FCC TEST REPORT

(PART 24)

REPORT NO.:	RF131023C25-6
MODEL NO.:	0P6B120
FCC ID:	NM80P6B120
RECEIVED:	Oct. 23, 2013
TESTED:	Nov. 20, 2013 ~ Jan. 04, 2014
ISSUED:	Jan. 08, 2014

APPLICANT:	HTC Corporation
ADDRESS:	No. 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
RF131023C25-6	Original release	Jan. 08, 2014

1 CERTIFICATION

PRODUCT:	Smartphone
MODEL:	0P6B120
BRAND:	HTC
APPLICANT:	HTC Corporation
TESTED:	Nov. 20, 2013 ~ Jan. 04, 2014
TEST SAMPLE:	Production Unit
STANDARDS:	**FCC Part 24, Subpart E**

The above equipment (model: 0P6B120) 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. 08, 2014

Ivonne Wu / Supervisor

APPROVED BY : _____ **, DATE :** Jan. 08, 2014

Sam Chen / Senior Project Engineer

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 24 & Part 2			
STANDARD SECTION	**TEST TYPE**	**RESULT**	**REMARK**
2.1046 24.232	Equivalent isotropically radiated power	PASS	Meet the requirement of limit.
2.1055 24.235	Frequency Stability	PASS	Meet the requirement of limit.
2.1049 24.238(b)	Occupied Bandwidth	PASS	Meet the requirement of limit.
24.232(d)	Peak to average ratio	PASS	Meet the requirement of limit.
24.238(b)	Band Edge Measurements	PASS	Meet the requirement of limit.
2.1051 24.238	Conducted Spurious Emissions	PASS	Meet the requirement of limit.
2.1053 24.238	Radiated Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -12.03dB at 5626.80MHz.

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 ROHDE & SCHWARZ	ESCI	100744	Apr. 15, 2013	Apr. 14, 2014
Spectrum Analyzer ROHDE & SCHWARZ	FSU-26	101645	Jul. 16, 2013	Jul. 15, 2014
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Mar. 25, 2013	Mar. 24, 2014
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-969	Jan. 07, 2013	Jan. 06, 2014
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Jan. 07, 2013	Jan. 06, 2014
Loop Antenna	HFH2-Z2	100070	Jan. 31, 2012	Jan. 30, 2014
Preamplifier EMCI	EMC 330H	980112	Dec. 28, 2012	Dec. 26, 2014
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309219/4	Oct. 18, 2013	Oct. 17, 2014
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250130/4	Oct. 18, 2013	Oct. 17, 2014
RF signal cable Worken	RG-213	NA	Nov. 07, 2013	Nov. 06, 2014
Software BV ADT	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	Jul. 18, 2013	Jul. 17, 2014
JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA
Communications Tester-Wireless	E5515C	MY52102544	Sep. 05, 2012	Sep. 04, 2014
Radio Communication Analyzer	MT8820C	6201300640	Aug. 01, 2013	Jul. 31, 2014

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 10.

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 690701.

5. The IC Site Registration No. is IC 7450F-10.

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	Smartphone	
MODEL NO.	0P6B120	
POWER SUPPLY	5.0Vdc (adapter or host equipment) 3.8Vdc (battery)	
MODULATION TYPE	**GSM/GPRS**	GMSK
	EDGE	GMSK, 8PSK
	WCDMA	BPSK
	LTE Band 2	QPSK, 16QAM
FREQUENCY RANGE	**GSM/GPRS/EDGE**	1850.2MHz ~ 1909.8MHz
	WCDMA	1852.4MHz ~ 1907.6MHz
	LTE 2 (Channel Bandwidth: 1.4MHz)	1850.7MHz ~ 1909.3MHz
	LTE 2 (Channel Bandwidth: 3MHz)	1851.5MHz ~ 1908.5MHz
	LTE 2 (Channel Bandwidth: 5MHz)	1852.5MHz ~ 1907.5MHz
	LTE 2 (Channel Bandwidth: 10MHz)	1855MHz ~ 1905MHz
MAX. EIRP POWER	**GSM**	1455.46mW
	EDGE	1309.18mW
	WCDMA	146.22mW
	LTE 2 (Channel Bandwidth: 1.4MHz)	240.44mW
	LTE 2 (Channel Bandwidth: 3MHz)	239.88mW
	LTE 2 (Channel Bandwidth: 5MHz)	243.22mW
	LTE 2 (Channel Bandwidth: 10MHz)	231.74mW
EMISSION DESIGNATOR	**GSM**	250KGXW
	EDGE	248KG7W
	WCDMA	4M19F9W
	LTE 2 (Channel Bandwidth: 1.4MHz)	1M08G7D
	LTE 2 (Channel Bandwidth: 3MHz)	2M68G7D
	LTE 2 (Channel Bandwidth: 5MHz)	4M49G7D
	LTE 2 (Channel Bandwidth: 10MHz)	8M93W7D
ANTENNA TYPE	Fixed Internal Antenna	
I/O PORTS	Refer to users' manual	
DATA CABLE	Refer to NOTE as below	
ACCESSORY DEVICES	Refer to NOTE as below	

NOTE:

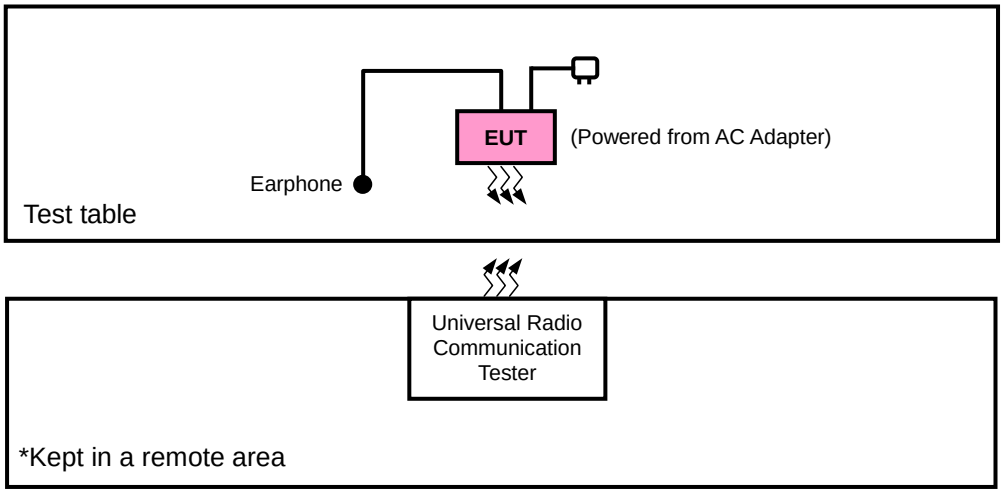
1. The EUT's accessories list refers to Ext. Pho.
2. There're 2 configurations for the EUT listed as below.

   Main Sample (A): Battery 1 + LCD Panel 1

   2nd Sample (B): Battery 2 + LCD Panel 2

   ✧Only the worst test data was presented in the report.
3. The above EUT information was 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



3.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units.

3.4 TEST ITEM AND TEST CONFIGURATION

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

EUT CONFIGURE MODE	DESCRIPTION
A	Main sample
B	2nd sample

GSM MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
A	EIRP	512 to 810	512, 661, 810	GSM, EDGE
B	EIRP	512 to 810	661	GSM
A	FREQUENCY STABILITY	512 to 810	661	GSM, EDGE
A	OCCUPIED BANDWIDTH	512 to 810	512, 661, 810	GSM, EDGE
A	PEAK TO AVERAGE RATIO	512 to 810	512, 661, 810	GSM, EDGE
A	BAND EDGE	512 to 810	512, 810	GSM, EDGE
A	CONDCUDETED EMISSION	512 to 810	661	GSM, EDGE
A	RADIATED EMISSION	512 to 810	661	GSM, EDGE

WCDMA MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
A	EIRP	9262 to 9538	9262, 9400, 9538	WCDMA
A	FREQUENCY STABILITY	9262 to 9538	9400	WCDMA
A	OCCUPIED BANDWIDTH	9262 to 9538	9262, 9400, 9538	WCDMA
A	PEAK TO AVERAGE RATIO	9262 to 9538	9262, 9400, 9538	WCDMA
A	BAND EDGE	9262 to 9538	9262, 9538	WCDMA
A	CONDCUDETED EMISSION	9262 to 9538	9400	WCDMA
A, B	RADIATED EMISSION	9262 to 9538	9400	WCDMA

LTE BAND 2 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	EIRP	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		18615 to 19185	18615, 18900, 19185	3MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		18625 to 19175	18625, 18900, 19175	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		18650 to 19150	18650, 18900, 19150	10MHz	QPSK, 16QAM	1 RB / 0 RB Offset
A	FREQUENCY STABILITY	18607 to 19193	18900	1.4MHz	QPSK	1 RB / 0 RB Offset
		18615 to 19185	18900	3MHz	QPSK	1 RB / 0 RB Offset
		18625 to 19175	18900	5MHz	QPSK	1 RB / 0 RB Offset
		18650 to 19150	18900	10MHz	QPSK	1 RB / 0 RB Offset
A	OCCUPIED BANDWIDTH	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK, 16QAM	6 RB / 0 RB Offset
		18615 to 19185	18615, 18900, 19185	3MHz	QPSK, 16QAM	15 RB / 0 RB Offset
		18625 to 19175	18625, 18900, 19175	5MHz	QPSK, 16QAM	25 RB / 0 RB Offset
		18650 to 19150	18650, 18900, 19150	10MHz	QPSK, 16QAM	50 RB / 0 RB Offset
A	PEAK TO AVERAGE RATIO	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		18615 to 19185	18615, 18900, 19185	3MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		18625 to 19175	18625, 18900, 19175	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		18650 to 19150	18650, 18900, 19150	10MHz	QPSK, 16QAM	1 RB / 0 RB Offset
A	BAND EDGE	18607 to 19193	18607	1.4MHz	QPSK	1 RB / 0 RB Offset
						6 RB / 0 RB Offset
			19193	1.4MHz	QPSK	1 RB / 5 RB Offset
						6 RB / 0 RB Offset
		18615 to 19185	18615	3MHz	QPSK	1 RB / 0 RB Offset
						15 RB / 0 RB Offset
			19185	3MHz	QPSK	1 RB / 14 RB Offset
						15 RB / 0 RB Offset
		18625 to 19175	18625	5MHz	QPSK	1 RB / 0 RB Offset
						25 RB / 0 RB Offset
			19175	5MHz	QPSK	1 RB / 24 RB Offset
						25 RB / 0 RB Offset
		18650 to 19150	18650	10MHz	QPSK	1 RB / 0 RB Offset
						50 RB / 0 RB Offset
			19150	10MHz	QPSK	1 RB / 49 RB Offset
						50 RB / 0 RB Offset
A	CONDCUDETED EMISSION	18607 to 19193	18900	1.4MHz	QPSK	1 RB / 0 RB Offset
		18615 to 19185	18900	3MHz	QPSK	1 RB / 0 RB Offset
		18625 to 19175	18900	5MHz	QPSK	1 RB / 0 RB Offset
		18650 to 19150	18900	10MHz	QPSK	1 RB / 0 RB Offset
A	RADIATED EMISSION	18607 to 19193	18900	1.4MHz	QPSK	1 RB / 0 RB Offset
		18615 to 19185	18900	3MHz	QPSK	1 RB / 0 RB Offset
		18625 to 19175	18900	5MHz	QPSK	1 RB / 0 RB Offset
		18650 to 19150	18900	10MHz	QPSK	1 RB / 0 RB Offset

Note: This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

TEST CONDITION:

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
EIRP	26deg. C, 58%RH	3.8Vdc	Howard Kao
FREQUENCY STABILITY	26deg. C, 58%RH	3.8Vdc	Howard Kao
OCCUPIED BANDWIDTH	26deg. C, 58%RH	3.8Vdc	Howard Kao
BAND EDGE	26deg. C, 58%RH	3.8Vdc	Howard Kao
CONDCUDETED EMISSION	26deg. C, 58%RH	3.8Vdc	Howard Kao
RADIATED EMISSION	25deg. C, 65%RH	120Vac, 60Hz	Anson Lin

3.5 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

3.6 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

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

Mobile and portable stations are limited to 2 watts EIRP

4.1.2 TEST PROCEDURES

EIRP MEASUREMENT:

a. The EUT was place on a turntable with 1.727 meter height in a fully anechoic chamber.
b. The EUT was set at 4.858 meters from the receiving antenna, which was mounted on the antenna tower.
c. The EUT was rotated along 2 axis: Theta-axis: 180 degree and Phi-axis: 360 degree, Step Size: 15 degree.
d. The height of the receiving antenna is fixed.
e. Taking the record of received power.
f. A dipole antenna was used in place of the EUT for pathloss calibration with a network analyzer.
g. The gain of the dipole antenna and the insertion loss of the connected RF cable were applied into the pathloss calibration.
h. The maximum ERP/EIRP was calculated with received power and pathloss.
i. ERP/EIRP = Ps + Et – Es + Gs = Ps + Rt – Rs + Gs

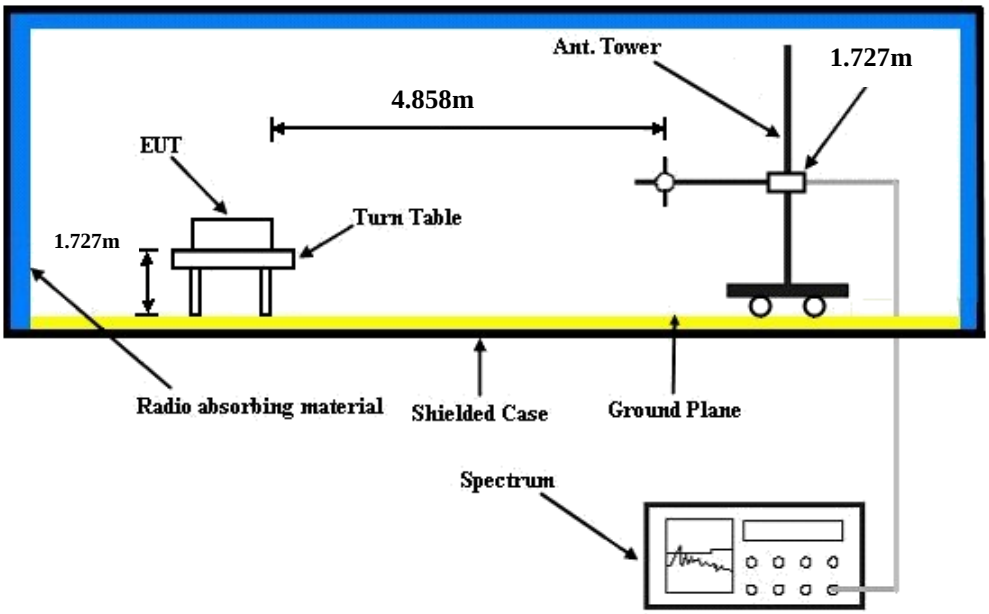
Ps (dBm) : Input power to subsitution antenna.
Gs (dBi or dBd) : Substitution antenna Gain.
Et = Rt + AF
Es = Rs + AF
AF (dB/m) : Receiver antenna factor
Rt: The highest received signal in spectrum analyzer for EUT.
Rs: The highest received signal in spectrum analyzer for substitution antenna.

CONDUCTED POWER MEASUREMENT:

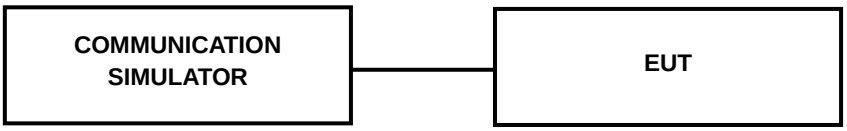
The EUT was set up for the maximum power with GSM, GPRS, EDGE & WCDMA link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

4.1.3 TEST SETUP

EIRP MEASUREMENT:



CONDUCTED POWER MEASUREMENT:



4.1.4 TEST RESULTS

CONDUCTED OUTPUT POWER (dBm)

Band	GSM1900		
Channel	512	661	810
Frequency (MHz)	1850.2	1880.0	1909.8
GSM (1 Uplink)	29.51	**29.59**	29.57
GPRS 8 (GMSK, 1 slot)	29.48	29.56	29.54
GPRS 10 (GMSK, 2 slot)	28.76	28.84	28.82
EDGE 8 (GMSK, 1 Uplink)	29.47	29.55	29.53
EDGE 10 (GMSK, 2 Uplink)	28.74	28.82	28.80
EDGE 8 (8PSK, 1 Uplink)	25.51	25.59	25.57
EDGE 10 (8PSK, 2 Uplink)	25.48	25.56	25.54

Band	WCDMA II		
Channel	9262	9400	9538
Frequency (MHz)	1852.4	1880.0	1907.6
RMC 12.2K	22.35	**22.55**	22.44
HSDPA Subtest-1	21.40	21.60	21.49
HSDPA Subtest-2	19.76	19.96	19.85
HSDPA Subtest-3	18.35	18.55	18.44
HSDPA Subtest-4	18.21	18.41	18.30
HSUPA Subtest-1	21.16	21.36	21.25
HSUPA Subtest-2	19.57	19.77	19.66
HSUPA Subtest-3	20.36	20.56	20.45
HSUPA Subtest-4	18.93	19.13	19.02
HSUPA Subtest-5	21.58	21.78	21.67

Band / BW	Modulation	RB Size	RB Offset	Low CH 18607 Frequency 1850.7 MHz	Mid CH 18900 Frequency 1880.0 MHz	High CH 19193 Frequency 1909.3 MHz	3PGG MPR (dB)
2 / 1.4M	QPSK	1	0	21.75	21.73	21.76	0
		1	2	21.80	21.79	21.83	0
		1	5	21.65	21.62	21.87	0
		3	0	21.54	21.51	21.76	0
		3	1	21.43	21.40	21.65	0
		3	3	21.82	21.79	21.94	0
		6	0	20.83	20.78	20.86	1
	16QAM	1	0	20.81	20.79	20.82	1
		1	2	20.86	20.85	20.89	1
		1	5	20.71	20.68	20.93	1
		3	0	20.60	20.57	20.82	1
		3	1	20.49	20.46	20.71	1
		3	3	20.38	20.35	20.60	1
		6	0	19.89	19.84	19.92	2

Band / BW	Modulation	RB Size	RB Offset	Low CH 18615 Frequency 1851.5 MHz	Mid CH 18900 Frequency 1880.0 MHz	High CH 19185 Frequency 1908.5 MHz	3PGG MPR (dB)
2 / 3M	QPSK	1	0	21.84	21.82	21.85	0
		1	7	21.89	21.88	21.92	0
		1	14	21.74	21.71	21.96	0
		8	0	20.94	20.86	20.97	1
		8	3	20.93	20.85	20.97	1
		8	7	20.69	20.66	20.88	1
		15	0	20.92	20.87	20.95	1
	16QAM	1	0	20.83	20.81	20.84	1
		1	7	20.88	20.87	20.91	1
		1	14	20.73	20.70	20.95	1
		8	0	19.93	19.85	19.96	2
		8	3	19.92	19.84	19.96	2
		8	7	19.68	19.65	19.87	2
		15	0	19.91	19.86	19.94	2

Band / BW	Modulation	RB Size	RB Offset	Low CH 18625 Frequency 1852.5 MHz	Mid CH 18900 Frequency 1880.0 MHz	High CH 19175 Frequency 1907.5 MHz	3PGG MPR (dB)
2 / 5M	QPSK	1	0	21.87	21.85	21.88	0
		1	12	21.92	21.91	21.95	0
		1	24	21.77	21.74	21.99	0
		12	0	20.97	20.89	21.00	1
		12	6	20.96	20.88	21.00	1
		12	13	20.69	20.91	20.75	1
		25	0	20.95	20.90	20.98	1
	16QAM	1	0	20.86	20.84	20.87	1
		1	12	20.91	20.90	20.94	1
		1	24	20.76	20.73	20.98	1
		12	0	19.96	19.88	19.99	2
		12	6	19.95	19.87	19.99	2
		12	13	19.71	19.68	19.90	2
		25	0	19.94	19.89	19.97	2

Band / BW	Modulation	RB Size	RB Offset	Low CH 18650 Frequency 1855.0 MHz	Mid CH 18900 Frequency 1880.0 MHz	High CH 19150 Frequency 1905.0 MHz	3PGG MPR (dB)
2 / 10M	QPSK	1	0	21.88	21.86	21.89	0
		1	24	21.93	21.92	21.96	0
		1	49	21.78	21.75	22.00	0
		25	0	20.95	20.87	20.98	1
		25	12	20.92	20.84	20.96	1
		25	25	20.73	20.70	20.92	1
		50	0	20.96	20.91	20.99	1
	16QAM	1	0	20.87	20.85	20.88	1
		1	24	20.92	20.91	20.95	1
		1	49	20.77	20.74	20.99	1
		25	0	19.97	19.89	20.00	2
		25	12	19.96	19.88	20.00	2
		25	25	19.72	19.69	19.91	2
		50	0	19.95	19.90	19.98	2

EIRP POWER (dBm)

TEST MODE A

GSM

GSM Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	EIRP (dBm)	EIRP (mW)
1850.2	-23.02	-51.88	0.00	1.96	30.82	1207.81
1880.0	-23.56	-52.99	0.00	2.00	31.43	1389.95
1909.8	-24.63	-54.28	0.00	1.98	31.63	1455.46
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	EIRP (dBm)	EIRP (mW)
1850.2	-25.21	-52.13	0.00	1.96	28.88	772.68
1880.0	-25.70	-53.17	0.00	2.00	29.47	885.12
1909.8	-26.90	-54.13	0.00	1.98	29.21	833.68

EDGE

EDGE Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	EIRP (dBm)	EIRP (mW)
1850.2	-23.49	-51.88	0.00	1.96	30.35	1083.93
1880.0	-24.20	-52.99	0.00	2.00	30.79	1199.50
1909.8	-25.09	-54.28	0.00	1.98	31.17	1309.18
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	EIRP (dBm)	EIRP (mW)
1850.2	-25.22	-52.13	0.00	1.96	28.87	770.90
1880.0	-25.95	-53.17	0.00	2.00	29.22	835.60
1909.8	-26.66	-54.13	0.00	1.98	29.45	881.05

WCDMA

WCDMA Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBd)**	**EIRP (dBm)**	**EIRP (mW)**
1852.4	-32.19	-51.88	0.00	1.96	21.65	146.22
1880.0	-33.44	-52.99	0.00	2.00	21.55	142.89
1907.6	-34.61	-54.28	0.00	1.98	21.65	146.22
Vertical Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBd)**	**EIRP (dBm)**	**EIRP (mW)**
1852.4	-32.96	-52.13	0.00	1.96	21.13	129.72
1880.0	-34.09	-53.17	0.00	2.00	21.08	128.23
1907.6	-34.77	-54.13	0.00	1.98	21.34	136.14

LTE BAND 2

CHANNEL BANDWIDTH: 1.4MHz QPSK

LTE Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	EIRP (dBm)	EIRP (mW)
1850.7	-30.49	-51.88	0.00	1.96	23.35	216.27
1880.0	-31.75	-52.99	0.00	2.00	23.24	210.86
1909.3	-32.45	-54.28	0.00	1.98	23.81	240.44
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	EIRP (dBm)	EIRP (mW)
1850.7	-31.47	-52.13	0.00	1.96	22.62	182.81
1880.0	-32.26	-53.17	0.00	2.00	22.91	195.43
1909.3	-32.79	-54.13	0.00	1.98	23.32	214.78

CHANNEL BANDWIDTH: 1.4MHz 16QAM

LTE Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	EIRP (dBm)	EIRP (mW)
1850.7	-30.69	-51.88	0.00	1.96	23.15	206.54
1880.0	-31.88	-52.99	0.00	2.00	23.11	204.64
1909.3	-32.63	-54.28	0.00	1.98	23.63	230.67
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	EIRP (dBm)	EIRP (mW)
1850.7	-31.23	-52.13	0.00	1.96	22.86	193.20
1880.0	-32.52	-53.17	0.00	2.00	22.65	184.08
1909.3	-32.98	-54.13	0.00	1.98	23.13	205.59

CHANNEL BANDWIDTH: 3MHz QPSK

LTE Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBd)**	**EIRP (dBm)**	**EIRP (mW)**
1851.5	-30.45	-51.88	0.00	1.96	23.39	218.27
1880.0	-31.84	-52.99	0.00	2.00	23.15	206.54
1908.5	-32.46	-54.28	0.00	1.98	23.80	239.88
Vertical Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBd)**	**EIRP (dBm)**	**EIRP (mW)**
1851.5	-31.44	-52.13	0.00	1.96	22.65	184.08
1880.0	-32.43	-53.17	0.00	2.00	22.74	187.93
1908.5	-32.90	-54.13	0.00	1.98	23.21	209.41

CHANNEL BANDWIDTH: 3MHz 16QAM

LTE Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBd)**	**EIRP (dBm)**	**EIRP (mW)**
1851.5	-30.55	-51.88	0.00	1.96	23.29	213.30
1880.0	-31.78	-52.99	0.00	2.00	23.21	209.41
1908.5	-32.66	-54.28	0.00	1.98	23.60	229.09
Vertical Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBd)**	**EIRP (dBm)**	**EIRP (mW)**
1851.5	-31.61	-52.13	0.00	1.96	22.48	177.01
1880.0	-32.56	-53.17	0.00	2.00	22.61	182.39
1908.5	-33.05	-54.13	0.00	1.98	23.06	202.30

CHANNEL BANDWIDTH: 5MHz QPSK

LTE Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBd)**	**EIRP (dBm)**	**EIRP (mW)**
1852.5	-30.51	-51.88	0.00	1.96	23.33	215.28
1880.0	-31.81	-52.99	0.00	2.00	23.18	207.97
1907.5	-32.40	-54.28	0.00	1.98	23.86	243.22
Vertical Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBd)**	**EIRP (dBm)**	**EIRP (mW)**
1852.5	-31.60	-52.13	0.00	1.96	22.49	177.42
1880.0	-32.49	-53.17	0.00	2.00	22.68	185.35
1907.5	-32.75	-54.13	0.00	1.98	23.36	216.77

CHANNEL BANDWIDTH: 5MHz 16QAM

LTE Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBd)**	**EIRP (dBm)**	**EIRP (mW)**
1852.5	-30.66	-51.88	0.00	1.96	23.18	207.97
1880.0	-32.08	-52.99	0.00	2.00	22.91	195.43
1907.5	-32.69	-54.28	0.00	1.98	23.57	227.51
Vertical Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBd)**	**EIRP (dBm)**	**EIRP (mW)**
1852.5	-31.81	-52.13	0.00	1.96	22.28	169.04
1880.0	-32.99	-53.17	0.00	2.00	22.18	165.20
1907.5	-32.81	-54.13	0.00	1.98	23.30	213.80

CHANNEL BANDWIDTH: 10MHz QPSK

LTE Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	EIRP (dBm)	EIRP (mW)
1855.0	-30.48	-51.88	0.00	1.96	23.36	216.77
1880.0	-31.88	-52.99	0.00	2.00	23.11	204.64
1905.0	-32.61	-54.28	0.00	1.98	23.65	231.74
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	EIRP (dBm)	EIRP (mW)
1855.0	-31.54	-52.13	0.00	1.96	22.55	179.89
1880.0	-32.67	-53.17	0.00	2.00	22.50	177.83
1905.0	-32.85	-54.13	0.00	1.98	23.26	211.84

CHANNEL BANDWIDTH: 10MHz 16QAM

LTE Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	EIRP (dBm)	EIRP (mW)
1855.0	-30.54	-51.88	0.00	1.96	23.30	213.80
1880.0	-31.93	-52.99	0.00	2.00	23.06	202.30
1905.0	-32.76	-54.28	0.00	1.98	23.50	223.87
Vertical Polarization						
Frequency (MHz)	Rt (dBm)	Rs (dBm)	Ps (dBm)	Gs (dBd)	EIRP (dBm)	EIRP (mW)
1855.0	-31.54	-52.13	0.00	1.96	22.55	179.89
1880.0	-32.64	-53.17	0.00	2.00	22.53	179.06
1905.0	-32.87	-54.13	0.00	1.98	23.24	210.86

TEST MODE B

GSM

GSM Radiated Power EIRP						
Horizontal Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBd)**	**EIRP (dBm)**	**EIRP (mW)**
1880.0	-17.77	-47.97	0.00	-1.08	29.12	816.58
Vertical Polarization						
Frequency (MHz)	**Rt (dBm)**	**Rs (dBm)**	**Ps (dBm)**	**Gs (dBd)**	**EIRP (dBm)**	**EIRP (mW)**
1880.0	-21.46	-48.01	0.00	-0.93	25.62	364.75

4.2 FREQUENCY STABILITY MEASUREMENT

4.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

4.2.2 TEST PROCEDURE

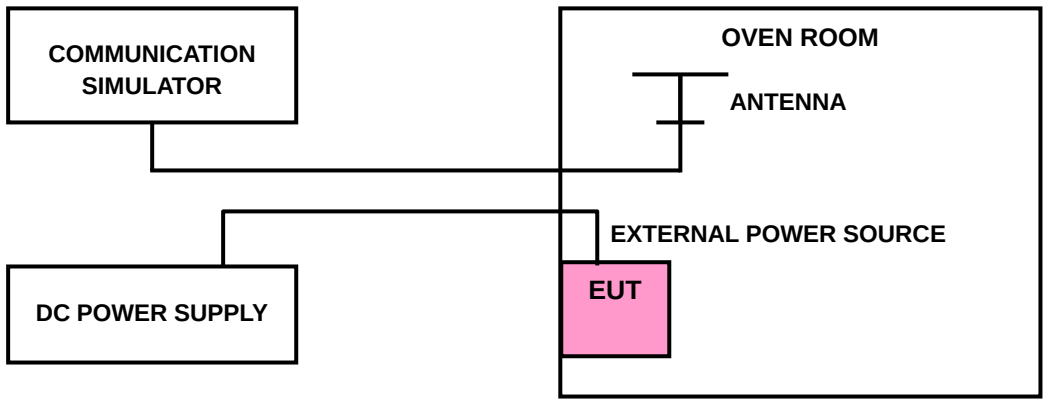
a. Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.

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

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

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

4.2.3 TEST SETUP



4.2.4 TEST RESULTS

FREQUENCY ERROR vs. VOLTAGE

VOLTAGE (Volts)	FREQUENCY ERROR (ppm)							LIMIT (ppm)
	GSM	EDGE	WCDMA	LTE Band 2				
				1.4MHz	3MHz	5MHz	10MHz	
3.8	0.028	0.032	0.003	-0.007	-0.011	-0.012	-0.004	2.5
3.6	0.028	0.033	0.003	-0.014	-0.005	-0.013	-0.005	2.5
4.35	0.029	0.032	0.002	-0.016	-0.006	-0.018	-0.006	2.5

NOTE: The applicant defined the normal working voltage of the battery is from 3.6Vdc to 4.35Vdc.

FREQUENCY ERROR vs. TEMPERATURE

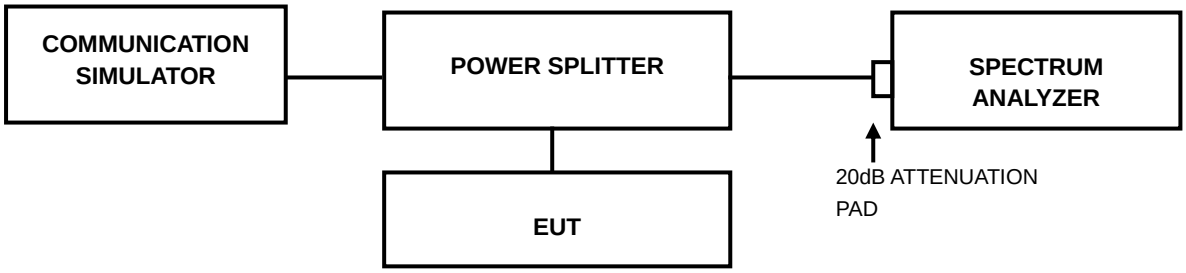
TEMP. (℃)	FREQUENCY ERROR (ppm)							LIMIT (ppm)
	GSM	EDGE	WCDMA	LTE Band 2				
				1.4MHz	3MHz	5MHz	10MHz	
-30	0.028	0.031	0.003	-0.013	-0.016	-0.014	-0.004	2.5
-20	0.028	0.031	0.004	-0.006	-0.019	-0.012	-0.002	2.5
-10	0.031	0.031	0.003	-0.009	-0.013	-0.019	-0.004	2.5
0	0.028	0.030	0.003	-0.008	-0.015	-0.013	-0.006	2.5
10	0.030	0.032	0.002	0.015	-0.010	-0.014	-0.005	2.5
20	0.029	0.034	0.003	-0.004	-0.015	-0.012	-0.007	2.5
30	0.026	0.032	0.004	-0.004	-0.016	-0.016	-0.004	2.5
40	0.028	0.029	0.003	-0.019	-0.010	-0.013	-0.007	2.5
50	0.030	0.032	0.003	-0.010	-0.017	-0.012	-0.002	2.5

4.3 OCCUPIED BANDWIDTH MEASUREMENT

4.3.1 TEST PROCEDURES

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

4.3.2 TEST SETUP

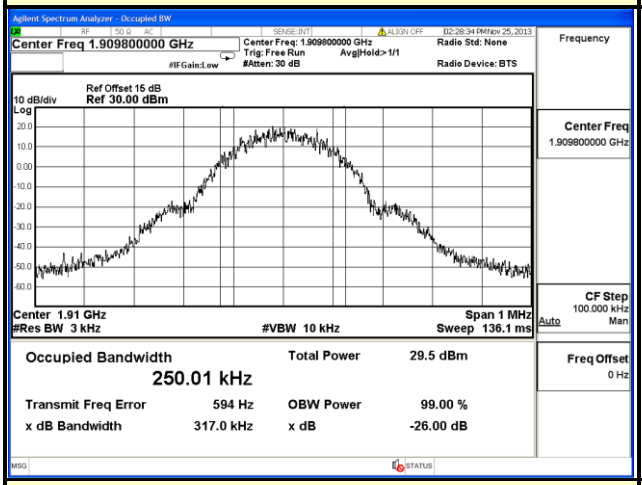


4.3.3 TEST RESULTS

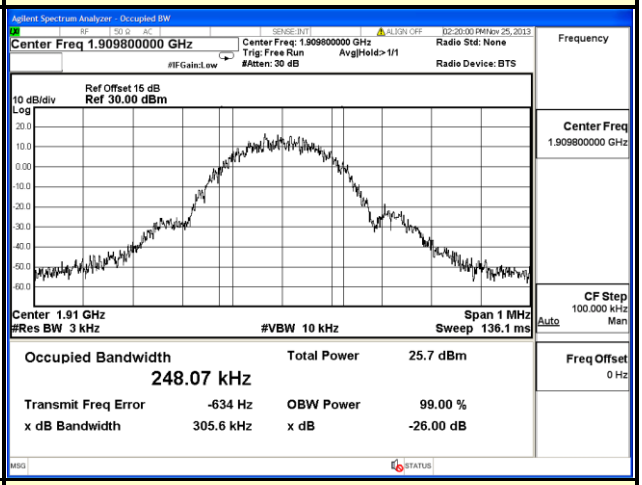
CHANNEL	FREQUENCY	99% OCCUPIED BANDWIDTH (kHz)		CHANNEL	FREQUENCY	99% OCCUPIED BANDWIDTH (MHz)
		GSM	EDGE			WCDMA
512	1850.2	245.53	239.16	9262	1852.4	4.1842
661	1880.0	245.09	244.09	9400	1880.0	4.1884
810	1909.8	250.01	248.07	9538	1907.6	4.1826

SPECTRUM PLOT OF WORST VALUE

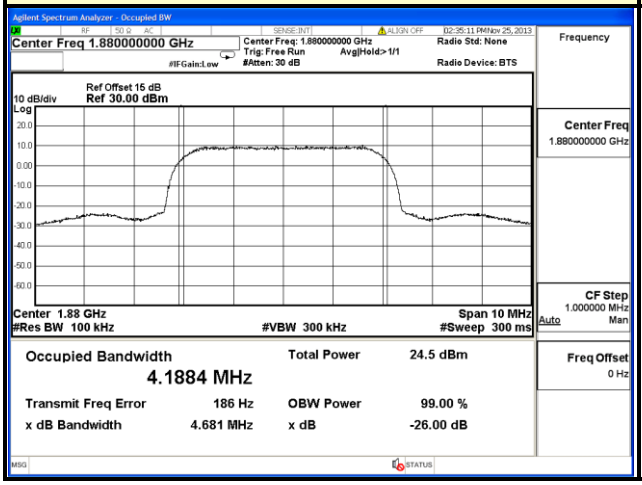
GSM



EDGE



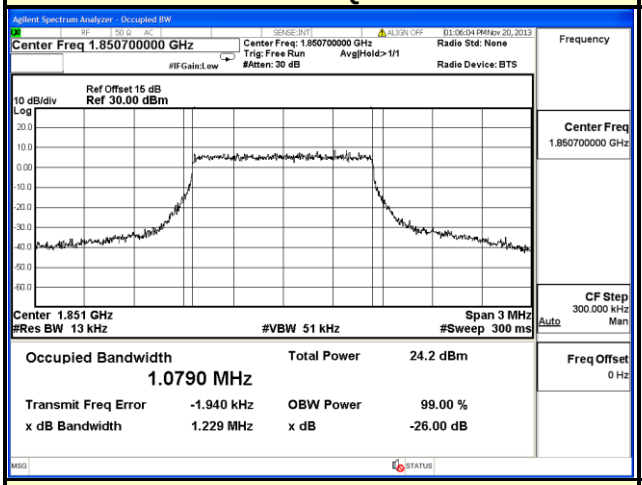
WCDMA



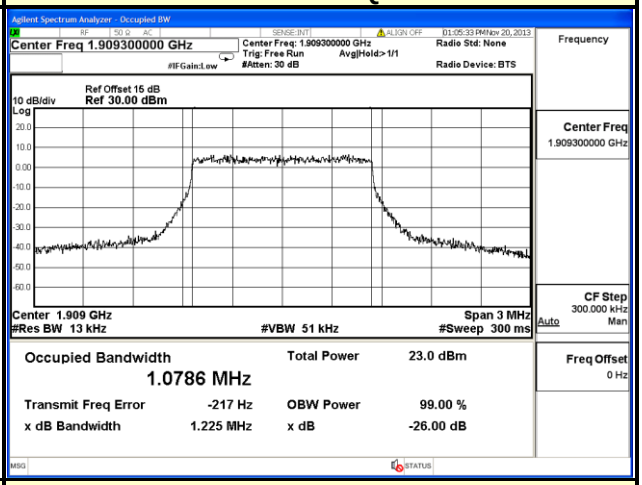
LTE BAND 2							
CHANNEL BANDWIDTH: 1.4MHz				CHANNEL BANDWIDTH: 3MHz			
CHANNEL	FREQUENCY	99% OCCUPIED BANDWIDTH (MHz)		CHANNEL	FREQUENCY	99% OCCUPIED BANDWIDTH (MHz)	
		QPSK	16QAM			QPSK	16QAM
18607	1850.7	1.0790	1.0774	18615	1851.5	2.6813	2.6809
18900	1880.0	1.0780	1.0756	18900	1880.0	2.6796	2.6800
19193	1909.3	1.0788	1.0786	19185	1908.5	2.6810	2.6782

SPECTRUM PLOT OF WORST VALUE

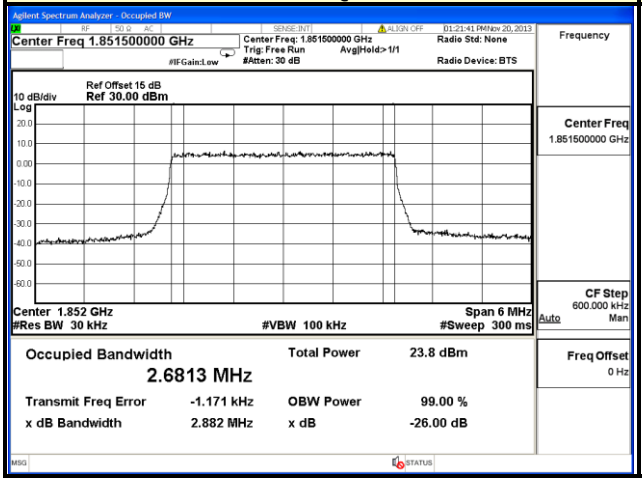
1.4MHz / QPSK



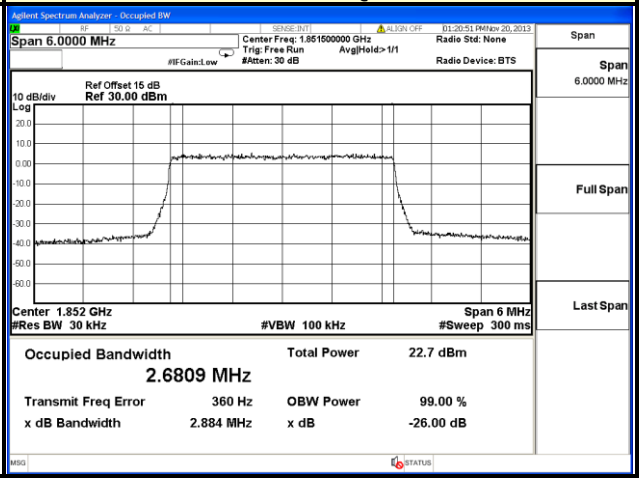
1.4MHz / 16QAM



3MHz / QPSK



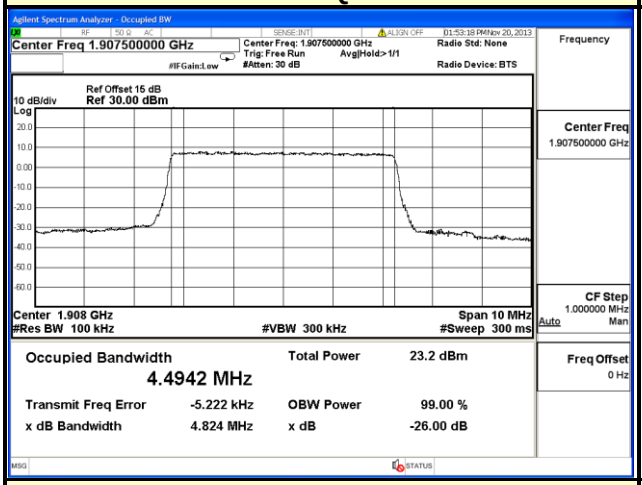
3MHz / 16QAM



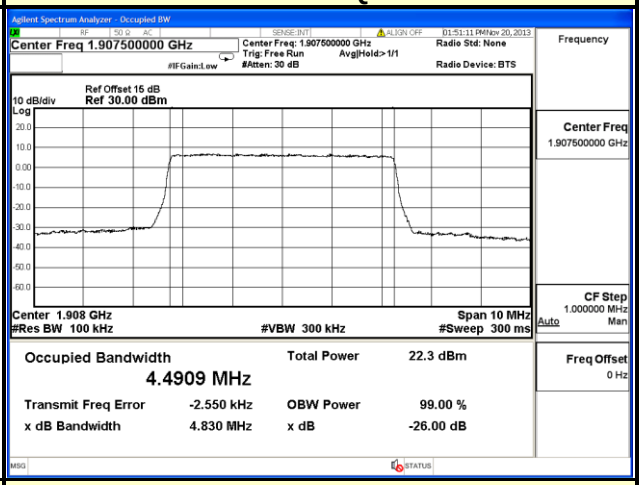
LTE BAND 2							
CHANNEL BANDWIDTH: 5MHz				CHANNEL BANDWIDTH: 10MHz			
CHANNEL	FREQUENCY	99% OCCUPIED BANDWIDTH (MHz)		CHANNEL	FREQUENCY	99% OCCUPIED BANDWIDTH (MHz)	
		QPSK	16QAM			QPSK	16QAM
18625	1852.5	4.4925	4.4896	18650	1855.0	8.9195	8.9255
18900	1880.0	4.4940	4.4907	18900	1880.0	8.9181	8.9237
19175	1907.5	4.4942	4.4909	19150	1905.0	8.9147	8.9138

SPECTRUM PLOT OF WORST VALUE

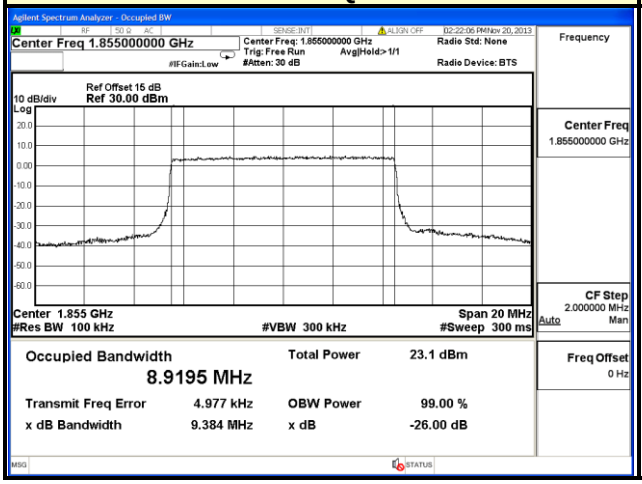
5MHz / QPSK



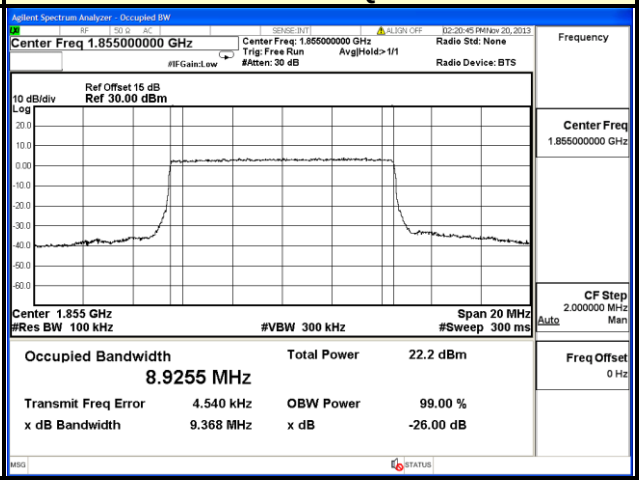
5MHz / 16QAM



10MHz / QPSK



10MHz / 16QAM

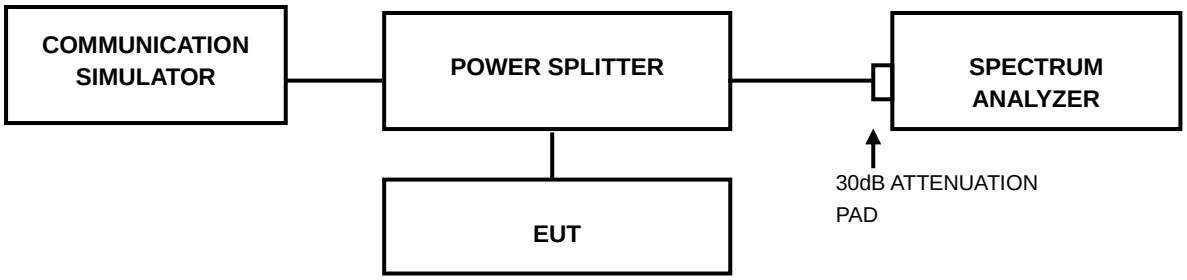


4.4 PEAK TO AVERAGE RATIO

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

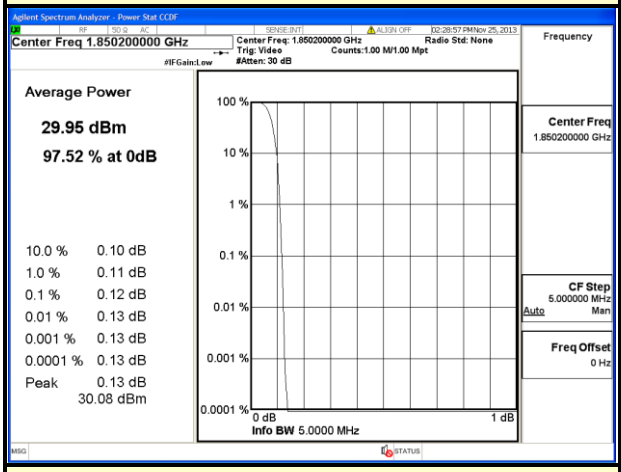
1. Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Record the maximum PAPR level associated with a probability of 0.1%.

4.4.4 TEST RESULTS

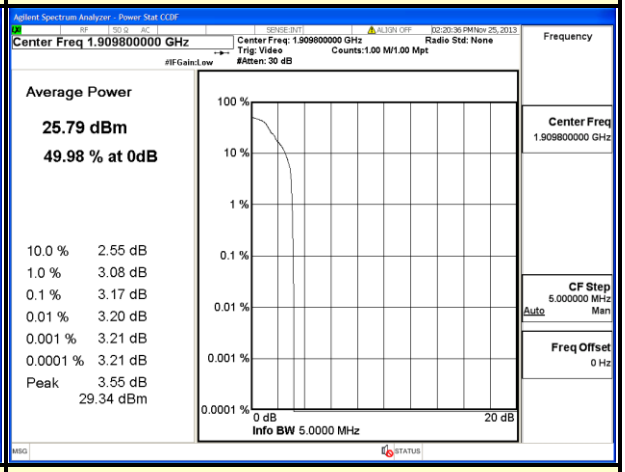
CHANNEL	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)		CHANNEL	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
		GSM	EDGE			WCDMA
512	1850.2	0.12	3.17	9262	1852.4	2.80
661	1880.0	0.11	3.14	9400	1880.0	3.04
810	1909.8	0.11	3.17	9538	1907.6	3.11

SPECTRUM PLOT OF WORST VALUE

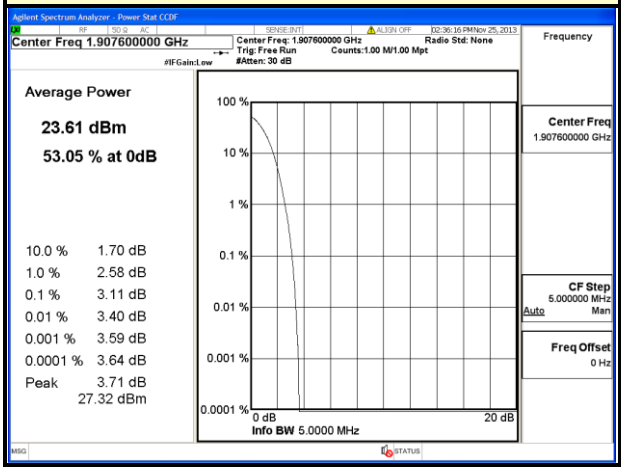
GSM



EDGE



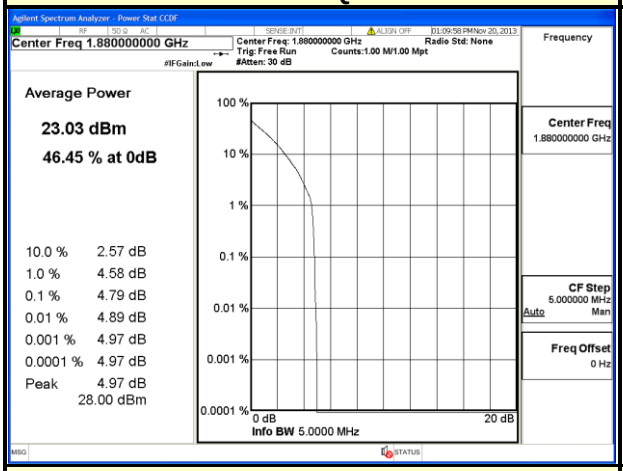
WCDMA



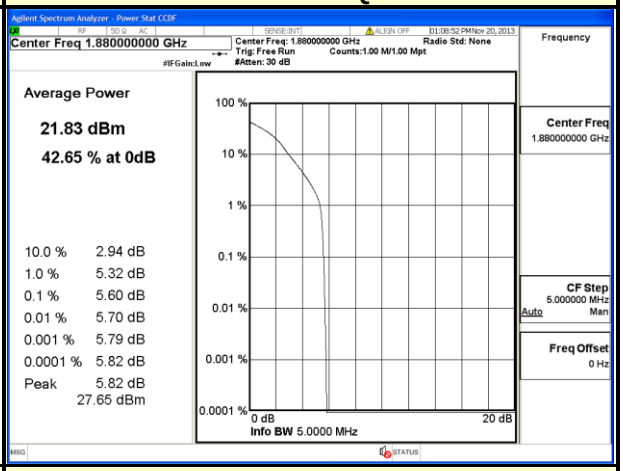
LTE BAND 2							
CHANNEL BANDWIDTH: 1.4MHz				CHANNEL BANDWIDTH: 3MHz			
CHANNEL	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)		CHANNEL	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)	
		QPSK	16QAM			QPSK	16QAM
18607	1850.7	4.61	5.55	18615	1851.5	4.53	5.79
18900	1880.0	4.79	5.60	18900	1880.0	4.81	5.63
19193	1909.3	3.80	5.08	19185	1908.5	4.21	5.59

SPECTRUM PLOT OF WORST VALUE

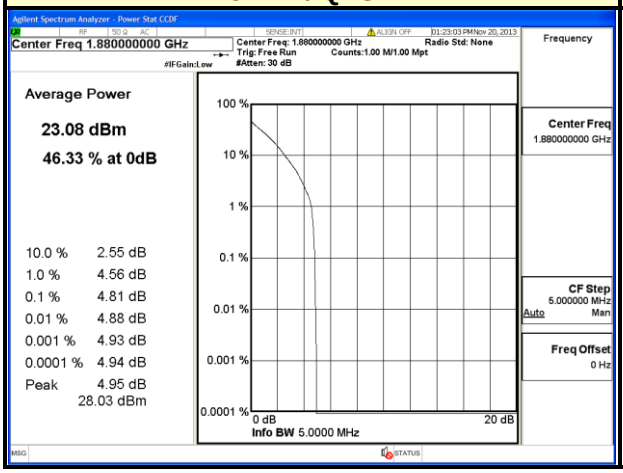
1.4MHz / QPSK



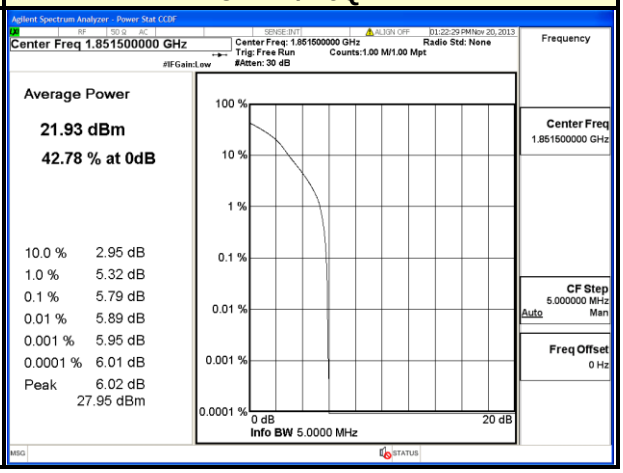
1.4MHz / 16QAM



3MHz / QPSK



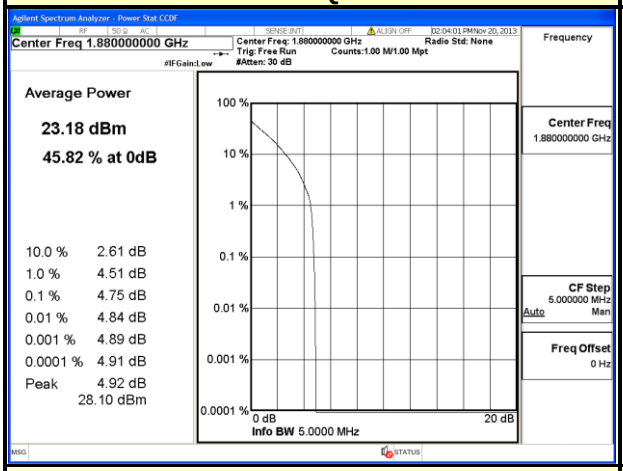
3MHz / 16QAM



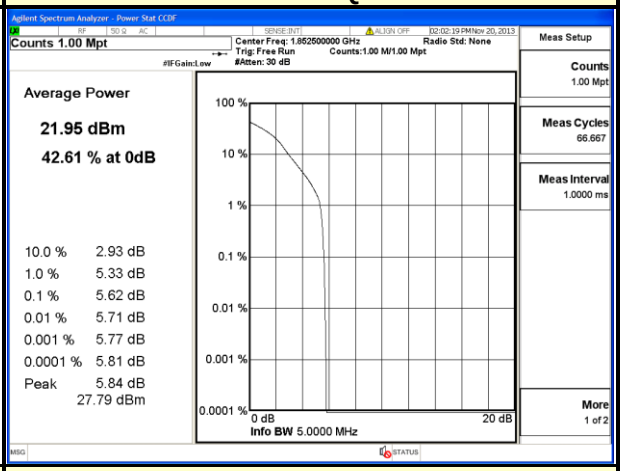
LTE BAND 2							
CHANNEL BANDWIDTH: 5MHz				CHANNEL BANDWIDTH: 10MHz			
CHANNEL	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)		CHANNEL	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)	
		QPSK	16QAM			QPSK	16QAM
18625	1852.5	4.46	5.62	18650	1855	4.58	5.58
18900	1880	4.75	5.49	18900	1880	4.74	5.59
19175	1907.5	4.74	5.52	19150	1905	4.86	5.56

SPECTRUM PLOT OF WORST VALUE

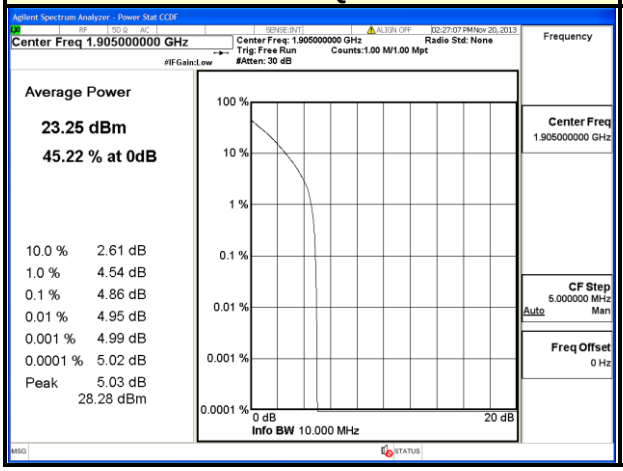
5MHz / QPSK



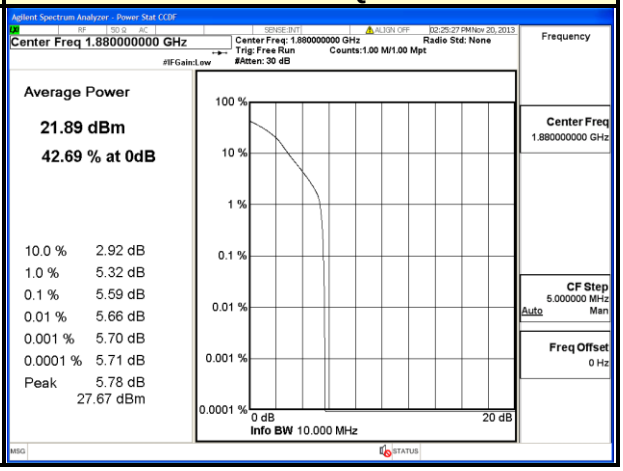
5MHz / 16QAM



10MHz / QPSK



10MHz / 16QAM

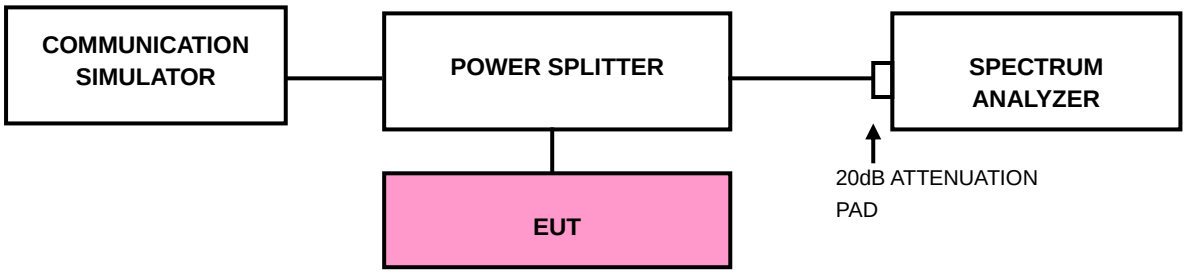


4.5 BAND EDGE MEASUREMENT

4.5.1 LIMITS OF BAND EDGE MEASUREMENT

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

4.5.2 TEST SETUP



4.5.3 TEST PROCEDURES

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

b. The center frequency of spectrum is the band edge frequency and span is 1 MHz. RB of the spectrum is 3kHz and VB of the spectrum is 10kHz (GSM/GPRS/EDGE).

c. The center frequency of spectrum is the band edge frequency and span is 5MHz. RB of the spectrum is 100kHz and VB of the spectrum is 300kHz (WCDMA).

d. The center frequency of spectrum is the band edge frequency and span is 1MHz. RB of the spectrum is 13kHz and VB of the spectrum is 51kHz (LTE Channel Bandwidth 1.4MHz).

e. The center frequency of spectrum is the band edge frequency and span is 1MHz. RB of the spectrum is 30kHz and VB of the spectrum is 100kHz (LTE Channel Bandwidth 3MHz).

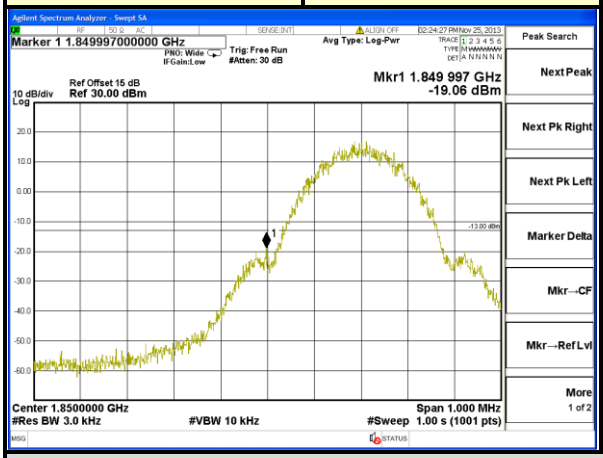
f. The center frequency of spectrum is the band edge frequency and span is 1MHz. RB of the spectrum is 100kHz and VB of the spectrum is 300kHz (LTE Channel Bandwidth 5MHz and 10MHz).

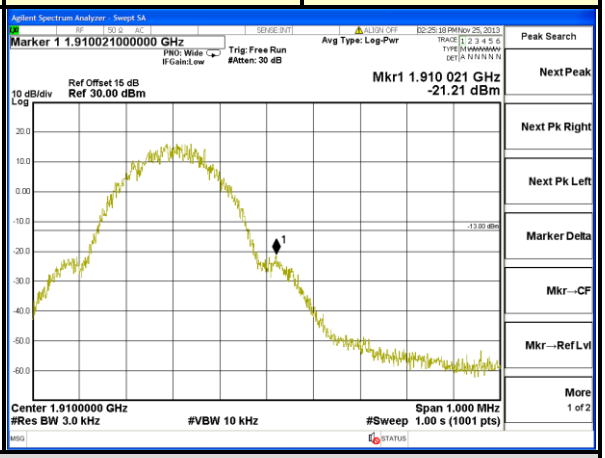
g. Record the max trace plot into the test report.

4.5.4 TEST RESULTS

GSM

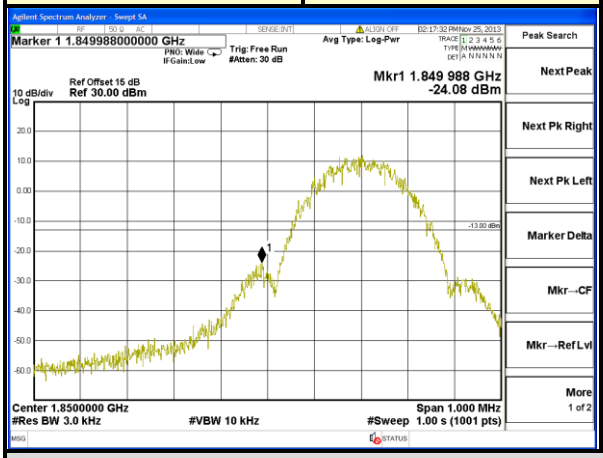
CHANNEL	512	CHANNEL	810

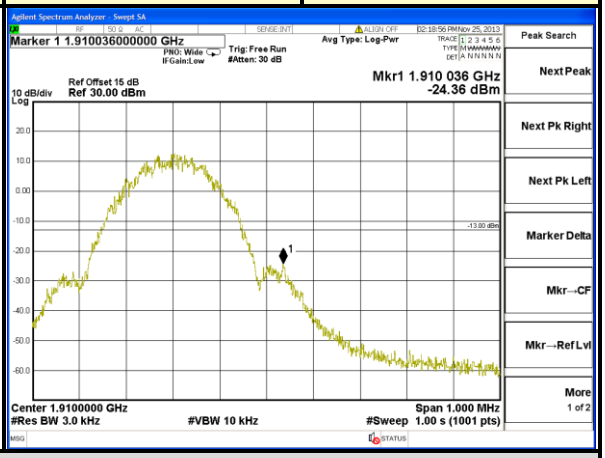




EDGE

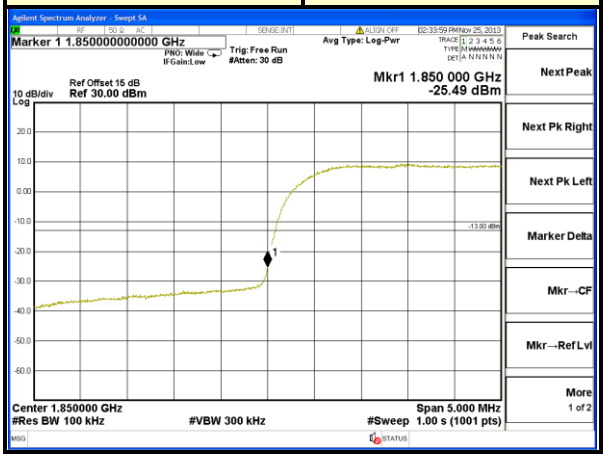
CHANNEL	512	CHANNEL	810

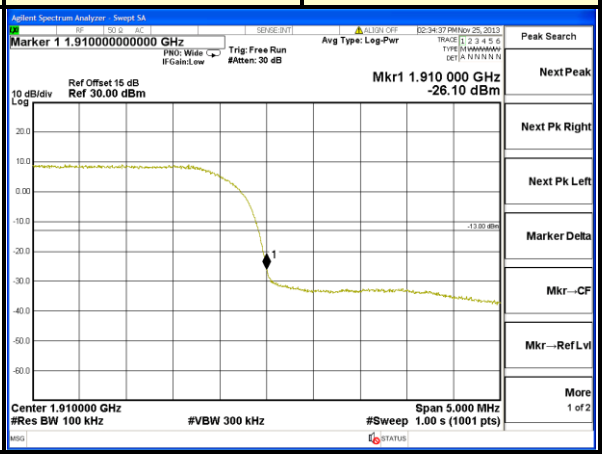




WCDMA

CHANNEL	9262	CHANNEL	9538



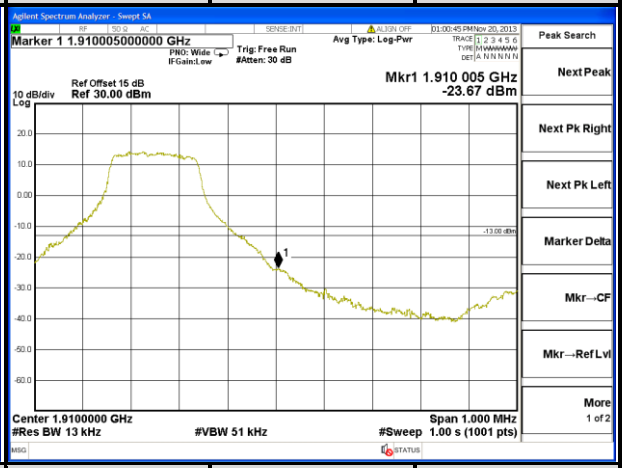


LTE Band 2

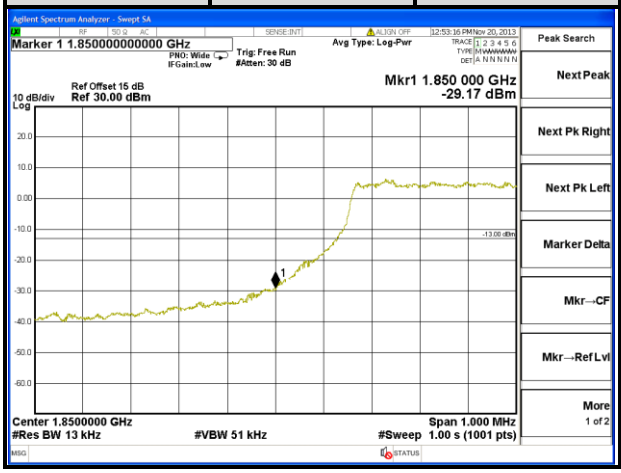
Channel Bandwidth: 1.4MHz

CHANNEL	18607	1 RB

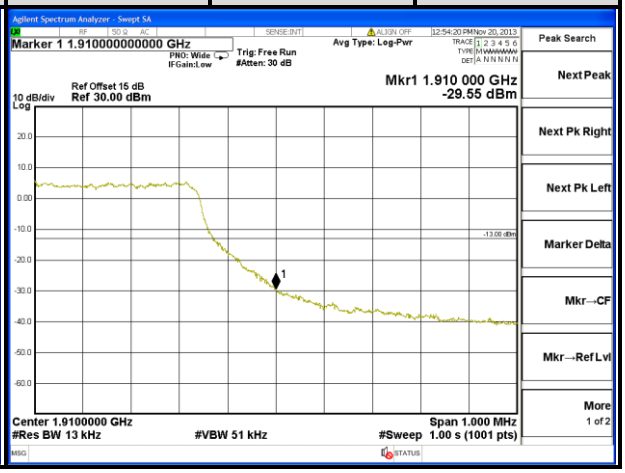
CHANNEL	19193	1 RB



CHANNEL	18607	6 RB



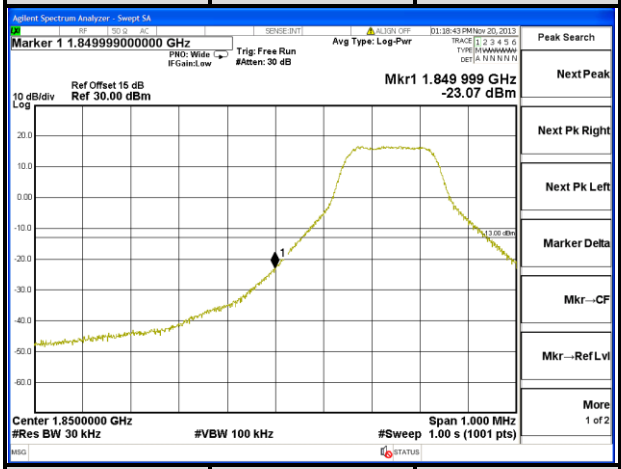
CHANNEL	19193	6 RB

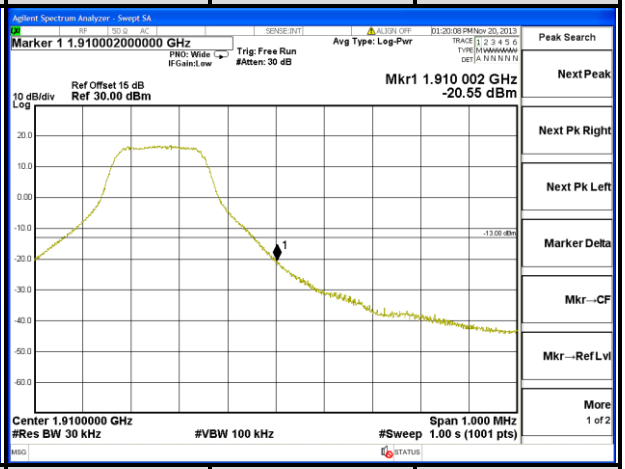


LTE Band 2

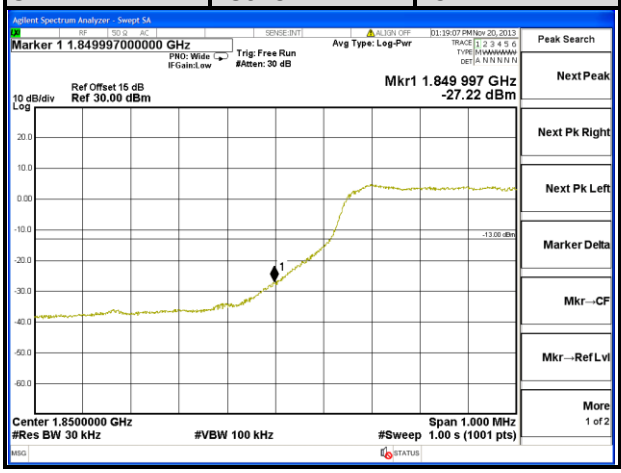
Channel Bandwidth: 3MHz

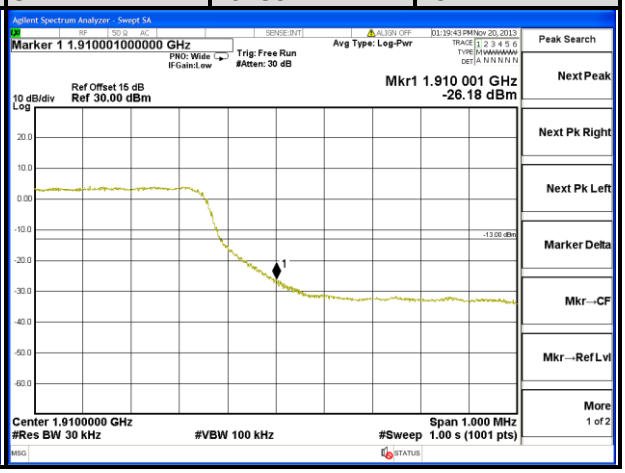
CHANNEL	18615	1 RB	CHANNEL	19185	1 RB





CHANNEL	18615	15 RB	CHANNEL	19185	15 RB

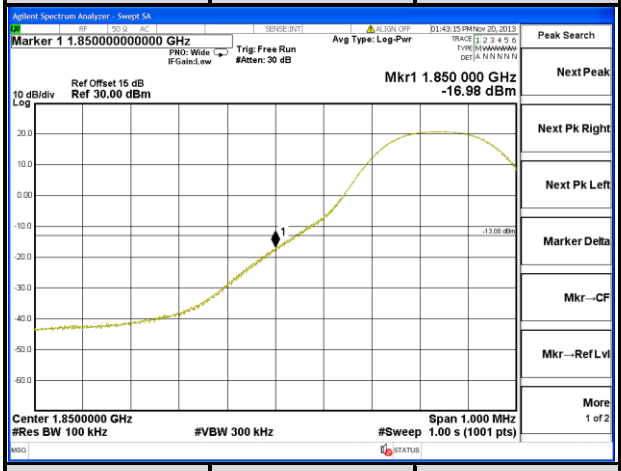


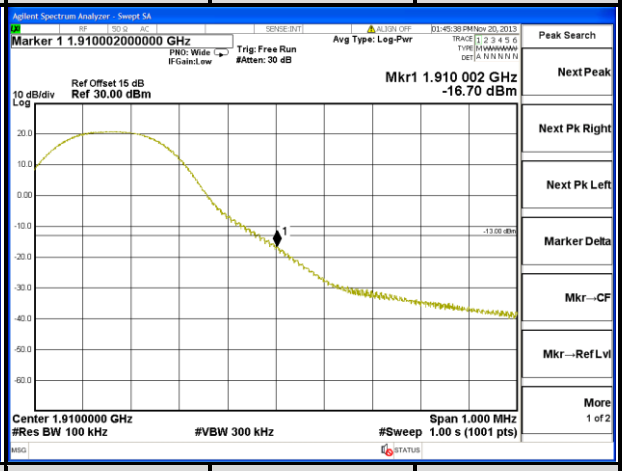


LTE Band 2

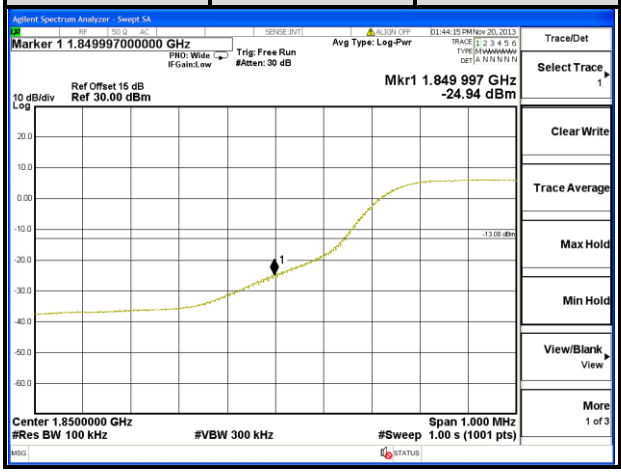
Channel Bandwidth: 5MHz

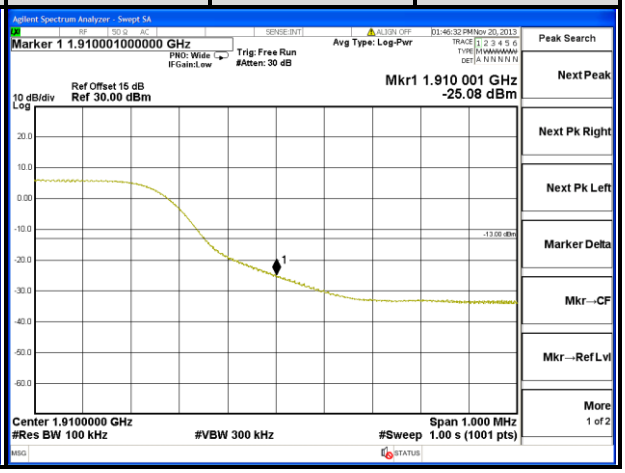
CHANNEL	18625	1 RB	CHANNEL	19175	1 RB

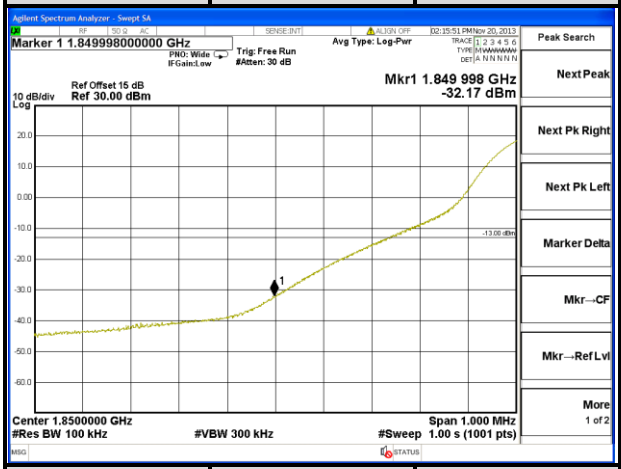
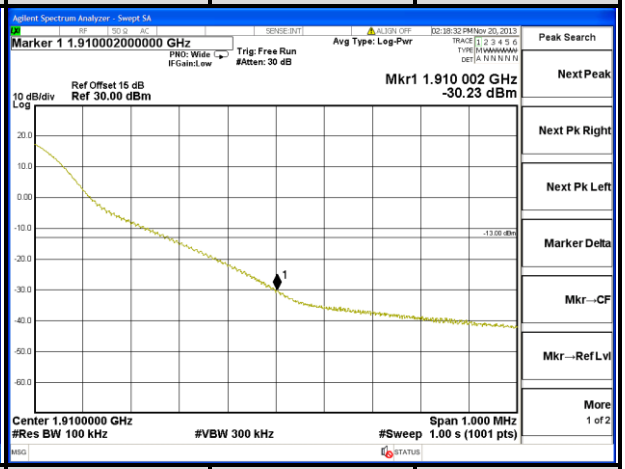
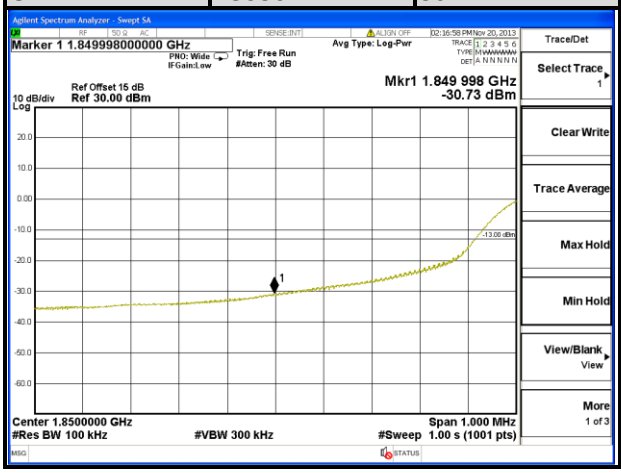
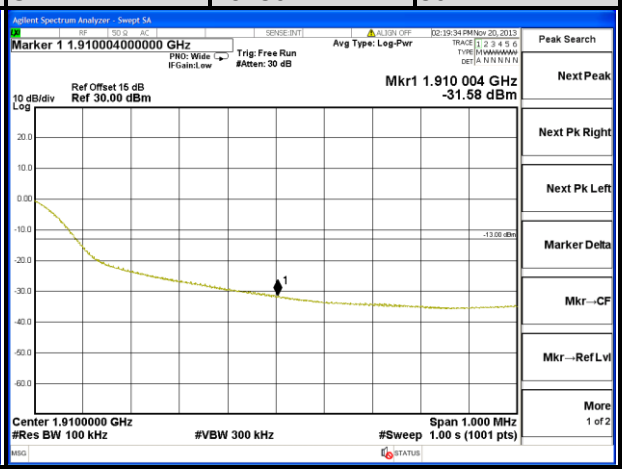




CHANNEL	18625	25 RB	CHANNEL	19175	25 RB





LTE Band 2					
Channel Bandwidth: 10MHz					
CHANNEL	**18650**	**1 RB**	**CHANNEL**	**19150**	**1 RB**
					
CHANNEL	**18650**	**50 RB**	**CHANNEL**	**19150**	**50 RB**
					

4.6 CONDUCTED SPURIOUS EMISSIONS

4.6.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

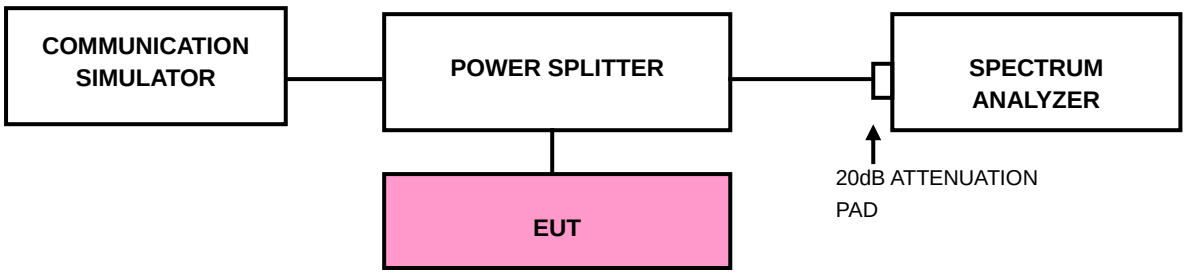
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. The emission limit equal to –13dBm.

4.6.2 TEST PROCEDURE

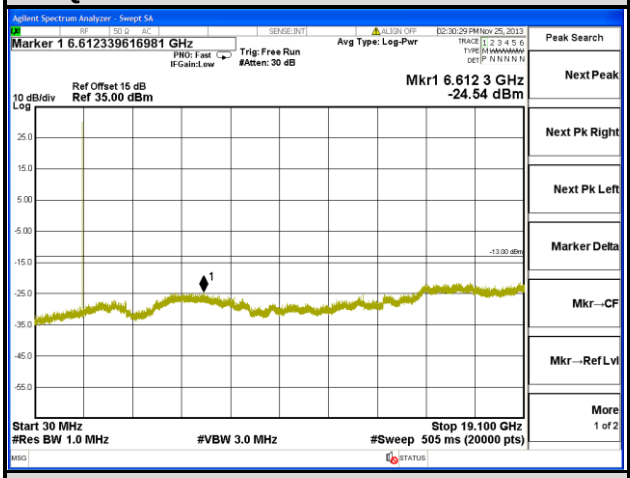
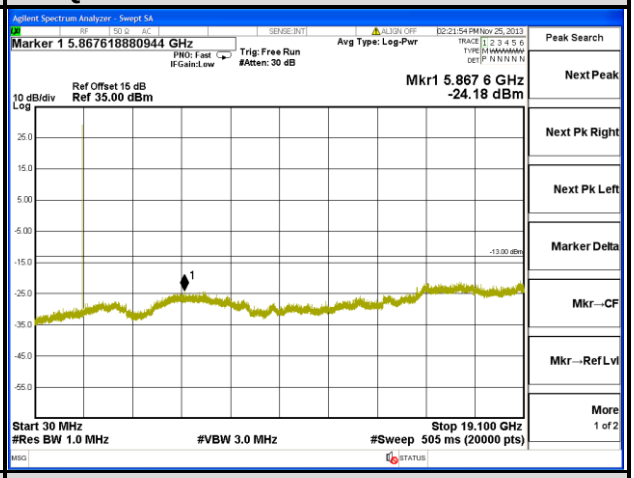
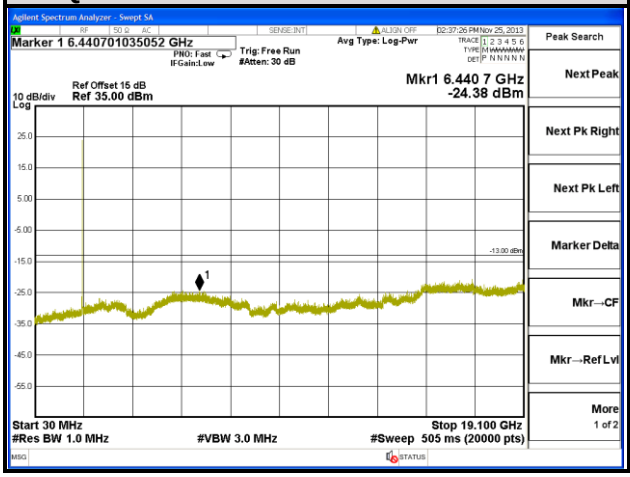
a. The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.

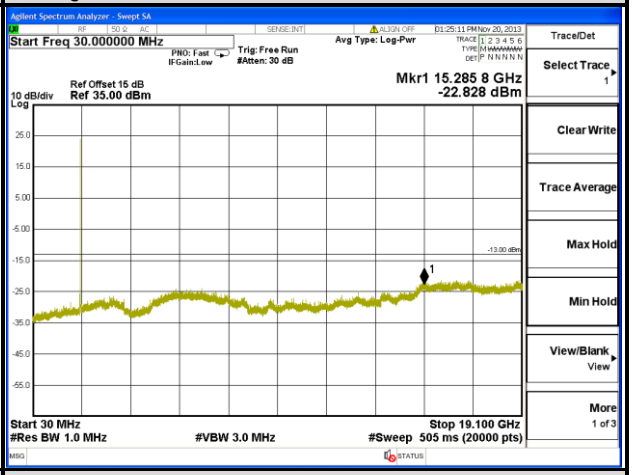
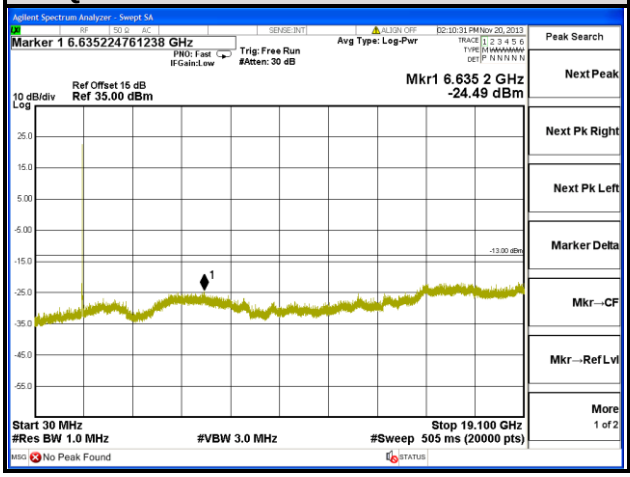
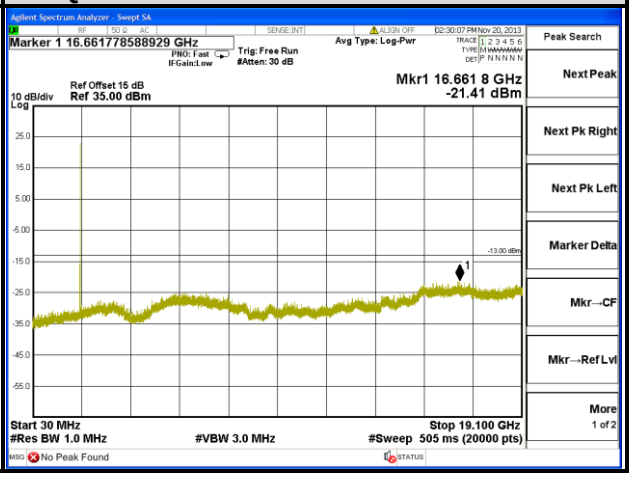
b. Measuring frequency range is from 30 MHz to 19.1GHz. 10dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

4.6.3 TEST SETUP



4.6.4 TEST RESULTS

GSM	EDGE
CHANNEL 661	CHANNEL 661
FREQUENCY RANGE : 30MHz~19.1GHz	FREQUENCY RANGE : 30MHz~19.1GHz
	
WCDMA	
CHANNEL 9400	
FREQUENCY RANGE : 30MHz~19.1GHz	
	

LTE Band 2 (Channel Bandwidth: 1.4MHz)	LTE Band 2 (Channel Bandwidth: 3MHz)
CHANNEL 18900	CHANNEL 18900
FREQUENCY RANGE : 30MHz~19.1GHz	FREQUENCY RANGE : 30MHz~19.1GHz
	
LTE Band 2 (Channel Bandwidth: 5MHz)	LTE Band 2 (Channel Bandwidth: 10MHz)
CHANNEL 18900	CHANNEL 18900
FREQUENCY RANGE : 30MHz~19.1GHz	FREQUENCY RANGE : 30MHz~19.1GHz
	

4.7 RADIATED EMISSION MEASUREMENT

4.7.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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

4.7.2 TEST 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.

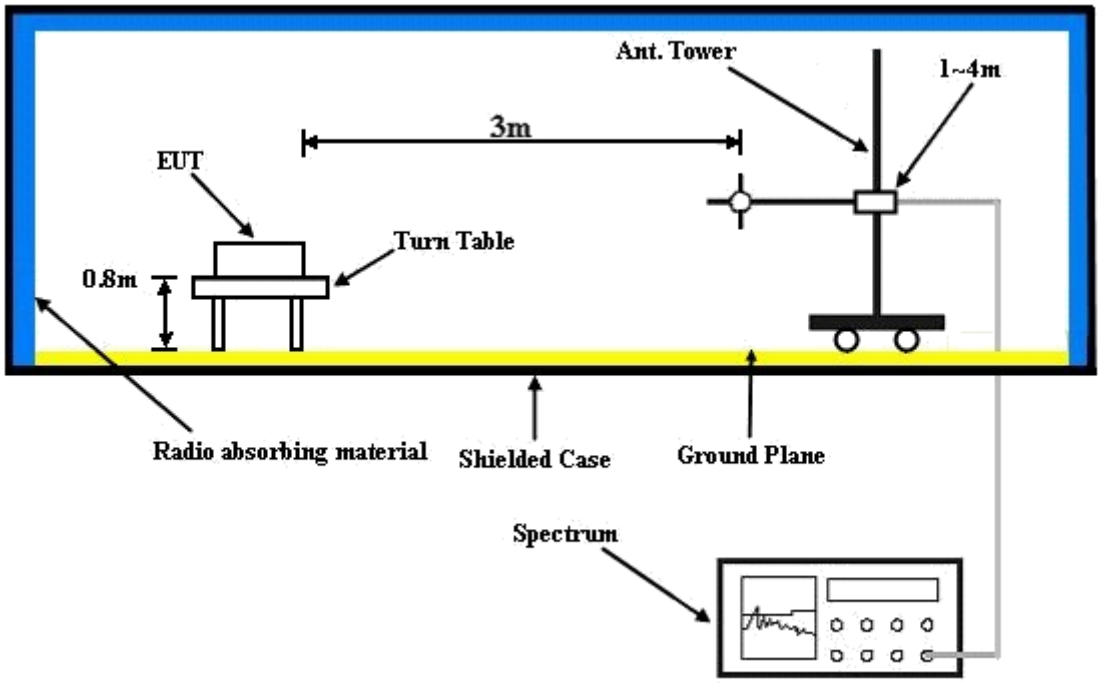
d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.R.P power - 2.15dBi.

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

4.7.3 DEVIATION FROM TEST STANDARD

No deviation

4.7.4 TEST SETUP



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

4.7.5 TEST RESULTS

TEST MODE A

GSM:

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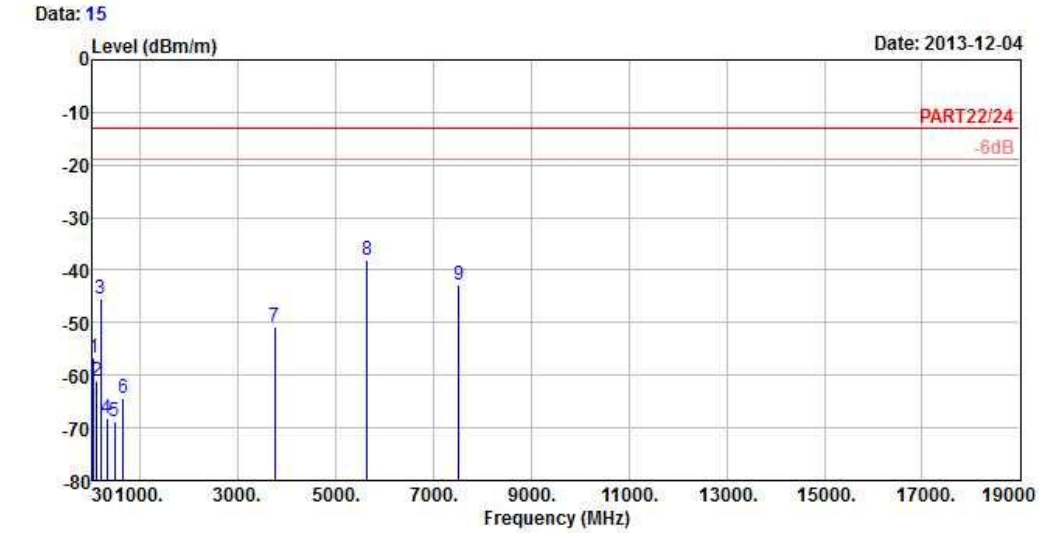
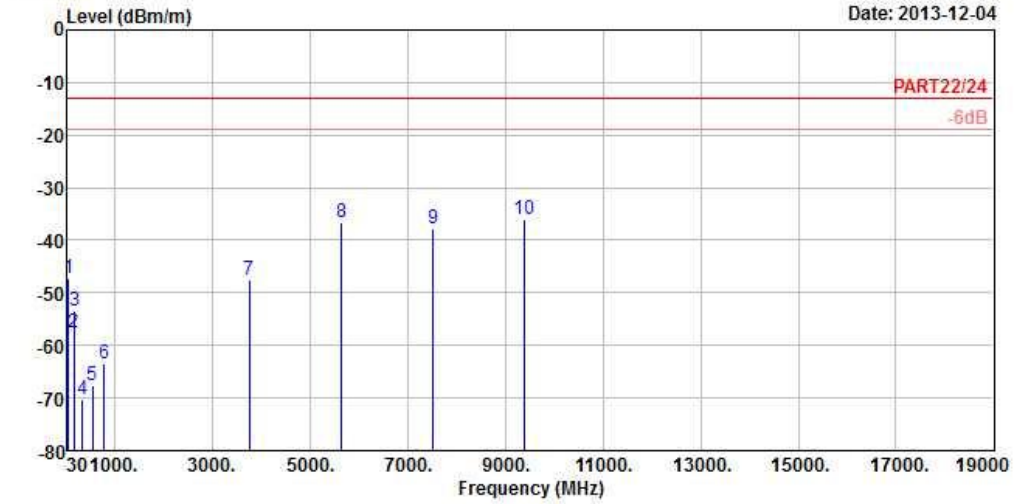


Site : 966 Chamber 5
Condition : PART22/24 3m HORIZONTAL
Brand/Model: 0P6B120
Remark : PCS1900 Link
Tested by : Anson Lin
Temprature : 25℃
Humidity : 65%
Plane : X

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1	57.00	-56.74	-51.09	-13.00	-43.74	-5.65	Peak
2	108.57	-61.23	-50.64	-13.00	-48.23	-10.59	Peak
3	188.22	-45.60	-39.02	-13.00	-32.60	-6.58	Peak
4	313.30	-68.06	-61.78	-13.00	-55.06	-6.28	Peak
5	475.00	-68.80	-65.07	-13.00	-55.80	-3.73	Peak
6	652.10	-64.23	-64.81	-13.00	-51.23	0.58	Peak
7	3760.00	-50.91	-42.61	-13.00	-37.91	-8.30	Peak
8 pp	5640.00	-38.12	-36.22	-13.00	-25.12	-1.90	Peak
9	7520.00	-42.77	-46.72	-13.00	-29.77	3.95	Peak

Data: 16

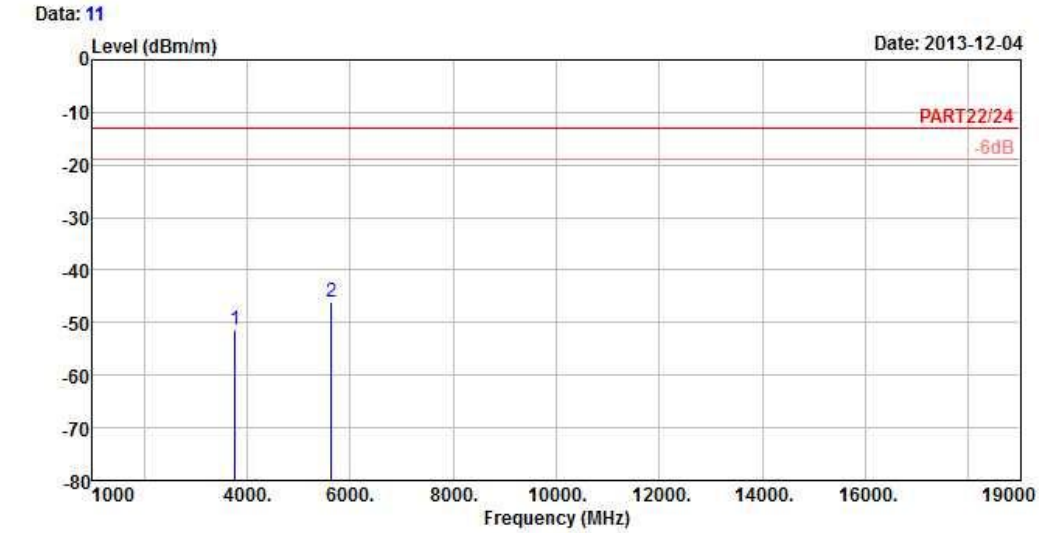


Site : 966 Chamber 5
Condition : PART22/24 3m VERTICAL
Brand/Model: 0P6B120
Remark : PCS1900 Link
Tested by : Anson Lin
Temprature : 25℃
Humidity : 65%
Plane : X

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1	57.81	-47.36	-41.56	-13.00	-34.36	-5.80	Peak
2	158.25	-57.62	-51.14	-13.00	-44.62	-6.48	Peak
3	183.90	-53.49	-47.36	-13.00	-40.49	-6.13	Peak
4	338.50	-70.38	-64.29	-13.00	-57.38	-6.09	Peak
5	542.20	-67.47	-65.52	-13.00	-54.47	-1.95	Peak
6	781.60	-63.42	-65.42	-13.00	-50.42	2.00	Peak
7	3760.00	-47.59	-39.29	-13.00	-34.59	-8.30	Peak
8	5640.00	-36.66	-34.76	-13.00	-23.66	-1.90	Peak
9	7520.00	-37.84	-41.79	-13.00	-24.84	3.95	Peak
10 pp	9400.00	-35.92	-42.35	-13.00	-22.92	6.43	Peak

EDGE:

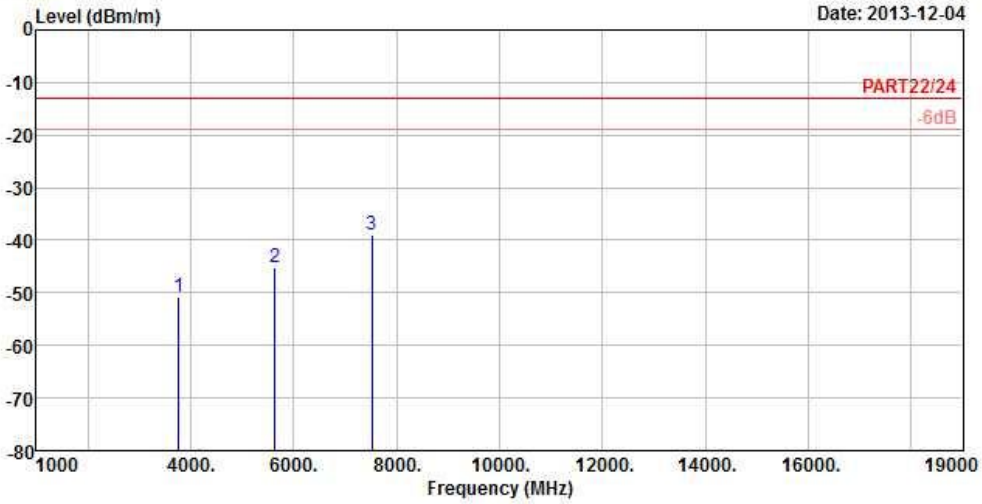
Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 Chamber 5
Condition : PART22/24 3m HORIZONTAL
Brand/Model: 0P6B120
Remark : EDGE1900 Link
Tested by : Anson Lin
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	3760.00	-51.36	-43.06	-13.00	-38.36	-8.30	Peak
2 pp	5640.00	-45.96	-44.06	-13.00	-32.96	-1.90	Peak

Data: 12

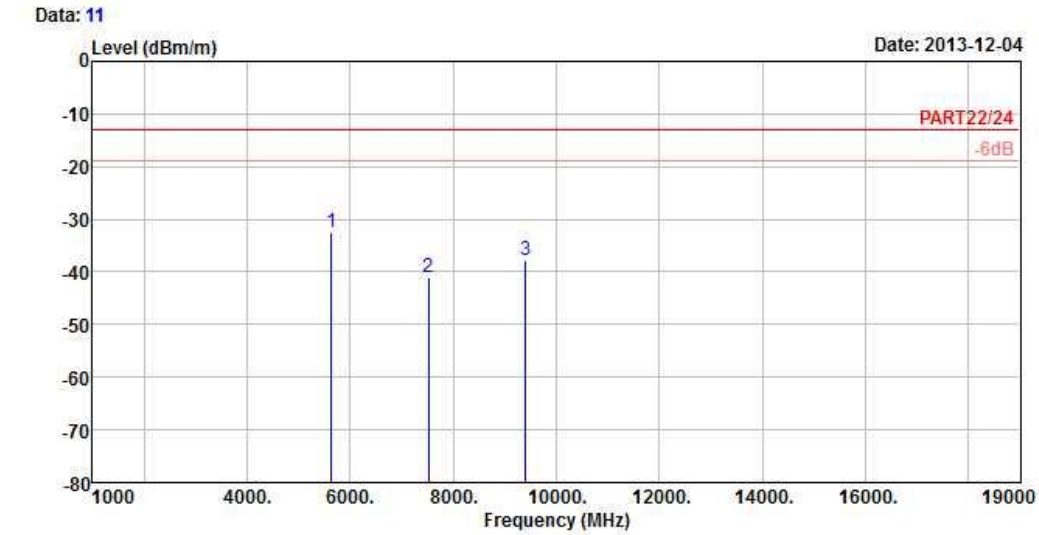


Site : 966 Chamber 5
Condition : PART22/24 3m VERTICAL
Brand/Model: 0P6B120
Remark : EDGE1900 Link
Tested by : Anson Lin
Temprature : 25℃
Humidity : 65%
Plane : X

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1	3760.00	-50.67	-42.37	-13.00	-37.67	-8.30	Peak
2	5640.00	-45.16	-43.26	-13.00	-32.16	-1.90	Peak
3 pp	7520.00	-38.95	-42.90	-13.00	-25.95	3.95	Peak

WCDMA:

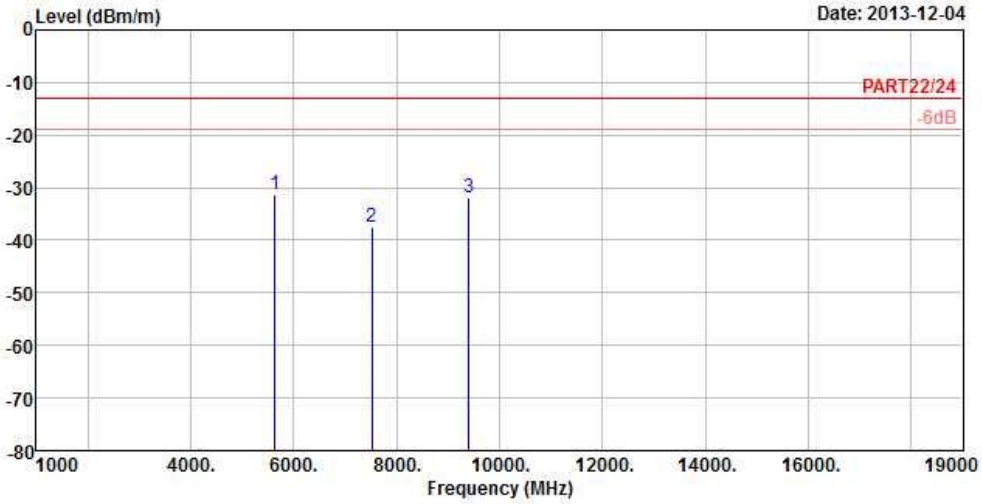
Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 Chamber 5
Condition : PART22/24 3m HORIZONTAL
Brand/Model: 0P6B120
Remark : Band II Link
Tested by : Anson Lin
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 pp	5640.00	-32.42	-30.52	-13.00	-19.42	-1.90	Peak
2	7520.00	-41.06	-45.01	-13.00	-28.06	3.95	Peak
3	9400.00	-37.80	-44.23	-13.00	-24.80	6.43	Peak

Data: 12



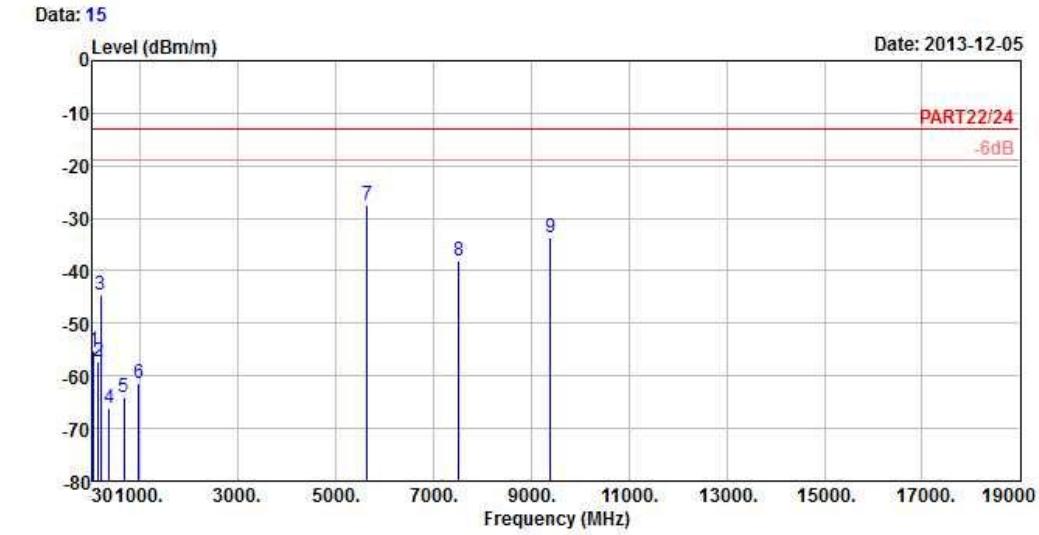
Site : 966 Chamber 5
Condition : PART22/24 3m VERTICAL
Brand/Model: 0P6B120
Remark : Band II Link
Tested by : Anson Lin
Temprature : 25℃
Humidity : 65%
Plane : X

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1 pp	5640.00	-31.23	-29.33	-13.00	-18.23	-1.90	Peak
2	7520.00	-37.53	-41.48	-13.00	-24.53	3.95	Peak
3	9400.00	-31.74	-38.17	-13.00	-18.74	6.43	Peak

LTE BAND 2

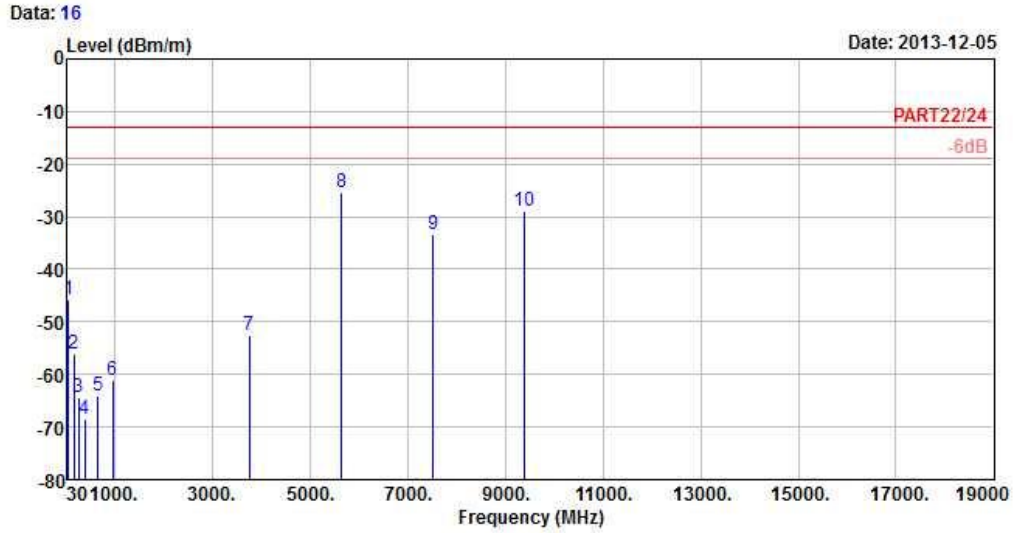
CHANNEL BANDWIDTH: 1.4MHz / QPSK

Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 Chamber 5
Condition : PART22/24 3m HORIZONTAL
Brand/Model: 0P6B120
Remark : LTE Band 2_1.4M_QPSK(1,0) Link
Tested by : Anson Lin
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	57.81	-55.20	-49.40	-13.00	-42.20	-5.80	Peak
2	139.35	-57.32	-51.65	-13.00	-44.32	-5.67	Peak
3	201.18	-44.55	-36.64	-13.00	-31.55	-7.91	Peak
4	373.50	-66.02	-60.19	-13.00	-53.02	-5.83	Peak
5	674.50	-64.17	-65.15	-13.00	-51.17	0.98	Peak
6	972.70	-61.30	-65.43	-13.00	-48.30	4.13	Peak
7 pp	5638.50	-27.52	-25.62	-13.00	-14.52	-1.90	Peak
8	7518.00	-38.08	-42.03	-13.00	-25.08	3.95	Peak
9	9397.50	-33.65	-40.08	-13.00	-20.65	6.43	Peak



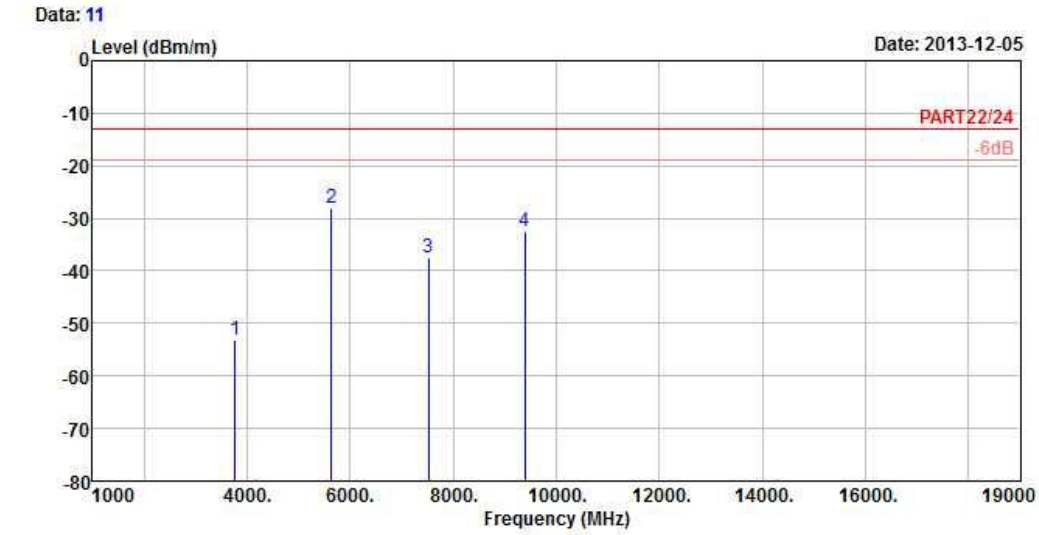
Site : 966 Chamber 5
Condition : PART22/24 3m VERTICAL
Brand/Model: 0P6B120
Remark : LTE Band 2_1.4M_QPSK(1,0) Link
Tested by : Anson Lin
Temprature : 25℃
Humidity : 65%
Plane : X

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1	57.81	-45.70	-39.90	-13.00	-32.70	-5.80	Peak
2	164.19	-55.98	-49.40	-13.00	-42.98	-6.58	Peak
3	259.50	-64.21	-58.39	-13.00	-51.21	-5.82	Peak
4	381.20	-68.62	-62.84	-13.00	-55.62	-5.78	Peak
5	654.20	-64.16	-64.79	-13.00	-51.16	0.63	Peak
6	953.80	-61.15	-64.90	-13.00	-48.15	3.75	Peak
7	3759.00	-52.63	-44.33	-13.00	-39.63	-8.30	Peak
8 pp	5638.50	-25.25	-23.35	-13.00	-12.25	-1.90	Peak
9	7518.00	-33.40	-37.35	-13.00	-20.40	3.95	Peak
10	9397.50	-28.81	-35.24	-13.00	-15.81	6.43	Peak

LTE BAND 2

CHANNEL BANDWIDTH: 3MHz / QPSK

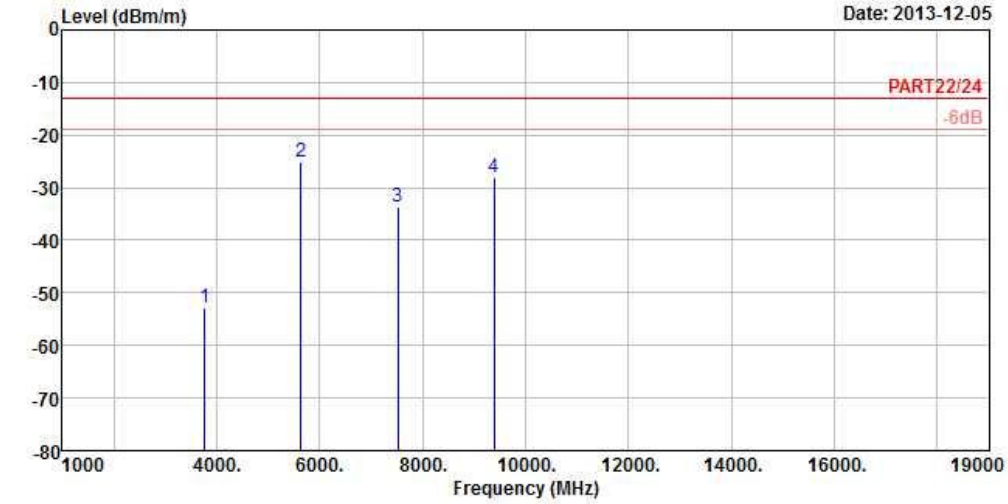
Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 Chamber 5
Condition : PART22/24 3m HORIZONTAL
Brand/Model: 0P6B120
Remark : LTE Band 2_3M_QPSK(1,0) Link
Tested by : Anson Lin
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	3757.40	-53.19	-44.89	-13.00	-40.19	-8.30	Peak
2 pp	5636.10	-27.99	-26.09	-13.00	-14.99	-1.90	Peak
3	7514.80	-37.61	-41.56	-13.00	-24.61	3.95	Peak
4	9393.50	-32.38	-38.71	-13.00	-19.38	6.33	Peak

Data: 12



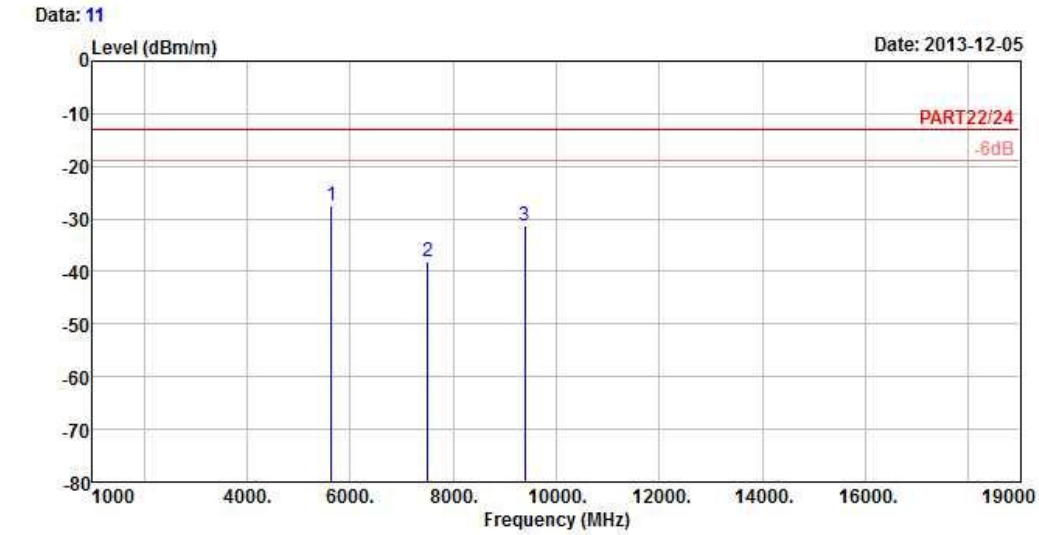
Site : 966 Chamber 5
Condition : PART22/24 3m VERTICAL
Brand/Model: 0P6B120
Remark : LTE Band 2_3M_QPSK(1,0) Link
Tested by : Anson Lin
Temprature : 25℃
Humidity : 65%
Plane : X

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1	3757.40	-52.77	-44.47	-13.00	-39.77	-8.30	Peak
2 pp	5636.10	-25.04	-23.14	-13.00	-12.04	-1.90	Peak
3	7514.80	-33.68	-37.63	-13.00	-20.68	3.95	Peak
4	9393.50	-28.10	-34.43	-13.00	-15.10	6.33	Peak

LTE BAND 2

CHANNEL BANDWIDTH: 5MHz / QPSK

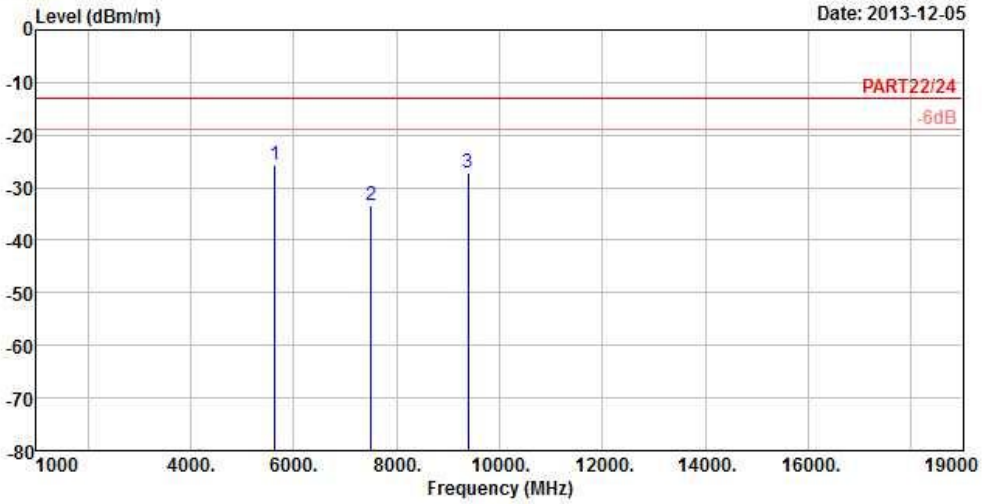
Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 Chamber 5
Condition : PART22/24 3m HORIZONTAL
Brand/Model: 0P6B120
Remark : LTE Band 2_5M_QPSK(1,0) Link
Tested by : Anson Lin
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 pp	5633.40	-27.56	-25.66	-13.00	-14.56	-1.90	Peak
2	7511.20	-38.20	-42.15	-13.00	-25.20	3.95	Peak
3	9389.00	-31.20	-37.53	-13.00	-18.20	6.33	Peak

Data: 12



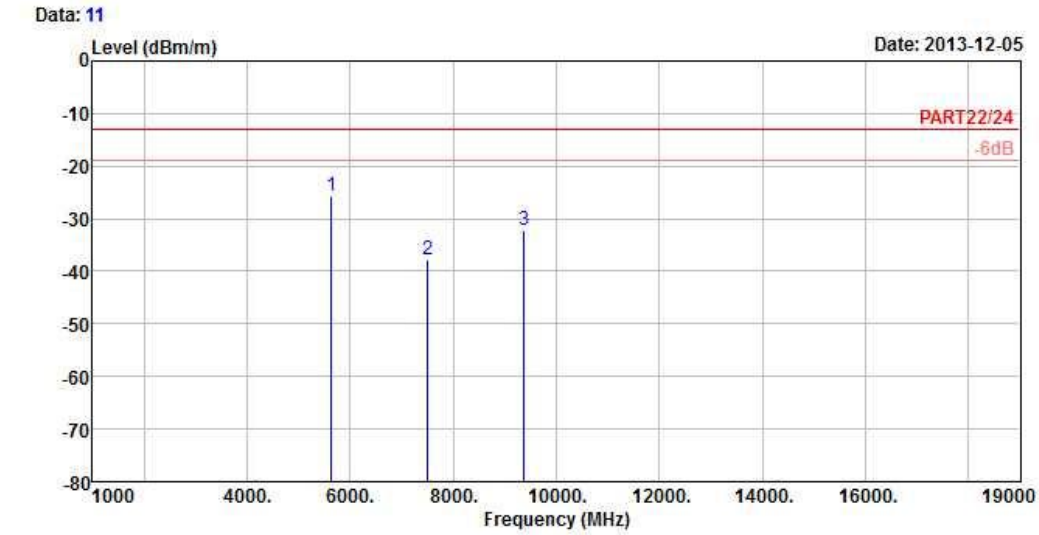
Site : 966 Chamber 5
Condition : PART22/24 3m VERTICAL
Brand/Model: 0P6B120
Remark : LTE Band 2_5M_QPSK(1,0) Link
Tested by : Anson Lin
Temprature : 25℃
Humidity : 65%
Plane : X

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1 pp	5633.40	-25.78	-23.88	-13.00	-12.78	-1.90	Peak
2	7511.20	-33.43	-37.38	-13.00	-20.43	3.95	Peak
3	9389.00	-27.15	-33.48	-13.00	-14.15	6.33	Peak

LTE BAND 2

CHANNEL BANDWIDTH: 10MHz / QPSK

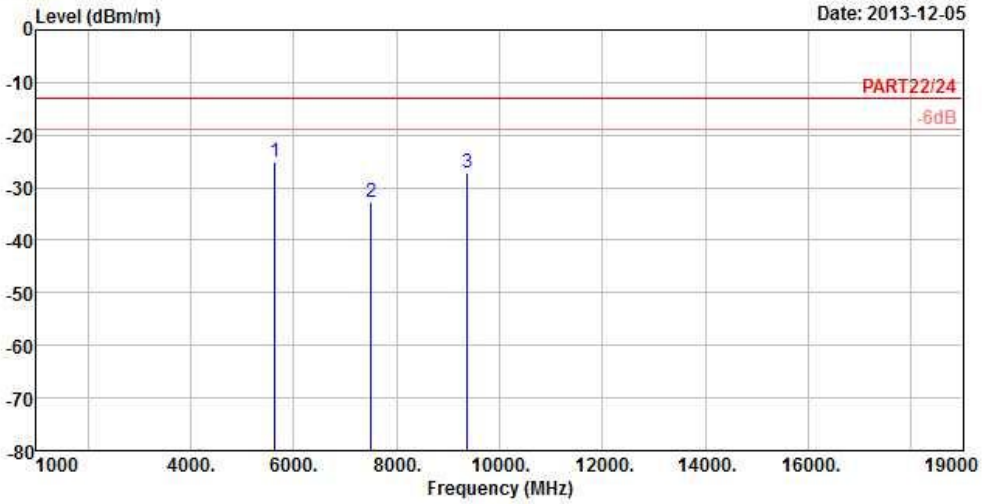
Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 Chamber 5
Condition : PART22/24 3m HORIZONTAL
Brand/Model: 0P6B120
Remark : LTE Band 2_10M_QPSK(1,0) Link
Tested by : Anson Lin
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 pp	5626.80	-25.77	-23.87	-13.00	-12.77	-1.90	Peak
2	7502.40	-37.93	-41.90	-13.00	-24.93	3.97	Peak
3	9378.00	-32.05	-38.28	-13.00	-19.05	6.23	Peak

Data: 12



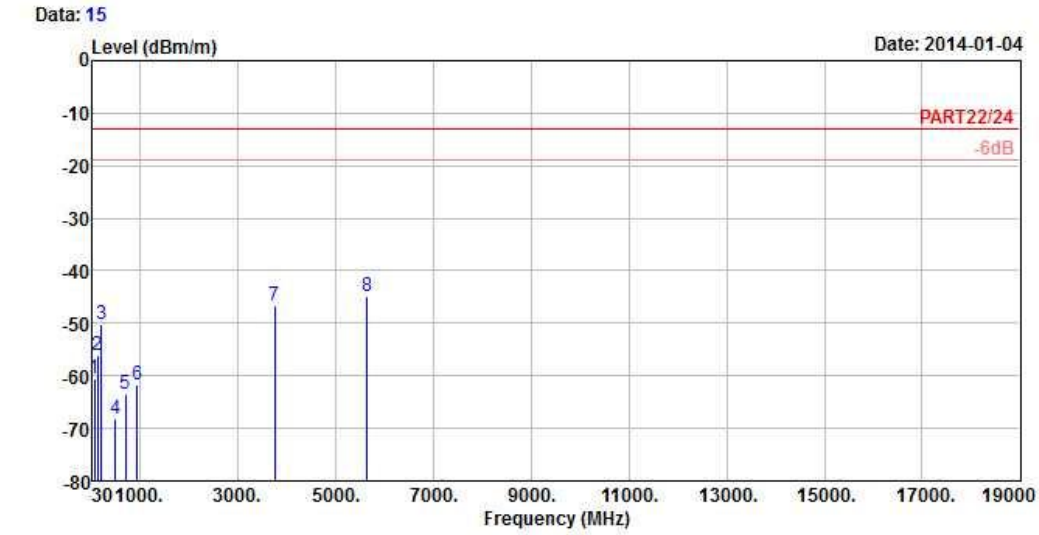
Site : 966 Chamber 5
Condition : PART22/24 3m VERTICAL
Brand/Model: 0P6B120
Remark : LTE Band 2_10M_QPSK(1,0) Link
Tested by : Anson Lin
Temprature : 25℃
Humidity : 65%
Plane : X

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark
	MHz	dBm/m	dBm	dBm/m	dB	dB/m	
1 pp	5626.80	-25.03	-23.13	-13.00	-12.03	-1.90	Peak
2	7502.40	-32.64	-36.61	-13.00	-19.64	3.97	Peak
3	9378.00	-27.19	-33.42	-13.00	-14.19	6.23	Peak

TEST MODE B

WCDMA:

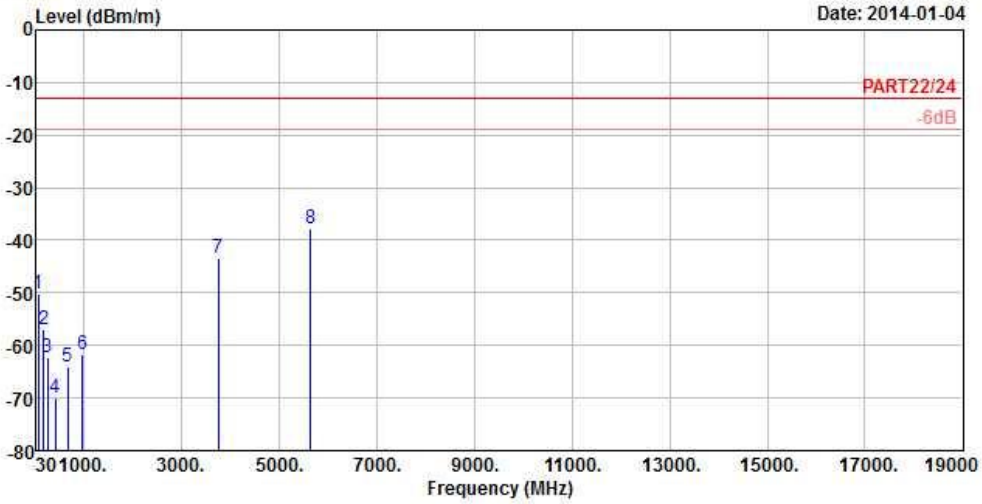
Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch



Site : 966 Chamber 5
Condition : PART22/24 3m HORIZONTAL
Brand/Model: 0P6B120 (2nd)
Remark : PCS1900 Link
Tested by : Johnson Liao
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	69.96	-60.53	-51.19	-13.00	-47.53	-9.34	Peak
2	137.19	-56.16	-49.97	-13.00	-43.16	-6.19	Peak
3	211.71	-50.25	-42.82	-13.00	-37.25	-7.43	Peak
4	493.20	-68.22	-64.96	-13.00	-55.22	-3.26	Peak
5	703.90	-63.39	-64.87	-13.00	-50.39	1.48	Peak
6	933.50	-61.72	-65.07	-13.00	-48.72	3.35	Peak
7	3760.00	-46.50	-38.20	-13.00	-33.50	-8.30	Peak
8 pp	5640.00	-44.79	-42.89	-13.00	-31.79	-1.90	Peak

Data: 16



Site : 966 Chamber 5
Condition : PART22/24 3m VERTICAL
Brand/Model: 0P6B120 (2nd)
Remark : PCS1900 Link
Tested by : Johnson Liao
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	63.48	-50.28	-42.88	-13.00	-37.28	-7.40	Peak
2	177.69	-56.96	-50.73	-13.00	-43.96	-6.23	Peak
3	258.96	-62.42	-56.62	-13.00	-49.42	-5.80	Peak
4	417.60	-70.08	-64.91	-13.00	-57.08	-5.17	Peak
5	673.80	-63.98	-64.96	-13.00	-50.98	0.98	Peak
6	967.10	-61.72	-65.74	-13.00	-48.72	4.02	Peak
7	3760.00	-43.52	-35.22	-13.00	-30.52	-8.30	Peak
8 pp	5640.00	-37.80	-35.90	-13.00	-24.80	-1.90	Peak

5 PHOTOGRAPHS OF THE TEST CONFIGURATION

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

6 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:
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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.bureauveritas-adt.com

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

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

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

---END---