm/m	dBm/m	dBm	dB	dB/m	
1	35.67	-39.54	-13.00	-37.18	-26.54	-2.36	Peak
2	96.96	-53.44	-13.00	-42.99	-40.44	-10.45	Peak
3	222.24	-50.27	-13.00	-43.32	-37.27	-6.95	Peak
4	313.30	-55.76	-13.00	-49.48	-42.76	-6.28	Peak
5	425.30	-64.93	-13.00	-59.95	-51.93	-4.98	Peak
6	636.00	-64.18	-13.00	-64.48	-51.18	0.30	Peak
7 pp	1573.00	-59.36	-40.00	-45.45	-19.36	-13.91	Peak
8	3934.00	-46.00	-13.00	-38.90	-33.00	-7.10	Peak

CHANNEL BANDWIDTH: 10MHz

MODE	Channel 23230	Modulation	QPSK
RB / Offset	1 / 49	Polarization	Vertical

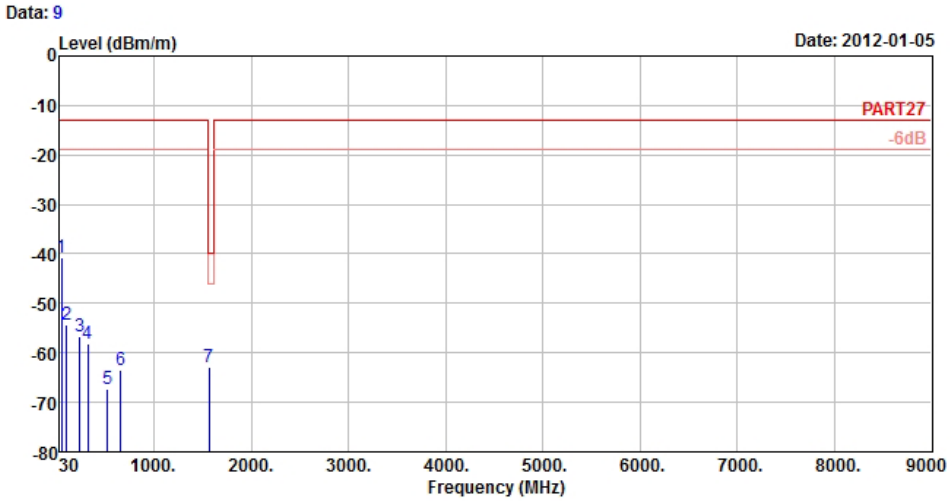


Site : 966 Chamber 2
Condition: PART27 3m EIRP_RSE _1G~19G VERTICAL
EUT : RJ53100
Mode : LTE Band13 CH23230 QPSK(1,49) 10M
Plane : Y

	Freq	Level	Limit Line	Read Level	Over Limit	Factor	Remark
	MHz	dBm/m	dBm/m	dBm	dB	dB/m	
1	39.18	-35.93	-13.00	-34.19	-22.93	-1.74	Peak
2	145.56	-50.89	-13.00	-44.84	-37.89	-6.05	Peak
3	221.43	-53.24	-13.00	-46.25	-40.24	-6.99	Peak
4	311.90	-61.35	-13.00	-55.06	-48.35	-6.29	Peak
5	584.20	-64.83	-13.00	-64.03	-51.83	-0.80	Peak
6	666.10	-63.50	-13.00	-64.34	-50.50	0.84	Peak
7 pp	1573.00	-57.83	-40.00	-43.92	-17.83	-13.91	Peak
8	3934.00	-47.13	-13.00	-40.03	-34.13	-7.10	Peak

CHANNEL BANDWIDTH: 10MHz

MODE	Channel 23230	Modulation	QPSK
RB / Offset	50 / 0	Polarization	Horizontal

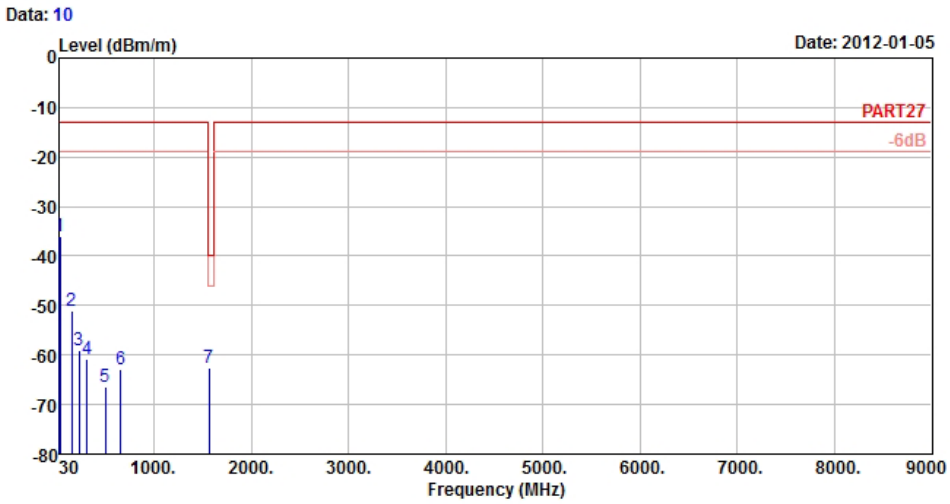


Site : 966 Chamber 2
Condition: PART27 3m EIRP_RSE _1G~19G HORIZONTAL
EUT : RJ53100
Mode : LTE Band13 CH23230 QPSK(50,0) 10M
Plane : Y

	Freq	Level	Limit Line	Read Level	Over Limit	Factor	Remark
	MHz	dBm/m	dBm/m	dBm	dB	dB/m	
1	45.39	-40.69	-13.00	-38.93	-27.69	-1.76	Peak
2	102.90	-54.38	-13.00	-43.92	-41.38	-10.46	Peak
3	237.90	-56.77	-13.00	-50.52	-43.77	-6.25	Peak
4	314.70	-58.29	-13.00	-52.02	-45.29	-6.27	Peak
5	522.60	-67.20	-13.00	-64.72	-54.20	-2.48	Peak
6	657.00	-63.53	-13.00	-64.19	-50.53	0.66	Peak
7 pp	1564.00	-62.90	-40.00	-48.74	-22.90	-14.16	Peak

CHANNEL BANDWIDTH: 10MHz

MODE	Channel 23230	Modulation	QPSK
RB / Offset	50 / 0	Polarization	Vertical

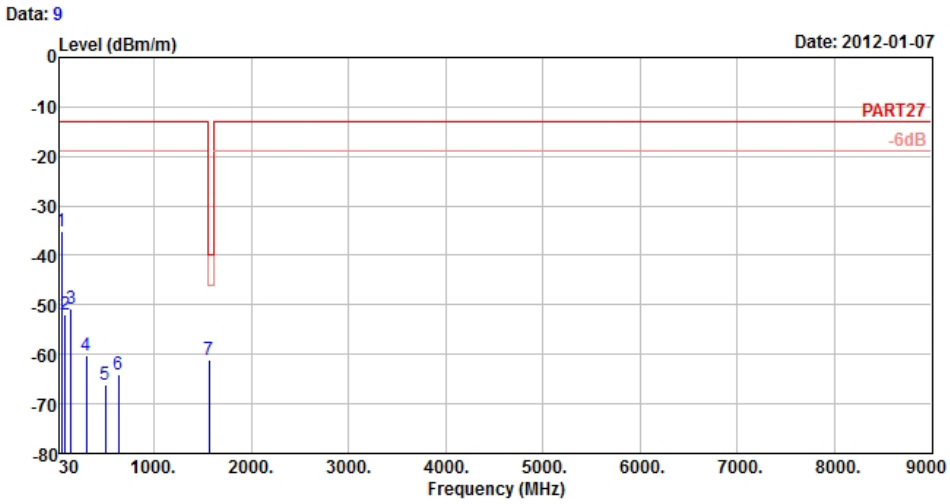


Site : 966 Chamber 2
Condition: PART27 3m EIRP_RSE _1G~19G VERTICAL
EUT : RJ53100
Mode : LTE Band13 CH23230 QPSK(50,0) 10M
Plane : Y

	Freq	Level	Limit Line	Read Level	Over Limit	Factor	Remark
	MHz	dBm/m	dBm/m	dBm	dB	dB/m	
1	30.27	-36.12	-13.00	-37.19	-23.12	1.07	Peak
2	150.69	-51.21	-13.00	-44.85	-38.21	-6.36	Peak
3	228.18	-59.06	-13.00	-52.38	-46.06	-6.68	Peak
4	309.80	-60.72	-13.00	-54.41	-47.72	-6.31	Peak
5	495.30	-66.32	-13.00	-63.11	-53.32	-3.21	Peak
6	657.70	-62.82	-13.00	-63.50	-49.82	0.68	Peak
7 pp	1564.00	-62.55	-40.00	-48.39	-22.55	-14.16	Peak

CHANNEL BANDWIDTH: 5MHz

MODE	Channel 23230	Modulation	16QAM
RB / Offset	1 / 24	Polarization	Horizontal

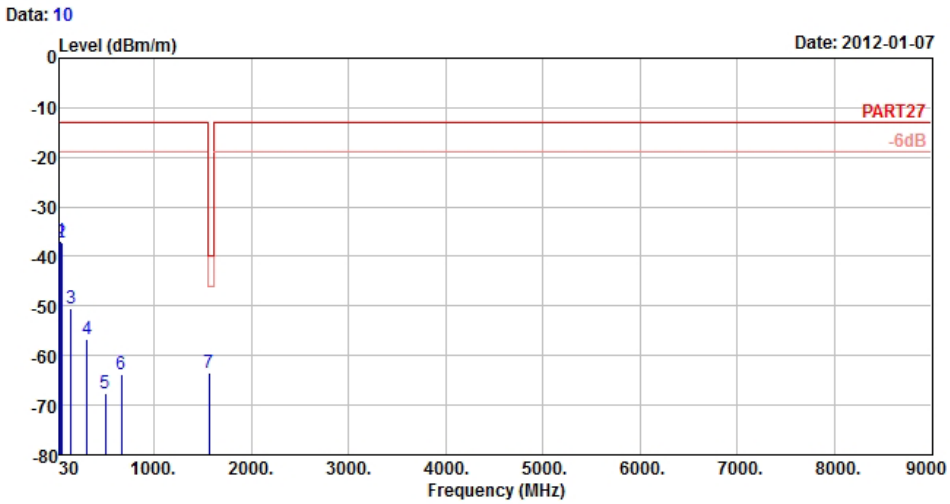


Site : 966 Chamber 2
Condition: PART27 3m EIRP_RSE _1G~19G VERTICAL
EUT : RJ53100
Mode : LTE Band13 CH23230 16QAM(1,24) 5M
Plane : Y

	Freq	Level	Limit Line	Read Level	Over Limit	Factor	Remark
	MHz	dBm/m	dBm/m	dBm	dB	dB/m	
1	44.85	-35.04	-13.00	-33.85	-22.04	-1.19	Peak
2	86.70	-51.95	-13.00	-41.49	-38.95	-10.46	Peak
3	145.56	-50.89	-13.00	-44.84	-37.89	-6.05	Peak
4	301.40	-60.10	-13.00	-53.73	-47.10	-6.37	Peak
5	497.40	-66.05	-13.00	-62.89	-53.05	-3.16	Peak
6	635.30	-64.07	-13.00	-64.35	-51.07	0.28	Peak
7 pp	1564.00	-61.22	-40.00	-47.06	-21.22	-14.16	Peak

CHANNEL BANDWIDTH: 5MHz

MODE	Channel 23230	Modulation	16QAM
RB / Offset	1 / 24	Polarization	Vertical

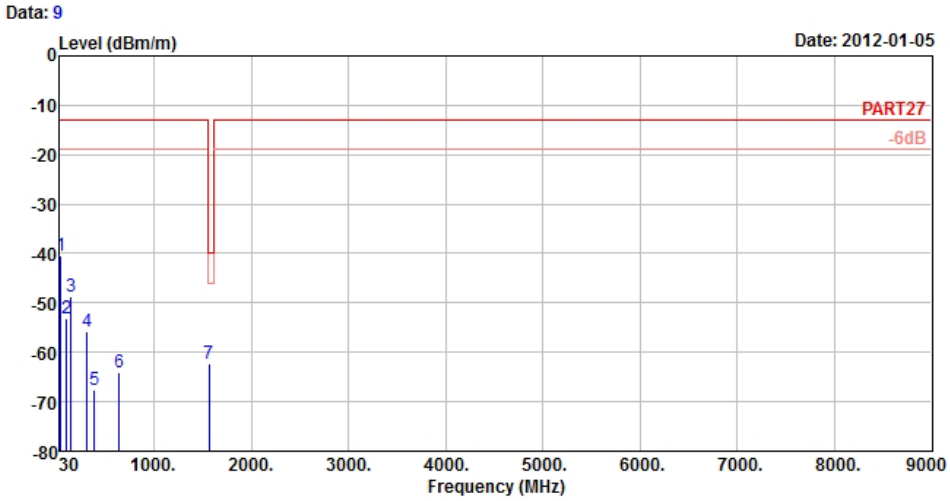


Site : 966 Chamber 2
Condition: PART27 3m EIRP_RSE _1G~19G HORIZONTAL
EUT : RJ53100
Mode : LTE Band13 CH23230 16QAM(1,24) 5M
Plane : Y

	Freq	Level	Limit Line	Read Level	Over Limit	Factor	Remark
	MHz	dBm/m	dBm/m	dBm	dB	dB/m	
1	36.75	-36.86	-13.00	-34.71	-23.86	-2.15	Peak
2	44.85	-37.06	-13.00	-35.87	-24.06	-1.19	Peak
3	144.21	-50.59	-13.00	-44.61	-37.59	-5.98	Peak
4	313.30	-56.76	-13.00	-50.48	-43.76	-6.28	Peak
5	498.80	-67.52	-13.00	-64.38	-54.52	-3.14	Peak
6	662.60	-63.63	-13.00	-64.40	-50.63	0.77	Peak
7 pp	1567.00	-63.45	-40.00	-49.54	-23.45	-13.91	Peak

CHANNEL BANDWIDTH: 5MHz

MODE	Channel 23230	Modulation	16QAM
RB / Offset	25 / 0	Polarization	Horizontal

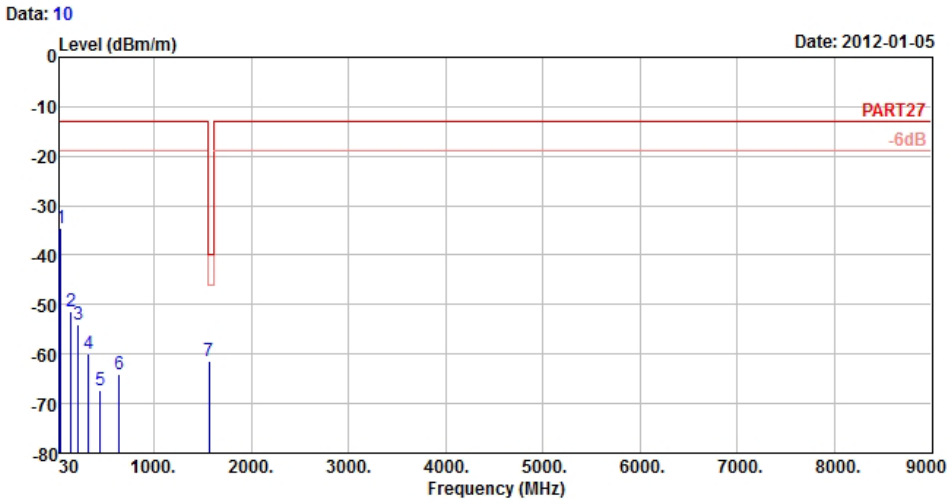


Site : 966 Chamber 2
Condition: PART27 3m EIRP_RSE _1G~19G HORIZONTAL
EUT : RJ53100
Mode : LTE Band13 CH23230 16QAM(25,0) 5M
Plane : Y

	Freq	Level	Limit Line	Read Level	Over Limit	Factor	Remark
	MHz	dBm/m	dBm/m	dBm	dB	dB/m	
1	37.02	-40.37	-13.00	-38.22	-27.37	-2.15	Peak
2	97.23	-53.19	-13.00	-42.74	-40.19	-10.45	Peak
3	144.21	-48.59	-13.00	-42.61	-35.59	-5.98	Peak
4	313.30	-55.82	-13.00	-49.54	-42.82	-6.28	Peak
5	384.70	-67.55	-13.00	-61.80	-54.55	-5.75	Peak
6	641.60	-63.97	-13.00	-64.37	-50.97	0.40	Peak
7 pp	1564.00	-62.30	-40.00	-48.14	-22.30	-14.16	Peak

CHANNEL BANDWIDTH: 5MHz

MODE	Channel 23230	Modulation	16QAM
RB / Offset	25 / 0	Polarization	Vertical

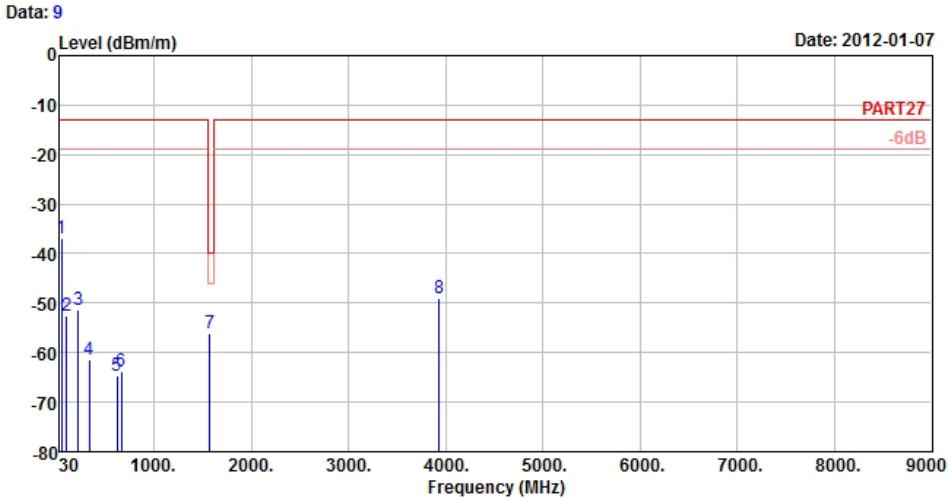


Site : 966 Chamber 2
Condition: PART27 3m EIRP_RSE _1G~19G VERTICAL
EUT : RJ53100
Mode : LTE Band13 CH23230 16QAM(25,0) 5M
Plane : Y

	Freq	Level	Limit Line	Read Level	Over Limit	Factor	Remark
	MHz	dBm/m	dBm/m	dBm	dB	dB/m	
1 pp	39.72	-34.50	-13.00	-32.97	-21.50	-1.53	Peak
2	147.18	-51.44	-13.00	-45.27	-38.44	-6.17	Peak
3	220.89	-53.89	-13.00	-46.90	-40.89	-6.99	Peak
4	326.60	-59.79	-13.00	-53.61	-46.79	-6.18	Peak
5	447.70	-67.24	-13.00	-62.83	-54.24	-4.41	Peak
6	641.60	-63.97	-13.00	-64.37	-50.97	0.40	Peak
7	1564.00	-61.53	-40.00	-47.37	-21.53	-14.16	Peak

CHANNEL BANDWIDTH: 10MHz

MODE	Channel 23230	Modulation	16QAM
RB / Offset	1 / 49	Polarization	Horizontal

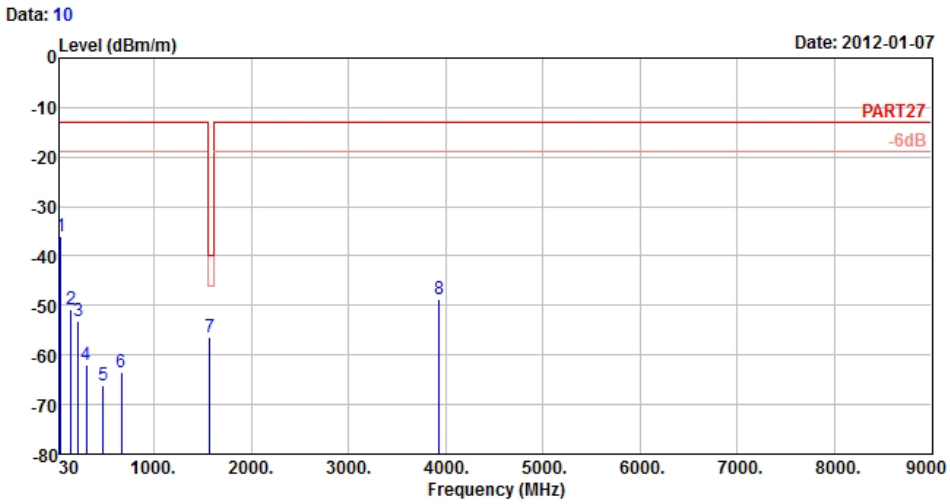


Site : 966 Chamber 2
Condition: PART27 3m EIRP_RSE _1G~19G HORIZONTAL
EUT : RJ53100
Mode : LTE Band13 CH23230 16QAM(1,49) 10M
Plane : Y

	Freq	Level	Limit Line	Read Level	Over Limit	Factor	Remark
	MHz	dBm/m	dBm/m	dBm	dB	dB/m	
1	45.12	-36.87	-13.00	-35.11	-23.87	-1.76	Peak
2	96.96	-52.44	-13.00	-41.99	-39.44	-10.45	Peak
3	222.24	-51.27	-13.00	-44.32	-38.27	-6.95	Peak
4	329.40	-61.49	-13.00	-55.33	-48.49	-6.16	Peak
5	616.40	-64.63	-13.00	-64.58	-51.63	-0.05	Peak
6	662.60	-63.63	-13.00	-64.40	-50.63	0.77	Peak
7 pp	1573.00	-56.15	-40.00	-42.24	-16.15	-13.91	Peak
8	3934.00	-48.88	-13.00	-41.78	-35.88	-7.10	Peak

CHANNEL BANDWIDTH: 10MHz

MODE	Channel 23230	Modulation	16QAM
RB / Offset	1 / 49	Polarization	Vertical

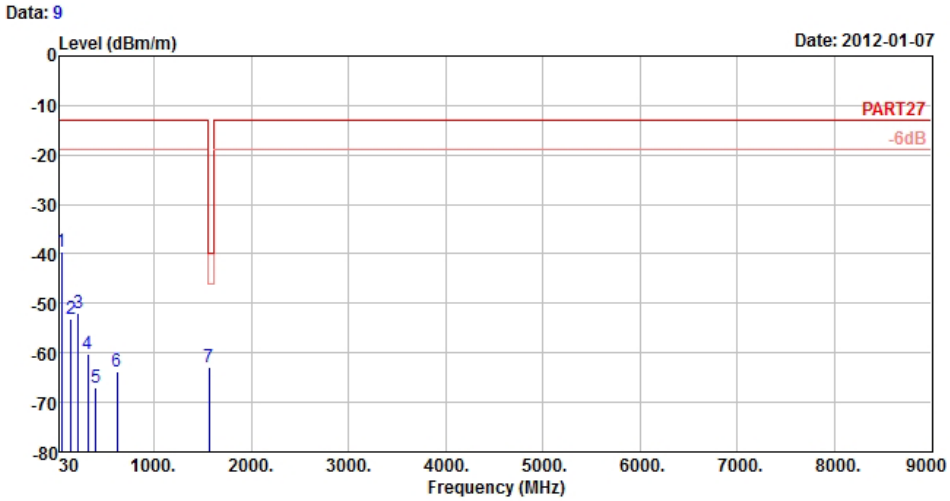


Site : 966 Chamber 2
Condition: PART27 3m EIRP_RSE _1G~19G VERTICAL
EUT : RJ53100
Mode : LTE Band13 CH23230 16QAM(1,49) 10M
Plane : Y

	Freq	Level	Limit Line	Read Level	Over Limit	Factor	Remark
	MHz	dBm/m	dBm/m	dBm	dB	dB/m	
1	39.18	-35.93	-13.00	-34.19	-22.93	-1.74	Peak
2	145.56	-50.89	-13.00	-44.84	-37.89	-6.05	Peak
3	221.43	-53.24	-13.00	-46.25	-40.24	-6.99	Peak
4	301.40	-62.10	-13.00	-55.73	-49.10	-6.37	Peak
5	477.10	-66.12	-13.00	-62.44	-53.12	-3.68	Peak
6	666.10	-63.50	-13.00	-64.34	-50.50	0.84	Peak
7 pp	1573.00	-56.29	-40.00	-42.38	-16.29	-13.91	Peak
8	3934.00	-48.83	-13.00	-41.73	-35.83	-7.10	Peak

CHANNEL BANDWIDTH: 10MHz

MODE	Channel 23230	Modulation	16QAM
RB / Offset	50 / 0	Polarization	Horizontal

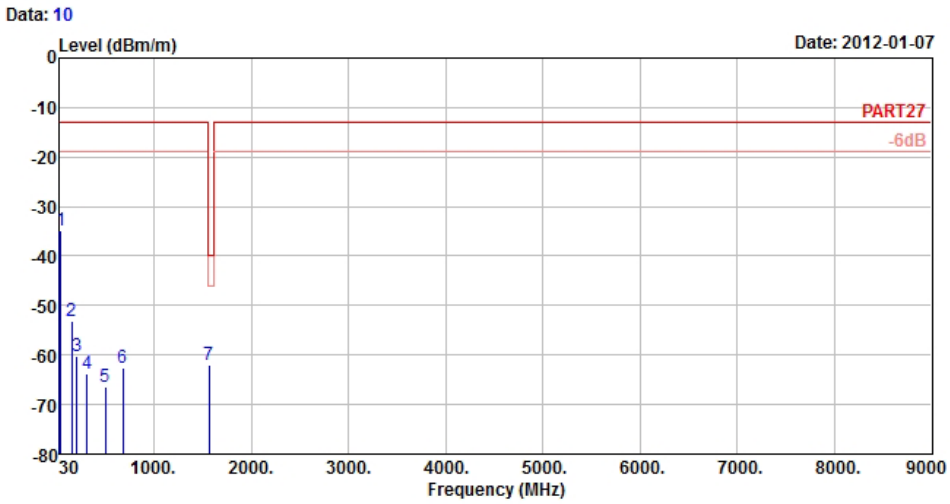


Site : 966 Chamber 2
Condition: PART27 3m EIRP_RSE _1G~19G HORIZONTAL
EUT : RJ53100
Mode : LTE Band13 CH23230 16QAM(50,0) 10M
Plane : Y

	Freq	Level	Limit Line	Read Level	Over Limit	Factor	Remark
	MHz	dBm/m	dBm/m	dBm	dB	dB/m	
1	45.39	-39.69	-13.00	-37.93	-26.69	-1.76	Peak
2	142.86	-53.14	-13.00	-47.28	-40.14	-5.86	Peak
3	219.81	-51.97	-13.00	-44.94	-38.97	-7.03	Peak
4	314.70	-60.29	-13.00	-54.02	-47.29	-6.27	Peak
5	403.60	-67.14	-13.00	-61.60	-54.14	-5.54	Peak
6	618.50	-63.88	-13.00	-63.86	-50.88	-0.02	Peak
7 pp	1564.00	-62.91	-40.00	-48.75	-22.91	-14.16	Peak

CHANNEL BANDWIDTH: 10MHz

MODE	Channel 23230	Modulation	16QAM
RB / Offset	50 / 0	Polarization	Vertical



Site : 966 Chamber 2
Condition: PART27 3m EIRP_RSE _1G~19G VERTICAL
EUT : RJ53100
Mode : LTE Band13 CH23230 16QAM(50,0) 10M
Plane : Y

	Freq	Level	Limit Line	Read Level	Over Limit	Factor	Remark
	MHz	dBm/m	dBm/m	dBm	dB	dB/m	
1 pp	42.96	-34.83	-13.00	-33.50	-21.83	-1.33	Peak
2	150.69	-53.21	-13.00	-46.85	-40.21	-6.36	Peak
3	207.93	-60.23	-13.00	-52.63	-47.23	-7.60	Peak
4	309.80	-63.72	-13.00	-57.41	-50.72	-6.31	Peak
5	495.30	-66.32	-13.00	-63.11	-53.32	-3.21	Peak
6	679.40	-62.63	-13.00	-63.70	-49.63	1.07	Peak
7	1564.00	-62.04	-40.00	-47.88	-22.04	-14.16	Peak

5 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.

Copies of accreditation and authorization certificates of our laboratories obtained from approval agencies can be downloaded from our web site: www.adt.com.tw/index.5.phtml. 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 Lab:
Tel: 886-3-5935343
Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety/Telecom Lab:
Tel: 886-3-3183232
Fax: 886-3-3185050

Email: service.adt@tw.bureauveritas.com
Web Site: www.adt.com.tw

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

6 APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No modifications were made to the EUT by the lab during the test.

---END---