FCC Test Report (PART 24)

Report No.:	RF160818E07-4
FCC ID:	G95TCA301
Test Model:	TCA301TCH1
Series Model:	TCA301TCH2, TCA301ROG1, TCA301COX2, TCA301BHN2, TCA301CMP2, TCA301TWC2
Received Date:	Aug. 18, 2016
Test Date:	Sep. 04 to 13, 2016
Issued Date:	Dec. 15, 2016
Applicant:	Technicolor Connected Home USA LLC
Address:	5030 Sugarloaf Parkway, Building 6, Lawrenceville, GA 30044
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
Lab Address:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan R.O.C.
Test Location (1):	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan R.O.C.
Test Location (2):	No. 49, Ln. 206, Wende Rd., Shangshan Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan R.O.C.

Testing Laboratory
2022

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Release Control Record

Issue No.	Description	Date Issued
RF160818E07-4	Original release.	Dec. 15, 2016

1 Certificate of Conformity

Product:	Integrated Device
Brand:	Technicolor
Test Model:	TCA301TCH1
Series Model:	TCA301TCH2, TCA301ROG1, TCA301COX2, TCA301BHN2, TCA301CMP2, TCA301TWC2
Sample Status:	ENGINEERING SAMPLE
Applicant:	Technicolor Connected Home USA LLC
Test Date:	Sep. 04 to 13, 2016
Standards:	FCC Part 24

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

Prepared by : _____ , **Date:** Dec. 15, 2016

Claire Kuan / Specialist

Approved by : _____ , **Date:** Dec. 15, 2016

May Chen / Manager

2 Summary of Test Results

Applied Standard: FCC Part 24 & Part 2			
FCC Clause	Test Item	Result	Remarks
2.1046 24.232	Equivalent Isotropically Radiated Power	PASS	Meet the requirement of limit.
2.1046 24.232(d)	Peak to Average Ratio	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.
24.238(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 -16.85dB at 18800MHz.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expended Uncertainty (k=2) (±)
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz – Chamber 4	5.19 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz – Chamber 3	3.40 dB
	1GHz ~ 6GHz – Chamber 4	3.43 dB
	6GHz ~ 18GHz – Chamber 3	3.73 dB
	1GHz ~ 6GHz – Chamber 4	3.49 dB
	18GHz ~ 40GHz – Chamber 3	4.11 dB
	1GHz ~ 6GHz – Chamber 4	4.11 dB

2.2 Test Site and Instruments

For EIRP Power and GPRS & LTE Radiated Spurious Emissions above 1GHz test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Agilent	N9038A	MY50010156	Aug. 18, 2016	Aug. 17, 2017
Pre-Amplifier Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-05	May 07, 2016	May 06, 2017
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-156	Jan. 04, 2016	Jan. 03, 2017
RF Cable	8D	966-3-1 966-3-2 966-3-3	Apr. 02, 2016	Apr. 01, 2017
Horn_Antenna SCHWARZBECK	BBHA9120-D	9120D-406	Jan. 20, 2016	Jan. 19, 2017
Pre-Amplifier Agilent	8449B	3008A02465	Apr. 05, 2016	Apr. 04, 2017
RF Cable	EMC104-SM-SM-2000 EMC104-SM-SM-5000 EMC104-SM-SM-5000	150317 150321 150322	Mar. 30, 2016	Mar. 29, 2017
Spectrum Analyzer Keysight	N9030A	MY54490520	July 29, 2016	July 28, 2017
Pre-Amplifier EMCI	EMC184045	980143	Jan. 15, 2016	Jan. 14, 2017
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170608	Jan. 08, 2016	Jan. 07, 2017
RF Cable	SUCOFLEX 102	36432/2 36441/2	Jan. 16, 2016	Jan. 15, 2017
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in 966 Chamber No. 3.
3. The FCC Site Registration No. is 147459
4. The CANADA Site Registration No. is 20331-1
5. Tested Date: Sep. 10 to 12, 2016

For other Radiated Spurious Emissions test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Keysight	N9038A	MY54450088	July 20, 2016	July 19, 2017
Pre-Amplifier Mini-Circuits	ZFL-1000VH2 B	AMP-ZFL-01	Nov. 11, 2015	Nov. 10, 2016
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-406	Jan. 04, 2016	Jan. 03, 2017
RF Cable	8D	966-4-1 966-4-2 966-4-3	Apr. 02, 2016	Apr. 01, 2017
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-783	Jan. 19, 2016	Jan. 18, 2017
Pre-Amplifier Agilent	8449B	3008A01922	Sep. 19, 2015	Sep. 18, 2016
RF Cable	EMC104-SM-SM-2000 EMC104-SM-SM-5000 EMC104-SM-SM-5000	150318 150323 150324	Mar. 30, 2016	Mar. 29, 2017
Pre-Amplifier EMCI	EMC184045	980143	Jan. 15, 2016	Jan. 14, 2017
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170608	Jan. 08, 2016	Jan. 07, 2017
RF Cable	SUCOFLEX 102	36432/2 36441/2	Jan. 16, 2016	Jan. 15, 2017
Software	ADT_Radiated _V8.7.08	NA	NA	NA
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208410	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP02	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in 966 Chamber No. 4.
3. The FCC Site Registration No. is 292998
4. The CANADA Site Registration No. is 20331-2
5. Tested Date: Sep. 10 to 13, 2016

For other test items:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSP40	100036	Jan. 27, 2016	Jan. 26, 2017
Spectrum Analyzer Keysight	N9030A	MY54490570	July 06, 2016	July 05, 2017
AC Power Source Extech Electronics	6502	1140503	NA	NA
Temperature & Humidity Chamber TERCHY	MHU-225AU	911033	Dec. 03, 2015	Dec. 02, 2016
DC Power Supply GOOD WILL INSTRUMENT CO., LTD.	GPC - 3030D	7700087	NA	NA
ESG Vector signal generator Agilent	E4438C	Y45094468/005 506 602 UK6 UNJ	Dec. 01, 2015	Nov. 30, 2016
Power meter Anritsu	ML2495A	0824006	May 26, 2016	May 25, 2017
Power sensor Anritsu	MA2411B	0738172	May 26, 2016	May 25, 2017
Software	ADT_RF Test Software V6.6.5.4	NA	NA	NA
Digital Multimeter FLUKE	87III	73680266	Nov. 10, 2015	Nov. 09, 2016

NOTE: 1. The test was performed in Oven room 1.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. Tested Date: Sep. 04, 2016

3 General Information

3.1 General Description of EUT

Product	Integrated Device		
Brand	Technicolor		
Test Model	TCA301TCH1		
Series Model	TCA301TCH2, TCA301ROG1, TCA301COX2, TCA301BHN2, TCA301CMP2, TCA301TWC2		
Status of EUT	ENGINEERING SAMPLE		
Power Supply Rating	12Vdc from power adapter or 4Vdc from battery		
Modulation Type	GPRS		GMSK
	EDGE		8PSK
	WCDMA, HSDPA, HSUPA		BPSK
	LTE		QPSK
Operating Frequency	GPRS, EDGE		1850.2MHz ~1909.8MHz
	WCDMA, HSDPA, HSUPA		1852.4MHz ~1907.6MHz
	LTE	Channel Bandwidth: 1.4MHz	1850.7MHz ~1909.3MHz
		Channel Bandwidth: 3MHz	1851.5MHz ~1908.5MHz
		Channel Bandwidth: 5MHz	1852.5MHz ~1907.5MHz
		Channel Bandwidth: 10MHz	1855MHz ~1905MHz
		Channel Bandwidth: 15MHz	1857.5MHz ~1902.5MHz
		Channel Bandwidth: 20MHz	1860MHz ~1900MHz
Max. EIRP Power	GPRS		1279.38mW
	EDGE		1183.04mW
	WCDMA		464.52mW
	LTE	Channel Bandwidth: 1.4MHz	194.09mW
		Channel Bandwidth: 3MHz	204.64mW
		Channel Bandwidth: 5MHz	205.12mW
		Channel Bandwidth: 10MHz	205.12mW
		Channel Bandwidth: 15MHz	198.61mW
		Channel Bandwidth: 20MHz	203.24mW
Emission Designator	GPRS		250KGXW
	EDGE		250KG7W
	WCDMA		4M18F9W
	LTE	Channel Bandwidth: 1.4MHz	QPSK: 1M09G7D 16QAM: 1M09D7W
		Channel Bandwidth: 3MHz	QPSK: 2M68G7D 16QAM: 2M68D7W
		Channel Bandwidth: 5MHz	QPSK: 4M50G7D 16QAM: 4M50D7W
		Channel Bandwidth: 10MHz	QPSK: 8M94G7D 16QAM: 8M94D7W
		Channel Bandwidth: 15MHz	QPSK: 13M7G7D 16QAM: 13M4D7W
		Channel Bandwidth: 20MHz	QPSK: 17M9G7D 16QAM: 17M8D7W

Antenna Type	Please see Note
Antenna Connector	Please see Note
Accessory Device	Adapter x1 Battery x1
HW Version	FGR
SW Version	i-control v.1.4.0

Note:

1. All models are listed as below.

Brand	Model	Difference
Technicolor	TCA301TCH1	For marketing.
	TCA301TCH2	
	TCA301ROG1	
	TCA301COX2	
	TCA301BHN2	
	TCA301CMP2	
	TCA301TWC2	

From the above models, model: **TCA301TCH1** was selected as representative model for the test and its data was recorded in this report.

2. There are WLAN, Bluetooth, Zigbee, Zigbee Thread and WWAN technology used for the EUT.

3. Simultaneously transmission condition.

Condition	Technology				
1	WLAN (2.4GHz)	Bluetooth	Zigbee	Zigbee Thread	WWAN (2G/3G/4G)
2	WLAN (5GHz)	Bluetooth	Zigbee	Zigbee Thread	WWAN (2G/3G/4G)
Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.					

4. The EUT power needs to be supplied from one power adapter or battery, the information is as below table:

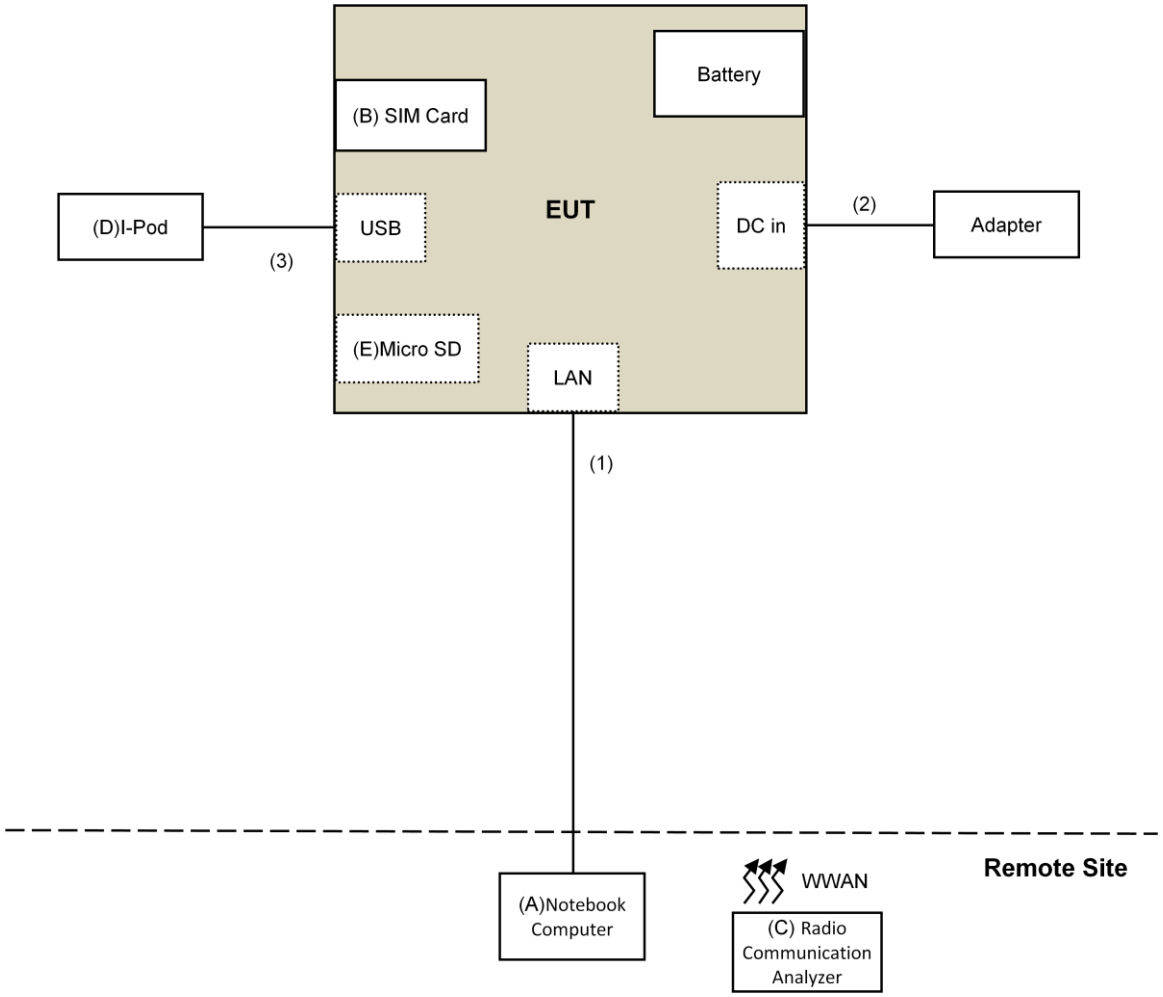
Adapter		
Brand	Model	Spec.
AcBel	WAF007	Input: 100-120Vac, 50/60Hz, 0.7A Output: 12V, 1.5A DC output cable (Unshielded, 3m)
Battery		
Brand	Model	Spec.
GETAC	U46P332.00	4V 3540mAh 14.16Wh.

5. The antennas provided to the EUT, please refer to the following table:

WLAN & BT Antenna Spec.					
Antenna No.	Transmitter Circuit	Gain(dBi) Including cable loss	Frequency range (MHz)	Antenna Type	Antenna Connector
WiFi 1 & BT	Chain (0)	2.29 3.36 3.66 3.77 3.36	2400~2500 5150~5250 5250~5350 5470~5725 5725~5850	FPCB	i-pex(MHF)
WiFi 2	Chain (1)	2.34 3.62 3.55 2.86 2.99	2400~2500 5150~5250 5250~5350 5470~5725 5725~5850	PCB	i-pex(MHF)
Zigbee Antenna Spec.					
Antenna No.		Gain(dBi) Including cable loss	Frequency range (MHz)	Antenna Type	Antenna Connector
Zigbee-A		2.33	2400~2500	PCB	i-pex(MHF)
Zigbee- Thread		2.5	2400~2500	PCB	i-pex(MHF)
WWAN Antenna Spec.					
Antenna No.		Gain(dBi) Including cable loss	Frequency range (MHz)	Antenna Type	Antenna Connector
WWAN 1		1.62 2.36	704~894 1710~2170	PCB	i-pex(MHF)
WWAN 2		0.63 1.66	704~894 1710~2170	FPCB	i-pex(MHF)

6. 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



3.2.1 Description of Support Units

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

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook Computer	HP	Pavilion 14-ab023TU	5CD5340WXZ	NA	Provided by Lab
B.	SIM Card	NA	NA	NA	NA	Provided by Lab
C.	Radio Communication Analyzer	Anritsu	MT8820C	6201127458	NA	Provided by Lab
D.	i-Pod	Apple	MD778TA/A	CC4JMFL0F4T1	NA	Provided by Lab
E.	Micro SD	NA	NA	NA	NA	Provided by Lab

Note:

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

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ45 Cable	1	10	No	0	Provided by Lab
2.	DC Cable	1	3	No	0	Supplied by client
3.	USB Calbe	1	0.1	Yes	0	Provided by Lab

3.3 Test Mode Applicability and Tested Channel Detail

The EUT had been pre-tested on the positioned of each 2 axis. The worst case was found when positioned on **Y-plane**.

GSM1900 MODE

Test Item	Available Channel	Tested Channel	Mode
EIRP	512 to 810	512, 661, 810	GPRS, EDGE
Frequency Stability	512 to 810	661	GPRS
Occupied Bandwidth	512 to 810	512, 661, 810	GPRS, EDGE
Band Edge	512 to 810	512, 810	GPRS, EDGE
Peak to Average Ratio	512 to 810	512, 661, 810	GPRS, EDGE
Conducted Emission	512 to 810	661	GPRS, EDGE
Radiated Emission Below 1GHz	512 to 810	661	GPRS, EDGE
Radiated Emission Above 1GHz	512 to 810	661	GPRS, EDGE

WCDMA II MODE

Test Item	Available Channel	Tested Channel	Mode
EIRP	9262 to 9538	9262, 9400, 9538	WCDMA
Frequency Stability	9262 to 9538	9400	WCDMA
Occupied Bandwidth	9262 to 9538	9262, 9400, 9538	WCDMA
Band Edge	9262 to 9538	9262, 9538	WCDMA
Peak to Average Ratio	9262 to 9538	9262, 9400, 9538	WCDMA
Conducted Emission	9262 to 9538	9400	WCDMA
Radiated Emission Below 1GHz	9262 to 9538	9400	WCDMA
Radiated Emission Above 1GHz	9262 to 9538	9400	WCDMA

LTE BAND 2 MODE

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
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
	18675 to 19125	18675, 18900, 19125	15MHz	QPSK / 16QAM	1 RB / 0 RB Offset
	18700 to 19100	18700, 18900, 19100	20MHz	QPSK / 16QAM	1 RB / 0 RB Offset
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
	18675 to 19125	18900	15MHz	QPSK	1 RB / 0 RB Offset
	18700 to 19100	18900	20MHz	QPSK	1 RB / 0 RB Offset
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
	18675 to 19125	18675, 18900, 19125	15MHz	QPSK / 16QAM	75 RB / 0 RB Offset
	18700 to 19100	18700, 18900, 19100	20MHz	QPSK / 16QAM	100 RB / 0 RB Offset
Band Edge	18607 to 19193	18607, 19193	1.4MHz	QPSK	1 RB / 0 RB Offset
					6 RB / 0 RB Offset
	18615 to 19185	18615, 19185	3MHz	QPSK	1 RB / 0 RB Offset
					15 RB / 0 RB Offset
	18625 to 19175	18625, 19175	5MHz	QPSK	1 RB / 0 RB Offset
					25 RB / 0 RB Offset
	18650 to 19150	18650, 19150	10MHz	QPSK	1 RB / 0 RB Offset
					50 RB / 0 RB Offset
	18675 to 19125	18675, 19125	15MHz	QPSK	1 RB / 0 RB Offset
					75 RB / 0 RB Offset
	18700 to 19100	18700. 19100	20MHz	QPSK	1 RB / 0 RB Offset
					100 RB / 0 RB Offset
Peak to Average Ratio	18607 to 19193	18607, 18900 19193	1.4MHz	QPSK	1 RB / 0 RB Offset
	18615 to 19185	18615, 18900, 19185	3MHz	QPSK	1 RB / 0 RB Offset
	18625 to 19175	18625, 18900, 19175	5MHz	QPSK	1 RB / 0 RB Offset
	18650 to 19150	18650, 18900, 19150	10MHz	QPSK	1 RB / 0 RB Offset
	18675 to 19125	18675, 18900, 19125	15MHz	QPSK	1 RB / 0 RB Offset
	18700 to 19100	18700, 18900, 19100	20MHz	QPSK	1 RB / 0 RB Offset
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
	18675 to 19125	18900	15MHz	QPSK	1 RB / 0 RB Offset
	18700 to 19100	18900	20MHz	QPSK	1 RB / 0 RB Offset
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
	18675 to 19125	18900	15MHz	QPSK	1 RB / 0 RB Offset
	18700 to 19100	18900	20MHz	QPSK	1 RB / 0 RB Offset

Test Condition:

Test Item	Environmental Conditions	Input Power	Tested By
EIRP	25deg. C, 63%RH	120Vac, 60Hz	Gary Cheng
Frequency Stability	25deg. C, 63%RH	120Vac, 60Hz	Gary Cheng
Occupied Bandwidth	25deg. C, 63%RH	120Vac, 60Hz	Gary Cheng
Band Edge	25deg. C, 63%RH	120Vac, 60Hz	Gary Cheng
Peak to Average Ratio	25deg. C, 63%RH	120Vac, 60Hz	Gary Cheng
Condcudeted Emission	25deg. C, 63%RH	120Vac, 60Hz	Gary Cheng
Radiated Emission Below 1GHz	25deg. C, 63%RH	120Vac, 60Hz	Andy Ho
Radiated Emission Above 1GHz	25deg. C, 63%RH	120Vac, 60Hz	Andy Ho

3.4 EUT Operating Conditions

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

3.5 General Description of Applied Standards

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

FCC 47 CFR Part 2

FCC 47 CFR Part 24

KDB 971168 D01 Power Meas License Digital Systems v02r02

ANSI/TIA/EIA-603-D 2010

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 / Portable station are limited to 2 watts e.i.r.p.

4.1.2 Test Procedures

ERP / EIRP Measurement:

a. All measurements were done at low, middle and high operational frequency range. Set the RBW ≥OBW and VBW≥3xRBW.

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

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

e. ERP power can be calculated form EIRP power by subtracting the gain of dipole, ERP power = EIPR power - 2.15dBi.

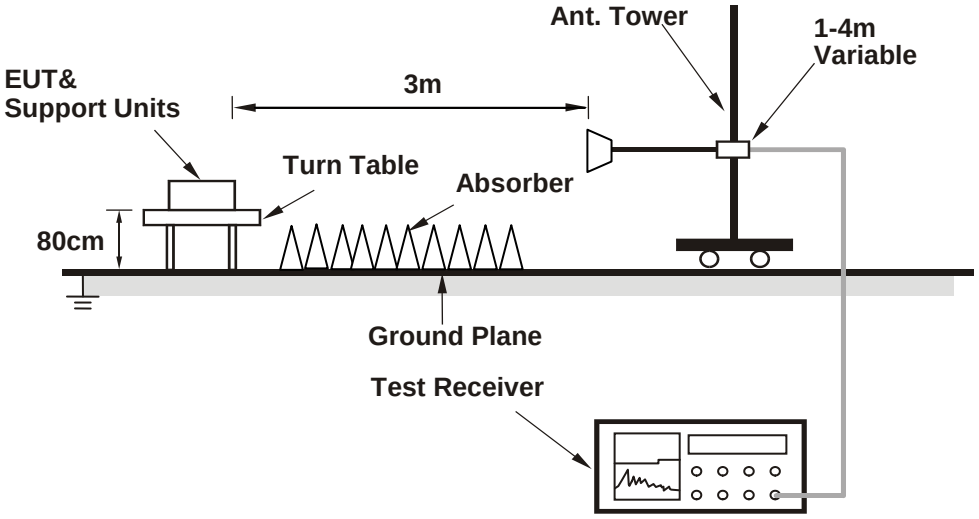
Conducted Power Measurement:

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

Note: The worst case vertical or horizontal polarization have been investigated and reported in this report.

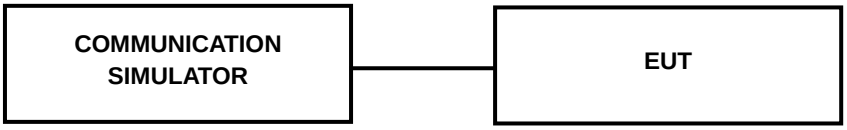
4.1.3 Test Setup

ERP / EIRP MEASUREMENT:



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

CONDUCTED POWER MEASUREMENT:



4.1.4 Test Results

CONDUCTED OUTPUT POWER (dBm)

Band	GPRS1900		
Channel	512	661	810
Frequency (MHz)	1850.2	1880.0	1909.8
GPRS 8	29.71	29.76	29.80
GPRS 10	29.83	29.80	29.76
GPRS 11	29.74	29.65	29.65
GPRS 12	29.65	29.60	29.66
EDGE 8 (MCS9)	26.02	26.10	25.77
EDGE 10 (MCS9)	25.57	25.58	25.63
EDGE 11 (MCS9)	25.34	25.51	25.66
EDGE 12 (MCS9)	25.31	25.42	25.49

Band	WCDMA II		
Channel	9262	9400	9538
Frequency (MHz)	1852.4	1880.0	1907.6
RMC	23.98	23.62	23.70
HSDPA Subtest-1	23.90	24.00	24.40
HSDPA Subtest-2	24.20	23.90	23.70
HSDPA Subtest-3	24.30	23.90	24.40
HSDPA Subtest-4	24.40	24.10	23.70
HSUPA Subtest-1	23.70	23.60	24.40
HSUPA Subtest-2	23.70	23.50	23.50
HSUPA Subtest-3	24.40	24.20	24.20
HSUPA Subtest-4	24.10	24.10	23.50
HSUPA Subtest-5	23.80	23.60	24.20

LTE Band 2								
BW	Modulation	CH	Frequency (MHz)	RB	RB Offset	MPR	Target Power	Measured Power
1.4 MHz	QPSK	18607	1850.7	1	0	0	24	22.98
		18900	1880	1	0	0	24	22.82
		19193	1909.3	1	0	0	24	22.91
		18607	1850.7	1	2	0	24	23.02
		18900	1880	1	2	0	24	22.83
		19193	1909.3	1	2	0	24	22.92
		18607	1850.7	1	5	0	24	23.10
		18900	1880	1	5	0	24	22.86
		19193	1909.3	1	5	0	24	22.95
		18607	1850.7	3	0	0	24	23.04
		18900	1880	3	0	0	24	22.86
		19193	1909.3	3	0	0	24	22.95
		18607	1850.7	3	1	0	24	22.96
		18900	1880	3	1	0	24	22.82
		19193	1909.3	3	1	0	24	22.92
		18607	1850.7	3	3	0	24	23.00
		18900	1880	3	3	0	24	22.77
		19193	1909.3	3	3	0	24	22.89
		18607	1850.7	6	0	1	24	21.99
		18900	1880	6	0	1	24	21.81
		19193	1909.3	6	0	1	24	21.93

LTE Band 2								
BW	Modulation	CH	Frequency (MHz)	RB	RB Offset	MPR	Target Power	Measured Power
1.4 MHz	16QAM	18607	1850.7	1	0	1	24	22.17
		18900	1880	1	0	1	24	22.12
		19193	1909.3	1	0	1	24	22.12
		18607	1850.7	1	2	1	24	22.21
		18900	1880	1	2	1	24	22.12
		19193	1909.3	1	2	1	24	22.16
		18607	1850.7	1	5	1	24	21.97
		18900	1880	1	5	1	24	21.80
		19193	1909.3	1	5	1	24	21.83
		18607	1850.7	3	0	1	24	22.00
		18900	1880	3	0	1	24	21.85
		19193	1909.3	3	0	1	24	21.88
		18607	1850.7	3	1	1	24	22.06
		18900	1880	3	1	1	24	21.91
		19193	1909.3	3	1	1	24	22.06
		18607	1850.7	3	3	1	24	22.14
		18900	1880	3	3	1	24	21.94
		19193	1909.3	3	3	1	24	21.96
		18607	1850.7	6	0	2	24	20.94
		18900	1880	6	0	2	24	20.92
		19193	1909.3	6	0	2	24	20.88

LTE Band 2								
BW	Modulation	CH	Frequency (MHz)	RB	RB Offset	MPR	Target Power	Measured Power
3 MHz	QPSK	18615	1851.5	1	0	0	24	23.02
		18900	1880	1	0	0	24	22.80
		19185	1908.5	1	0	0	24	22.93
		18615	1851.5	1	7	0	24	23.11
		18900	1880	1	7	0	24	22.79
		19185	1908.5	1	7	0	24	22.93
		18615	1851.5	1	14	0	24	23.00
		18900	1880	1	14	0	24	22.83
		19185	1908.5	1	14	0	24	22.96
		18615	1851.5	8	0	1	24	22.06
		18900	1880	8	0	1	24	21.85
		19185	1908.5	8	0	1	24	22.03
		18615	1851.5	8	3	1	24	22.06
		18900	1880	8	3	1	24	21.88
		19185	1908.5	8	3	1	24	22.04
		18615	1851.5	8	7	1	24	22.01
		18900	1880	8	7	1	24	21.83
		19185	1908.5	8	7	1	24	21.93
		18615	1851.5	15	0	1	24	22.03
		18900	1880	15	0	1	24	21.76
		19185	1908.5	15	0	1	24	21.90

LTE Band 2								
BW	Modulation	CH	Frequency (MHz)	RB	RB Offset	MPR	Target Power	Measured Power
3 MHz	16QAM	18615	1851.5	1	0	1	24	21.95
		18900	1880	1	0	1	24	22.18
		19185	1908.5	1	0	1	24	21.87
		18615	1851.5	1	7	1	24	21.96
		18900	1880	1	7	1	24	21.71
		19185	1908.5	1	7	1	24	21.99
		18615	1851.5	1	14	1	24	21.89
		18900	1880	1	14	1	24	22.13
		19185	1908.5	1	14	1	24	22.08
		18615	1851.5	8	0	2	24	20.89
		18900	1880	8	0	2	24	20.85
		19185	1908.5	8	0	2	24	21.03
		18615	1851.5	8	3	2	24	21.12
		18900	1880	8	3	2	24	20.93
		19185	1908.5	8	3	2	24	20.95
		18615	1851.5	8	7	2	24	20.91
		18900	1880	8	7	2	24	20.81
		19185	1908.5	8	7	2	24	20.94
		18615	1851.5	15	0	2	24	21.01
		18900	1880	15	0	2	24	20.75
		19185	1908.5	15	0	2	24	21.00

LTE Band 2								
BW	Modulation	CH	Frequency (MHz)	RB	RB Offset	MPR	Target Power	Measured Power
5 MHz	QPSK	18625	1852.5	1	0	0	24	23.02
		18900	1880	1	0	0	24	22.91
		19175	1907.5	1	0	0	24	22.89
		18625	1852.5	1	12	0	24	23.01
		18900	1880	1	12	0	24	22.85
		19175	1907.5	1	12	0	24	22.99
		18625	1852.5	1	24	0	24	23.01
		18900	1880	1	24	0	24	22.85
		19175	1907.5	1	24	0	24	22.98
		18625	1852.5	12	0	1	24	21.98
		18900	1880	12	0	1	24	21.84
		19175	1907.5	12	0	1	24	22.02
		18625	1852.5	12	6	1	24	21.99
		18900	1880	12	6	1	24	21.77
		19175	1907.5	12	6	1	24	21.90
		18625	1852.5	12	13	1	24	22.12
		18900	1880	12	13	1	24	21.85
		19175	1907.5	12	13	1	24	21.89
		18625	1852.5	25	0	1	24	21.94
		18900	1880	25	0	1	24	21.73
		19175	1907.5	25	0	1	24	21.88

LTE Band 2								
BW	Modulation	CH	Frequency (MHz)	RB	RB Offset	MPR	Target Power	Measured Power
5 MHz	16QAM	18625	1852.5	1	0	1	24	21.95
		18900	1880	1	0	1	24	22.02
		19175	1907.5	1	0	1	24	21.97
		18625	1852.5	1	12	1	24	22.29
		18900	1880	1	12	1	24	22.14
		19175	1907.5	1	12	1	24	21.91
		18625	1852.5	1	24	1	24	21.78
		18900	1880	1	24	1	24	21.54
		19175	1907.5	1	24	1	24	21.51
		18625	1852.5	12	0	2	24	20.93
		18900	1880	12	0	2	24	20.74
		19175	1907.5	12	0	2	24	21.07
		18625	1852.5	12	6	2	24	21.04
		18900	1880	12	6	2	24	20.87
		19175	1907.5	12	6	2	24	21.07
		18625	1852.5	12	13	2	24	21.18
		18900	1880	12	13	2	24	20.88
		19175	1907.5	12	13	2	24	20.98
		18625	1852.5	25	0	2	24	20.87
		18900	1880	25	0	2	24	20.63
		19175	1907.5	25	0	2	24	20.91

LTE Band 2								
BW	Modulation	CH	Frequency (MHz)	RB	RB Offset	MPR	Target Power	Measured Power
10 MHz	QPSK	18650	1855	1	0	0	24	23.02
		18900	1880	1	0	0	24	22.87
		19150	1905	1	0	0	24	23.09
		18650	1855	1	24	0	24	23.24
		18900	1880	1	24	0	24	22.85
		19150	1905	1	24	0	24	23.13
		18650	1855	1	49	0	24	23.37
		18900	1880	1	49	0	24	22.94
		19150	1905	1	49	0	24	22.85
		18650	1855	25	0	1	24	21.92
		18900	1880	25	0	1	24	21.73
		19150	1905	25	0	1	24	21.97
		18650	1855	25	12	1	24	22.05
		18900	1880	25	12	1	24	21.76
		19150	1905	25	12	1	24	21.95
		18650	1855	25	25	1	24	22.15
		18900	1880	25	25	1	24	21.89
		19150	1905	25	25	1	24	21.83
		18650	1855	50	0	1	24	21.90
		18900	1880	50	0	1	24	21.60
		19150	1905	50	0	1	24	21.79

LTE Band 2								
BW	Modulation	CH	Frequency (MHz)	RB	RB Offset	MPR	Target Power	Measured Power
10 MHz	16QAM	18650	1855	1	0	1	24	22.34
		18900	1880	1	0	1	24	21.72
		19150	1905	1	0	1	24	22.07
		18650	1855	1	24	1	24	21.88
		18900	1880	1	24	1	24	21.77
		19150	1905	1	24	1	24	21.89
		18650	1855	1	49	1	24	22.22
		18900	1880	1	49	1	24	21.99
		19150	1905	1	49	1	24	22.13
		18650	1855	25	0	2	24	20.87
		18900	1880	25	0	2	24	20.71
		19150	1905	25	0	2	24	21.01
		18650	1855	25	12	2	24	21.05
		18900	1880	25	12	2	24	20.77
		19150	1905	25	12	2	24	21.03
		18650	1855	25	25	2	24	21.17
		18900	1880	25	25	2	24	20.86
		19150	1905	25	25	2	24	20.94
		18650	1855	50	0	2	24	20.95
		18900	1880	50	0	2	24	20.55
		19150	1905	50	0	2	24	20.85

LTE Band 2								
BW	Modulation	CH	Frequency (MHz)	RB	RB Offset	MPR	Target Power	Measured Power
15 MHz	QPSK	18675	1857.5	1	0	0	24	22.94
		18900	1880	1	0	0	24	23.07
		19125	1902.5	1	0	0	24	23.42
		18675	1857.5	1	37	0	24	23.22
		18900	1880	1	37	0	24	22.87
		19125	1902.5	1	37	0	24	23.16
		18675	1857.5	1	74	0	24	23.44
		18900	1880	1	74	0	24	23.01
		19125	1902.5	1	74	0	24	22.90
		18675	1857.5	36	0	1	24	21.88
		18900	1880	36	0	1	24	21.68
		19125	1902.5	36	0	1	24	22.14
		18675	1857.5	36	19	1	24	22.08
		18900	1880	36	19	1	24	21.66
		19125	1902.5	36	19	1	24	21.86
		18675	1857.5	36	39	1	24	22.25
		18900	1880	36	39	1	24	21.68
		19125	1902.5	36	39	1	24	21.84
		18675	1857.5	75	0	1	24	21.94
		18900	1880	75	0	1	24	21.52
		19125	1902.5	75	0	1	24	21.85

LTE Band 2								
BW	Modulation	CH	Frequency (MHz)	RB	RB Offset	MPR	Target Power	Measured Power
15 MHz	16QAM	18675	1857.5	1	0	1	24	21.97
		18900	1880	1	0	1	24	21.90
		19125	1902.5	1	0	1	24	22.61
		18675	1857.5	1	37	1	24	22.55
		18900	1880	1	37	1	24	21.54
		19125	1902.5	1	37	1	24	21.95
		18675	1857.5	1	74	1	24	22.67
		18900	1880	1	74	1	24	21.73
		19125	1902.5	1	74	1	24	21.78
		18675	1857.5	36	0	2	24	20.84
		18900	1880	36	0	2	24	20.61
		19125	1902.5	36	0	2	24	21.17
		18675	1857.5	36	19	2	24	21.21
		18900	1880	36	19	2	24	20.73
		19125	1902.5	36	19	2	24	20.96
		18675	1857.5	36	39	2	24	21.24
		18900	1880	36	39	2	24	20.79
		19125	1902.5	36	39	2	24	20.96
		18675	1857.5	75	0	2	24	20.94
		18900	1880	75	0	2	24	20.61
		19125	1902.5	75	0	2	24	20.89

LTE Band 2								
BW	Modulation	CH	Frequency (MHz)	RB	RB Offset	MPR	Target Power	Measured Power
20 MHz	QPSK	18700	1860	1	0	0	24	23.14
		18900	1880	1	0	0	24	23.00
		19100	1900	1	0	0	24	23.09
		18700	1860	1	50	0	24	23.34
		18900	1880	1	50	0	24	22.77
		19100	1900	1	50	0	24	23.20
		18700	1860	1	99	0	24	23.10
		18900	1880	1	99	0	24	23.10
		19100	1900	1	99	0	24	22.99
		18700	1860	50	0	1	24	21.96
		18900	1880	50	0	1	24	21.55
		19100	1900	50	0	1	24	22.02
		18700	1860	50	25	1	24	22.17
		18900	1880	50	25	1	24	21.54
		19100	1900	50	25	1	24	22.04
		18700	1860	50	50	1	24	22.08
		18900	1880	50	50	1	24	21.67
		19100	1900	50	50	1	24	21.77
		18700	1860	100	0	1	24	21.98
		18900	1880	100	0	1	24	21.72
		19100	1900	100	0	1	24	21.88

LTE Band 2								
BW	Modulation	CH	Frequency (MHz)	RB	RB Offset	MPR	Target Power	Measured Power
20 MHz	16QAM	18700	1860	1	0	1	24	21.97
		18900	1880	1	0	1	24	22.29
		19100	1900	1	0	1	24	21.79
		18700	1860	1	50	1	24	22.30
		18900	1880	1	50	1	24	21.91
		19100	1900	1	50	1	24	22.08
		18700	1860	1	99	1	24	22.13
		18900	1880	1	99	1	24	22.31
		19100	1900	1	99	1	24	21.51
		18700	1860	50	0	2	24	20.98
		18900	1880	50	0	2	24	20.56
		19100	1900	50	0	2	24	21.08
		18700	1860	50	25	2	24	21.10
		18900	1880	50	25	2	24	20.55
		19100	1900	50	25	2	24	20.97
		18700	1860	50	50	2	24	21.02
		18900	1880	50	50	2	24	20.63
		19100	1900	50	50	2	24	20.76
		18700	1860	100	0	2	24	20.97
		18900	1880	100	0	2	24	20.69
		19100	1900	100	0	2	24	20.93

EIRP POWER (dBm)

GPRS

Channel	Frequency (MHz)	Antenna Polarization	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)
512	1850.2	H	24.44	6.63	31.07	1279.38
661	1880.0	H	23.55	6.68	30.23	1054.39
810	1909.8	H	23.79	6.74	30.53	1129.80

EDGE

Channel	Frequency (MHz)	Antenna Polarization	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)
512	1850.2	H	24.10	6.63	30.73	1183.04
661	1880.0	H	23.81	6.68	30.49	1119.44
810	1909.8	H	23.66	6.74	30.40	1096.48

WCDMA

Channel	Frequency (MHz)	Antenna Polarization	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)
9262	1852.4	H	19.42	6.97	26.39	435.51
9400	1880.0	H	19.99	6.68	26.67	464.52
9538	1907.6	H	19.56	6.73	26.29	425.60

QPSK

LTE Band 5 (1.4MHz)

Channel	Frequency (MHz)	Antenna Polarization	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)
18607	1850.7	H	16.25	6.63	22.88	194.09
18900	1880	H	16.09	6.68	22.77	189.23
18607	1850.7	H	16.25	6.63	22.88	194.09

LTE Band 5 (3MHz)

Channel	Frequency (MHz)	Antenna Polarization	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)
18615	1851.5	H	16.31	6.63	22.94	196.79
18900	1880	H	16.43	6.68	23.11	204.64
19185	1908.5	H	16.06	6.73	22.79	190.11

LTE Band 5 (5MHz)

Channel	Frequency (MHz)	Antenna Polarization	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)
18625	1852.5	H	16.12	6.63	22.75	188.36
18900	1880	H	16.33	6.68	23.01	199.99
19175	1907.5	H	16.39	6.73	23.12	205.12

LTE Band 5 (10MHz)

Channel	Frequency (MHz)	Antenna Polarization	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)
18650	1855	H	16.24	6.64	22.88	194.09
18900	1880	H	16.61	6.68	23.29	213.30
19150	1905	H	16.39	6.73	23.12	205.12

LTE Band 5 (15MHz)

Channel	Frequency (MHz)	Antenna Polarization	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)
18675	1857.5	H	16.19	6.64	22.83	191.87
18900	1880	H	16.21	6.68	22.89	194.54
19125	1902.5	H	16.26	6.72	22.98	198.61

LTE Band 5 (20MHz)

Channel	Frequency (MHz)	Antenna Polarization	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)
18700	1860	H	16.25	6.65	22.90	194.98
18900	1880	H	16.40	6.68	23.08	203.24
19100	1900	H	16.20	6.72	22.92	195.88

REMARKS: 1. EIPR Output Power (dBm) = SPA Reading (dBm) + Correction Factor (dB).
2. ERP power = EIPR power - 2.15dBi.
3. Correction factor (dB) = Free Space Loss + Antenna Factor + Cable Loss.

16QAM

LTE Band 5 (1.4MHz)

Channel	Frequency (MHz)	Antenna Polarization	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)
18607	1850.7	H	15.30	6.63	21.93	155.96
18900	1880	H	15.15	6.68	21.83	152.41
18607	1850.7	H	15.12	6.73	21.85	153.11

LTE Band 5 (3MHz)

Channel	Frequency (MHz)	Antenna Polarization	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)
18615	1851.5	H	15.39	6.63	22.02	159.22
18900	1880	H	15.55	6.68	22.23	167.11
19185	1908.5	H	15.11	6.73	21.84	152.76

LTE Band 5 (5MHz)

Channel	Frequency (MHz)	Antenna Polarization	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)
18625	1852.5	H	15.18	6.63	21.81	151.71
18900	1880	H	15.45	6.68	22.13	163.31
19175	1907.5	H	15.48	6.73	22.21	166.34

LTE Band 5 (10MHz)

Channel	Frequency (MHz)	Antenna Polarization	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)
18650	1855	H	15.30	6.64	21.94	156.31
18900	1880	H	15.66	6.68	22.34	171.40
19150	1905	H	15.51	6.73	22.24	167.49

LTE Band 5 (15MHz)

Channel	Frequency (MHz)	Antenna Polarization	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)
18675	1857.5	H	15.29	6.64	21.93	155.96
18900	1880	H	15.27	6.68	21.95	156.68
19125	1902.5	H	15.32	6.72	22.04	159.96

LTE Band 5 (20MHz)

Channel	Frequency (MHz)	Antenna Polarization	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)
18700	1860	H	15.37	6.65	22.02	159.22
18900	1880	H	15.46	6.68	22.14	163.68
19100	1900	H	15.29	6.72	22.01	158.85

REMARKS: 1. EIPR Output Power (dBm) = SPA Reading (dBm) + Correction Factor (dB).
2. ERP power = EIPR power - 2.15dBi.
3. Correction factor (dB) = Free Space Loss + Antenna Factor + Cable Loss.

4.2 Frequency Stability Measurement

4.2.1 Limits of Frequency Stabiliity Measurement

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

4.2.2 Test Procedure

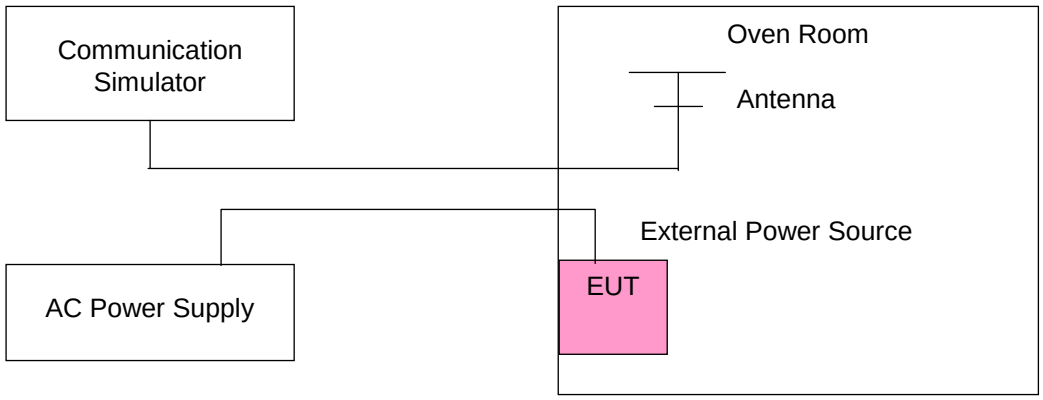
a. Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.

b. EUT is connected the external power supply to control the AC 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)
	GPRS	WCDMA	
102	0.005	0.004	2.5
138	0.004	0.004	2.5

Frequency Error vs. Temperature.

TEMP. (℃)	Frequency Error (ppm)		Limit (ppm)
	GPRS	WCDMA	
75	0.012	0.010	2.5
70	0.011	0.010	2.5
60	0.007	0.010	2.5
50	0.007	0.008	2.5
40	0.006	0.006	2.5
30	0.005	0.005	2.5
20	0.004	0.004	2.5
10	0.006	0.005	2.5
0	0.007	0.006	2.5
-10	0.007	0.007	2.5
-20	0.008	0.007	2.5
-30	0.009	0.009	2.5

Voltage (Volts)	Frequency Error (ppm)						Limit (ppm)
	LTE						
	1.4MHz	3MHz	5MHz	10MHz	15MHz	20MHz	
102	0.010	0.014	0.022	0.024	0.017	0.022	2.5
138	0.012	0.019	0.019	0.023	0.012	0.013	2.5

Frequency Error vs. Temperature.

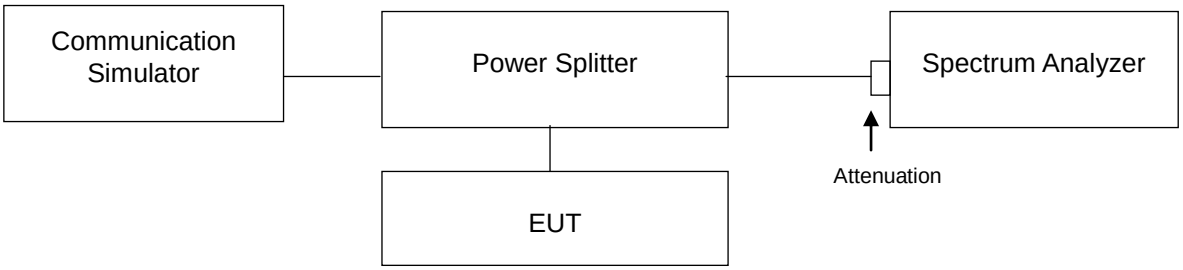
TEMP. (℃)	Frequency Error (ppm)						Limit (ppm)
	LTE						
	1.4MHz	3MHz	5MHz	10MHz	15MHz	20MHz	
75	0.014	0.017	0.016	0.023	0.020	0.017	2.5
70	0.021	0.023	0.020	0.021	0.018	0.015	2.5
60	0.019	0.014	0.014	0.024	0.016	0.020	2.5
50	0.013	0.018	0.018	0.022	0.021	0.022	2.5
40	0.022	0.015	0.012	0.020	0.018	0.013	2.5
30	0.012	0.023	0.014	0.016	0.015	0.022	2.5
20	0.022	0.018	0.018	0.015	0.012	0.013	2.5
10	0.022	0.022	0.017	0.020	0.018	0.015	2.5
0	0.020	0.013	0.019	0.022	0.016	0.015	2.5
-10	0.020	0.017	0.019	0.016	0.013	0.013	2.5
-20	0.017	0.018	0.014	0.021	0.016	0.024	2.5
-30	0.020	0.015	0.014	0.014	0.021	0.021	2.5

4.3 Occupied Bandwidth Measurement

4.3.1 Test Procedure

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

4.3.2 Test Setup

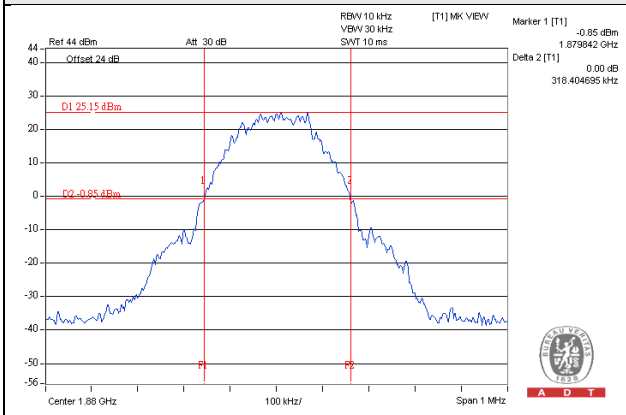


4.3.3 Test Result (-26dB Bandwidth)

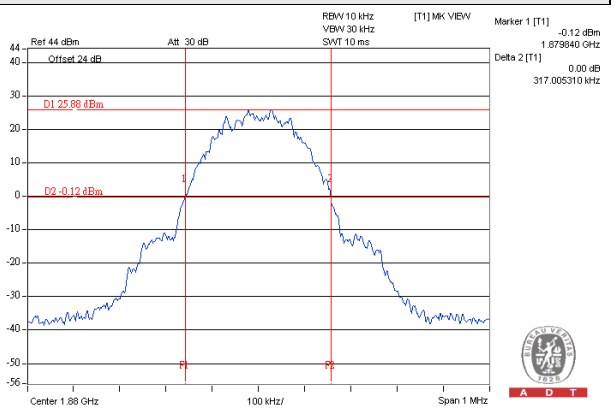
Channel	Frequency (MHz)	-26dB Bandwidth (kHz)		Channel	FREQ. (MHz)	-26dB Bandwidth (MHz)
		GPRS	EDGE			WCDMA
512	1850.2	309	316	9262	1852.4	4.68
661	1880.0	318	317	9400	1880.0	4.67
810	1909.8	313	316	9538	1907.6	4.68

Spectrum Plot Of Worst Value

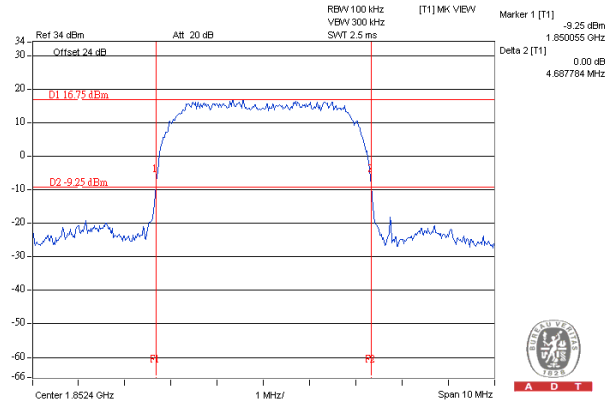
GPRS



EDGE



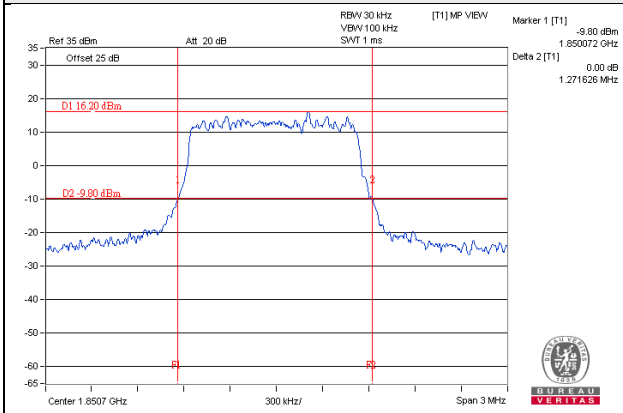
WCDMA



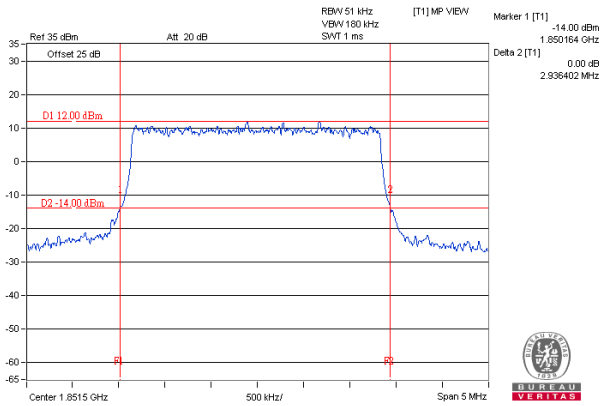
LTE							
Channel Bandwidth: 1.4MHz				**Channel Bandwidth: 3MHz**			
Channel	Frequency (MHz)	-26dB Bandwidth (MHz)		Channel	FREQ. (MHz)	-26dB Bandwidth (MHz)	
		QPSK	16QAM			QPSK	16QAM
18607	1850.7	1.27	1.27	18615	1851.5	2.93	2.93
18900	1880	1.24	1.24	18900	1880	2.91	2.92
19193	1909.3	1.27	1.27	19185	1908.5	2.92	2.91
Channel Bandwidth: 5MHz				**Channel Bandwidth: 10MHz**			
Channel	Frequency (MHz)	-26dB Bandwidth (MHz)		Channel	FREQ. (MHz)	-26dB Bandwidth (MHz)	
		QPSK	16QAM			QPSK	16QAM
18625	1852.5	5.01	5	18650	1855	9.68	9.89
18900	1880	4.95	4.96	18900	1880	9.78	9.9
19175	1907.5	4.97	4.97	19150	1905	9.65	9.83
Channel Bandwidth: 15MHz				**Channel Bandwidth: 20MHz**			
Channel	Frequency (MHz)	-26dB Bandwidth (MHz)		Channel	FREQ. (MHz)	-26dB Bandwidth (MHz)	
		QPSK	16QAM			QPSK	16QAM
18675	1857.5	14.8	14.92	18700	1860	19.38	19.88
18900	1880	14.6	14.81	18900	1880	19.18	19.92
19125	1902.5	14.67	14.69	19100	1900	19.11	19.84

Spectrum Plot Of Worst Value

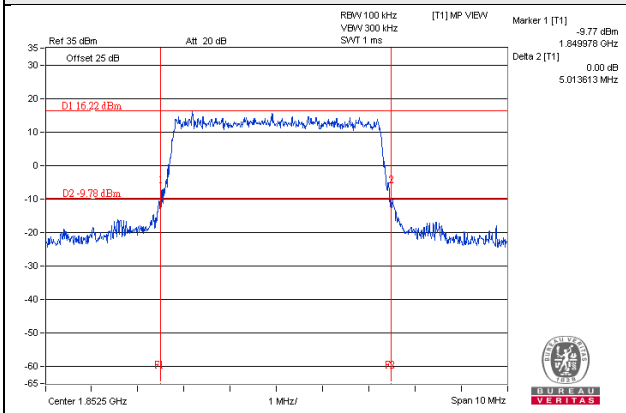
Channel Bandwidth: 1.4MHz



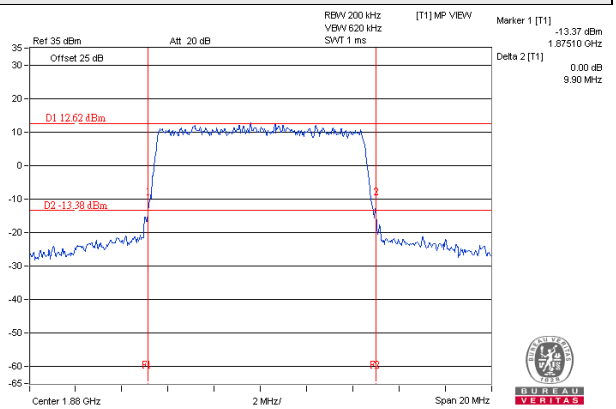
Channel Bandwidth: 3MHz



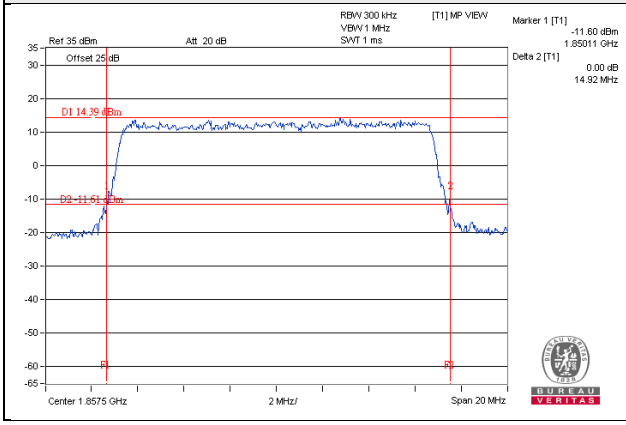
Channel Bandwidth: 5MHz



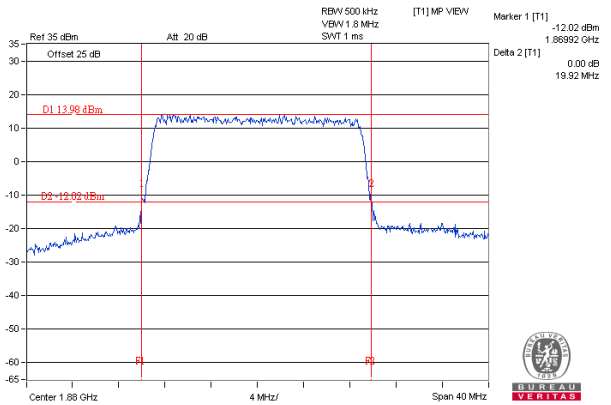
Channel Bandwidth: 10MHz



Channel Bandwidth: 15MHz



Channel Bandwidth: 20MHz

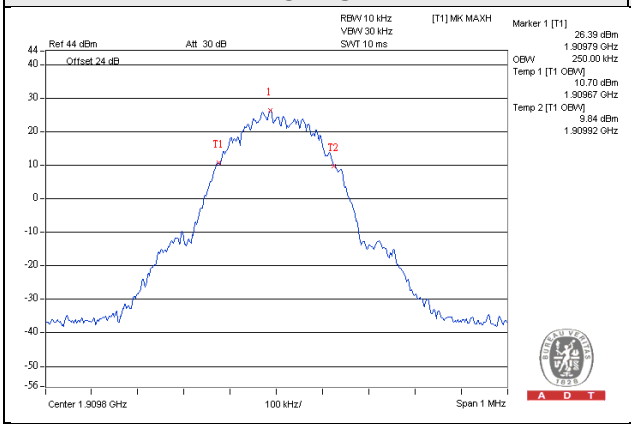


4.3.4 Test Result (Occupied Bandwidth)

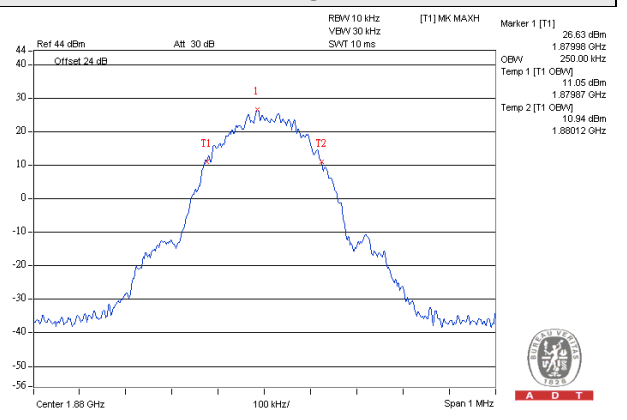
Channel	Frequency (MHz)	99% Occupied Bandwidth (kHz)		Channel	FREQ. (MHz)	99% Occupied Bandwidth (MHz)
		GPRS	EDGE			WCDMA
512	1850.2	246	242	9262	1852.4	4.16
661	1880.0	248	250	9400	1880.0	4.18
810	1909.8	250	246	9538	1907.6	4.18

Spectrum Plot Of Worst Value

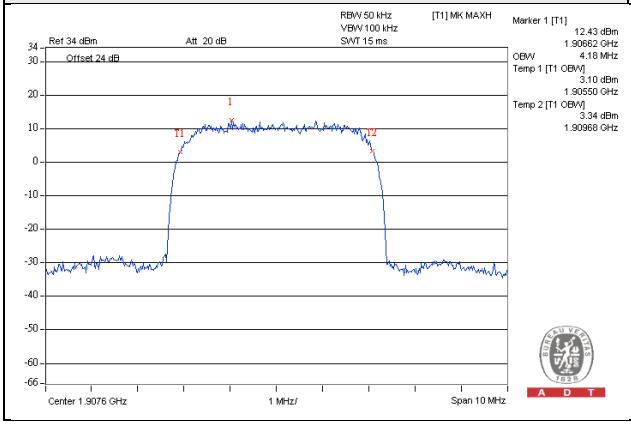
GPRS



EDGE



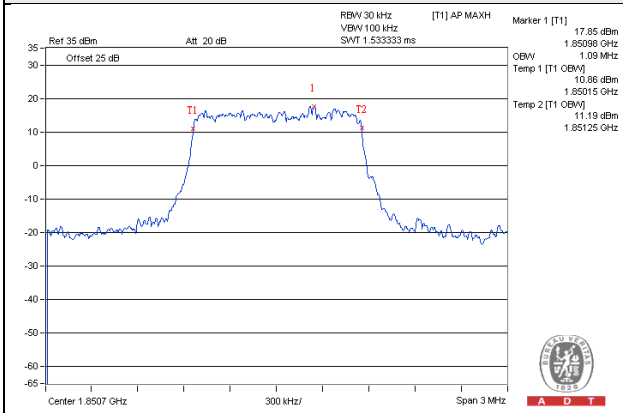
WCDMA



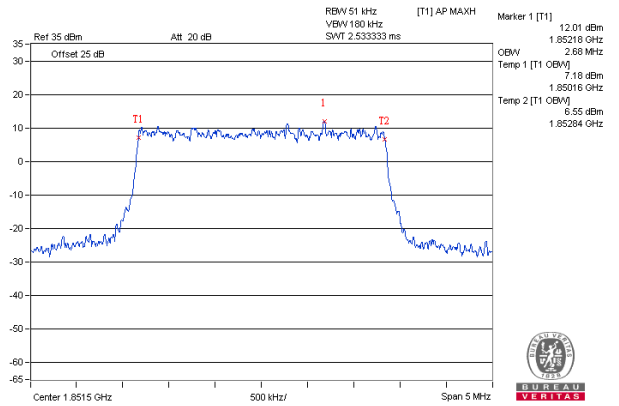
LTE							
Channel Bandwidth: 1.4MHz				**Channel Bandwidth: 3MHz**			
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)		Channel	FREQ. (MHz)	99% Occupied Bandwidth (MHz)	
		QPSK	16QAM			QPSK	16QAM
18607	1850.7	1.09	1.08	18615	1851.5	2.68	2.68
18900	1880	1.08	1.09	18900	1880	2.68	2.68
19193	1909.3	1.08	1.08	19185	1908.5	2.68	2.68
Channel Bandwidth: 5MHz				**Channel Bandwidth: 10MHz**			
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)		Channel	FREQ. (MHz)	99% Occupied Bandwidth (MHz)	
		QPSK	16QAM			QPSK	16QAM
18625	1852.5	4.5	4.48	18650	1855	8.94	8.92
18900	1880	4.49	4.5	18900	1880	8.94	8.94
19175	1907.5	4.49	4.48	19150	1905	8.94	8.94
Channel Bandwidth: 15MHz				**Channel Bandwidth: 20MHz**			
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)		Channel	FREQ. (MHz)	99% Occupied Bandwidth (MHz)	
		QPSK	16QAM			QPSK	16QAM
18675	1857.5	13.47	13.41	18700	1860	17.92	17.84
18900	1880	13.44	13.44	18900	1880	17.88	17.84
19125	1902.5	13.72	13.41	19100	1900	17.88	17.8

Spectrum Plot Of Worst Value

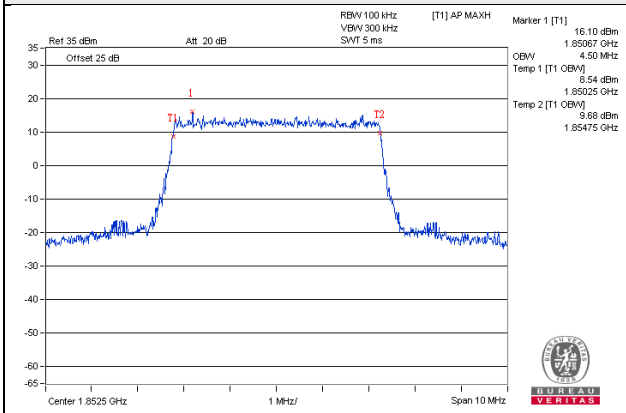
Channel Bandwidth: 1.4MHz



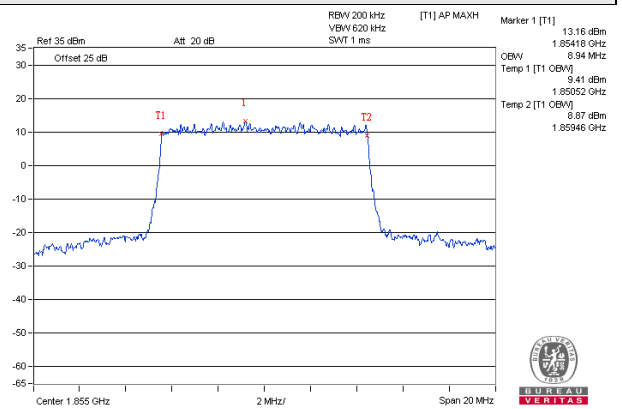
Channel Bandwidth: 3MHz



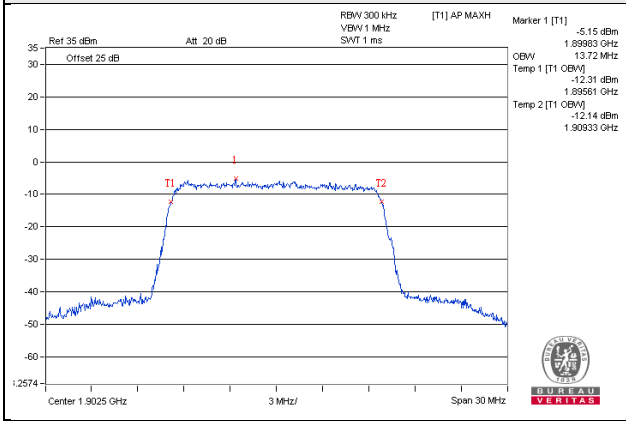
Channel Bandwidth: 5MHz



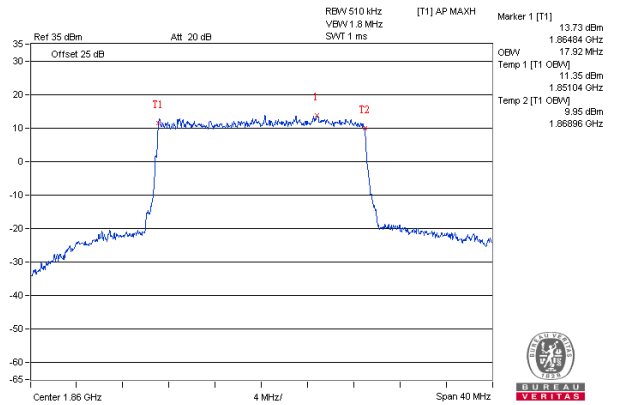
Channel Bandwidth: 10MHz



Channel Bandwidth: 15MHz



Channel Bandwidth: 20MHz

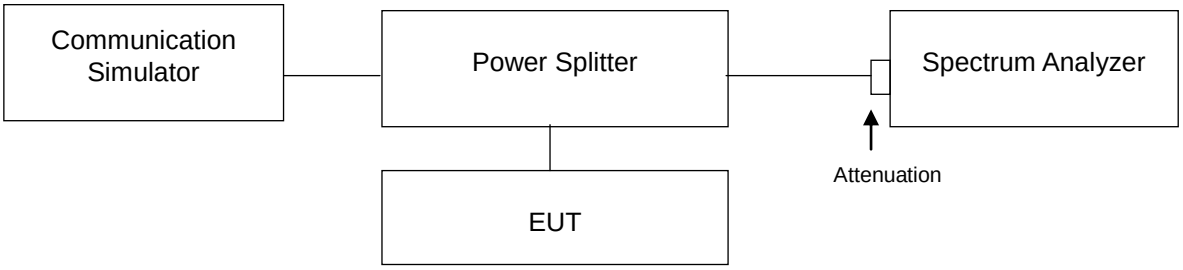


4.4 Band Edge Measurement

4.4.1 Limits of Band Edge Measurement

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

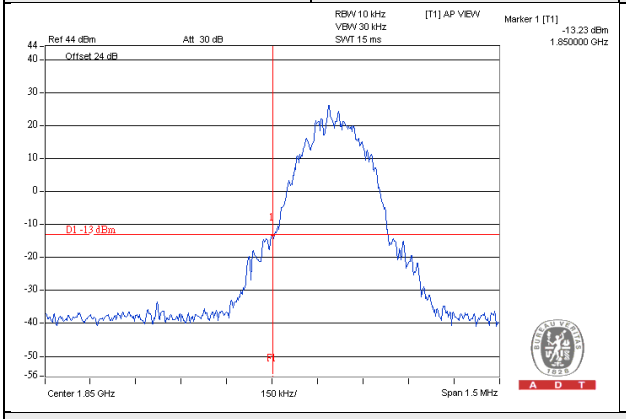
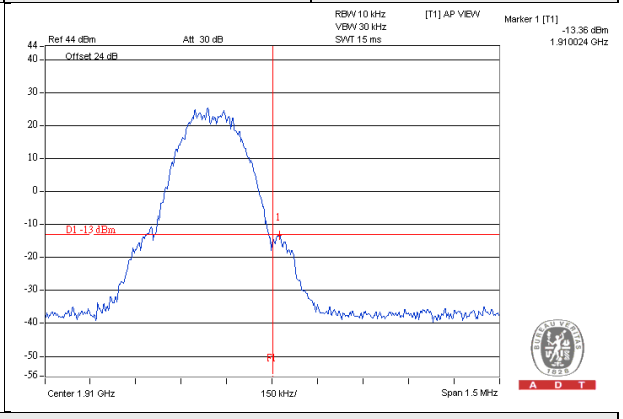
4.4.2 Test Setup

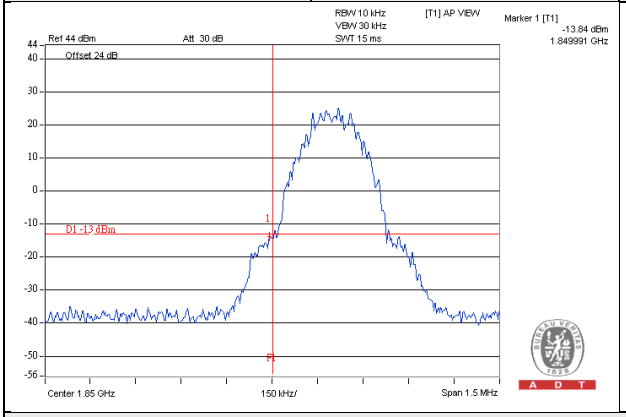
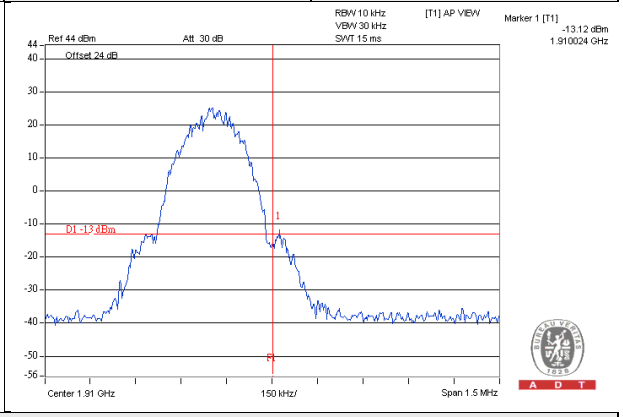


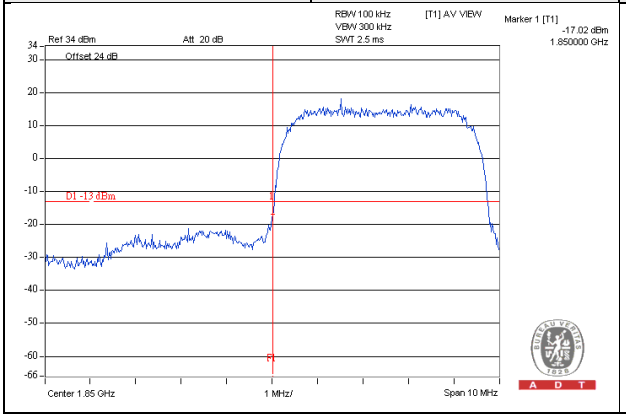
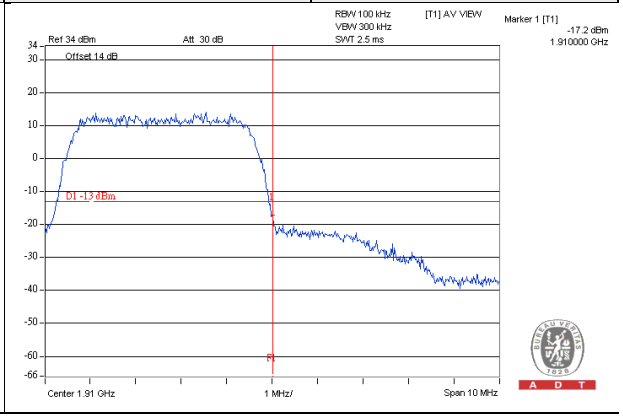
4.4.3 Test Procedures

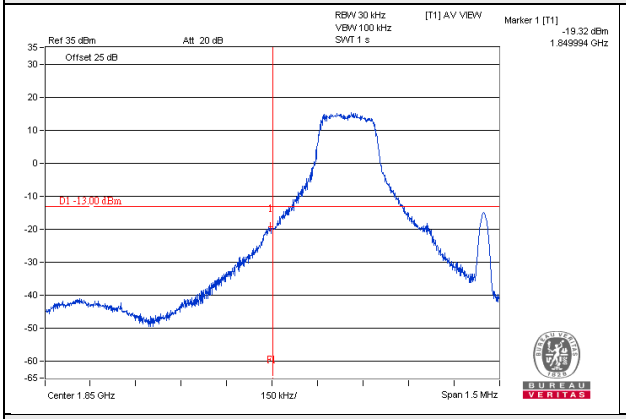
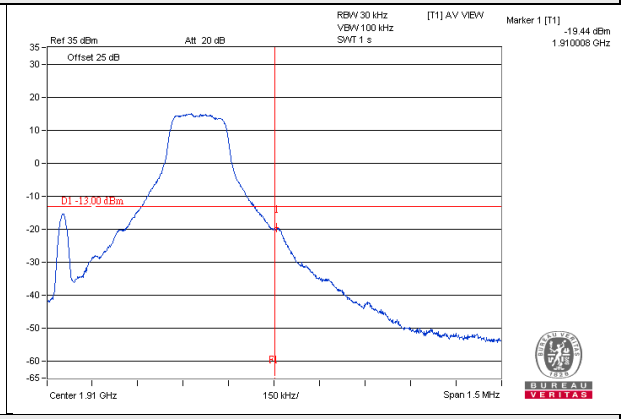
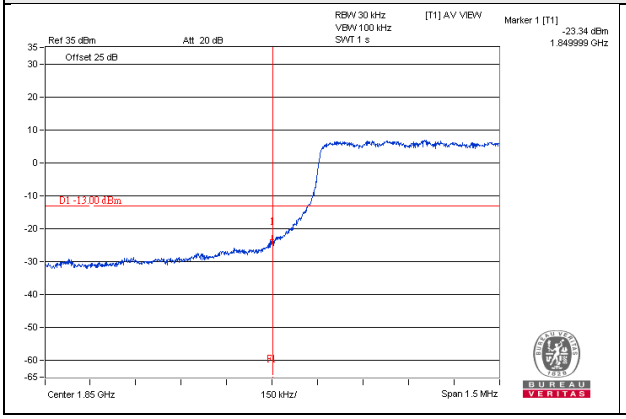
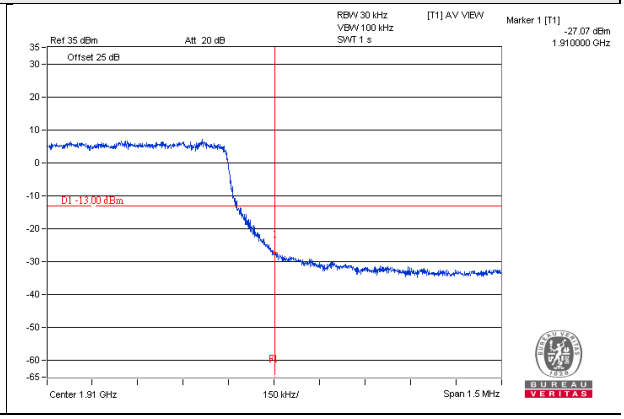
a. All measurements were done at low and high operational frequency range.
b. The center frequency of spectrum is the band edge frequency and s RB of the spectrum is >1% EMISSION BANDWIDTH and VB of the spectrum is ≧ 3*RB.
c. Record the max trace plot into the test report.

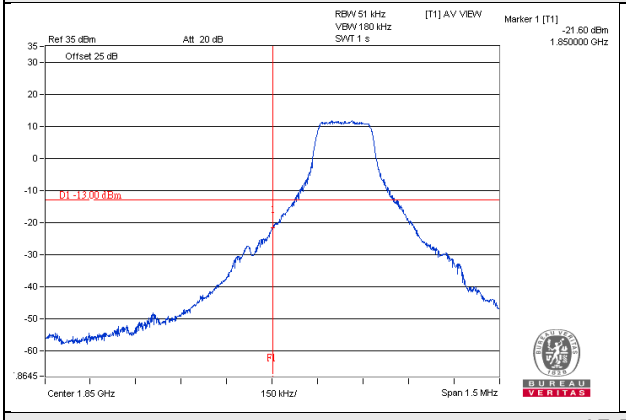
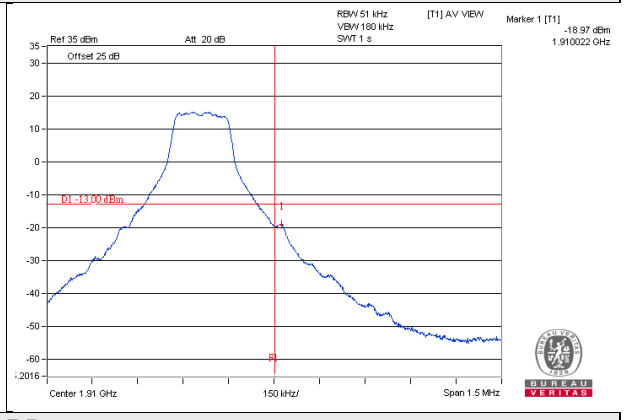
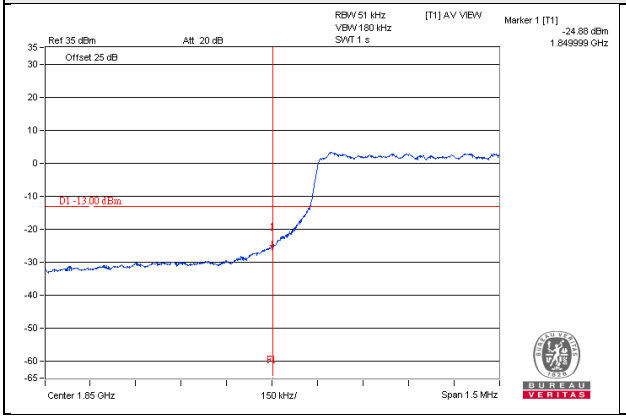
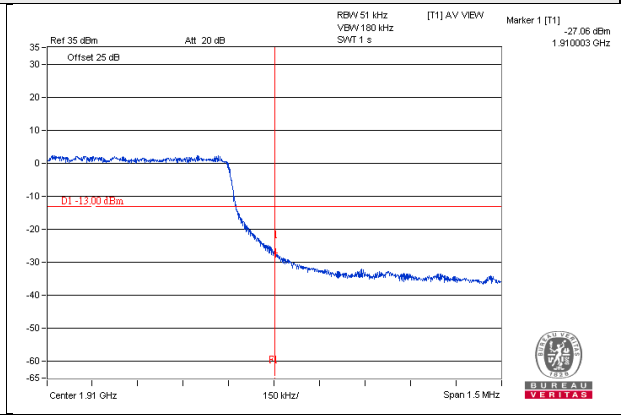
4.4.4 Test Results

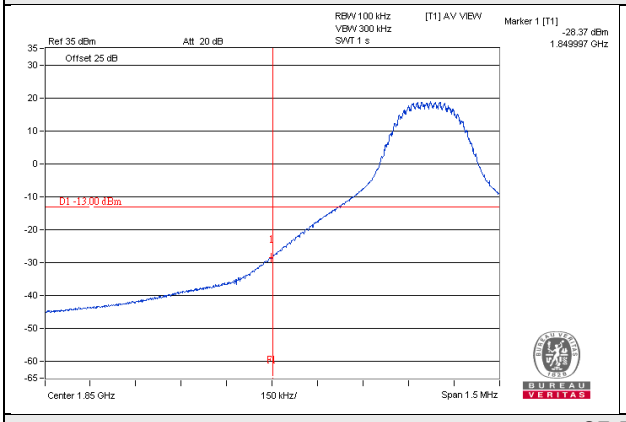
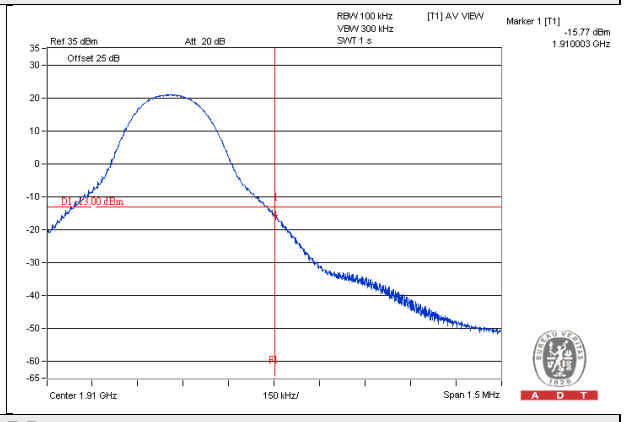
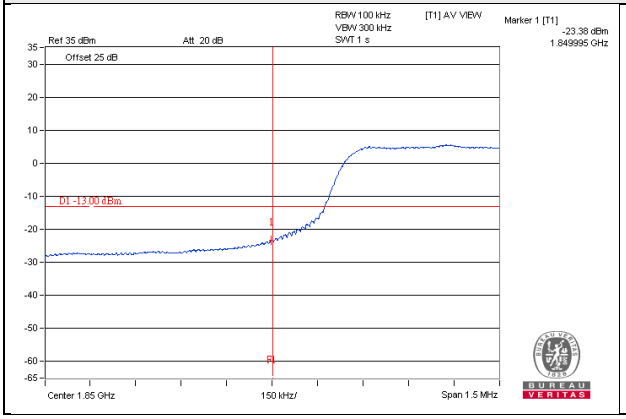
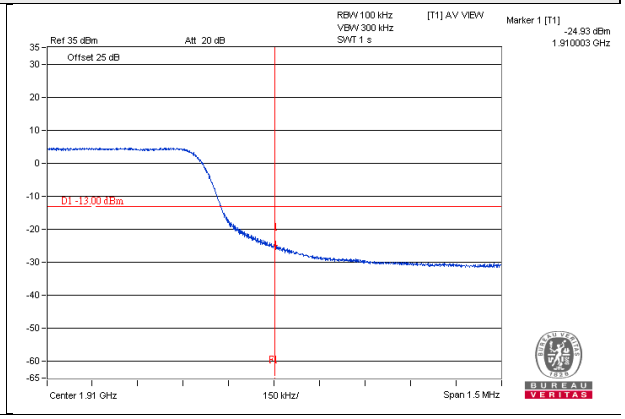
GPRS			
Channel	512	Channel	810
			

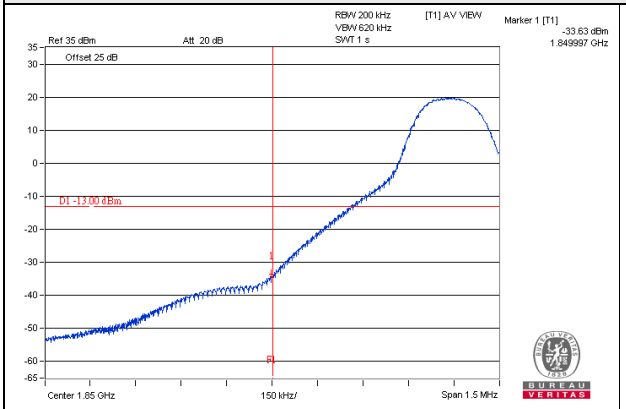
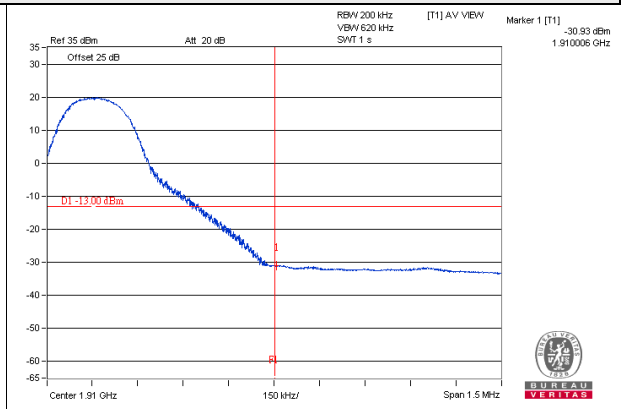
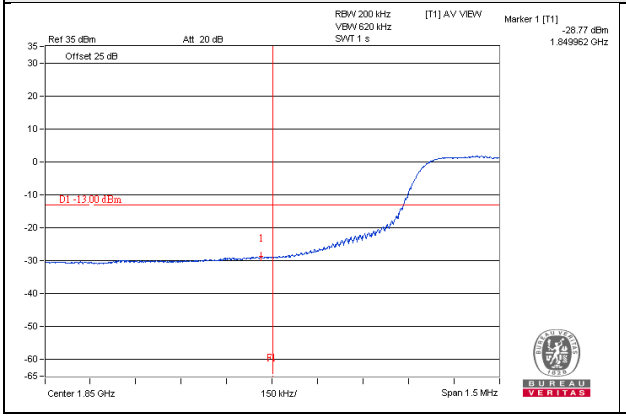
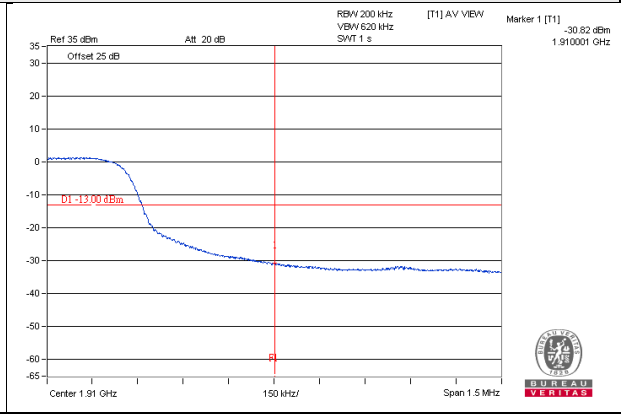
EDGE			
Channel	512	Channel	810
			

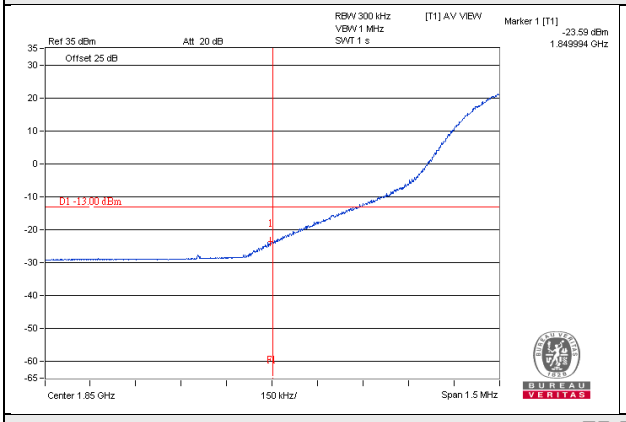
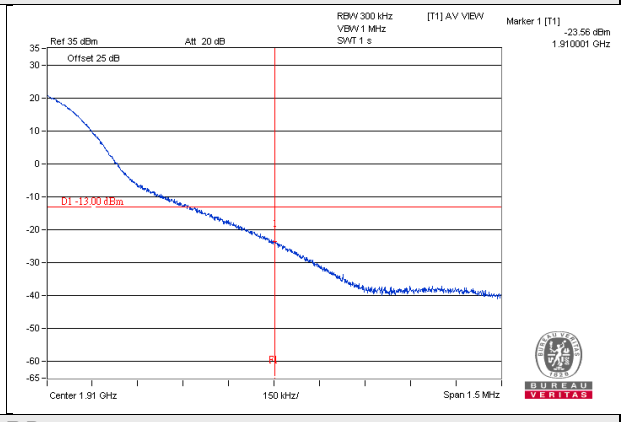
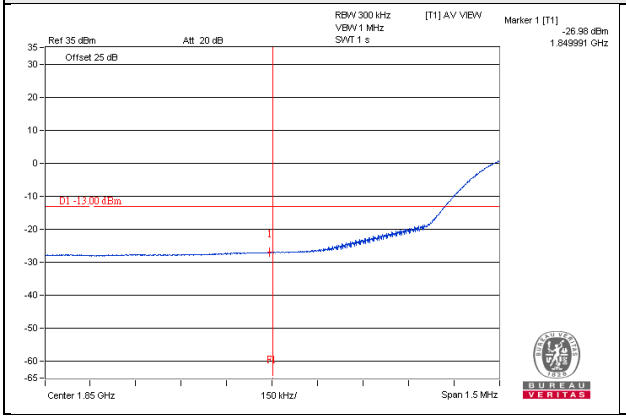
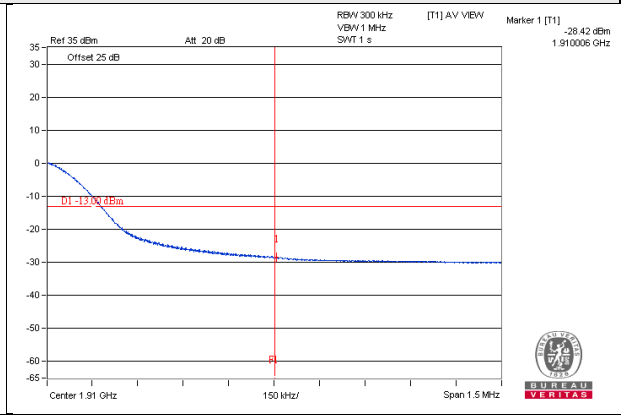
WCDMA			
Channel	9262	Channel	9538
			

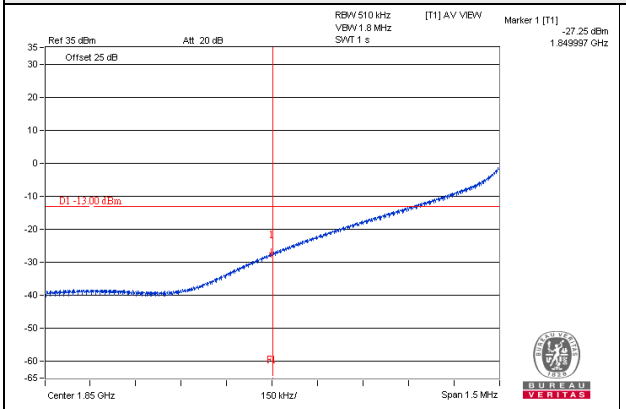
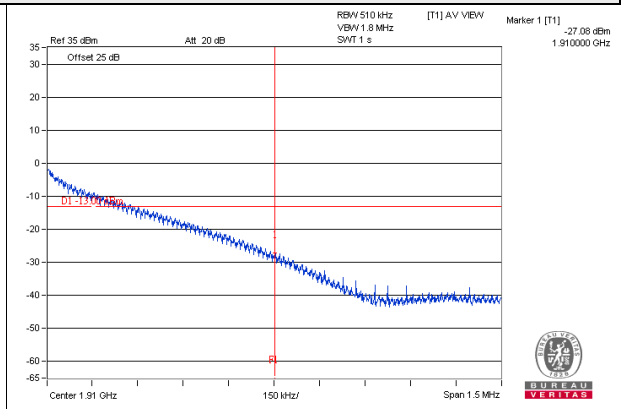
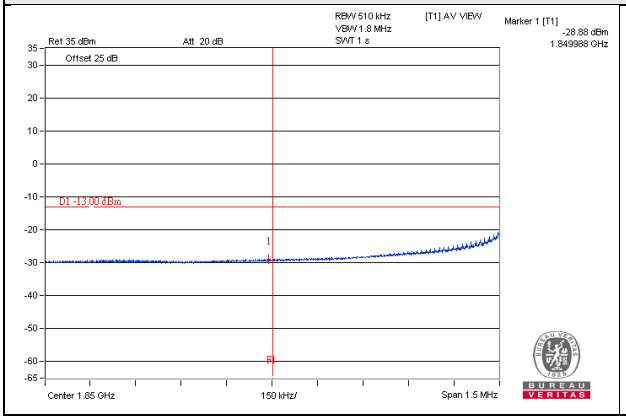
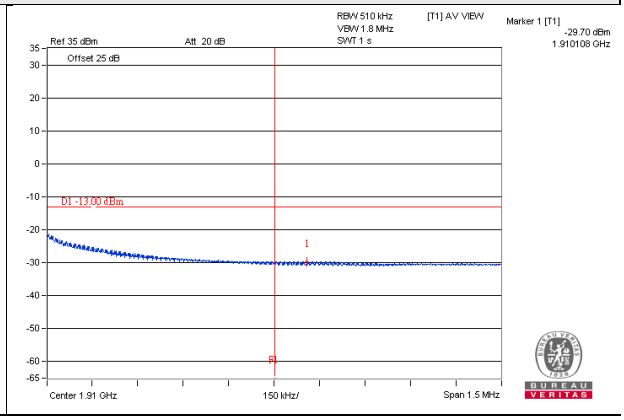
LTE			
1.4MHz			
Channel	18607	Channel	19193
1 RB			
			
6 RB			
			

3MHz			
Channel	18615	Channel	19185
1 RB			
			
15 RB			
			

5MHz			
Channel	18625	Channel	19175
1 RB			
			
25 RB			
			

10MHz			
Channel	18650	Channel	19150
1 RB			
			
50 RB			
			

15MHz			
Channel	18675	Channel	19125
1 RB			
			
75 RB			
			

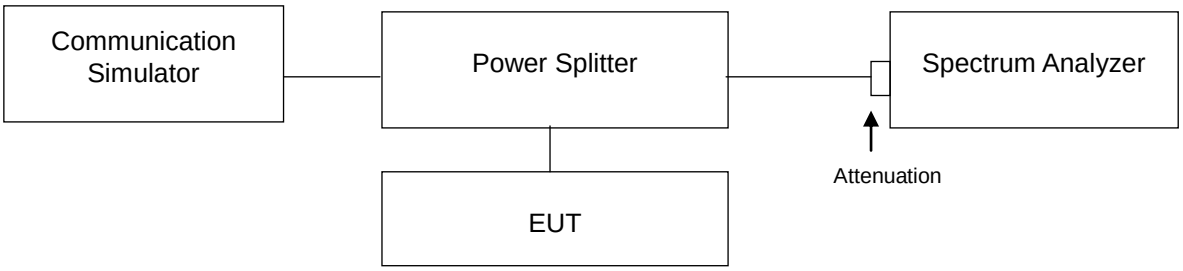
20MHz			
Channel	18700	Channel	19100
1 RB			
			
100 RB			
			

4.5 Peak to Average Ratio

4.5.1 Limits of Peak to Average Ratio Measurement

In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB

4.5.2 Test Setup



4.5.3 Test Procedures

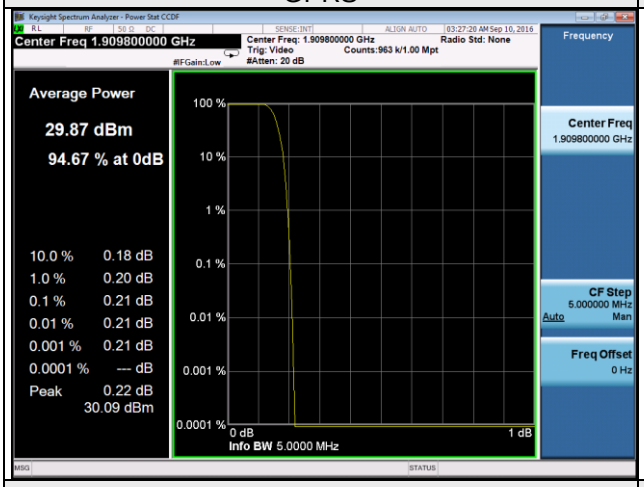
1. Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Record the maximum PAPR level associated with a probability of 0.1%.

4.5.4 Test Results

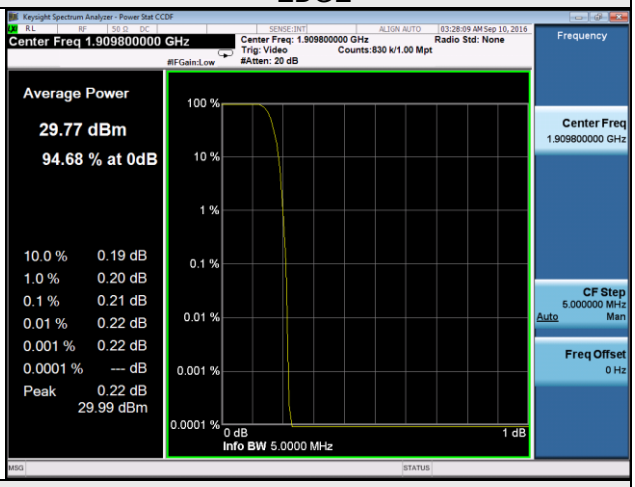
Channel	Frequency (MHz)	Peak to Average Ratio (dB)		Channel	Freq. (MHz)	Peak to Average Ratio (dB)
		GPRS	EDGE			WCDMA
512	1850.2	0.2	0.2	9262	1852.4	3.03
661	1880.0	0.2	0.2	9400	1880	3.09
810	1909.8	0.21	0.21	9538	1907.6	2.83

Spectrum Plot Of Worst Value

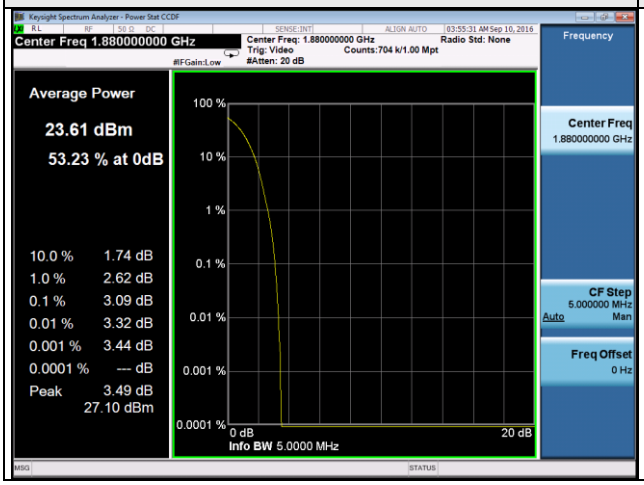
GPRS



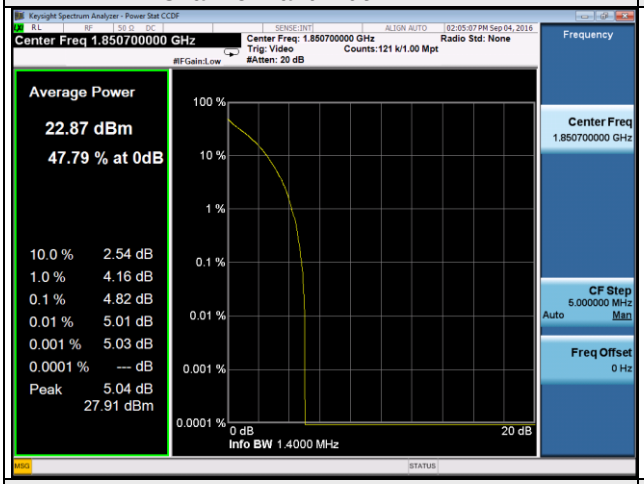
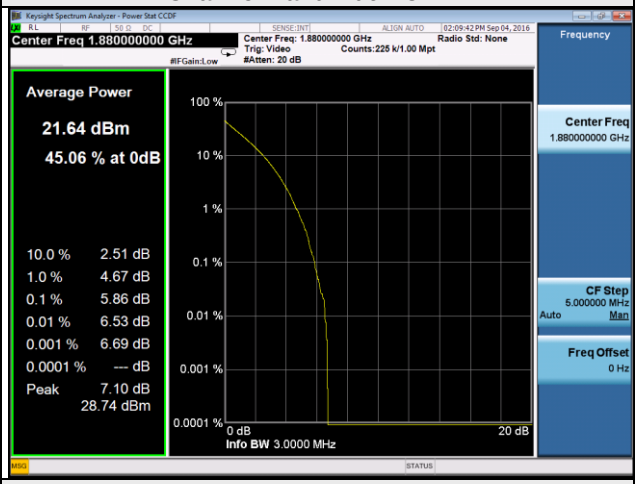
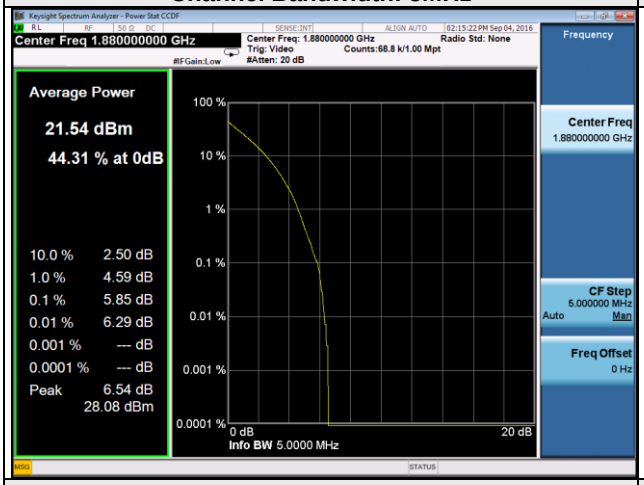
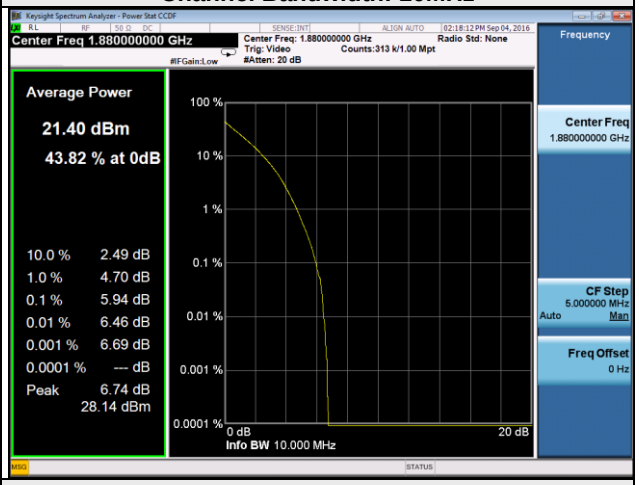
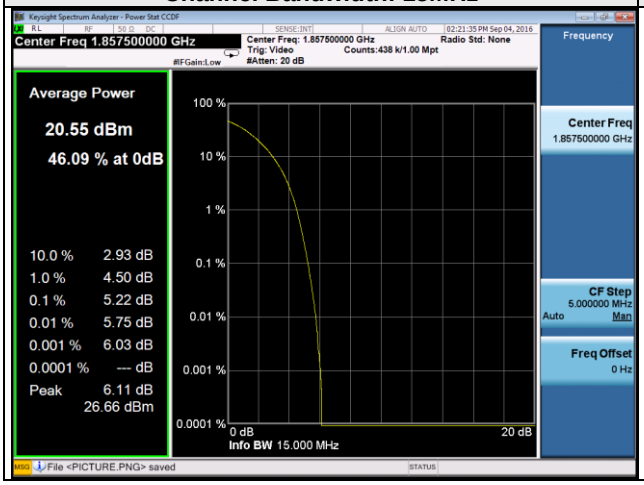
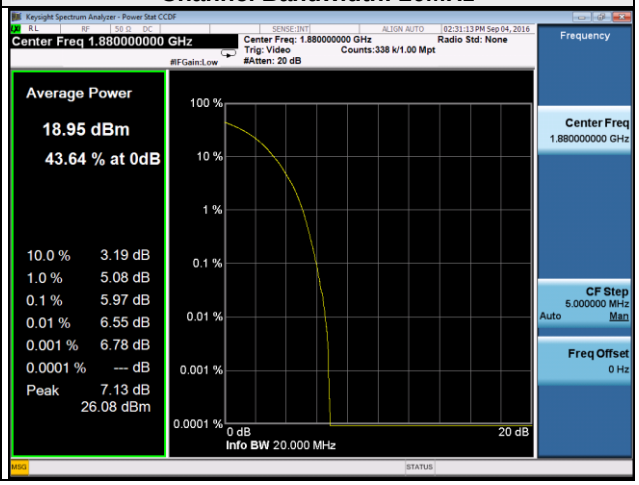
EDGE



WCDMA



Channel Bandwidth: 1.4MHz			Channel Bandwidth: 3MHz		
Channel	Frequency (MHz)	Peak to Average Ratio (dB)	Channel	Freq. (MHz)	Peak to Average Ratio (dB)
		LTE 1.4MHz			LTE 3MHz
18607	1850.7	4.82	18615	1851.5	5.7
18900	1880	4.38	18900	1880	5.86
19193	1909.3	4.5	19185	1908.5	5.57
Channel Bandwidth: 5MHz			**Channel Bandwidth: 10MHz**		
Channel	Frequency (MHz)	Peak to Average Ratio (dB)	Channel	Freq. (MHz)	Peak to Average Ratio (dB)
		LTE 5MHz			LTE 10MHz
18625	1852.5	5.76	18650	1855	5.88
18900	1880	5.85	18900	1880	5.94
19175	1907.5	5.49	19150	1905	5.61
Channel Bandwidth: 15MHz			**Channel Bandwidth: 20MHz**		
Channel	Frequency (MHz)	Peak to Average Ratio (dB)	Channel	Freq. (MHz)	Peak to Average Ratio (dB)
		LTE 5MHz			LTE 10MHz
18675	1857.5	5.22	18700	1860	5.9
18900	1880	5.21	18900	1880	5.97
19125	1902.5	5.17	19100	1900	5.86

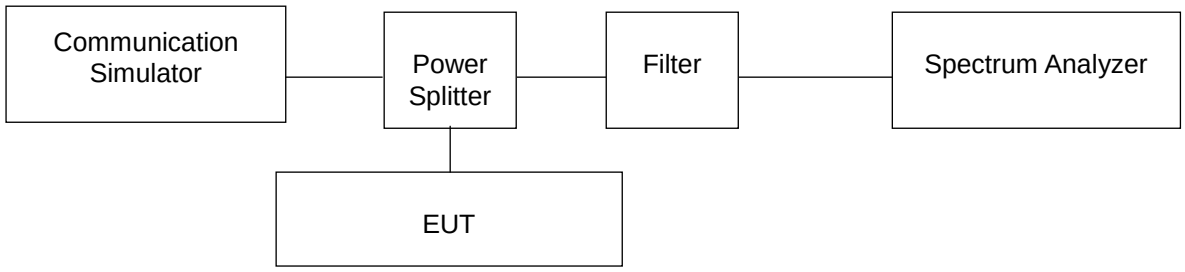
Spectrum Plot Of Worst Value	
Channel Bandwidth: 1.4MHz	**Channel Bandwidth: 3MHz**
	
Channel Bandwidth: 5MHz	**Channel Bandwidth: 10MHz**
	
Channel Bandwidth: 15MHz	**Channel Bandwidth: 20MHz**
	

4.6 Conducted Spurious Emissions

4.6.1 Limits of Conducted Spurious Emissions Measurement

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

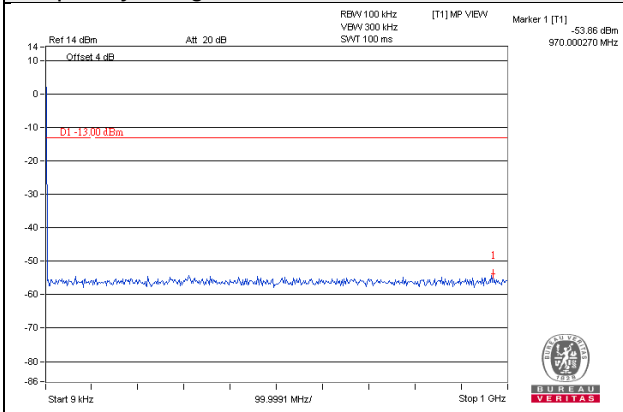
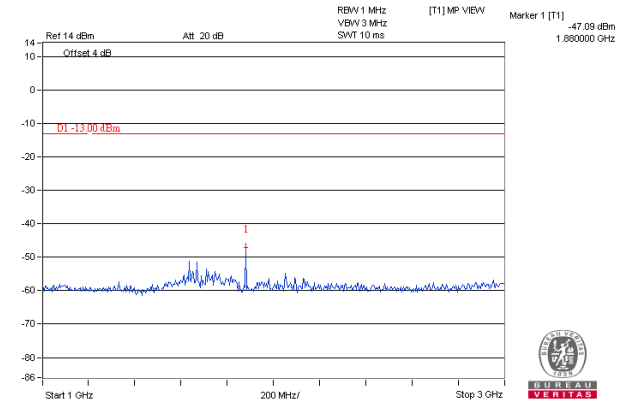
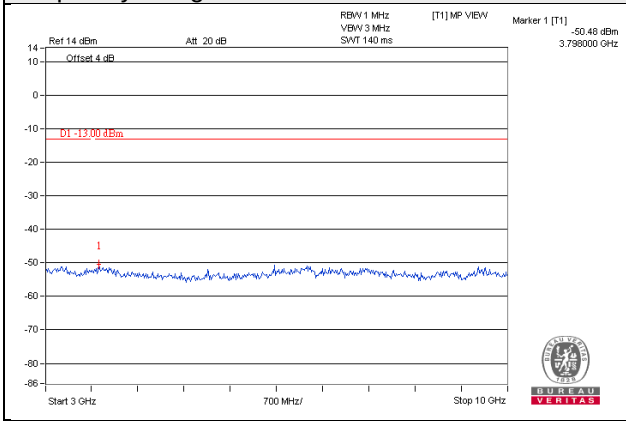
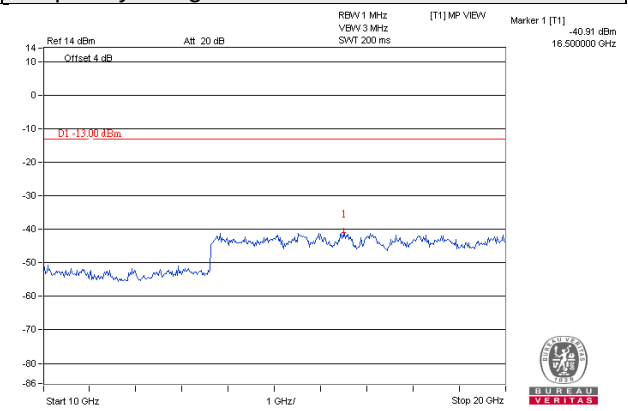
4.6.2 Test Setup

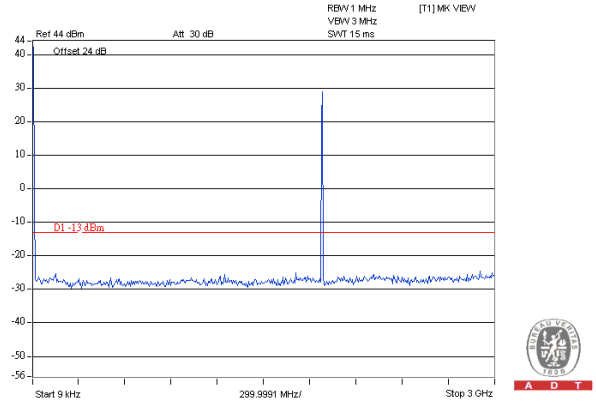
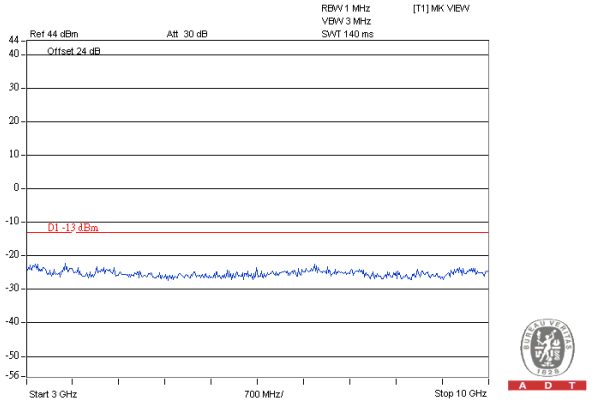
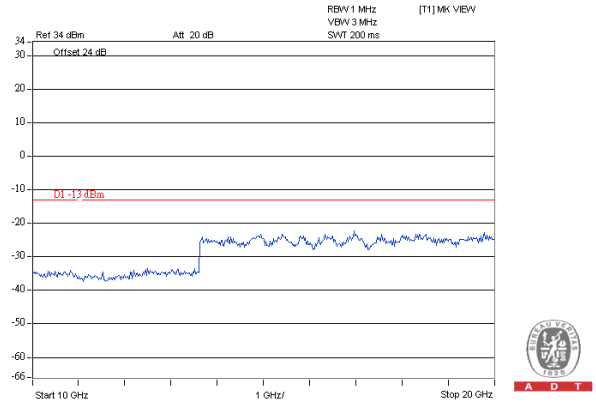


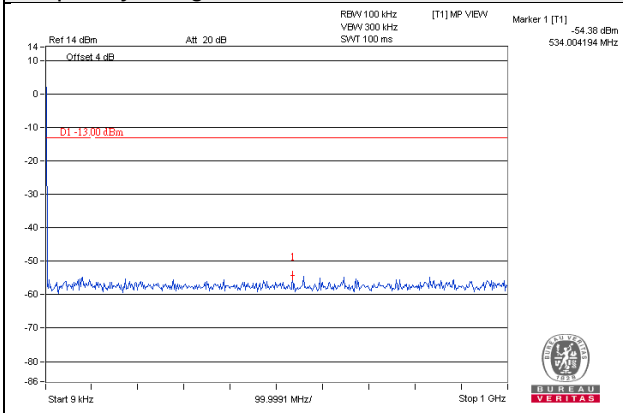
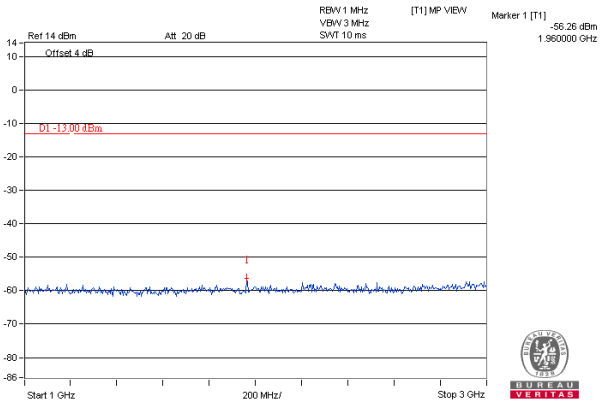
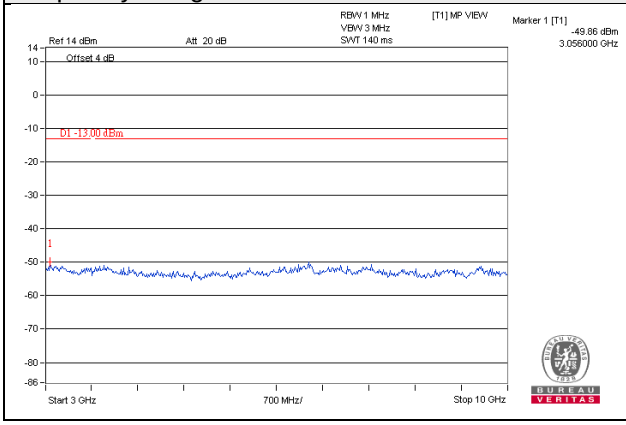
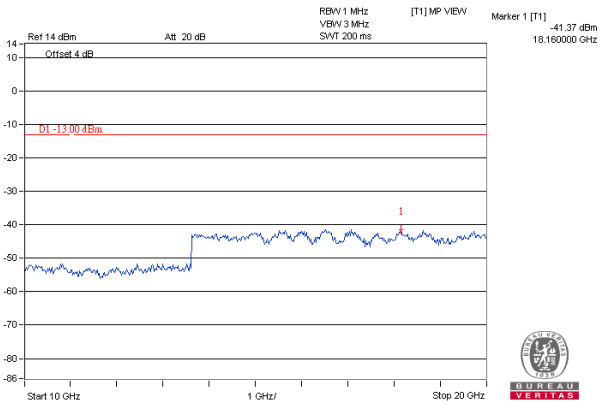
4.6.3 Test Procedure

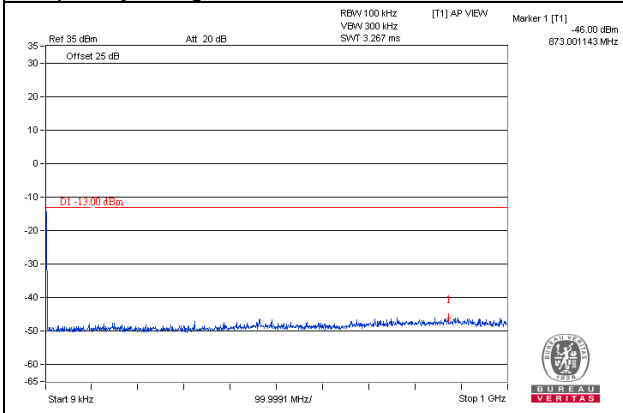
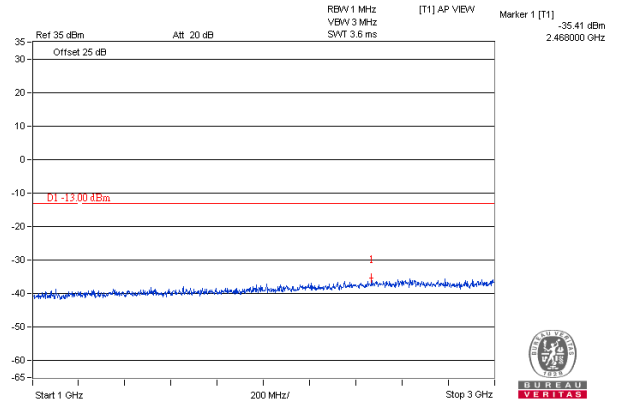
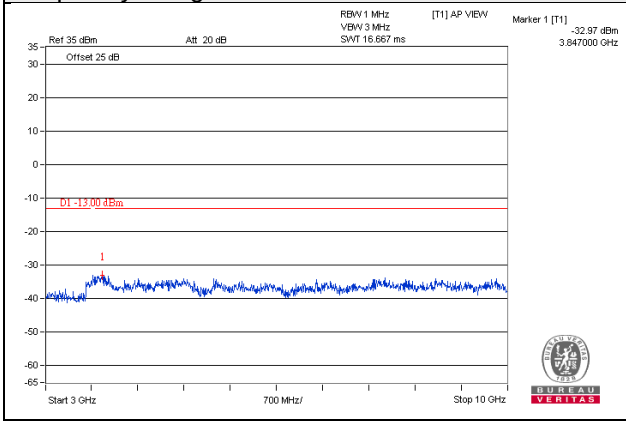
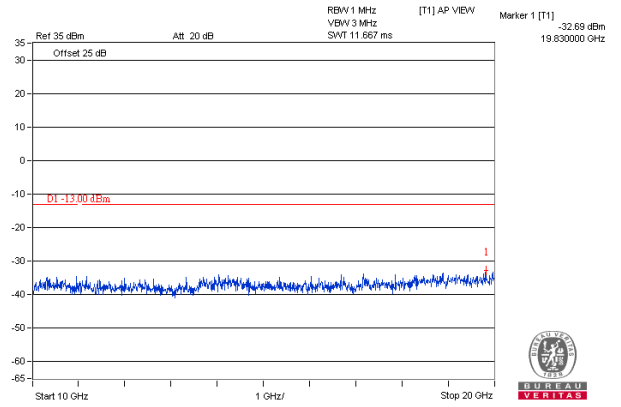
a. The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
b. Measuring frequency range is from 9 kHz to 20GHz. RBW=1MHz and VBW=3MHz for above 1GHz, RBW=100kHz and VBW=300kHz for below 1GHz is used for conducted emission measurement.

4.6.4 Test Results

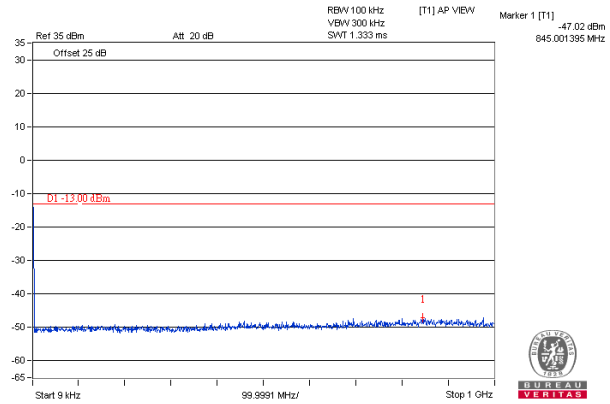
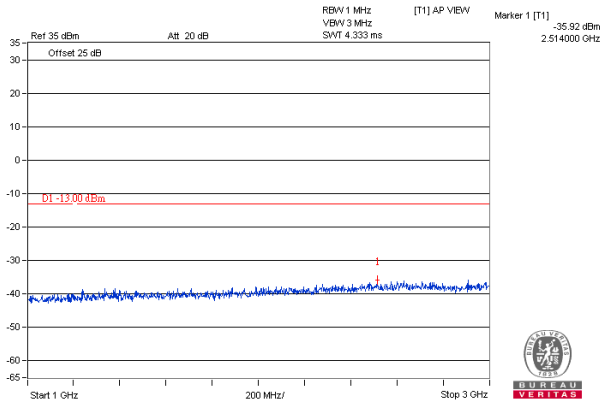
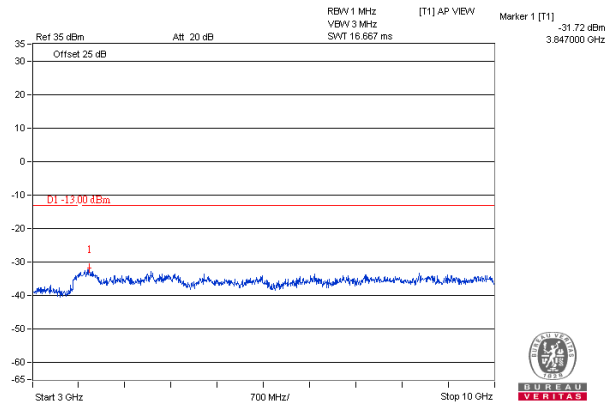
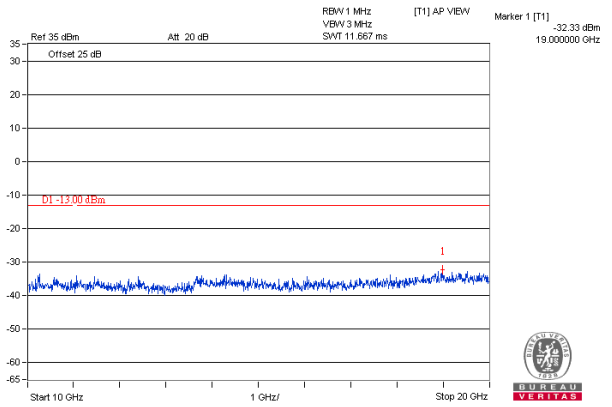
GPRS	
Channel 661	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~3GHz
	
Frequency Range : 3GHz~10GHz	Frequency Range : 10GHz~20GHz
	

EDGE	
Channel 661	
Frequency Range : 9kHz~3GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~20GHz	
	

WCDMA	
Channel 9400	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~3GHz
	
Frequency Range : 3GHz~10GHz	Frequency Range : 10GHz~20GHz
	

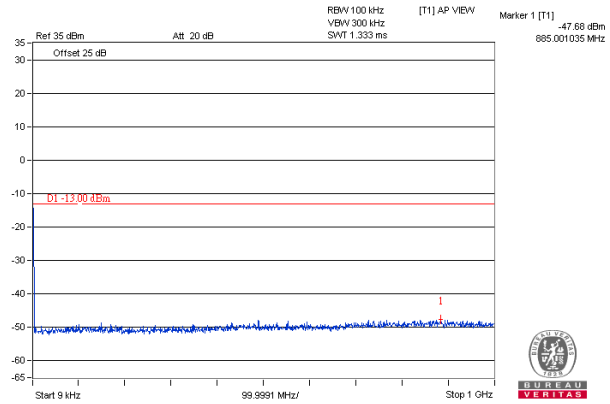
LTE	
1.4MHz	
Channel 18900	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~3GHz
	
Frequency Range : 3GHz~10GHz	Frequency Range : 10GHz~20GHz
	

3MHz
Channel 18900

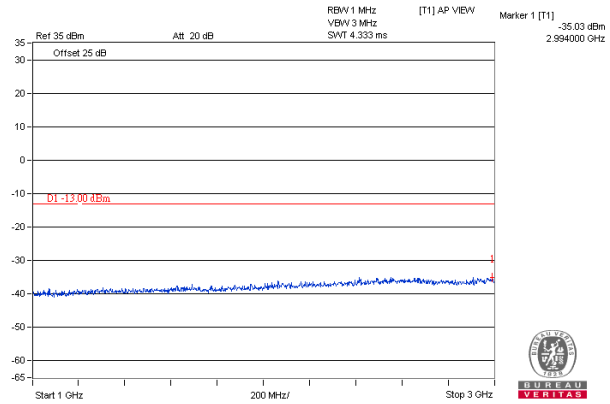
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~3GHz
	
Frequency Range : 3GHz~10GHz	Frequency Range : 10GHz~20GHz
	

5MHz
Channel 18900

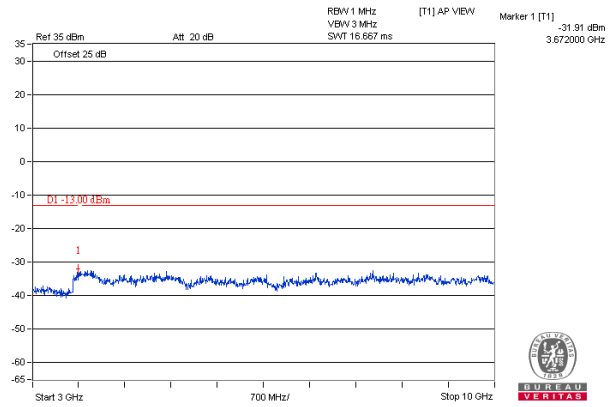
Frequency Range : 9kHz~1GHz



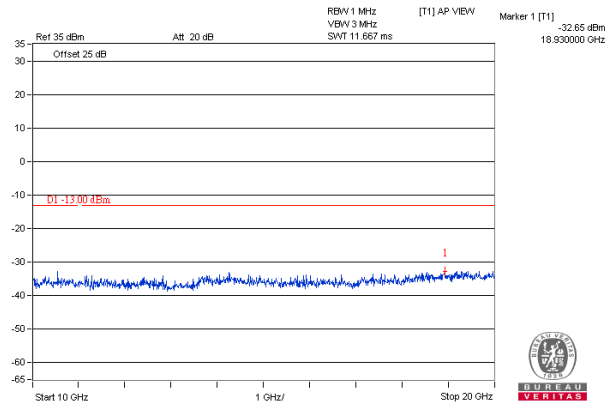
Frequency Range : 1GHz~3GHz

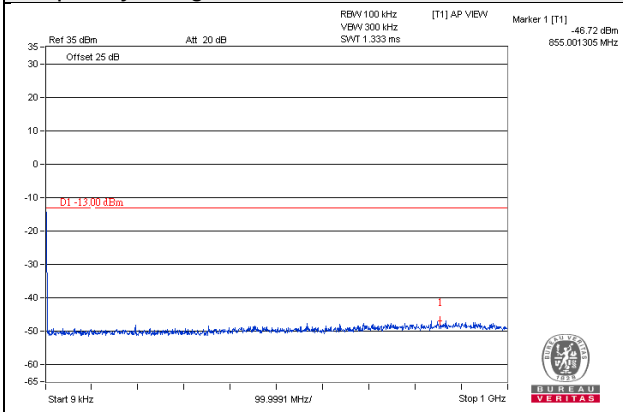
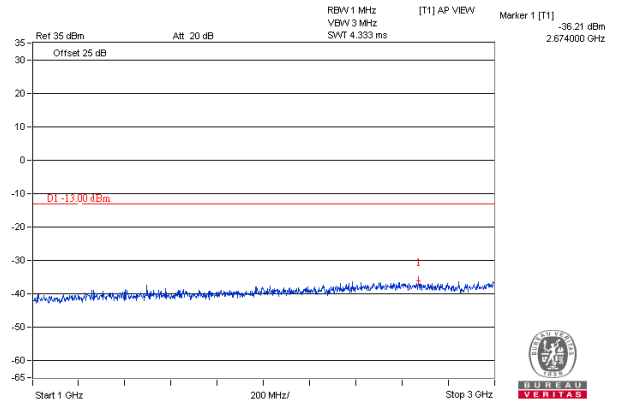
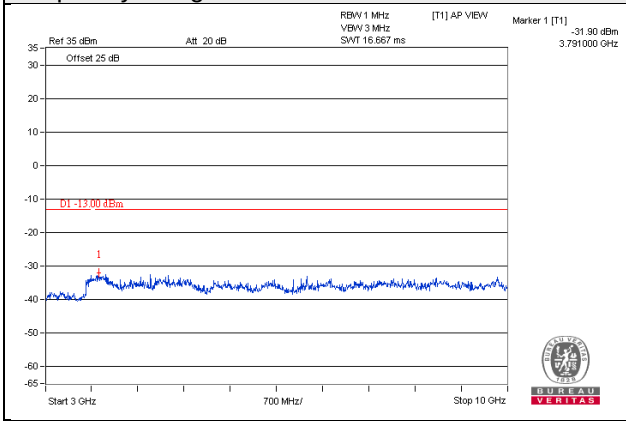
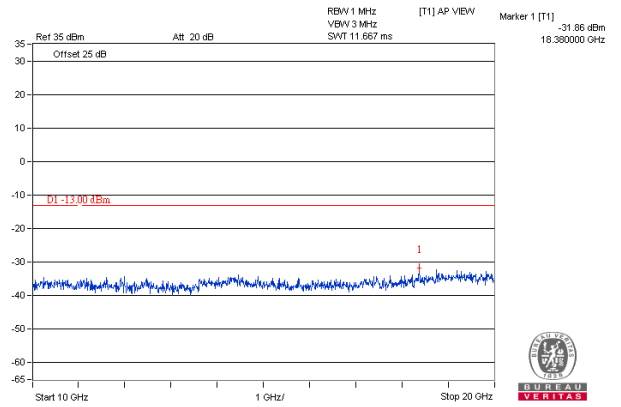


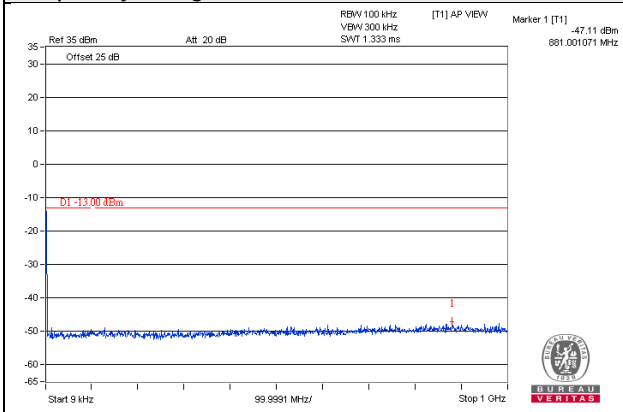
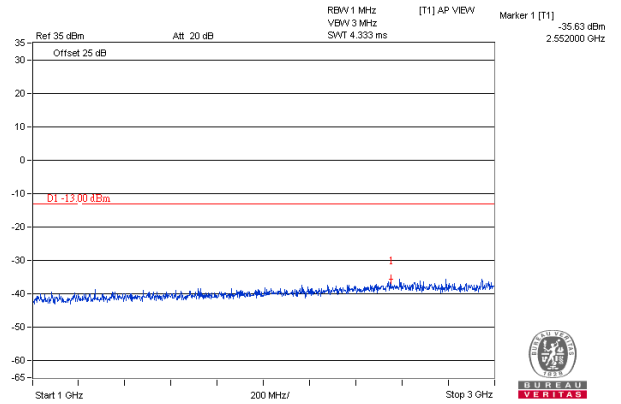
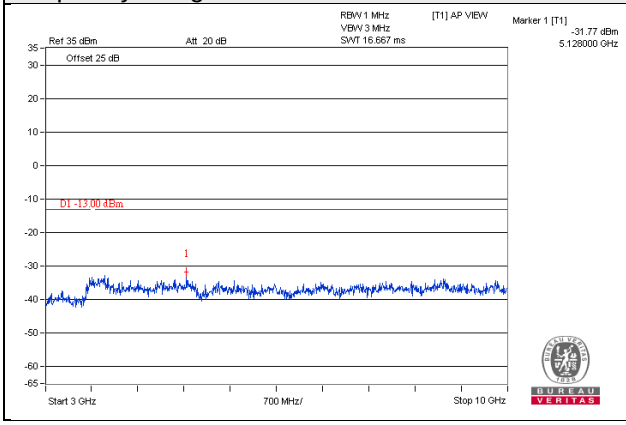
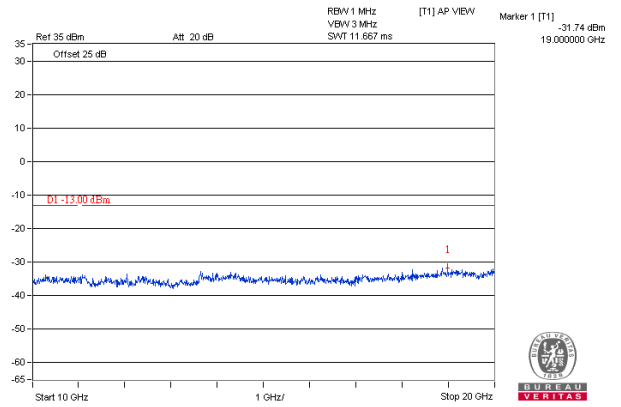
Frequency Range : 3GHz~10GHz

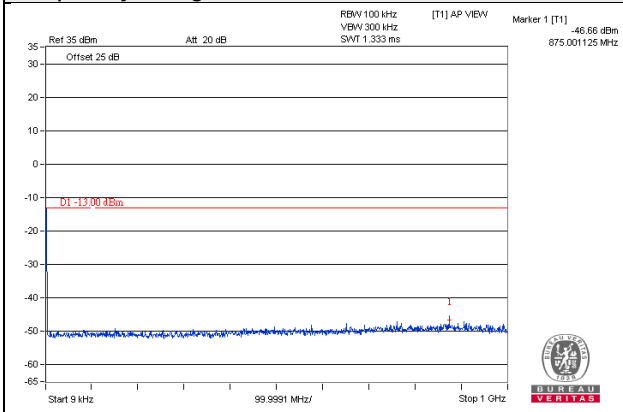
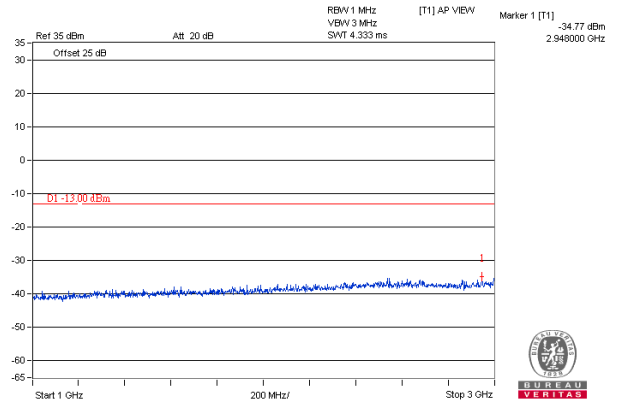
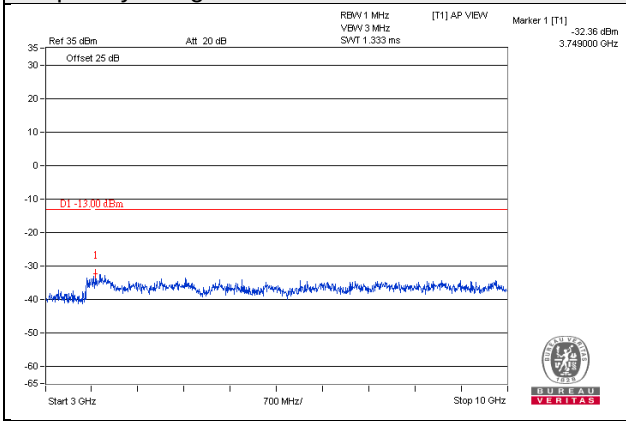
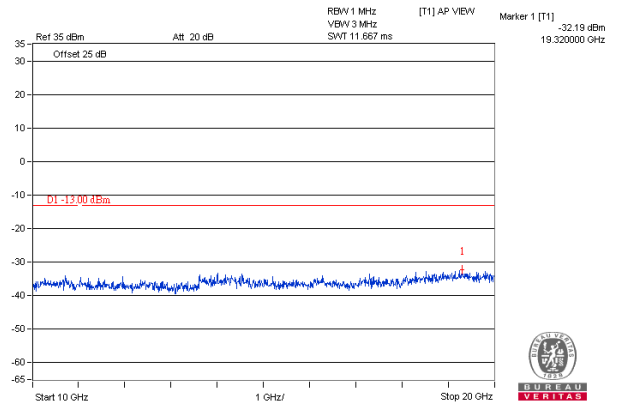


Frequency Range : 10GHz~20GHz



10MHz	
Channel 18900	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~3GHz
	
Frequency Range : 3GHz~10GHz	Frequency Range : 10GHz~20GHz
	

15MHz	
Channel 18900	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~3GHz
	
Frequency Range : 3GHz~10GHz	Frequency Range : 10GHz~20GHz
	

20MHz	
Channel 18900	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~3GHz
	
Frequency Range : 3GHz~10GHz	Frequency Range : 10GHz~20GHz
	

4.7 Radiated Emission Measurement

4.7.1 Limits of Radiated Emission Measurement

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

4.7.2 Test Procedure

a. The power was measured with Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high channel of operational frequency range.)

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

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

e. ERP power can be calculated form EIRP power by subtracting the gain of dipole, ERP power = EIPR power - 2.15dBi.

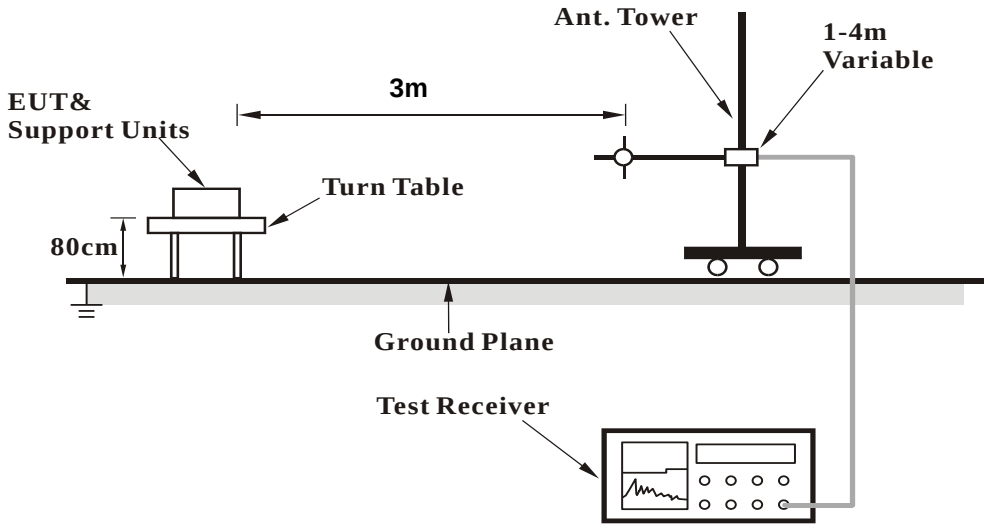
NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

4.7.3 Deviation from Test Standard

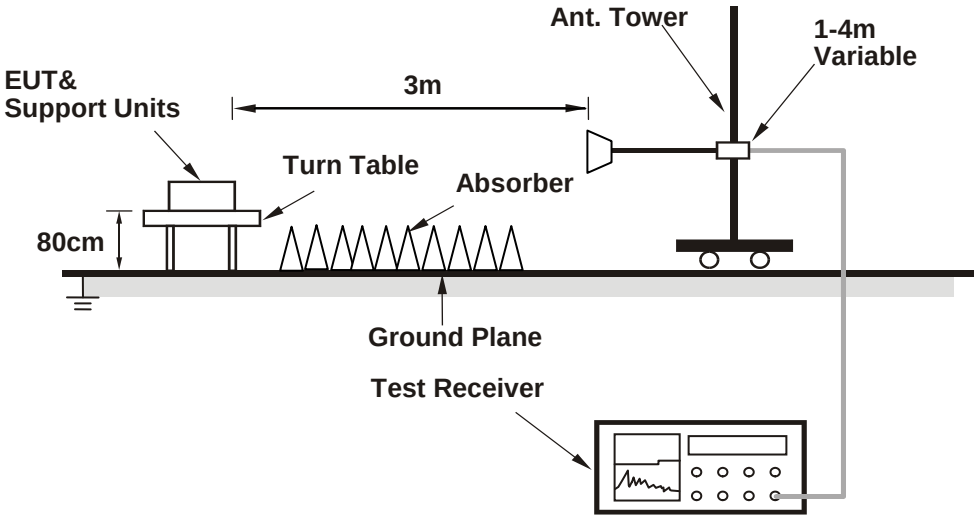
No deviation.

4.7.4 Test Setup

For Below 1GHz



For Above 1GHz:



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

4.7.5 Test Results

BELOW 1GHz

GPRS:

Mode	TX channel 661	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	30.03	31.60	-39.67	-14.89	-54.56	-25	-29.56
2	135	35.40	-59.97	-1.46	-61.44	-25	-36.44
3	208.04	31.60	-63.87	4.24	-59.63	-25	-34.63
4	479.98	31.30	-64.46	3.04	-61.42	-25	-36.42
5	600.17	30.20	-64.42	1.79	-62.63	-25	-37.63
6	995.39	35.30	-60.73	0.59	-60.14	-25	-35.14
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	34.31	36.10	-36.72	-13.85	-50.57	-25	-25.57
2	81.02	30.60	-63.34	-1.72	-65.06	-25	-40.06
3	135	30.40	-64.97	-1.46	-66.44	-25	-41.44
4	189	30.30	-64.26	3.16	-61.10	-25	-36.10
5	208.31	32.30	-63.16	4.23	-58.93	-25	-33.93
6	928.66	30.10	-68.31	0.41	-67.90	-25	-42.90

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

EDGE:

Mode	TX channel 661	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	30.03	31.30	-39.97	-14.89	-54.86	-25	-29.86
2	135	35.20	-60.17	-1.46	-61.64	-25	-36.64
3	208.04	31.70	-63.77	4.24	-59.53	-25	-34.53
4	479.98	28.70	-67.06	3.04	-64.02	-25	-39.02
5	600.17	31.20	-63.42	1.79	-61.63	-25	-36.63
6	995.39	35.20	-60.83	0.59	-60.24	-25	-35.24
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	34.31	36.10	-36.72	-13.85	-50.57	-25	-25.57
2	81.2	30.80	-63.10	-1.71	-64.81	-25	-39.81
3	135	30.40	-64.97	-1.46	-66.44	-25	-41.44
4	189	32.60	-61.96	3.16	-58.80	-25	-33.80
5	208.31	32.40	-63.06	4.23	-58.83	-25	-33.83
6	928.65	29.00	-69.41	0.41	-69.00	-25	-44.00

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

WCDMA:

Mode	TX channel 9400	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	30.02	32.30	-38.97	-14.89	-53.86	-25	-28.86
2	135	35.70	-59.67	-1.46	-61.14	-25	-36.14
3	208.05	32.10	-63.37	4.24	-59.13	-25	-34.13
4	479.95	33.10	-62.66	3.04	-59.62	-25	-34.62
5	600.14	30.40	-64.22	1.79	-62.43	-25	-37.43
6	995.38	38.60	-57.43	0.59	-56.84	-25	-31.84
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	34.31	36.30	-36.52	-13.85	-50.37	-25	-25.37
2	81.21	31.10	-62.80	-1.71	-64.51	-25	-39.51
3	135.02	31.40	-63.97	-1.46	-65.43	-25	-40.43
4	189	32.80	-61.76	3.16	-58.60	-25	-33.60
5	208.35	31.40	-64.06	4.23	-59.83	-25	-34.83
6	928.64	30.30	-68.59	0.23	-68.36	-25	-43.36

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

LTE:

1.4MHz

Mode	TX channel 18900	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	30.02	33.10	-38.17	-14.89	-53.06	-25	-28.06
2	135	36.00	-59.37	-1.46	-60.84	-25	-35.84
3	208.05	34.10	-61.37	4.24	-57.13	-25	-32.13
4	479.95	34.50	-61.26	3.04	-58.22	-25	-33.22
5	600.14	31.50	-63.12	1.79	-61.33	-25	-36.33
6	995.38	39.20	-56.83	0.59	-56.24	-25	-31.24
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	34.3	36.20	-36.62	-13.85	-50.47	-25	-25.47
2	81	31.20	-62.74	-1.72	-64.46	-25	-39.46
3	135	33.30	-62.07	-1.46	-63.54	-25	-38.54
4	189	30.60	-63.96	3.16	-60.80	-25	-35.80
5	208.31	34.30	-61.16	4.23	-56.93	-25	-31.93
6	928.66	33.20	-65.69	0.23	-65.46	-25	-40.46

Remarks:

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

3MHz

Mode	TX channel 18900	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	30.02	36.20	-35.07	-14.89	-49.96	-25	-24.96
2	135	33.40	-61.97	-1.46	-63.44	-25	-38.44
3	208.05	35.20	-60.27	4.24	-56.03	-25	-31.03
4	479.95	34.30	-61.46	3.04	-58.42	-25	-33.42
5	600.14	35.10	-59.52	1.79	-57.73	-25	-32.73
6	995.38	36.40	-59.63	0.59	-59.04	-25	-34.04
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	34.2	35.20	-37.58	-13.87	-51.46	-25	-26.46
2	81	33.60	-60.34	-1.72	-62.06	-25	-37.06
3	135	36.40	-58.97	-1.46	-60.44	-25	-35.44
4	189	36.10	-58.46	3.16	-55.30	-25	-30.30
5	208.45	35.70	-59.76	4.23	-55.53	-25	-30.53
6	928.67	33.60	-65.29	0.23	-65.06	-25	-40.06

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

5MHz

Mode	TX channel 18900	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	30.02	35.20	-36.07	-14.89	-50.96	-25	-25.96
2	135	35.40	-59.97	-1.46	-61.44	-25	-36.44
3	208.05	36.30	-59.17	4.24	-54.93	-25	-29.93
4	479.95	35.90	-59.86	3.04	-56.82	-25	-31.82
5	600.14	33.70	-60.92	1.79	-59.13	-25	-34.13
6	995.4	41.60	-54.43	0.59	-53.84	-25	-28.84
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	34.2	35.40	-37.38	-13.87	-51.26	-25	-26.26
2	81	34.10	-59.84	-1.72	-61.56	-25	-36.56
3	135	36.20	-59.17	-1.46	-60.64	-25	-35.64
4	189	32.40	-62.16	3.16	-59.00	-25	-34.00
5	208.45	35.10	-60.36	4.23	-56.13	-25	-31.13
6	928.68	34.60	-64.29	0.23	-64.06	-25	-39.06

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

10MHz

Mode	TX channel 18900	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	30.11	34.20	-37.10	-14.87	-51.97	-25	-26.97
2	135.2	35.90	-59.42	-1.46	-60.87	-25	-35.87
3	208.05	36.70	-58.77	4.24	-54.53	-25	-29.53
4	479.95	36.50	-59.26	3.04	-56.22	-25	-31.22
5	600.14	36.10	-58.52	1.79	-56.73	-25	-31.73
6	995.4	41.60	-54.43	0.59	-53.84	-25	-28.84
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	34.2	35.60	-37.18	-13.87	-51.06	-25	-26.06
2	81	33.40	-60.54	-1.72	-62.26	-25	-37.26
3	135	35.10	-60.27	-1.46	-61.74	-25	-36.74
4	189	32.30	-62.26	3.16	-59.10	-25	-34.10
5	208.45	36.70	-58.76	4.23	-54.53	-25	-29.53
6	928.68	37.60	-61.29	0.23	-61.06	-25	-36.06

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

15MHz

Mode	TX channel 18900	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	30.02	37.20	-34.07	-14.89	-48.96	-25	-23.96
2	135	34.40	-60.97	-1.46	-62.44	-25	-37.44
3	208.05	36.30	-59.17	4.24	-54.93	-25	-29.93
4	479.95	37.20	-58.56	3.04	-55.52	-25	-30.52
5	600.14	35.80	-58.82	1.79	-57.03	-25	-32.03
6	995.4	42.60	-53.43	0.59	-52.84	-25	-27.84
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	34.2	36.10	-36.68	-13.87	-50.56	-25	-25.56
2	81	35.60	-58.34	-1.72	-60.06	-25	-35.06
3	135	36.40	-58.97	-1.46	-60.44	-25	-35.44
4	189	35.10	-59.46	3.16	-56.30	-25	-31.30
5	208.45	35.90	-59.56	4.23	-55.33	-25	-30.33
6	928.67	36.70	-62.19	0.23	-61.96	-25	-36.96

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

20MHz

Mode	TX channel 18900	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	30.02	36.40	-34.87	-14.89	-49.76	-25	-24.76
2	135	37.20	-58.17	-1.46	-59.64	-25	-34.64
3	208.05	37.80	-57.67	4.24	-53.43	-25	-28.43
4	479.95	31.30	-64.46	3.04	-61.42	-25	-36.42
5	600.14	35.70	-58.92	1.79	-57.13	-25	-32.13
6	995.4	43.40	-52.63	0.59	-52.04	-25	-27.04
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	34.3	35.10	-37.72	-13.85	-51.57	-25	-26.57
2	81	34.30	-59.64	-1.72	-61.36	-25	-36.36
3	135	37.60	-57.77	-1.46	-59.24	-25	-34.24
4	189	32.30	-62.26	3.16	-59.10	-25	-34.10
5	208.31	38.40	-57.06	4.23	-52.83	-25	-27.83
6	928.66	37.10	-61.79	0.23	-61.56	-25	-36.56

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

ABOVE 1GHz

GPRS:

Mode	TX channel 661	Frequency Range	Above 1000MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	3760	40.20	-63.95	7.68	-56.27	-13	-43.27
2	5640	43.70	-61.04	7.02	-54.02	-13	-41.02
3	7520	44.20	-58.42	4.53	-53.89	-13	-40.89
4	9400	48.61	-53.26	4.21	-49.06	-13	-36.06
5	11280	52.12	-49.37	3.48	-45.89	-13	-32.89
6	13160	52.09	-48.52	4.06	-44.45	-13	-31.45
7	15040	54.61	-42.74	3.70	-39.04	-13	-26.04
8	16920	56.75	-40.60	3.70	-36.90	-13	-23.90
9	18800	61.7	-35.65	3.70	-31.95	-13	-18.95
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	3760	39.5	-64.65	7.68	-56.97	-13	-43.97
2	5640	42.2	-62.54	7.02	-55.52	-13	-42.52
3	7520	45.13	-57.49	4.53	-52.96	-13	-39.96
4	9400	52.51	-49.36	4.21	-45.16	-13	-32.16
5	11280	50.98	-50.51	3.48	-47.03	-13	-34.03
6	13160	51.53	-49.08	4.06	-45.01	-13	-32.01
7	15040	54.62	-42.73	3.70	-39.03	-13	-26.03
8	16920	58.07	-39.28	3.70	-35.58	-13	-22.58
9	18800	62.88	-34.47	3.70	-30.77	-13	-17.77

Remarks:

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

EDGE:

Mode	TX channel 661	Frequency Range	Above 1000MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	3760	40.78	-63.37	7.68	-55.69	-13	-42.69
2	5640	43.34	-61.40	7.02	-54.38	-13	-41.38
3	7520	44.22	-58.40	4.53	-53.87	-13	-40.87
4	9400	48.28	-53.59	4.21	-49.39	-13	-36.39
5	11280	53.05	-48.44	3.48	-44.96	-13	-31.96
6	13160	51.76	-48.85	4.06	-44.78	-13	-31.78
7	15040	53.82	-43.53	3.70	-39.83	-13	-26.83
8	16920	57.68	-39.67	3.70	-35.97	-13	-22.97
9	18800	61.63	-35.72	3.70	-32.02	-13	-19.02
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	3760	38.82	-65.33	7.68	-57.65	-13	-44.65
2	5640	42.18	-62.56	7.02	-55.54	-13	-42.54
3	7520	45.63	-56.99	4.53	-52.46	-13	-39.46
4	9400	52.84	-49.03	4.21	-44.83	-13	-31.83
5	11280	51.17	-50.32	3.48	-46.84	-13	-33.84
6	13160	52.06	-48.55	4.06	-44.48	-13	-31.48
7	15040	54.67	-42.68	3.70	-38.98	-13	-25.98
8	16920	58.57	-38.78	3.70	-35.08	-13	-22.08
9	**18800**	**63.8**	**-33.55**	**3.70**	**-29.85**	**-13**	**-16.85**

Remarks:

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

WCDMA:

Mode	TX channel 9400	Frequency Range	Above 1000MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	3760	41.13	-63.02	7.68	-55.34	-13	-42.34
2	5640	42.94	-61.80	7.02	-54.78	-13	-41.78
3	7520	43.55	-59.07	4.53	-54.54	-13	-41.54
4	9400	48.09	-53.78	4.21	-49.58	-13	-36.58
5	11280	52.88	-48.61	3.48	-45.13	-13	-32.13
6	13160	52.97	-47.64	4.06	-43.57	-13	-30.57
7	15040	54.65	-42.70	3.70	-39.00	-13	-26.00
8	16920	55.76	-41.59	3.70	-37.89	-13	-24.89
9	18800	61.13	-36.22	3.70	-32.52	-13	-19.52
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	3760	39.08	-65.07	7.68	-57.39	-13	-44.39
2	5640	41.26	-63.48	7.02	-56.46	-13	-43.46
3	7520	44.39	-58.23	4.53	-53.70	-13	-40.70
4	9400	53.08	-48.79	4.21	-44.59	-13	-31.59
5	11280	50.16	-51.33	3.48	-47.85	-13	-34.85
6	13160	51.44	-49.17	4.06	-45.10	-13	-32.10
7	15040	54.69	-42.66	3.70	-38.96	-13	-25.96
8	16920	57.58	-39.77	3.70	-36.07	-13	-23.07
9	18800	63.21	-34.14	3.70	-30.44	-13	-17.44

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

LTE:

1.4MHz:

Mode	TX channel 18900	Frequency Range	Above 1000MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	3760	35.37	-68.78	7.68	-61.10	-13	-48.10
2	5640	43.66	-61.08	7.02	-54.06	-13	-41.06
3	7520	39.64	-63.00	4.53	-58.48	-13	-45.48
4	9400	39.76	-62.11	4.21	-57.91	-13	-44.91
5	11280	37.07	-64.42	3.48	-60.94	-13	-47.94
6	13160	40.63	-59.98	4.06	-55.91	-13	-42.91
7	15040	42.32	-55.03	3.70	-51.33	-13	-38.33
8	16920	42.11	-55.24	3.70	-51.54	-13	-38.54
9	18800	44.21	-52.12	3.66	-48.45	-13	-35.45
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	3760	35.52	-68.63	7.68	-60.95	-13	-47.95
2	5640	48.1	-56.64	7.02	-49.62	-13	-36.62
3	7520	38.3	-64.34	4.53	-59.82	-13	-46.82
4	9400	40.08	-61.79	4.21	-57.59	-13	-44.59
5	11280	38.39	-63.10	3.48	-59.62	-13	-46.62
6	13160	39.27	-61.34	4.06	-57.27	-13	-44.27
7	15040	40.42	-56.93	3.70	-53.23	-13	-40.23
8	16920	41.2	-56.15	3.70	-52.45	-13	-39.45
9	18800	45.14	-51.19	3.66	-47.52	-13	-34.52

Remarks:

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

3MHz:

Mode	TX channel 18900	Frequency Range	Above 1000MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	3760	35.99	-68.16	7.68	-60.48	-13	-47.48
2	5640	43.50	-61.24	7.02	-54.22	-13	-41.22
3	7520	39.40	-63.24	4.53	-58.72	-13	-45.72
4	9400	39.82	-62.05	4.21	-57.85	-13	-44.85
5	11280	37.34	-64.15	3.48	-60.67	-13	-47.67
6	13160	39.95	-60.66	4.06	-56.59	-13	-43.59
7	15040	43.2	-54.15	3.70	-50.45	-13	-37.45
8	16920	42.45	-54.90	3.70	-51.20	-13	-38.20
9	18800	43.93	-52.40	3.66	-48.73	-13	-35.73
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	3760	36.17	-67.98	7.68	-60.30	-13	-47.30
2	5640	47.68	-57.06	7.02	-50.04	-13	-37.04
3	7520	37.68	-64.96	4.53	-60.44	-13	-47.44
4	9400	39.36	-62.51	4.21	-58.31	-13	-45.31
5	11280	37.65	-63.84	3.48	-60.36	-13	-47.36
6	13160	39.39	-61.22	4.06	-57.15	-13	-44.15
7	15040	39.83	-57.52	3.70	-53.82	-13	-40.82
8	16920	41.48	-55.87	3.70	-52.17	-13	-39.17
9	18800	45.9	-50.43	3.66	-46.76	-13	-33.76

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

5MHz:

Mode	TX channel 18900	Frequency Range	Above 1000MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	3760	36.81	-67.34	7.68	-59.66	-13	-46.66
2	5640	44.32	-60.42	7.02	-53.40	-13	-40.40
3	7520	39.64	-63.00	4.53	-58.48	-13	-45.48
4	9400	40.42	-61.45	4.21	-57.25	-13	-44.25
5	11280	36.9	-64.59	3.48	-61.11	-13	-48.11
6	13160	39.98	-60.63	4.06	-56.56	-13	-43.56
7	15040	43.08	-54.27	3.70	-50.57	-13	-37.57
8	16920	42.97	-54.38	3.70	-50.68	-13	-37.68
9	18800	44.2	-52.13	3.66	-48.46	-13	-35.46
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	3760	35.33	-68.82	7.68	-61.14	-13	-48.14
2	5640	47.55	-57.19	7.02	-50.17	-13	-37.17
3	7520	36.82	-65.82	4.53	-61.30	-13	-48.30
4	9400	38.64	-63.23	4.21	-59.03	-13	-46.03
5	11280	36.93	-64.56	3.48	-61.08	-13	-48.08
6	13160	39.79	-60.82	4.06	-56.75	-13	-43.75
7	15040	39.45	-57.90	3.70	-54.20	-13	-41.20
8	16920	42.42	-54.93	3.70	-51.23	-13	-38.23
9	18800	46.5	-49.83	3.66	-46.16	-13	-33.16

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

10MHz:

Mode	TX channel 18900	Frequency Range	Above 1000MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	3760	35.72	-68.43	7.68	-60.75	-13	-47.75
2	5640	41.24	-63.50	7.02	-56.48	-13	-43.48
3	7520	40.75	-61.89	4.53	-57.37	-13	-44.37
4	9400	39.69	-62.18	4.21	-57.98	-13	-44.98
5	11280	37.05	-64.44	3.48	-60.96	-13	-47.96
6	13160	40.11	-60.50	4.06	-56.43	-13	-43.43
7	15040	42.95	-54.40	3.70	-50.70	-13	-37.70
8	16920	42.02	-55.33	3.70	-51.63	-13	-38.63
9	18800	44.03	-52.30	3.66	-48.63	-13	-35.63
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	3760	34.94	-69.21	7.68	-61.53	-13	-48.53
2	5640	47.62	-57.12	7.02	-50.10	-13	-37.10
3	7520	36.03	-66.61	4.53	-62.09	-13	-49.09
4	9400	38.4	-63.47	4.21	-59.27	-13	-46.27
5	11280	37.64	-63.85	3.48	-60.37	-13	-47.37
6	13160	39.47	-61.14	4.06	-57.07	-13	-44.07
7	15040	38.74	-58.61	3.70	-54.91	-13	-41.91
8	16920	43.14	-54.21	3.70	-50.51	-13	-37.51
9	18800	46.43	-49.90	3.66	-46.23	-13	-33.23

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

15MHz:

Mode	TX channel 18900	Frequency Range	Above 1000MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	3760	35.17	-68.98	7.68	-61.30	-13	-48.30
2	5640	42.88	-61.86	7.02	-54.84	-13	-41.84
3	7520	40.62	-62.02	4.53	-57.50	-13	-44.50
4	9400	39.59	-62.28	4.21	-58.08	-13	-45.08
5	11280	37.16	-64.33	3.48	-60.85	-13	-47.85
6	13160	39.86	-60.75	4.06	-56.68	-13	-43.68
7	15040	42.65	-54.70	3.70	-51.00	-13	-38.00
8	16920	42.11	-55.24	3.70	-51.54	-13	-38.54
9	18800	43.81	-52.52	3.66	-48.85	-13	-35.85
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	3760	35.5	-68.65	7.68	-60.97	-13	-47.97
2	5640	48.35	-56.39	7.02	-49.37	-13	-36.37
3	7520	36.29	-66.35	4.53	-61.83	-13	-48.83
4	9400	37.42	-64.45	4.21	-60.25	-13	-47.25
5	11280	37.03	-64.46	3.48	-60.98	-13	-47.98
6	13160	38.66	-61.95	4.06	-57.88	-13	-44.88
7	15040	39.13	-58.22	3.70	-54.52	-13	-41.52
8	16920	42.33	-55.02	3.70	-51.32	-13	-38.32
9	18800	46.23	-50.10	3.66	-46.43	-13	-33.43

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

20MHz:

Mode	TX channel 18900	Frequency Range	Above 1000MHz

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	3760	35.03	-69.12	7.68	-61.44	-13	-48.44
2	5640	41.90	-62.84	7.02	-55.82	-13	-42.82
3	7520	41.00	-61.64	4.53	-57.12	-13	-44.12
4	9400	38.99	-62.88	4.21	-58.68	-13	-45.68
5	11280	37.83	-63.66	3.48	-60.18	-13	-47.18
6	13160	39.26	-61.35	4.06	-57.28	-13	-44.28
7	15040	42.48	-54.87	3.70	-51.17	-13	-38.17
8	16920	41.75	-55.60	3.70	-51.90	-13	-38.90
9	18800	43.62	-52.71	3.66	-49.04	-13	-36.04
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	Emission Value (dBm)	Limit (dBm)	Margin (dB)
1	3760	34.86	-69.29	7.68	-61.61	-13	-48.61
2	5640	47.57	-57.17	7.02	-50.15	-13	-37.15
3	7520	35.81	-66.83	4.53	-62.31	-13	-49.31
4	9400	37.61	-64.26	4.21	-60.06	-13	-47.06
5	11280	37.43	-64.06	3.48	-60.58	-13	-47.58
6	13160	39.16	-61.45	4.06	-57.38	-13	-44.38
7	15040	38.49	-58.86	3.70	-55.16	-13	-42.16
8	16920	41.81	-55.54	3.70	-51.84	-13	-38.84
9	18800	46.47	-49.86	3.66	-46.19	-13	-33.19

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

5 Pictures of Test Arrangements

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

Appendix – Information on the Testing Laboratories

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

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

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

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