FCC TEST REPORT

(PART 27)

REPORT NO.:	RF120717C01-2
MODEL NO.:	PM23100
FCC ID:	NM8PM23100
RECEIVED:	Jul. 17, 2012
TESTED:	Jul. 30 ~ Aug. 03, 2012
ISSUED:	Aug. 13, 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.

This report should not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF120717C01-2	Original release	Aug. 13, 2012

1 CERTIFICATION

PRODUCT:	Windows Phone
MODEL NO.:	PM23100
BRAND:	HTC
APPLICANT:	HTC Corporation
TESTED:	Jul. 30 ~ Aug. 03, 2012
TEST SAMPLE:	Production Unit
TEST STANDARDS:	**FCC Part 27**
	FCC Part 2

The above equipment (model: PM23100) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch,** and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : _____ , **DATE :** Aug. 13, 2012
Pettie Chen / Senior Specialist

APPROVED BY : _____ , **DATE :** Aug. 13, 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(b)(10)	Maximum Peak Output Power	PASS	Meet the requirement of limit. Maximum ERP is 18.11dBm at 782.0MHz.
2.1055 27.54	Frequency Stability	PASS	Meet the requirement of limit.
2.1049	Occupied Bandwidth	PASS	Meet the requirement of limit.
27.50(d)(5)	Peak to average ratio	PASS	Meet the requirement of limit.
27.53(c)(2)	Band Edge Measurements	PASS	Meet the requirement of limit.
2.1051 27.53(c)(2)	Conducted Spurious Emissions	PASS	Meet the requirement of limit.
2.1051 27.53(c)(4)	Emission in the 763–775 MHz and 793–805 MHz band	PASS	Meet the requirement of limit.
2.1053 27.53(c)(2)	Radiated Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -17.87dB at 86.16MHz.
2.1053 27.53(f)	Emissions in the band 1559–1610 MHz	PASS	Meet the requirement of limit. Minimum passing margin is -9.13dB at 1564.00MHz.

2.1 MEASUREMENT UNCERTAINTY

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

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	150kHz~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.

2.2 TEST SITE AND INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver Agilent	N9038A	MY51210203	Dec. 22, 2011	Dec. 21, 2012
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Dec. 21, 2011	Dec. 20, 2012
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Dec. 20, 2011	Dec. 19, 2012
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-969	Dec. 20, 2011	Dec. 19, 2012
ORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Dec. 20, 2011	Dec. 19, 2012
Preamplifier EMCI	EMC 012645	980115	Dec. 30, 2011	Dec. 29, 2012
Preamplifier EMCI	EMC 330H	980112	Dec. 30, 2011	Dec. 29, 2012
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309219/4	Oct. 21, 2011	Oct. 20, 2012
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250130/4	Jan. 02, 2012	Jan. 01, 2013
RF signal cable Worken	RG-213	NA	Jan. 02, 2012	Jan. 01, 2013
Software	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower &Turn Table Controller MF	MF-7802	NA	NA	NA
Mini-Circuits Power Splitter	ZN2PD-9G	NA	Mar. 23, 2012	Mar. 22, 2013
JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA
Communications Tester-Wireless	E5515C	MY50266653	Sep. 28, 2011	Sep. 27, 2012
Radio Communication Analyzer	MT8820C	6201127458	May 25, 2012	May 24, 2013

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.

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	Windows Phone	
MODEL NO.	PM23100	
POWER SUPPLY	5.0Vdc (adapter or host equipment) 3.8Vdc (battery)	
MODULATION TECHNOLOGY	**LTE Band 13**	QPSK, 16QAM
FREQUENCY RANGE	**LTE Band 13** **Channel Bandwidth: 10MHz**	782MHz
EMISSION DESIGNATOR	**LTE Band 13** **Channel Bandwidth: 10MHz**	QPSK: 8M94G7D
MAX. ERP POWER (mW)	**LTE Band 13** **Channel Bandwidth: 10MHz**	64.71mW
CATEGORY	LTE: 3	
ANTENNA TYPE	**LTE Band 13**	Fixed Internal antenna with -3.87dBi gain
DATA CABLE	Refer to Note as below	
I/O PORTS	Refer to users' manual	
ACCESSORY DEVICES	Refer to Note as below	

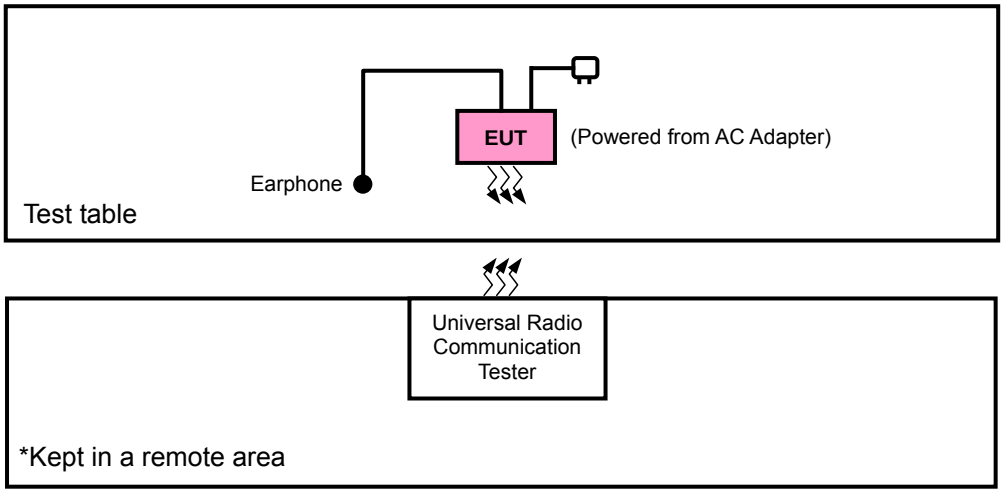
NOTE:

1. The EUT's accessories list refers to Ext Pho.pdf.
   * Item 2, 3, 5, 6, 7, 8 were the worst for the final test.
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.

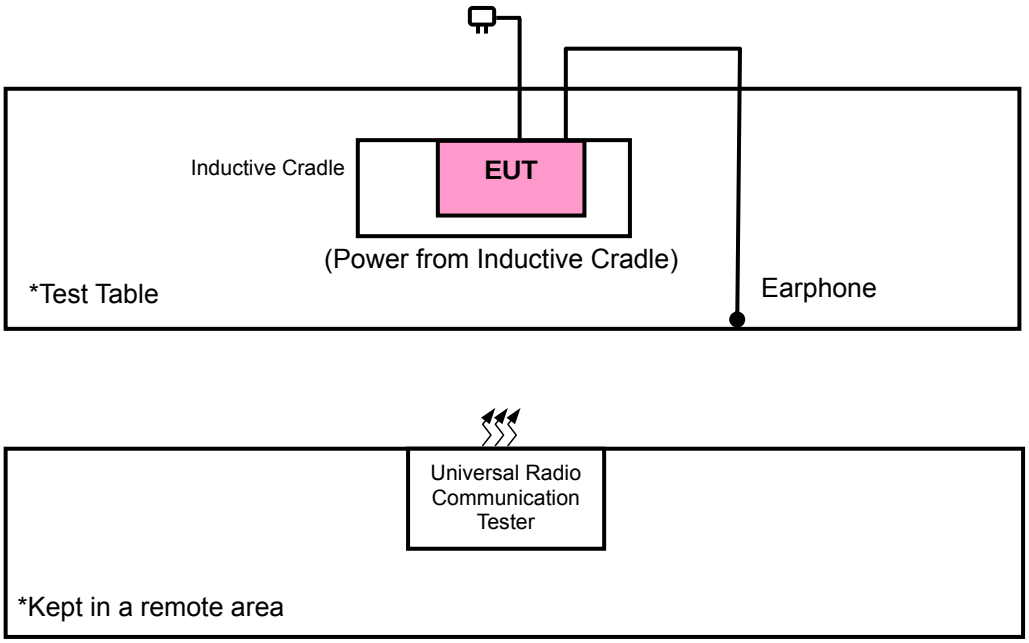
3.2 CONFIGURATION OF SYSTEM UNDER TEST

<For Radiated Emission Test>

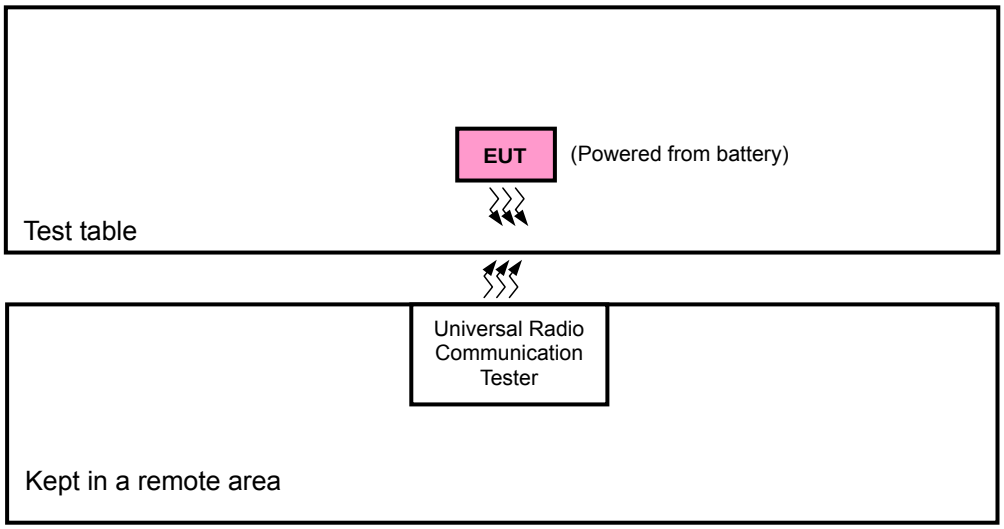
Tset Mode A



Tset Mode B



<For Output Power Test>



3.3 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	Earphone	HTC	HS G400	NA	NA
2	Inductive Cradle	Energizer	IC2B	NA	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	1m non-shielded cable without core
2	NA

NOTE:
1. All power cords of the above support units are non shielded (1.8m).
2. Item 1, 2 were provided by client.

3.4 DESCRIPTION OF TEST MODES

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

EUT CONFIGURE MODE	DESCRIPTION
A	Normal link
B	Wireless charge

LTE Band 13: CHANNEL BANDWIDTH: 10MHz

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
A	ERP	23230	23230	QPSK
A	FREQUENCY STABILITY	23230	23230	QPSK
A	OCCUPIED BANDWIDTH	23230	23230	QPSK, 16QAM
A	PEAK TO AVERAGE RATIO	23230	23230	QPSK, 16QAM
A	BAND EDGE	23230	23230	QPSK, 16QAM
A	CONDCUDETED EMISSION	23230	23230	QPSK, 16QAM
A, B	RADIATED EMISSION	23230	23230	QPSK

TEST CONDITION:

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
ERP	25deg. C, 65%RH	3.75Vdc	Phoenix Chen
FREQUENCY STABILITY	25deg. C, 65%RH	3.75Vdc	Phoenix Chen
OCCUPIED BANDWIDTH	25deg. C, 65%RH	3.75Vdc	Phoenix Chen
BAND EDGE	25deg. C, 65%RH	3.75Vdc	Phoenix Chen
CONDCUDETED EMISSION	25deg. C, 65%RH	3.75Vdc	Phoenix Chen
RADIATED EMISSION	25deg. C, 65%RH	120Vac, 60Hz	Kay Wu

3.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC 47 CFR Part 2

FCC 47 CFR Part 27

ANSI/TIA/EIA-603-C 2004

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

4 TEST TYPES AND RESULTS

4.1 OUTPUT POWER MEASUREMENT

4.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

Portable stations (hand-held devices) operating in the 777-787MHz band is limited to 3 watts ERP

4.1.2 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). RBW 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

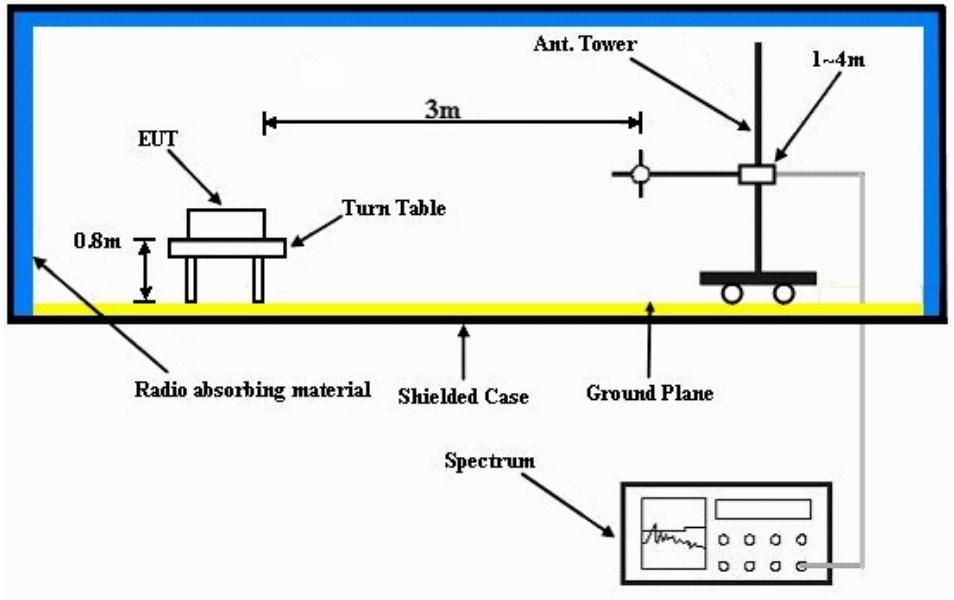
CONDUCTED POWER MEASUREMENT:

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.

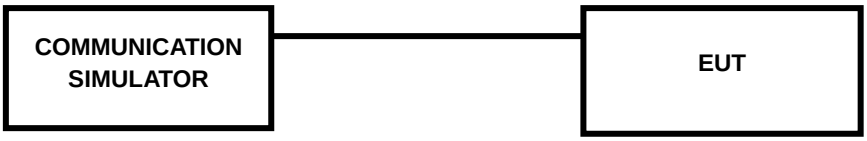
4.1.3 TEST SETUP

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

AVERAGE CONDUCTED OUTPUT POWER (dBm)

LTE Band 13							
BW	Modulation	CH	Frequency (MHz)	RB	RB Offset	MPR	Power
10 MHz	QPSK	23230	782.0	1	0	0	25.16
		23230	782.0	1	49	0	25.08
		23230	782.0	25	12	1	24.00
		23230	782.0	50	0	1	23.85
	16QAM	23230	782.0	1	0	1	23.99
		23230	782.0	1	49	1	23.97
		23230	782.0	25	12	2	23.02
		23230	782.0	50	0	2	22.90

ERP (dBm)

LTE BAND 13

CHANNEL BANDWIDTH: 10MHz / QPSK

Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	ERP(dBm)	ERP(mW)	Polarization (H/V)
Y	23230	782.0	-11.91	32.17	18.11	64.71	H
	23230	782.0	-22.07	32.42	8.20	6.61	V

4.2 FREQUENCY STABILITY MEASUREMENT

4.2.1 LIMITS OF FREQUENCY STABILIITY MEASUREMENT

The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

4.2.2 TEST PROCEDURE

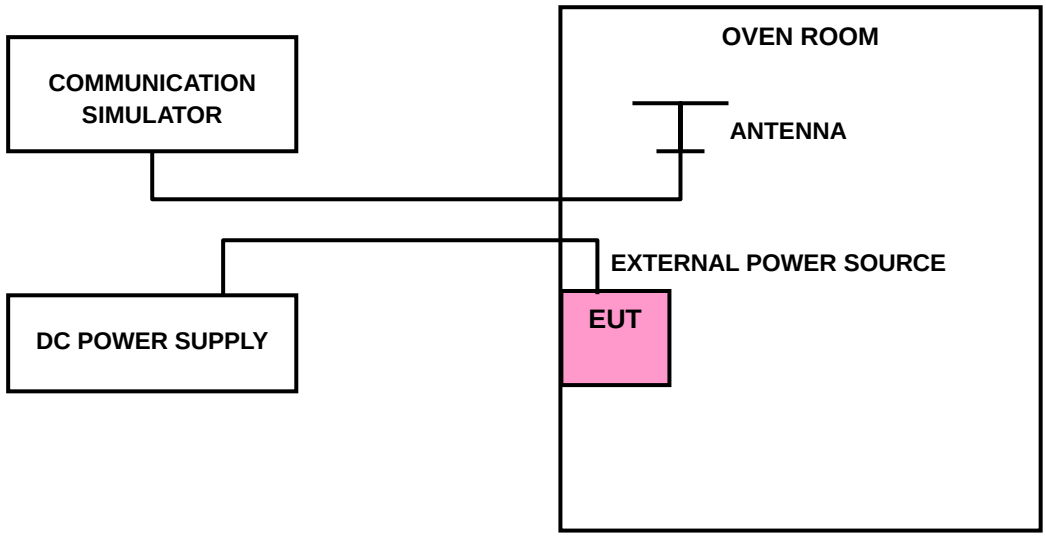
a. Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.

b. EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.

c. The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the ±0.5℃ during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

NOTE: The frequency error was recorded frequency error from the communication simulator.

4.2.3 TEST SETUP



4.2.4 TEST RESULTS

AFC FREQUENCY ERROR vs. VOLTAGE		
VOLTAGE (Volts)	**FREQUENCY ERROR (ppm)**	**LIMIT (ppm)**
3.75	-0.0037	2.5
3.6	-0.0040	2.5
4.3	-0.0031	2.5

NOTE: The applicant defined the normal working voltage of the battery is from 3.6Vdc to 4.3Vdc.

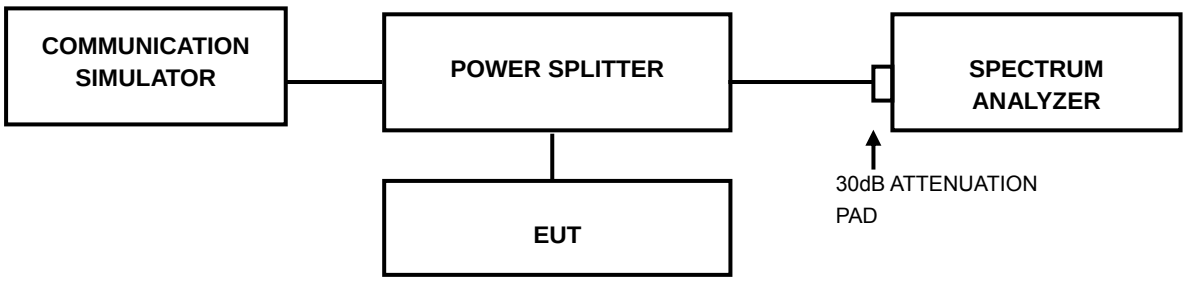
AFC FREQUENCY ERROR vs. TEMP.		
TEMP. (℃)	**FREQUENCY ERROR (ppm)**	**LIMIT (ppm)**
-10	0.0023	2.5
0	0.0041	2.5
10	-0.0052	2.5
20	-0.0029	2.5
30	0.0082	2.5
40	-0.0084	2.5
50	-0.0046	2.5

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 SETUP



4.3.3 TEST PROCEDURES

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

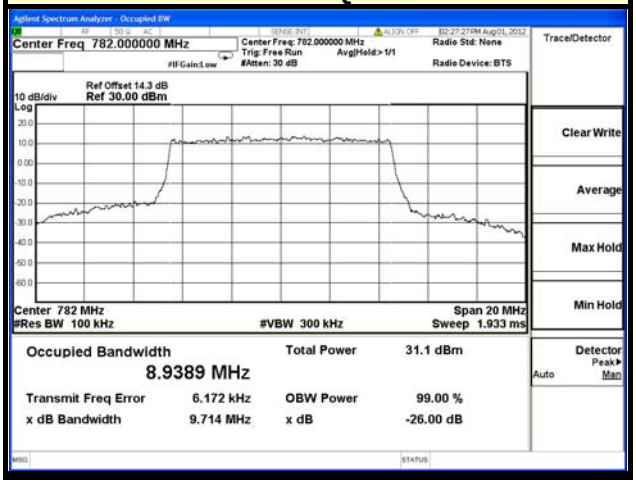
b. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

4.3.4 TEST RESULTS

LTE BAND 13

CHANNEL BANDWIDTH: 10MHz		
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)
23230	782.0	8.9389

SPECTRUM PLOT OF WORST VALUE
10MHz / QPSK

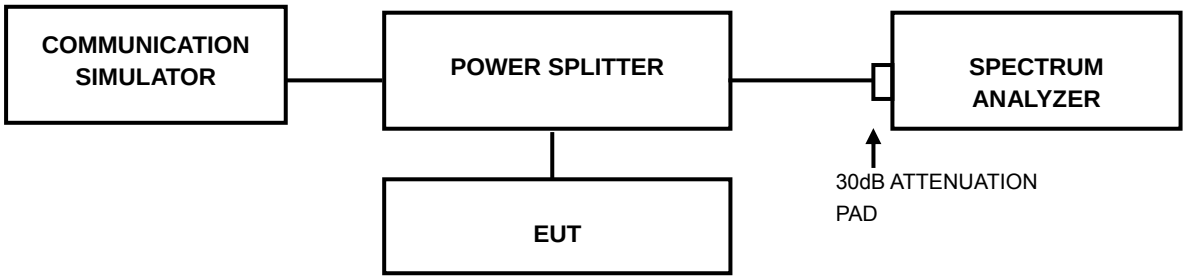


4.4 PEAK TO AVERAGE RATIO

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 SETUP



4.4.3 TEST PROCEDURES

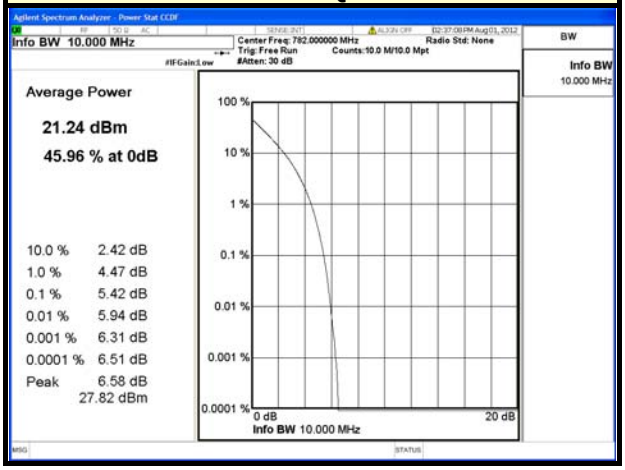
1. Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Record the maximum PAPR level associated with a probability of 0.1%.

4.4.4 TEST RESULTS

LTE BAND 13

CHANNEL BANDWIDTH: 10MHz		
CHANNEL	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
23230	782.0	5.42

SPECTRUM PLOT OF WORST VALUE
10MHz / QPSK

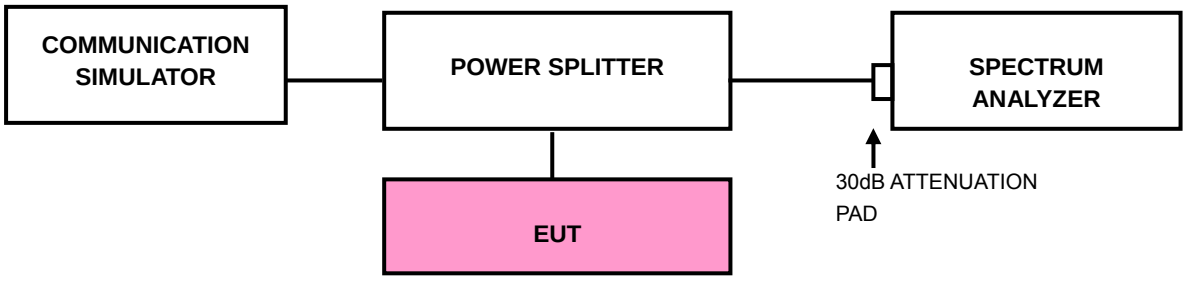


4.5 BAND EDGE MEASUREMENT

4.5.1 LIMITS OF BAND EDGE MEASUREMENT

For operations in the 788-793 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

4.5.2 TEST SETUP



4.5.3 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.).

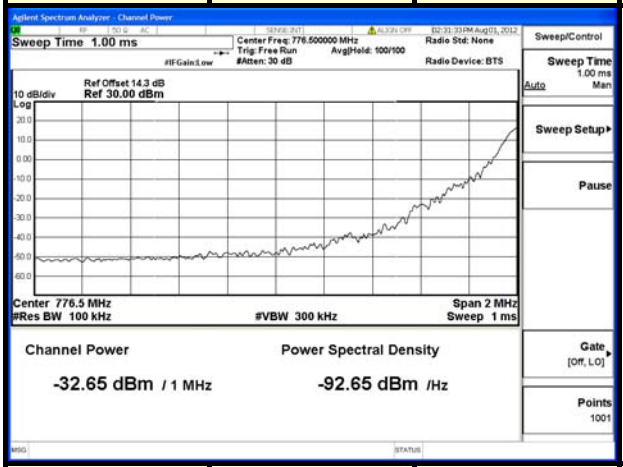
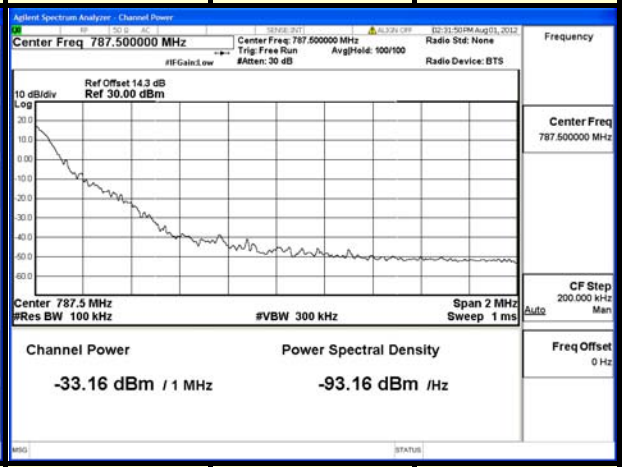
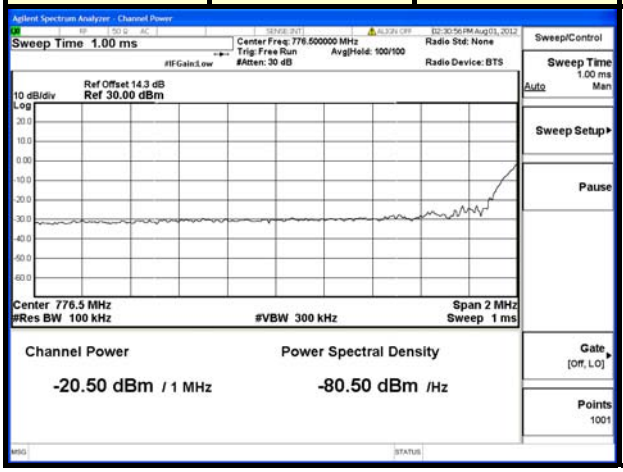
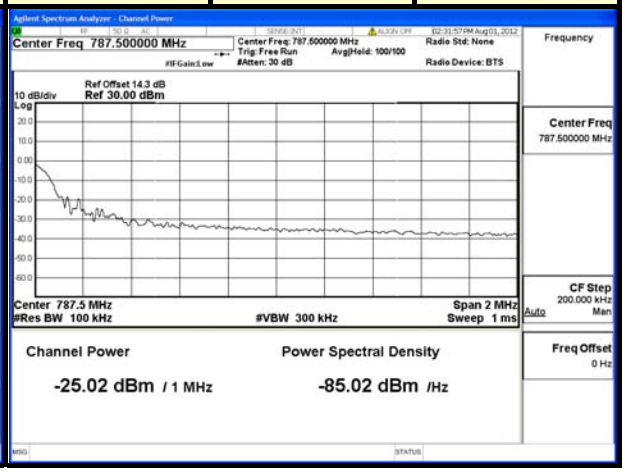
b. The band edge measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

c. The center frequency of spectrum is the band edge frequency and span is 2 MHz. RB of the spectrum is 100kHz and VB of the spectrum is 300kHz.

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

4.5.4 TEST RESULTS

LTE BAND 14

Channel Bandwidth: 10MHz					
CHANNEL	23230	1 RB	CHANNEL	23230	1 RB
					
CHANNEL	23230	50 RB	CHANNEL	23230	50 RB
					

4.6 CONDUCTED SPURIOUS EMISSIONS

4.6.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

For operations in the 746–758 MHz band and the 776–788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power(P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

(1) On any frequency outside the 776–788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;

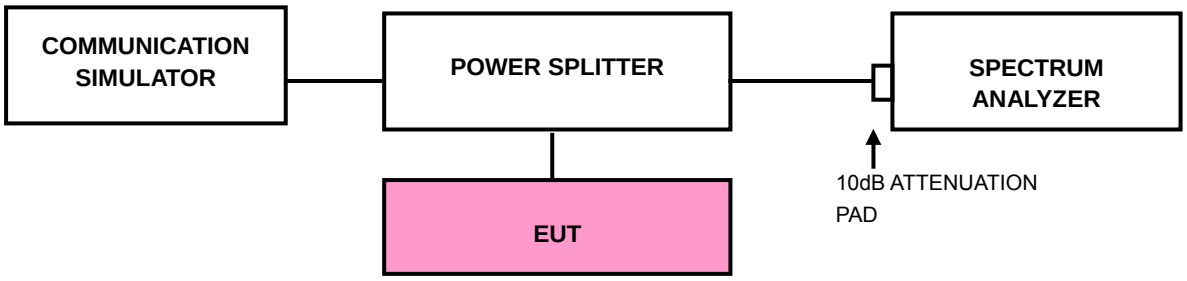
(2) On all frequencies between 763–775 MHz and 793–805 MHz , by a factor not les s than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations;

4.6.2 TEST PROCEDURE

a. The EUT makes a phone call to the communication simulator. All measurements were done at middle operational frequency range.

b. Measuring frequency range is from 30 MHz to 8GHz for LTE Band 13. 10dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz are used for conducted emission measurement.

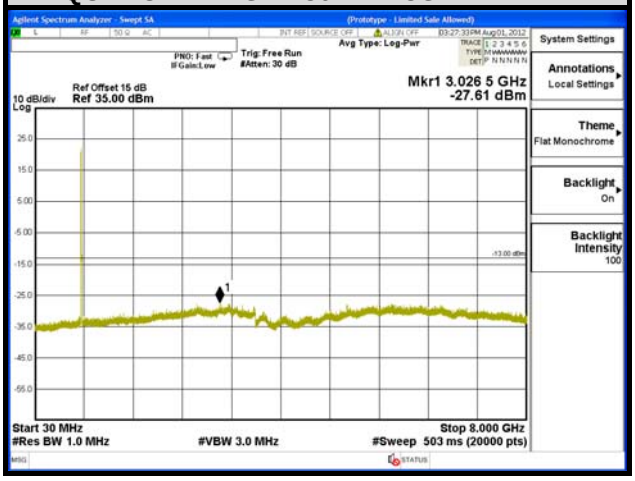
4.6.3 TEST SETUP



4.6.4 TEST RESULTS

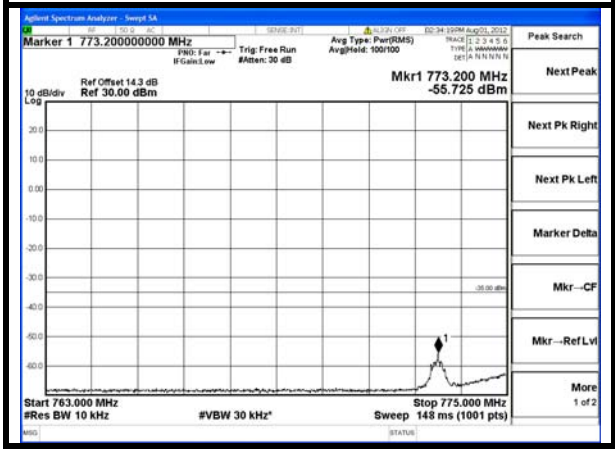
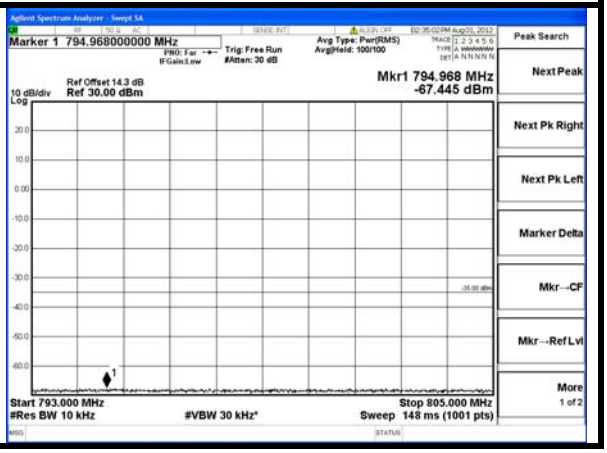
LTE BAND 13

CHANNEL 23230
10MHz / QPSK / 1 RB Offset 0
FREQUENCY RANGE : 30MHz~8GHz

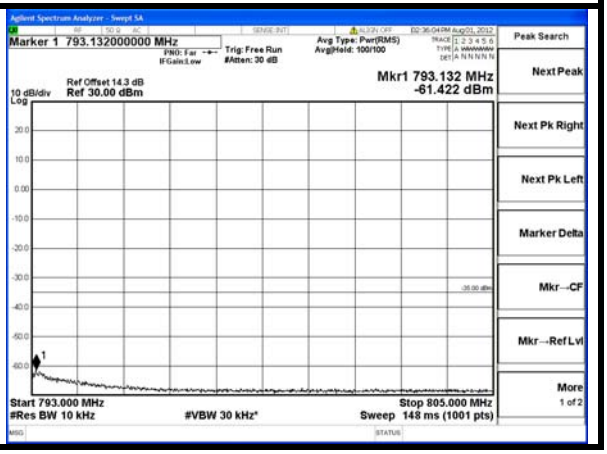


Emission in the 763–775 MHz and 793–805 MHz band

CHANNEL BANDWIDTH: 10MHz / QPSK / 1 RB ALLOCATED

782MHz	
763MHz ~ 775MHz	793MHz ~ 805MHz
	

CHANNEL BANDWIDTH: 10MHz / QPSK / 50 RB ALLOCATED

782MHz	
763MHz ~ 775MHz	793MHz ~ 805MHz
	

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 PROCEDURES

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

b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value” of step a. Record the power level of S.G

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

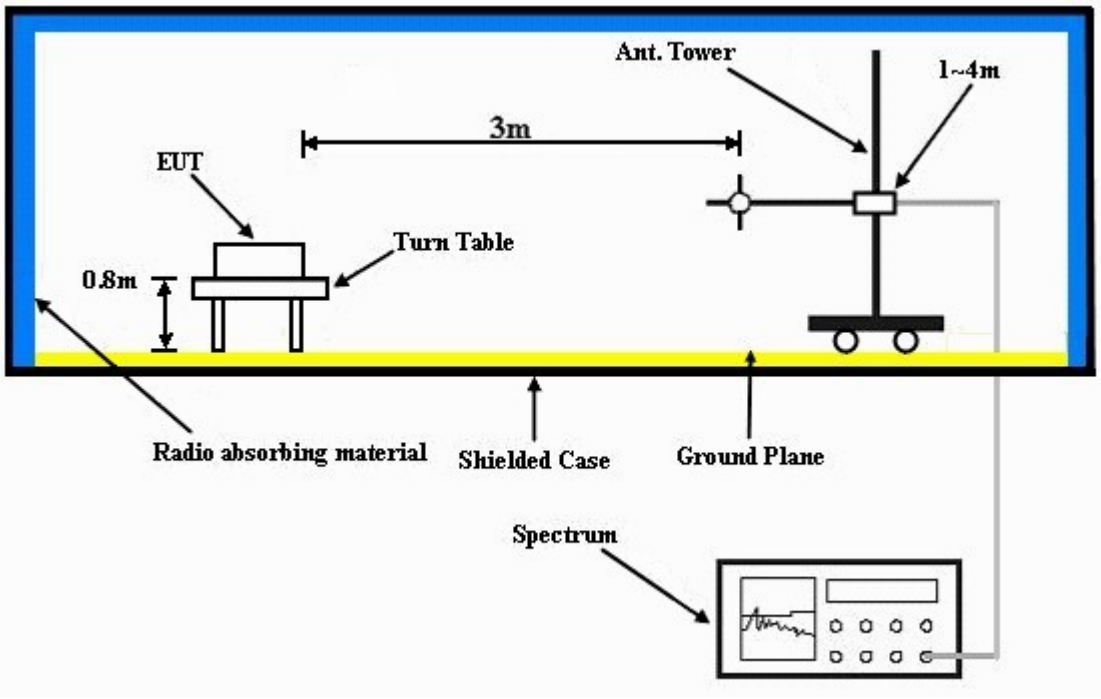
d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.P.R power - 2.15dBi.

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

4.7.3 DEVIATION FROM TEST STANDARD

No deviation

4.7.4 TEST SETUP



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

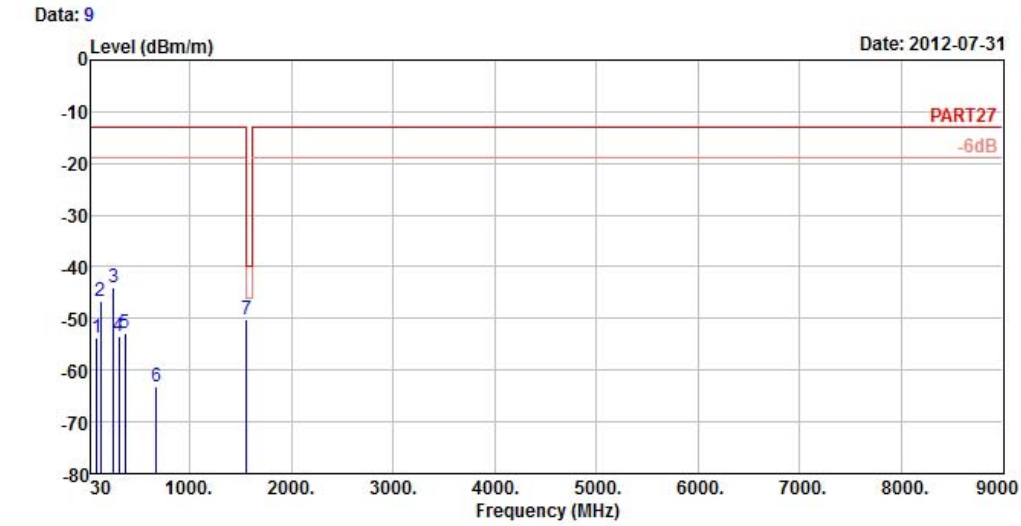
4.7.5 TEST RESULTS

LTE BAND 13

Test Mode A

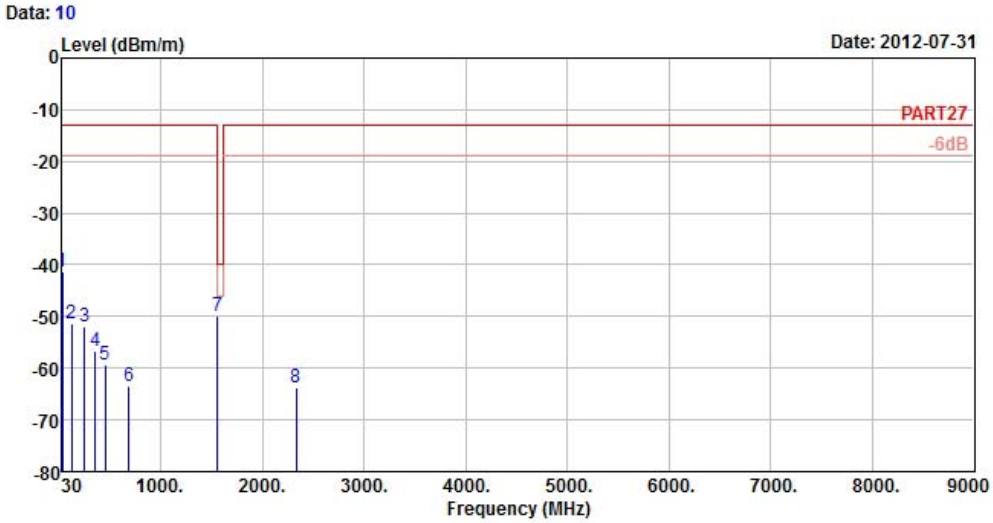
CHANNEL BANDWIDTH: 10MHz / QPSK

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



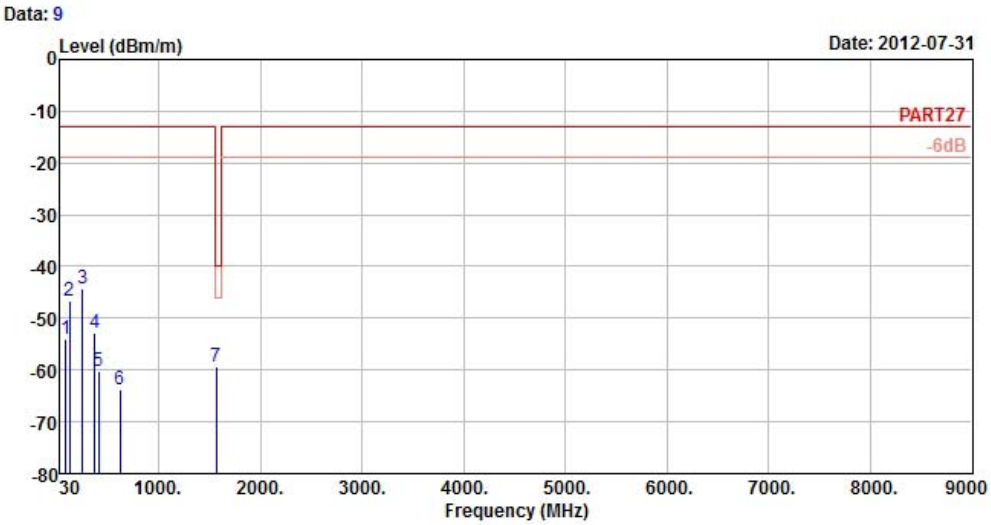
Site : 966 Chamber 5
Condition : PART27 3m EIRP_RSE_1G~19G_3 HORIZONTAL
Brand/Model: PM23100
Remark : LTE Band13_10M_(QPSK 1,0)
Tested by : Kay Wu
Temprature : 25℃
Humidity : 65%
Plane : Y

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1	84.81	-53.84	-43.41	-13.00	-40.84	-10.43	Peak
2	124.23	-46.59	-36.78	-13.00	-33.59	-9.81	Peak
3 pp	248.16	-44.04	-38.27	-13.00	-31.04	-5.77	Peak
4	302.80	-53.34	-46.98	-13.00	-40.34	-6.36	Peak
5	361.60	-52.72	-46.80	-13.00	-39.72	-5.92	Peak
6	672.40	-63.15	-64.09	-13.00	-50.15	0.94	Peak
7	1555.20	-50.04	-36.77	-13.00	-37.04	-13.27	Peak



Site : 966 Chamber 5
Condition : PART27 3m EIRP_RSE_1G~19G_3 VERTICAL
Brand/Model: PM23100
Remark : LTE Band13_10M_(QPSK 1,0)
Tested by : Kay Wu
Temprature : 25℃
Humidity : 65%
Plane : Y

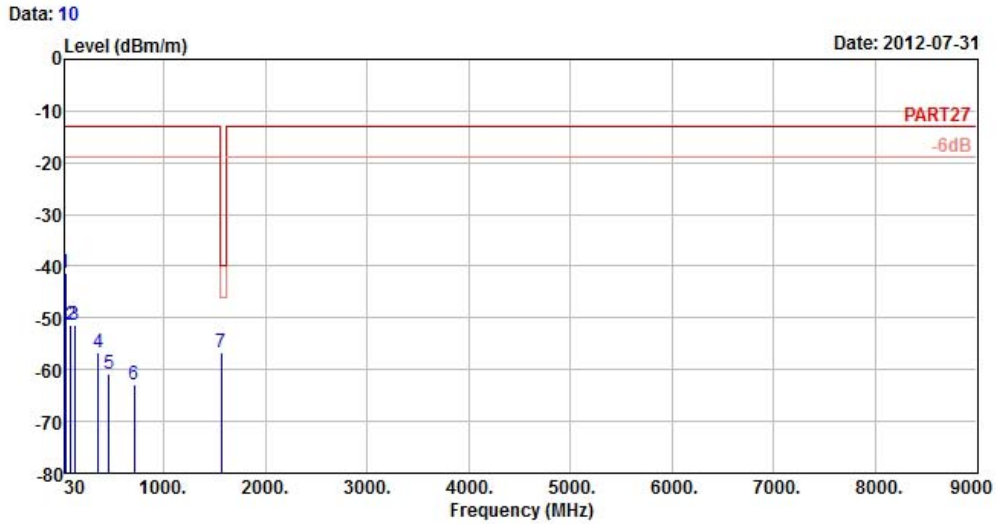
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1 pp	32.70	-41.38	-40.27	-13.00	-28.38	-1.11	Peak
2	122.07	-51.32	-41.00	-13.00	-38.32	-10.32	Peak
3	249.24	-52.10	-46.38	-13.00	-39.10	-5.72	Peak
4	357.40	-56.77	-50.82	-13.00	-43.77	-5.95	Peak
5	455.40	-59.44	-55.22	-13.00	-46.44	-4.22	Peak
6	683.60	-63.33	-64.48	-13.00	-50.33	1.15	Peak
7	1555.20	-49.82	-36.55	-13.00	-36.82	-13.27	Peak
8	2332.80	-63.68	-54.29	-13.00	-50.68	-9.39	Peak



Site : 966 Chamber 5
Condition : PART27 3m EIRP_RSE_1G~19G_3 HORIZONTAL
Brand/Model: PM23100
Remark : LTE Band13_10M_(QPSK 50,0)
Tested by : Kay Wu
Temprature : 25℃
Humidity : 65%
Plane : Y

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1	86.43	-53.98	-43.52	-13.00	-40.98	-10.46	Peak
2	121.53	-46.68	-36.10	-13.00	-33.68	-10.58	Peak
3	248.70	-44.26	-38.49	-13.00	-31.26	-5.77	Peak
4	369.30	-52.85	-46.99	-13.00	-39.85	-5.86	Peak
5	411.30	-60.11	-54.76	-13.00	-47.11	-5.35	Peak
6	619.90	-63.71	-63.71	-13.00	-50.71	0.00	Peak
7 pp	1564.00	-59.43	-46.16	-40.00	-19.43	-13.27	Peak

*Item 7 was for GPS band.



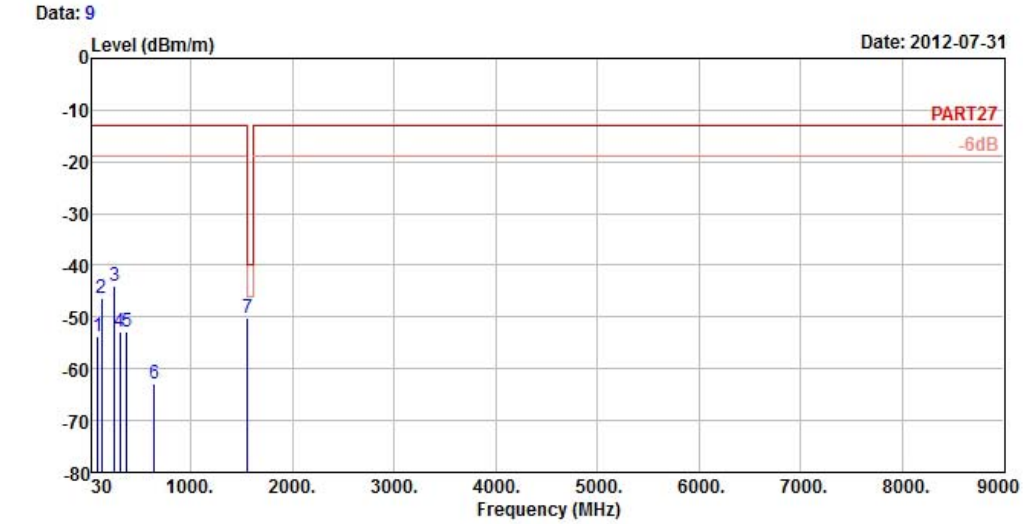
Site : 966 Chamber 5
Condition : PART27 3m EIRP_RSE_1G~19G_3 VERTICAL
Brand/Model: PM23100
Remark : LTE Band13_10M_(QPSK 50,0)
Tested by : Kay Wu
Temprature : 25℃
Humidity : 65%
Plane : Y

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1	32.70	-41.19	-40.08	-13.00	-28.19	-1.11	Peak
2	84.00	-51.29	-40.90	-13.00	-38.29	-10.39	Peak
3	121.53	-51.38	-40.80	-13.00	-38.38	-10.58	Peak
4	356.70	-56.73	-50.77	-13.00	-43.73	-5.96	Peak
5	462.40	-60.87	-56.82	-13.00	-47.87	-4.05	Peak
6	710.90	-63.01	-64.53	-13.00	-50.01	1.52	Peak
7 pp	1564.00	-56.64	-43.37	-40.00	-16.64	-13.27	Peak

*Item 7 was for GPS band.

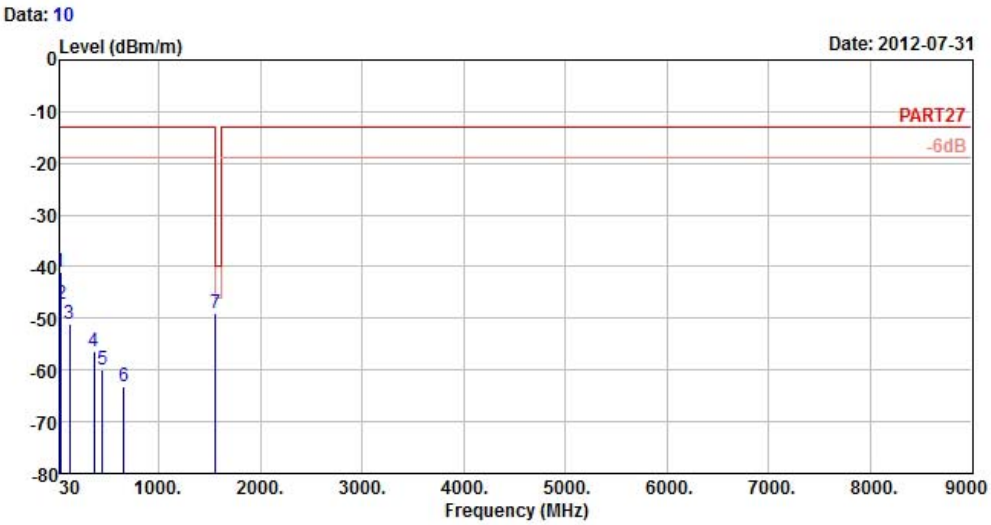
CHANNEL BANDWIDTH: 10MHz / 16QAM

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



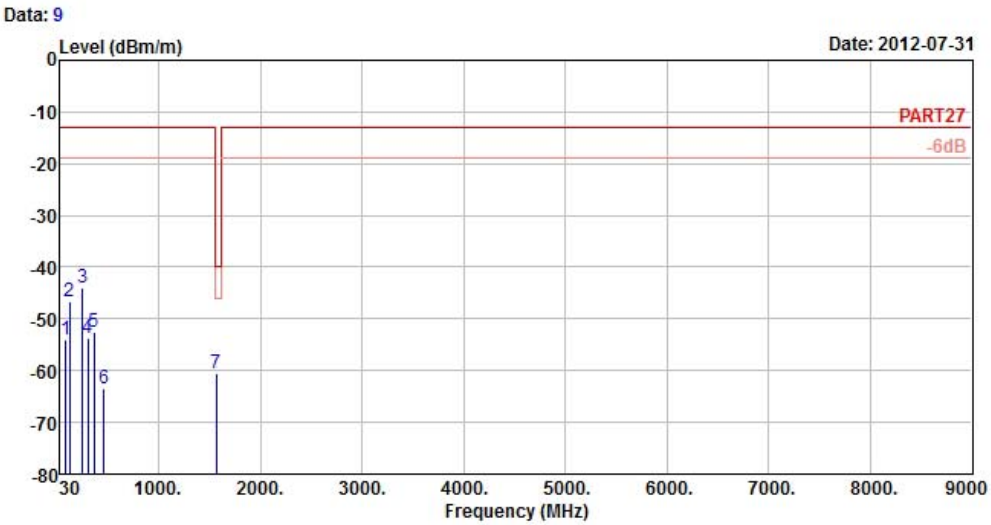
Site : 966 Chamber 5
Condition : PART27 3m EIRP_RSE_1G~19G_3 HORIZONTAL
Brand/Model: PM23100
Remark : LTE Band13_10M_(16QAM 1,0)
Tested by : Kay Wu
Temprature : 25℃
Humidity : 65%
Plane : Y

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1	84.27	-53.80	-43.41	-13.00	-40.80	-10.39	Peak
2	122.34	-46.38	-36.06	-13.00	-33.38	-10.32	Peak
3 pp	248.97	-43.87	-38.15	-13.00	-30.87	-5.72	Peak
4	300.70	-52.89	-46.52	-13.00	-39.89	-6.37	Peak
5	369.30	-52.80	-46.94	-13.00	-39.80	-5.86	Peak
6	641.60	-62.86	-63.26	-13.00	-49.86	0.40	Peak
7	1555.20	-50.14	-36.87	-13.00	-37.14	-13.27	Peak



Site : 966 Chamber 5
Condition : PART27 3m EIRP_RSE_1G~19G_3 VERTICAL
Brand/Model: PM23100
Remark : LTE Band13_10M_(16QAM 1,0)
Tested by : Kay Wu
Temprature : 25℃
Humidity : 65%
Plane : Y

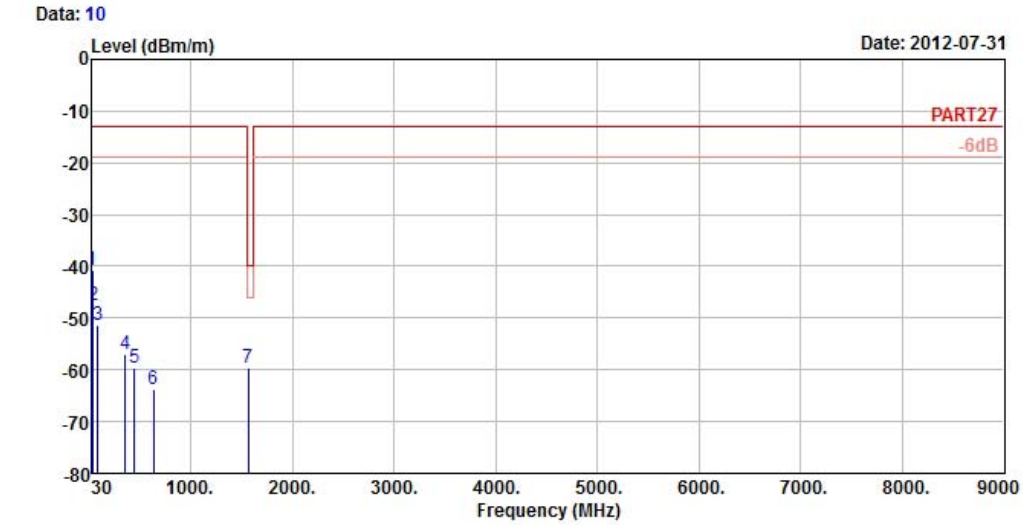
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1 pp	32.70	-41.03	-39.92	-13.00	-28.03	-1.11	Peak
2	38.91	-47.23	-45.49	-13.00	-34.23	-1.74	Peak
3	121.26	-51.01	-40.43	-13.00	-38.01	-10.58	Peak
4	359.50	-56.28	-50.35	-13.00	-43.28	-5.93	Peak
5	442.10	-59.94	-55.38	-13.00	-46.94	-4.56	Peak
6	655.60	-63.18	-63.83	-13.00	-50.18	0.65	Peak
7	1555.20	-48.89	-35.62	-13.00	-35.89	-13.27	Peak



Site : 966 Chamber 5
Condition : PART27 3m EIRP_RSE_1G~19G_3 HORIZONTAL
Brand/Model: PM23100
Remark : LTE Band13_10M_(16QAM 50,0)
Tested by : Kay Wu
Temprature : 25℃
Humidity : 65%
Plane : Y

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1	84.27	-53.94	-43.55	-13.00	-40.94	-10.39	Peak
2	122.34	-46.62	-36.30	-13.00	-33.62	-10.32	Peak
3	249.51	-44.10	-38.38	-13.00	-31.10	-5.72	Peak
4	300.70	-53.69	-47.32	-13.00	-40.69	-6.37	Peak
5	366.50	-52.67	-46.79	-13.00	-39.67	-5.88	Peak
6	459.60	-63.35	-59.23	-13.00	-50.35	-4.12	Peak
7 pp	1564.00	-60.52	-47.25	-40.00	-20.52	-13.27	Peak

*Item 7 was for GPS band.



Site : 966 Chamber 5
Condition : PART27 3m EIRP_RSE_1G~19G_3 VERTICAL
Brand/Model: PM23100
Remark : LTE Band13_10M_(16QAM 50,0)
Tested by : Kay Wu
Temprature : 25℃
Humidity : 65%
Plane : Y

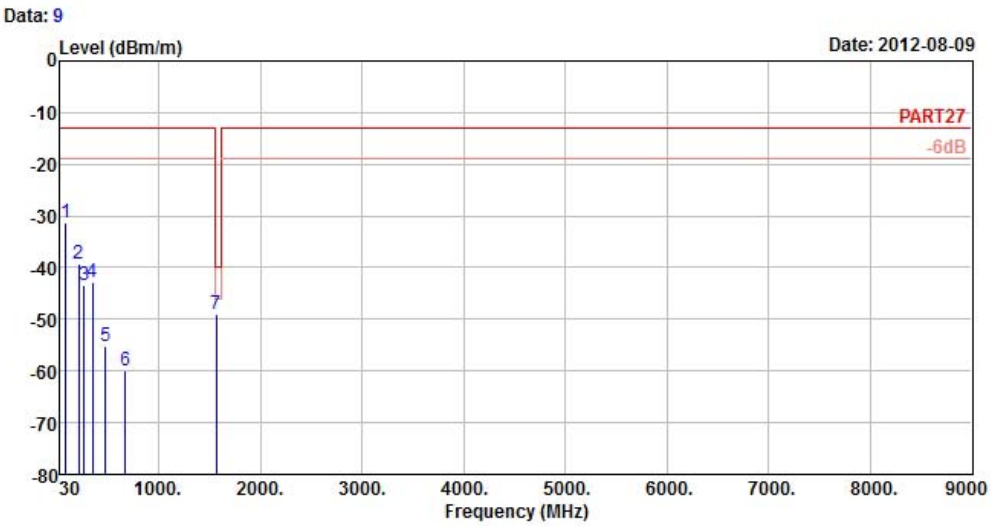
	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1	32.43	-40.87	-39.76	-13.00	-27.87	-1.11	Peak
2	39.45	-47.48	-45.95	-13.00	-34.48	-1.53	Peak
3	84.27	-51.34	-40.95	-13.00	-38.34	-10.39	Peak
4	358.80	-56.85	-50.91	-13.00	-43.85	-5.94	Peak
5	447.00	-59.52	-55.08	-13.00	-46.52	-4.44	Peak
6	632.50	-63.83	-64.06	-13.00	-50.83	0.23	Peak
7 pp	1564.00	-59.52	-46.25	-40.00	-19.52	-13.27	Peak

*Item 7 was for GPS band.

Test Mode B

CHANNEL BANDWIDTH: 10MHz / QPSK

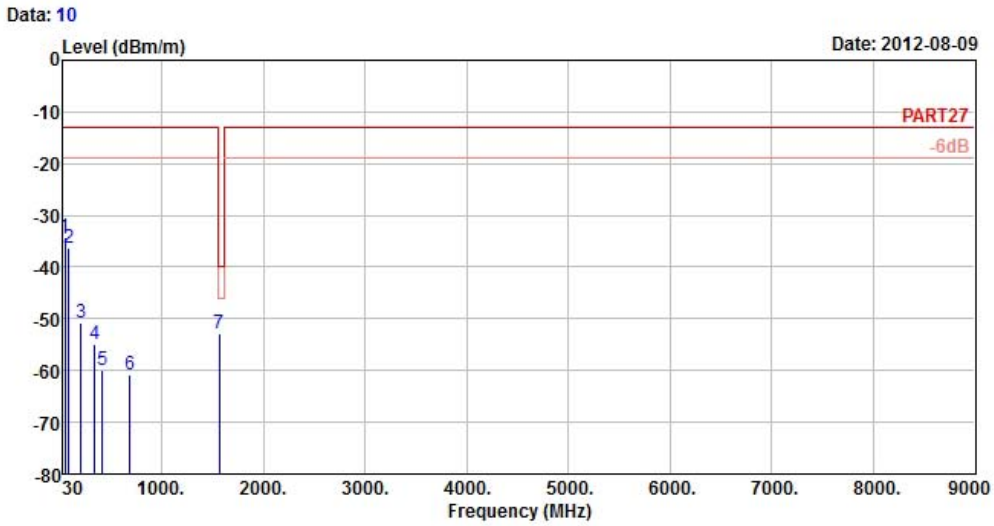
Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 Chamber 5
Condition : PART27 3m EIRP_RSE_1G~19G_3 HORIZONTAL
Brand/Model: PM23100
Remark : LTE Band13_10M_(QPSK 50,0)
Tested by : Kay Wu
Temprature : 25℃
Humidity : 65%
Plane : X(

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1	86.16	-31.17	-20.71	-13.00	-18.17	-10.46	Peak
2	216.03	-39.36	-32.15	-13.00	-26.36	-7.21	Peak
3	261.93	-43.47	-37.63	-13.00	-30.47	-5.84	Peak
4	346.90	-42.67	-36.64	-13.00	-29.67	-6.03	Peak
5	475.70	-55.31	-51.58	-13.00	-42.31	-3.73	Peak
6	671.70	-59.86	-60.80	-13.00	-46.86	0.94	Peak
7 pp	1564.00	-49.13	-35.86	-40.00	-9.13	-13.27	Peak

*Item 7 was for GPS band.



Site : 966 Chamber 5
Condition : PART27 3m EIRP_RSE_1G~19G_3 VERTICAL
Brand/Model: PM23100
Remark : LTE Band13_10M_(QPSK 50,0)
Tested by : Kay Wu
Temprature : 25℃
Humidity : 65%
Plane : X

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1	45.66	-34.28	-32.52	-13.00	-21.28	-1.76	Peak
2	86.97	-36.28	-25.79	-13.00	-23.28	-10.49	Peak
3	206.58	-50.71	-43.07	-13.00	-37.71	-7.64	Peak
4	342.00	-54.76	-48.70	-13.00	-41.76	-6.06	Peak
5	414.80	-59.93	-54.68	-13.00	-46.93	-5.25	Peak
6	685.70	-60.67	-61.86	-13.00	-47.67	1.19	Peak
7 pp	1564.00	-52.95	-39.68	-40.00	-12.95	-13.27	Peak

*Item 7 was for GPS band.

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.

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: 886-3-3270892

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---