FCC Test Report (PART 24)

Report No.:	RFBEOP-WTW-P20100005-1
FCC ID:	NKRM18QAG
Test Model:	M18QAG
Received Date:	July 10, 2020
Test Date:	Oct. 12 to 15, 2020
Issued Date:	Nov. 12, 2020
Applicant:	Wistron NeWeb Corporation
Address:	20 Park Ave. II, Hsinchu Science Park, Hsinchu 308, Taiwan
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
Test Location:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan
FCC Registration / Designation Number:	723255 / TW2022

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Release Control Record

Issue No.	Description	Date Issued
RFBEOP-WTW-P20100005-1	Original release.	Nov. 12, 2020

1 Certificate of Conformity

Product:	M2M DATA MODULE
Brand:	Wistron NeWeb Corporation
Test Model:	M18QAG
Sample Status:	ENGINEERING SAMPLE
Applicant:	Wistron NeWeb Corporation
Test Date:	Oct. 12 to 15, 2020
Standards:	FCC Part 24 Subpart E

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 : Vivian Huang , **Date:** Nov. 12, 2020

Vivian Huang / Specialist

Approved by : , **Date:** Nov. 12, 2020

Clark Lin / Technical 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.
2.1047	Modulation characteristics	PASS	Meet the requirement
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 -46.83 dB at 9400 MHz.

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.1 dB
	30MHz ~ 1GHz	5.4 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	5.0 dB
	18GHz ~ 40GHz	5.3 dB

2.2 Test Site and Instruments

For radiated spurious emissions test:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Keysight	N9038A	MY54450088	July 06, 2020	July 05, 2021
Pre-Amplifier EMCI	EMC001340	980142	May 25, 2020	May 24, 2021
Loop Antenna Electro-Metrics	EM-6879	264	Feb. 18, 2020	Feb. 17, 2021
RF Cable	NA	LOOPCAB-001	Jan. 08, 2020	Jan. 07, 2021
RF Cable	NA	LOOPCAB-002	Jan. 08, 2020	Jan. 07, 2021
Pre-Amplifier Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-05	Apr. 28, 2020	Apr. 27, 2021
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-361	Nov. 11, 2019	Nov. 10, 2020
RF Cable	8D	966-3-1	Mar. 17, 2020	Mar. 16, 2021
RF Cable	8D	966-3-2	Mar. 17, 2020	Mar. 16, 2021
RF Cable	8D	966-3-3	Mar. 17, 2020	Mar. 16, 2021
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-3-01	Sep. 24, 2020	Sep. 23, 2021
Horn_Antenna SCHWARZBECK	BBHA9120-D	9120D-406	Nov. 24, 2019	Nov. 23, 2020
Pre-Amplifier EMCI	EMC12630SE	980384	Jan. 15, 2020	Jan. 14, 2021
RF Cable	EMC104-SM-SM-1500	180504	Apr. 29, 2020	Apr. 28, 2021
RF Cable	EMC104-SM-SM-2000	180601	June 09, 2020	June 08, 2021
RF Cable	EMC104-SM-SM-6000	180602	June 09, 2020	June 08, 2021
Spectrum Analyzer Keysight	N9030A	MY54490679	July 13, 2020	July 12, 2021
Pre-Amplifier EMCI	EMC184045SE	980387	Jan. 15, 2020	Jan. 14, 2021
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170519	Nov. 24, 2019	Nov. 23, 2020
RF Cable	EMC102-KM-KM-1200	160924	Jan. 15, 2020	Jan. 14, 2021
RF Cable	EMC-KM-KM-4000	200214	Mar. 11, 2020	Mar. 10, 2021
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. Tested Date: Oct. 14 to 15, 2020

For other test items:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSV40	100964	May 29, 2020	May 28, 2021
Spectrum Analyzer Keysight	N9030A	MY54490679	July 13, 2020	July 12, 2021
Power meter Anritsu	ML2495A	1529002	July 22, 2020	July 21, 2021
Power sensor Anritsu	MA2411B	1339443	July 22, 2020	July 21, 2021
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 14, 2020	Apr. 13, 2021
DC Power Supply Topward	6603D	795558	NA	NA
Temperature & Humidity Chamber Giant Force	GTH-150-40-SP-AR	MAA0812-008	Jan. 16, 2020	Jan. 15, 2021
True RMS Clamp Meter FLUKE	325	31130711WS	June 06, 2020	June 05, 2021
Mech Switch Absorptive Mini-Circuits	MSP4TA-18+	0140	Feb. 10, 2020	Feb. 09, 2021
FXD ATTEN Mini-Circuits	BW-S3W2+	MN71981	Feb. 10, 2020	Feb. 09, 2021
Software	ADT_RF Test Software V6.6.5.4	NA	NA	NA

Note: 1. The test was performed in Oven room 2.
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: Oct. 12 to 13, 2020

3 General Information

3.1 General Description of EUT

Product	M2M DATA MODULE	
Brand	Wistron NeWeb Corporation	
Test Model	M18QAG	
Status of EUT	ENGINEERING SAMPLE	
Power Supply Rating	DC 3.8V from host equipment	
Modulation Type	WCDMA, HSDPA, HSUPA	BPSK
	LTE Band 2	QPSK, 16QAM
Operating Frequency	WCDMA, HSDPA, HSUPA	1852.4 MHz ~ 1907.6 MHz
	LTE Band 2	1850.7 MHz ~ 1909.3 MHz
Max. EIRP Power	WCDMA B2	25.74 dBm
	LTE Band 2 (Channel Bandwidth 1.4MHz)	25.41 dBm
	LTE Band 2 (Channel Bandwidth 3MHz)	25.22 dBm
	LTE Band 2 (Channel Bandwidth 5MHz)	25.37 dBm
	LTE Band 2 (Channel Bandwidth 10MHz)	25.44 dBm
	LTE Band 2 (Channel Bandwidth 15MHz)	25.27 dBm
	LTE Band 2 (Channel Bandwidth 20MHz)	25.50 dBm
Emission Designator	WCDMA B2	4M15F9W
	LTE Band 2 (Channel Bandwidth 1.4MHz)	QPSK: 1M08G7D 16QAM: 1M08D7W
	LTE Band 2 (Channel Bandwidth 3MHz)	QPSK: 2M69G7D 16QAM: 2M68D7W
	LTE Band 2 (Channel Bandwidth 5MHz)	QPSK: 4M48G7D 16QAM: 4M47D7W
	LTE Band 2 (Channel Bandwidth 10MHz)	QPSK: 8M94G7D 16QAM: 8M94D7W
	LTE Band 2 (Channel Bandwidth 15MHz)	QPSK: 13M4G7D 16QAM: 13M4D7W
	LTE Band 2 (Channel Bandwidth 20MHz)	QPSK: 17M9G7D 16QAM: 17M8D7W
Antenna Type	Refer to Note	
Antenna Connector	Refer to Note	
Accessory Device	NA	
Data Cable Supplied	NA	

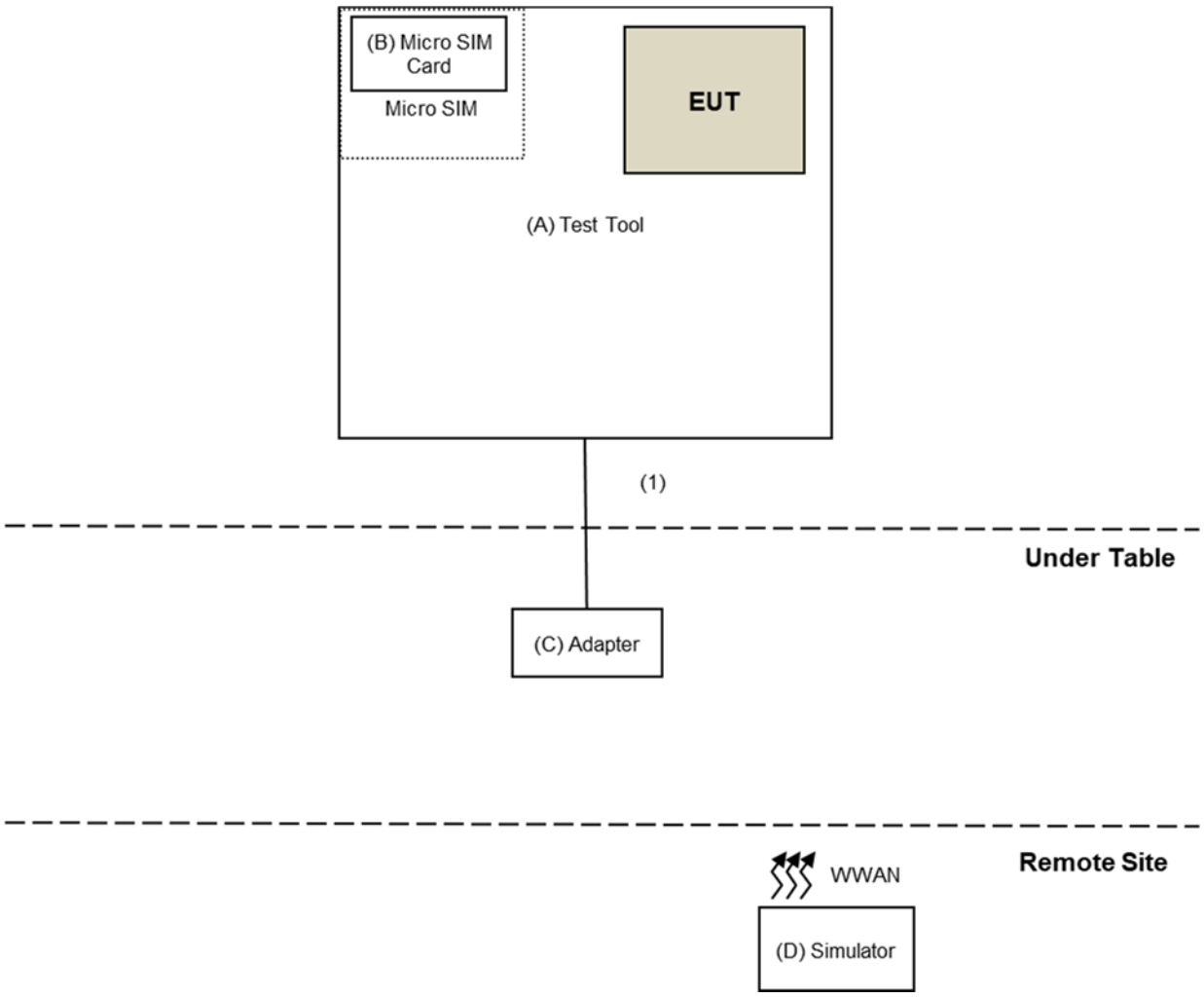
Note:

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

For GPS					
Antenna No.	Band	Freq. Range (MHz)	Antenna Net Gain (dBi)	Antenna Type	Connector Type
1	GPS	1602	2.24	Dipole	SMA
For WWAN					
Antenna No.	Band	Freq. Range (MHz)	Antenna Net Gain (dBi)	Antenna Type	Connector Type
2	LTE / WCDMA (2)	1850~1910	1.56	Dipole	SMA
	LTE / WCDMA (4)	1710~1755	1.62	Dipole	SMA
	LTE / WCDMA (5)	824~849	3.2	Dipole	SMA
	LTE / WCDMA (12)	699~716	1.49	Dipole	SMA
	LTE / WCDMA (14)	788~798	1.66	Dipole	SMA

2. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.
3. The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

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 t

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Test Tool	WNC	NA	NA	NA	Supplied by client
B.	SIM Card	R&S	CRT-Z3	NA	NA	Provided by Lab
C.	Adapter	I.T.E	MU24-Y120200-A1	NA	NA	Supplied by client
D.	Simulator	Anritsu	MT8820C	6201127458	NA	Provided by Lab

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	DC Cable	1	1.8	No	0	Supplied by client

3.3 Test Mode Applicability and Tested Channel Detail

WCDMA B2

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	9262, 9400, 9538	WCDMA
Radiated Emission Below 1GHz	9262 to 9538	9262, 9400, 9538	WCDMA
Radiated Emission Above 1GHz	9262 to 9538	9262, 9400, 9538	WCDMA

LTE Band 2

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
EIRP	18607 to 19193	18607, 18900 19193	1.4MHz	QPSK/16QAM	1RB / 0 RB offset
	18615 to 19185	18615, 18900, 19185	3MHz	QPSK/16QAM	1RB / 0 RB offset
	18625 to 19175	18625, 18900, 19175	5MHz	QPSK/16QAM	1RB / 0 RB offset
	18650 to 19150	18650, 18900, 19150	10MHz	QPSK/16QAM	1RB / 0 RB offset
	18675 to 19125	18675, 18900, 19125	15MHz	QPSK/16QAM	1RB / 0 RB offset
	18700 to 19100	18700, 18900, 19100	20MHz	QPSK/16QAM	1RB / 0 RB offset
Frequency Stability	18607 to 19193	18900	1.4MHz	QPSK	-
	18615 to 19185	18900	3MHz	QPSK	-
	18625 to 19175	18900	5MHz	QPSK	-
	18650 to 19150	18900	10MHz	QPSK	-
	18675 to 19125	18900	15MHz	QPSK	-
	18700 to 19100	18900	20MHz	QPSK	-
Occupied Bandwidth	18607 to 19193	18607, 18900 19193	1.4MHz	QPSK/16QAM	Full RB
	18615 to 19185	18615, 18900, 19185	3MHz	QPSK/16QAM	Full RB
	18625 to 19175	18625, 18900, 19175	5MHz	QPSK/16QAM	Full RB
	18650 to 19150	18650, 18900, 19150	10MHz	QPSK/16QAM	Full RB
	18675 to 19125	18675, 18900, 19125	15MHz	QPSK/16QAM	Full RB
	18700 to 19100	18700, 18900, 19100	20MHz	QPSK/16QAM	Full RB
Peak to Average Ratio	18607 to 19193	18607, 18900 19193	1.4MHz	QPSK/16QAM	Full RB
	18615 to 19185	18615, 18900, 19185	3MHz	QPSK/16QAM	Full RB
	18625 to 19175	18625, 18900, 19175	5MHz	QPSK/16QAM	Full RB
	18650 to 19150	18650, 18900, 19150	10MHz	QPSK/16QAM	Full RB
	18675 to 19125	18675, 18900, 19125	15MHz	QPSK/16QAM	Full RB
	18700 to 19100	18700, 18900, 19100	20MHz	QPSK/16QAM	Full RB

Band Edge	18607 to 19193	18607	1.4MHz	QPSK	1 RB / 0 RB Offset
		19193			1 RB / 5 RB Offset
		18607, 19193			6 RB / 0 RB Offset
	18615 to 19185	18615	3MHz	QPSK	1 RB / 0 RB Offset
		19185			1 RB / 14 RB Offset
		18615, 19185			15 RB / 0 RB Offset
	18625 to 19175	18625,	5MHz	QPSK	1 RB / 0 RB Offset
		19175			1 RB / 24 RB Offset
		18625, 19175			25 RB / 0 RB Offset
	18650 to 19150	18650	10MHz	QPSK	1 RB / 0 RB Offset
		19150			1 RB / 49 RB Offset
		18650, 19150			50 RB / 0 RB Offset
	18675 to 19125	18675,	15MHz	QPSK	1 RB / 0 RB Offset
		19125			1 RB / 74 RB Offset
		18675, 19125			75 RB / 0 RB Offset
	18700 to 19100	18700.	20MHz	QPSK	1 RB / 0 RB Offset
		19100			1 RB / 99 RB Offset
		18700. 19100			100 RB / 0 RB Offset
Conducted Emission	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
Radiated Emission	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

NOTE:
All supported modulation types were evaluated.The Worst case of QPSK was selected. Therefore, the Band Edge, Frequency Stability, Condcudeted Emission and Radiated Emission were presented under QPSK mode only.

Test Condition:

Test Item	Environmental Conditions	Input Power (System)	Tested By
EIRP	25deg. C, 60%RH	120Vac, 60Hz	Charlie Yang
Frequency Stability	25deg. C, 60%RH	120Vac, 60Hz	Charlie Yang
Occupied Bandwidth	25deg. C, 60%RH	120Vac, 60Hz	Charlie Yang
Band Edge	25deg. C, 60%RH	120Vac, 60Hz	Charlie Yang
Peak to Average Ratio	25deg. C, 60%RH	120Vac, 60Hz	Charlie Yang
Condcudeted Emission	25deg. C, 60%RH	120Vac, 60Hz	Charlie Yang
Radiated Emission Below 1GHz	24deg. C, 73%RH, 24deg. C, 76%RH	120Vac, 60Hz	Tom Yang
Radiated Emission Above 1GHz	24deg. C, 73%RH	120Vac, 60Hz	Tom Yang

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 and references

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

Test standard:

FCC 47 CFR Part 2

FCC 47 CFR Part 24 Subpart E

ANSI/TIA/EIA-603-E 2016

ANSI 63.26-2015

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

References Test Guidance:

KDB 971168 D01 Power Meas License Digital Systems v03r01

All test items have been performed as a reference to the above KDB test guidance.

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

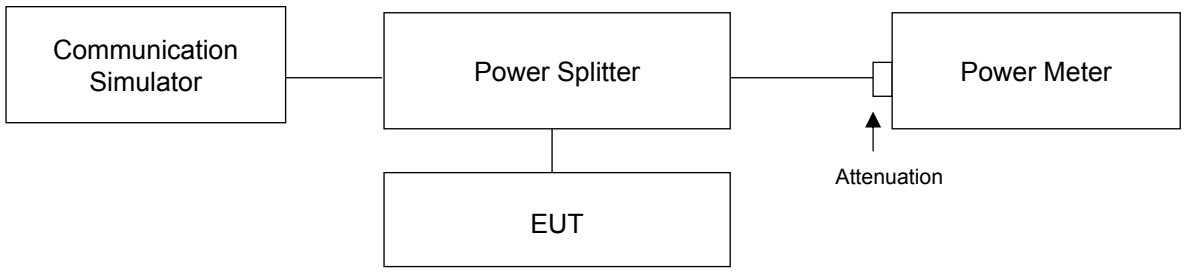
Conducted Power Measurement:

The EUT was set up for the maximum power with WCDMA/LTE link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and difference RB size/ RB offset for difference bandwidth record the power level shown on power meter.

EIRP Measurement:

a. EIRP = Conducted Output power level + Antenna gain.

4.1.3 Test Setup



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

4.1.4 Test Results

CONDUCTED OUTPUT POWER (dBm)

WCDMA B2

Band	WCDMA B2		
Channel	9262	9400	9538
Frequency (MHz)	1852.4	1880.0	1907.6
RMC	24.18	24.08	24.05
HSDPA Subtest-1	23.35	23.99	23.45
HSDPA Subtest-2	23.37	23.94	23.30
HSDPA Subtest-3	23.88	23.77	23.85
HSDPA Subtest-4	23.59	23.61	23.53
HSUPA Subtest-1	23.75	23.97	23.71
HSUPA Subtest-2	24.00	23.82	23.78
HSUPA Subtest-3	23.25	23.64	23.23
HSUPA Subtest-4	23.57	23.96	23.97
HSUPA Subtest-5	23.53	23.58	23.70

LTE Band 2

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			18607	18900	19193		18607	18900	19193	
			1850.7	1880	1909.3		1850.7	1880	1909.3	
			MHz	MHz	MHz		MHz	MHz	MHz	
2 / 1.4M	1	0	23.85	23.20	23.20	0	22.54	22.31	22.20	1
	1	2	23.55	23.26	23.33	0	22.44	22.29	22.20	1
	1	5	23.51	23.19	23.34	0	22.33	22.32	22.02	1
	3	0	23.61	23.25	23.29	0	22.45	22.21	22.51	1
	3	1	23.65	23.31	23.34	0	22.39	21.99	22.74	1
	3	3	23.64	23.17	23.16	0	22.74	22.22	22.39	1
	6	0	22.60	22.20	22.53	1	21.61	21.11	21.31	2

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			18615	18900	19185		18615	18900	19185	
			1851.5	1880	1908.5		1851.5	1880	1908.5	
			MHz	MHz	MHz		MHz	MHz	MHz	
2 / 3M	1	0	23.66	23.11	23.05	0	22.37	22.17	22.11	1
	1	7	23.48	23.27	23.33	0	22.11	22.20	22.26	1
	1	14	23.38	23.21	23.20	0	22.29	22.18	22.35	1
	8	0	22.45	22.14	22.32	1	21.23	21.14	21.47	2
	8	3	22.53	22.17	22.34	1	21.21	21.09	21.46	2
	8	7	22.56	22.20	22.28	1	21.65	21.09	21.05	2
	15	0	22.54	22.24	22.31	1	21.43	21.11	21.42	2

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			18625	18900	19175		18625	18900	19175	
			1852.5	1880	1907.5		1852.5	1880	1907.5	
			MHz	MHz	MHz		MHz	MHz	MHz	
2 / 5M	1	0	23.81	23.75	23.57	0	22.82	22.26	22.44	1
	1	12	23.56	23.33	23.42	0	23.30	22.17	22.36	1
	1	24	23.38	23.55	23.39	0	23.10	22.44	22.41	1
	12	0	22.68	22.65	22.47	1	21.86	21.40	21.47	2
	12	6	22.65	22.35	22.37	1	21.76	21.51	21.53	2
	12	13	22.53	22.38	22.32	1	21.52	21.22	21.26	2
	25	0	22.48	22.30	22.38	1	21.49	21.29	21.32	2

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			18650	18900	19150		18650	18900	19150	
			1855	1880	1905		1855	1880	1905	
			MHz	MHz	MHz		MHz	MHz	MHz	
2 / 10M	1	0	23.88	23.47	23.45	0	22.78	22.45	22.85	1
	1	24	23.79	23.34	23.59	0	22.59	22.22	22.78	1
	1	49	23.37	23.42	23.49	0	22.66	22.42	22.69	1
	25	0	22.12	22.37	22.65	1	21.38	21.09	21.72	2
	25	12	22.35	22.19	22.77	1	21.47	21.36	21.72	2
	25	25	22.45	22.01	22.80	1	21.17	21.07	21.29	2
	50	0	22.48	22.07	22.59	1	21.37	21.62	21.32	2

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			18675	18900	19125		18675	18900	19125	
			1857.5	1880	1902.5		1857.5	1880	1902.5	
			MHz	MHz	MHz		MHz	MHz	MHz	
2 / 15M	1	0	23.71	23.56	23.33	0	22.68	22.48	22.12	1
	1	37	23.52	23.66	23.57	0	22.52	22.66	22.48	1
	1	74	23.36	23.21	23.14	0	22.41	22.80	22.04	1
	36	0	22.51	22.25	22.32	1	21.38	21.19	21.38	2
	36	19	22.55	22.37	22.34	1	21.52	21.19	21.52	2
	36	39	22.58	22.28	22.30	1	21.43	21.10	21.17	2
	75	0	22.53	22.28	22.33	1	21.38	21.32	21.29	2

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			18700	18900	19100		18700	18900	19100	
			1860	1880	1900		1860	1880	1900	
			MHz	MHz	MHz		MHz	MHz	MHz	
2 / 20M	1	0	23.94	23.22	23.00	0	22.84	22.32	22.28	1
	1	50	23.67	23.45	23.71	0	22.56	22.46	22.76	1
	1	99	23.24	23.18	23.34	0	22.21	21.82	22.51	1
	50	0	22.47	22.43	22.33	1	20.41	21.35	21.47	2
	50	25	22.51	22.30	22.34	1	20.47	21.31	21.48	2
	50	50	22.42	22.31	22.39	1	21.70	21.32	21.39	2
	100	0	22.52	22.38	23.45	1	21.58	21.31	21.34	2

EIRP POWER

WCDMA B2

Band	WCDMA B2		
Channel	9262	9400	9538
Frequency (MHz)	1852.4	1880	1907.6
RMC 12.2K	24.18	24.08	24.05
Gain (dBi)	1.56	1.56	1.56
Max EIRP Power (dBm)	25.74	25.64	25.61

LTE Band 2

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			18607	18900	19193		18607	18900	19193	
			1850.7	1880	1909.3		1850.7	1880	1909.3	
			MHz	MHz	MHz		MHz	MHz	MHz	
2 / 1.4M	1	0	23.85	23.20	23.20		22.54	22.31	22.20	
Gain (dBi)			1.56	1.56	1.56	0	1.56	1.56	1.56	1
Max EIRP Power (dBm)			25.41	24.76	24.76		24.10	23.87	23.76	

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			18615	18900	19185		18615	18900	19185	
			1851.5	1880	1908.5		1851.5	1880	1908.5	
			MHz	MHz	MHz		MHz	MHz	MHz	
2 / 3M	1	0	23.66	23.11	23.05		22.37	22.17	22.11	
Gain (dBi)			1.56	1.56	1.56	0	1.56	1.56	1.56	1
Max EIRP Power (dBm)			25.22	24.67	24.61		23.93	23.73	23.67	

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			18625	18900	19175		18625	18900	19175	
			1852.5	1880	1907.5		1852.5	1880	1907.5	
			MHz	MHz	MHz		MHz	MHz	MHz	
2 / 5M	1	0	23.81	23.75	23.57		22.82	22.26	22.44	
Gain (dBi)			1.56	1.56	1.56	0	1.56	1.56	1.56	1
Max EIRP Power (dBm)			25.37	25.31	25.13		24.38	23.82	24.00	

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			18650	18900	19150		20000	20175	20350	
			1855	1880	1905		1715	1732.5	1750	
			MHz	MHz	MHz		MHz	MHz	MHz	
2 / 10M	1	0	23.88	23.47	23.45		22.78	22.45	22.85	
Gain (dBi)			1.56	1.56	1.56	0	1.56	1.56	1.56	1
Max EIRP Power (dBm)			25.44	25.03	25.01		24.34	24.01	24.41	

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			18675	18900	19125		18675	18900	19125	
			1857.5	1880	1902.5		1857.5	1880	1902.5	
			MHz	MHz	MHz		MHz	MHz	MHz	
2 / 15M	1	0	23.71	23.56	23.33		22.68	22.48	22.12	
Gain (dBi)			1.56	1.56	1.56	0	1.56	1.56	1.56	1
Max EIRP Power (dBm)			25.27	25.12	24.89		24.24	24.04	23.68	

Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH	Mid CH	High CH		Low CH	Mid CH	High CH	
			18700	18900	19100		18700	18900	19100	
			1860	1880	1900		1860	1880	1900	
			MHz	MHz	MHz		MHz	MHz	MHz	
2 / 20M	1	0	23.94	23.22	23.00		22.84	22.32	22.28	
Gain (dBi)			1.56	1.56	1.56	0	1.56	1.56	1.56	1
Max EIRP Power (dBm)			25.50	24.78	24.56		24.40	23.88	23.84	

4.2 Modulation Characteristics Measurement

4.2.1 Limits of Modulation Characteristics

N/A

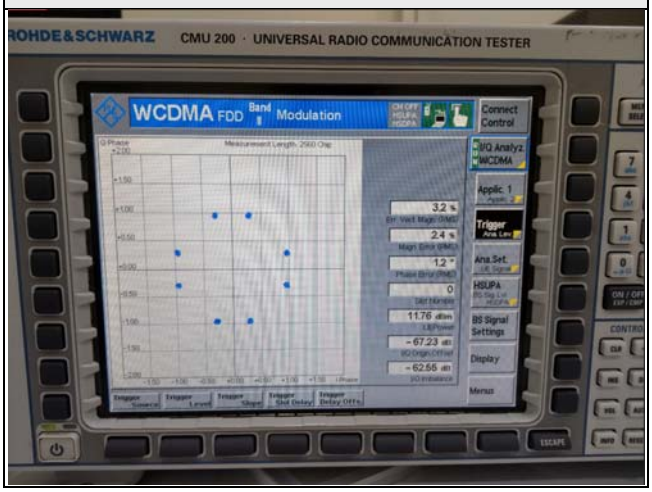
4.2.2 Test Procedure

Connect the EUT to Communication Simulator via the antenna connector. The frequency band is set as EUT supported Modulation and Channels, the EUT output is matched with 50 ohm load, the waveform quality and constellation of the EUT was tested.

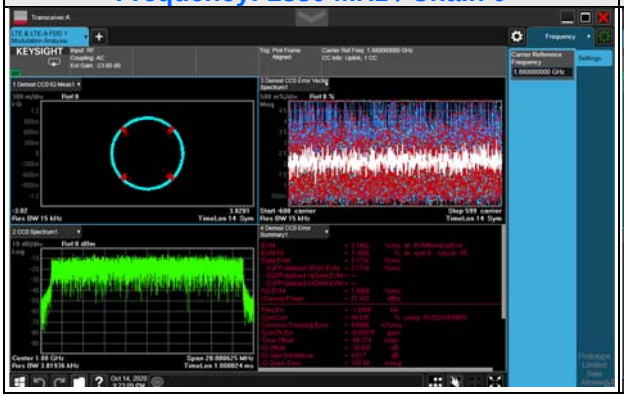
4.2.3 Test Setup

4.2.4 Test Results

WCDMA B2

Frequency: 1880.0 MHz / Chain 0


LTE Band 2

QPSK / Channel Bandwidth: 20MHz / Frequency: 1880 MHz / Chain 0	16QAM / Channel Bandwidth: 20MHz / Frequency: 1880 MHz / Chain 0
	

4.3 Frequency Stability Measurement

4.3.1 Limits of Frequency Stability Measurement

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

4.3.2 Test Procedure

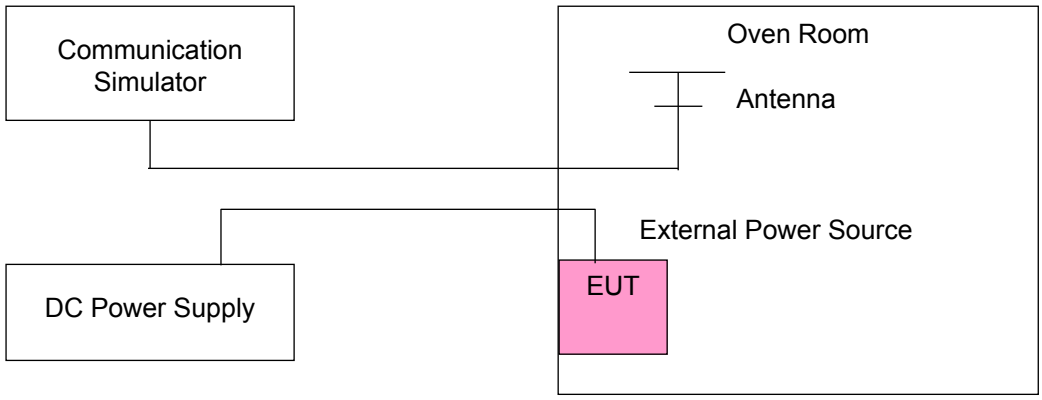
a. Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.

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

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

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

4.3.3 Test Setup



4.3.4 Test Results

WCDMA B2

Frequency Error vs. Voltage

Voltage (Volts)	Test result (MHz)		Limit (MHz)		Pass / Fail
	Low	High	Low Edge	High Edge	
3.3	1850.319993	1909.680000	1850	1910	Pass
4.2	1850.319996	1909.679999	1850	1910	Pass
ppm	0.026		-	-	-

NOTE: The applicant defined the normal working voltage of the battery is from 3.3Vdc to 4.2Vdc.

Frequency Error vs. Temperature.

TEMP. (℃)	Test result (MHz)		Limit (MHz)		Pass / Fail
	Low	High	Low Edge	High Edge	
60	1850.410000	1909.691000	1850	1910	Pass
50	1850.320006	1909.679999	1850	1910	Pass
40	1850.319991	1909.680007	1850	1910	Pass
30	1850.319996	1909.680004	1850	1910	Pass
20	1850.320008	1909.680001	1850	1910	Pass
10	1850.319994	1909.680008	1850	1910	Pass
0	1850.320005	1909.680003	1850	1910	Pass
-10	1850.319997	1909.679993	1850	1910	Pass
-20	1850.319994	1909.680000	1850	1910	Pass
-30	1850.320003	1909.679996	1850	1910	Pass
ppm	0.026		-	-	-

LTE Band 2

Frequency Error vs. Voltage

Voltage (Volts)	Test result (MHz)						Limit (MHz)		Pass / Fail
	1.4MHz		3MHz		5MHz				
	Low	High	Low	High	Low	High	Low Edge	High Edge	
3.3	1850.160001	1909.840005	1850.149993	1909.839995	1850.259994	1909.750006	1850	1910	Pass
4.2	1850.159996	1909.840008	1850.149990	1909.840001	1850.260009	1909.749993	1850	1910	Pass
ppm	0.025		0.024		0.020		-	-	-

Voltage (Volts)	Test result (MHz)						Limit (MHz)		Pass / Fail
	10MHz		15MHz		20MHz				
	Low	High	Low	High	Low	High	Low Edge	High Edge	
3.3	1850.540000	1909.459991	1850.810006	1909.189995	1851.159996	1908.919990	1850	1910	Pass
4.2	1850.540001	1909.459999	1850.810006	1909.189999	1851.159992	1908.920004	1850	1910	Pass
ppm	0.026		0.024		0.018		-	-	-

Note: The applicant defined the normal working voltage is from 3.3Vdc to 4.2Vdc.

Frequency Error vs. Temperature

Temp. (℃)	Test result (MHz)						Limit (MHz)		Pass / Fail
	1.4MHz		3MHz		5MHz				
	Low	High	Low	High	Low	High	Low Edge	High Edge	
60	1850.160009	1909.840005	1850.149995	1909.839998	1850.260003	1909.750003	1850	1910	Pass
50	1850.159995	1909.839993	1850.150005	1909.839991	1850.259999	1909.750004	1850	1910	Pass
40	1850.159999	1909.840000	1850.150009	1909.840000	1850.259995	1909.749998	1850	1910	Pass
30	1850.159998	1909.840008	1850.150004	1909.839996	1850.259994	1909.750000	1850	1910	Pass
20	1850.160006	1909.839996	1850.149999	1909.839999	1850.259992	1909.749999	1850	1910	Pass
10	1850.160008	1909.840005	1850.150008	1909.840000	1850.260000	1909.749999	1850	1910	Pass
0	1850.159992	1909.840002	1850.149996	1909.839990	1850.259998	1909.750009	1850	1910	Pass
-10	1850.159996	1909.840007	1850.150008	1909.839996	1850.259991	1909.749997	1850	1910	Pass
-20	1850.159990	1909.839993	1850.149998	1909.840000	1850.260000	1909.750005	1850	1910	Pass
-30	1850.160002	1909.840003	1850.150007	1909.840005	1850.259994	1909.749992	1850	1910	Pass
60	1850.160009	1909.840005	1850.149995	1909.839998	1850.260003	1909.750003	1850	1910	Pass
ppm	0.026		0.026		0.026		-	-	-

Temp. (℃)	Test result (MHz)						Limit (MHz)		Pass / Fail
	10MHz		15MHz		20MHz				
	Low	High	Low	High	Low	High	Low Edge	High Edge	
60	1850.540004	1909.460002	1850.810002	1909.189992	1851.160009	1908.920004	1850	1910	Pass
50	1850.540005	1909.459998	1850.809993	1909.190003	1851.160004	1908.920008	1850	1910	Pass
40	1850.539996	1909.460007	1850.810008	1909.189998	1851.160007	1908.920004	1850	1910	Pass
30	1850.540004	1909.459991	1850.810005	1909.189993	1851.159993	1908.919998	1850	1910	Pass
20	1850.540002	1909.460006	1850.810009	1909.190005	1851.160006	1908.919995	1850	1910	Pass
10	1850.539990	1909.459991	1850.809993	1909.190007	1851.159995	1908.919998	1850	1910	Pass
0	1850.539990	1909.460001	1850.810006	1909.189997	1851.159994	1908.919998	1850	1910	Pass
-10	1850.540006	1909.460007	1850.810007	1909.190006	1851.160009	1908.920002	1850	1910	Pass
-20	1850.540008	1909.459995	1850.810009	1909.189993	1851.159996	1908.919999	1850	1910	Pass
-30	1850.539996	1909.460007	1850.809998	1909.189993	1851.160002	1908.919997	1850	1910	Pass
60	1850.540004	1909.460002	1850.810002	1909.189992	1851.160009	1908.920004	1850	1910	Pass
ppm	0.024		0.025		0.026		-	-	-

4.4 Emission Bandwidth Measurement

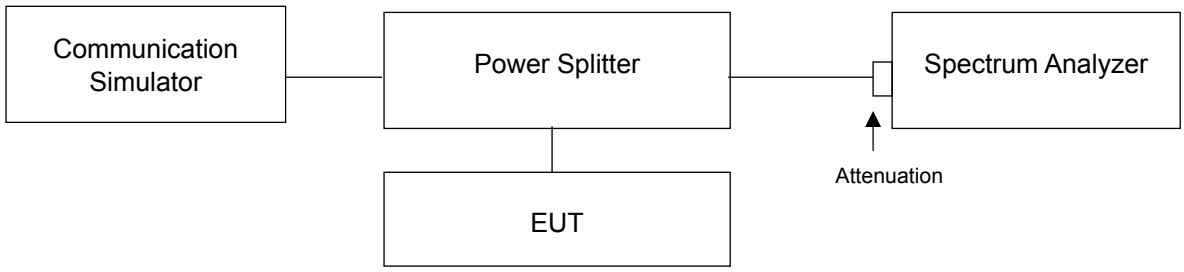
4.4.1 Test Procedure

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. The bandwidth of the fundamental frequency was measured by spectrum analyzer with RBW≥1% x OBW and VBW≥3 x VBW.

Occupied Bandwdith Measurement:
Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

26 dB Bandwidth Measurement:
The emission bandwidth is defined as the width of the signal between two points,one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26dB below the transmitter power.

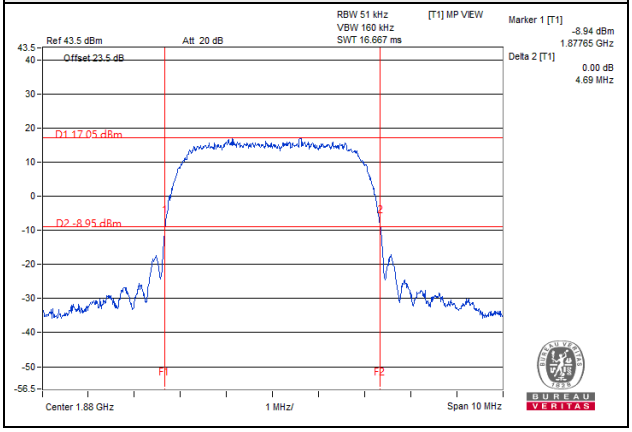
4.4.2 Test Setup



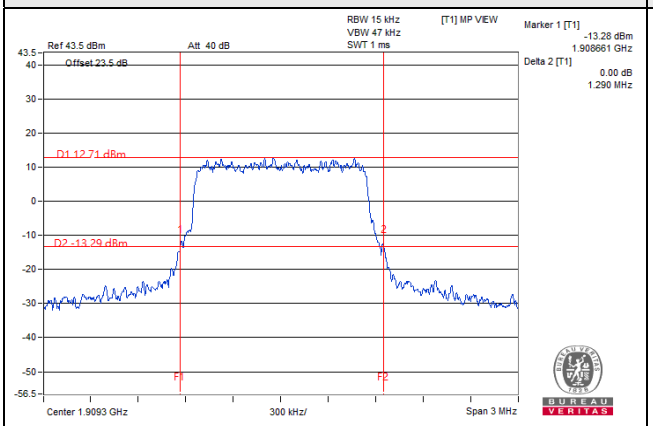
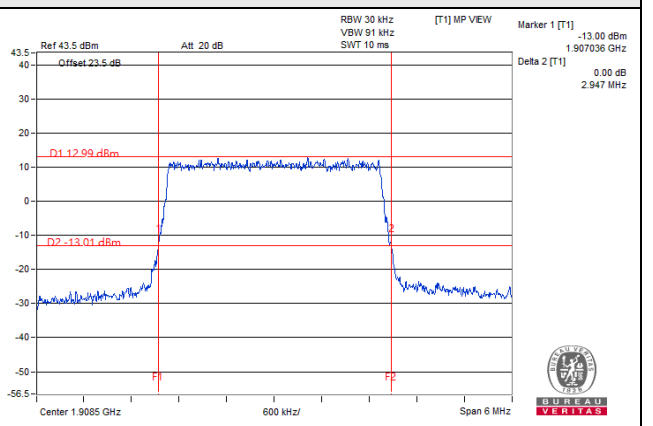
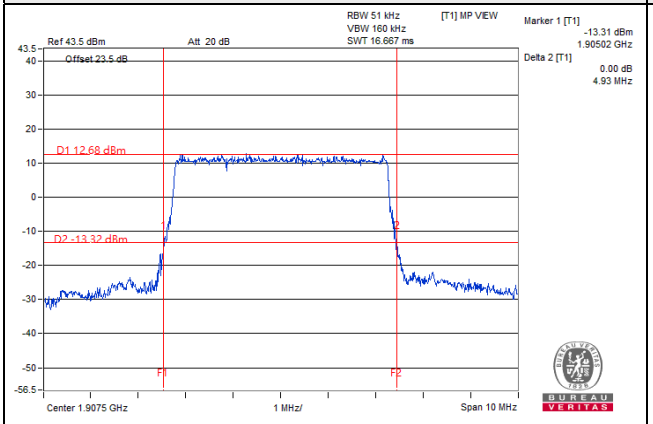
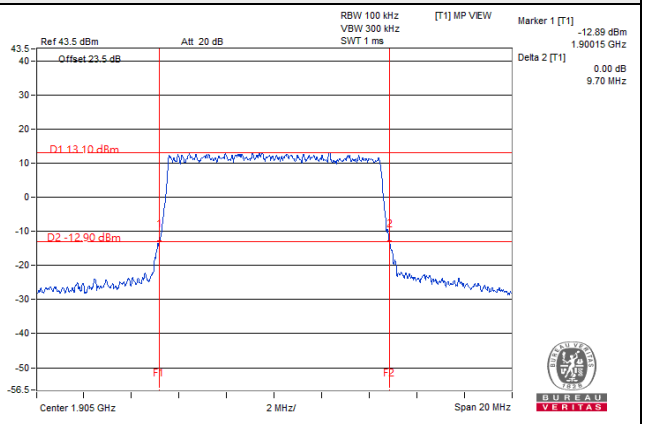
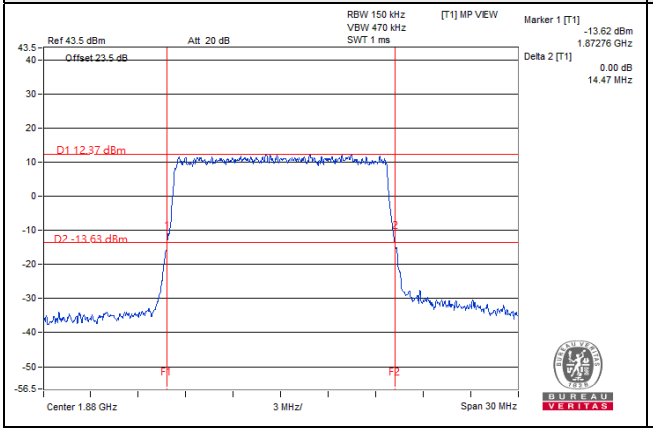
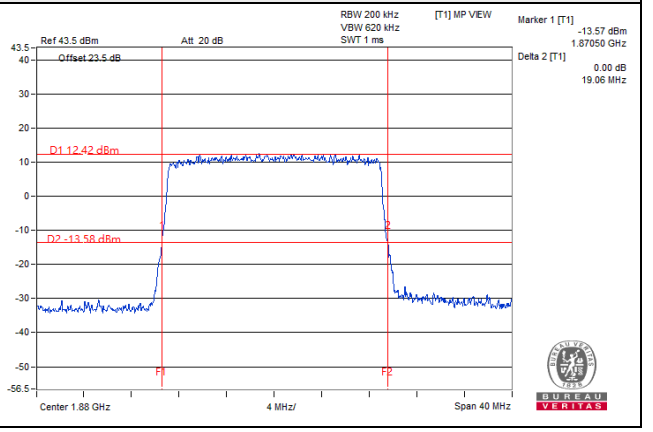
4.4.3 Test Result (-26dB Bandwidth)

WCDMA B2		
Channel	Freq. (MHz)	-26dB Bandwidth (MHz)
9262	1852.4	4.66
9400	1880.0	4.69
9538	1907.6	4.68

Spectrum Plot of Worst Value
WCDMA



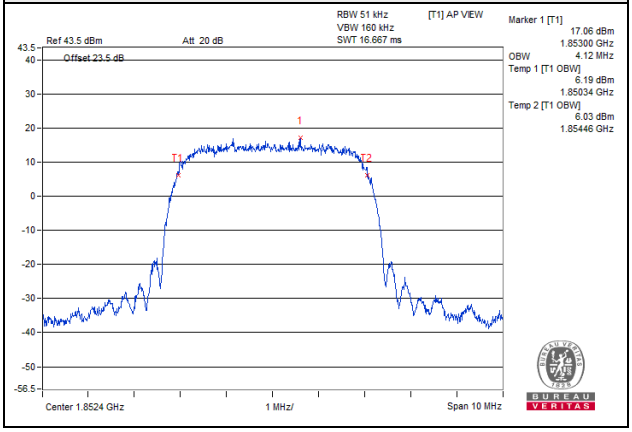
LTE Band 2							
Channel Bandwidth 1.4MHz				Channel Bandwidth 3MHz			
Channel	Frequency (MHz)	-26dB Bandwidth (MHz)		Channel	Frequency (MHz)	-26dB Bandwidth (MHz)	
		QPSK	16QAM			QPSK	16QAM
18607	1850.7	1.25	1.25	18615	1851.5	2.94	2.93
18900	1880	1.24	1.26	18900	1880	2.94	2.92
19193	1909.3	1.24	1.29	19185	1908.5	2.95	2.92
Channel Bandwidth 5MHz				Channel Bandwidth 10MHz			
Channel	Frequency (MHz)	-26dB Bandwidth (MHz)		Channel	Frequency (MHz)	-26dB Bandwidth (MHz)	
		QPSK	16QAM			QPSK	16QAM
18625	1852.5	4.91	4.88	18650	1855	9.62	9.68
18900	1880	4.90	4.88	18900	1880	9.67	9.65
19175	1907.5	4.93	4.90	19150	1905	9.70	9.68
Channel Bandwidth 15MHz				Channel Bandwidth 20MHz			
Channel	Frequency (MHz)	-26dB Bandwidth (MHz)		Channel	Frequency (MHz)	-26dB Bandwidth (MHz)	
		QPSK	16QAM			QPSK	16QAM
18675	1857.5	14.46	14.35	18700	1860	18.96	19.04
18900	1880	14.45	14.47	18900	1880	18.85	19.06
19125	1902.5	14.36	14.46	19100	1900	18.98	18.93

Spectrum Plot of Worst Value	
1.4MHz / 16QAM	3MHz / QPSK
	
5MHz / QPSK	10MHz / QPSK
	
15MHz / 16QAM	20MHz / 16QAM
	

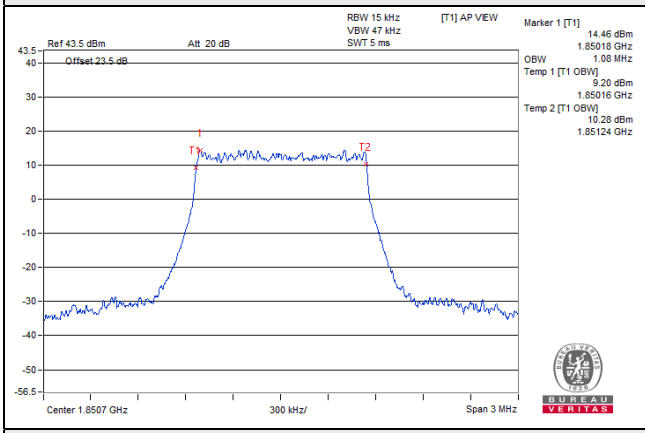
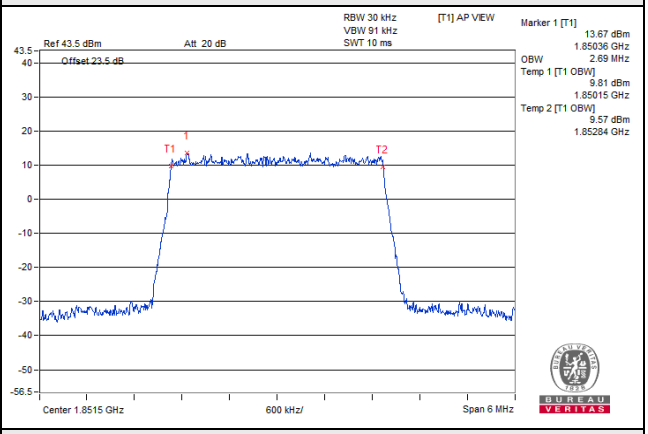
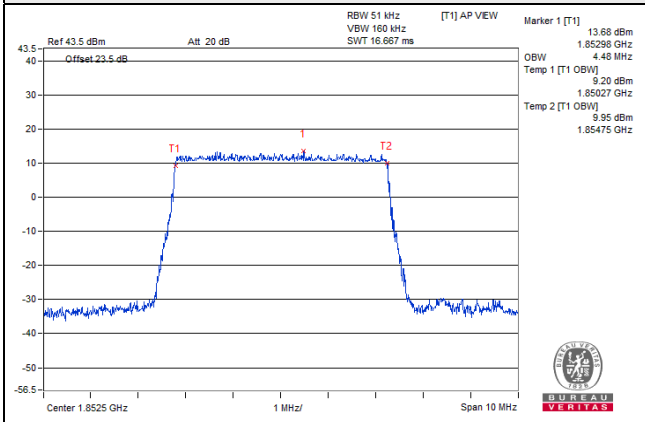
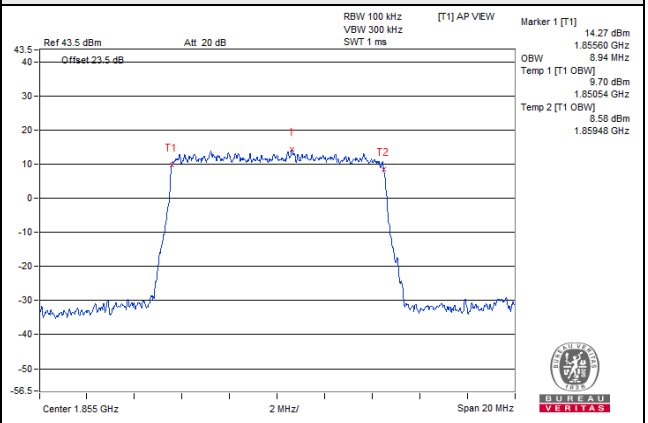
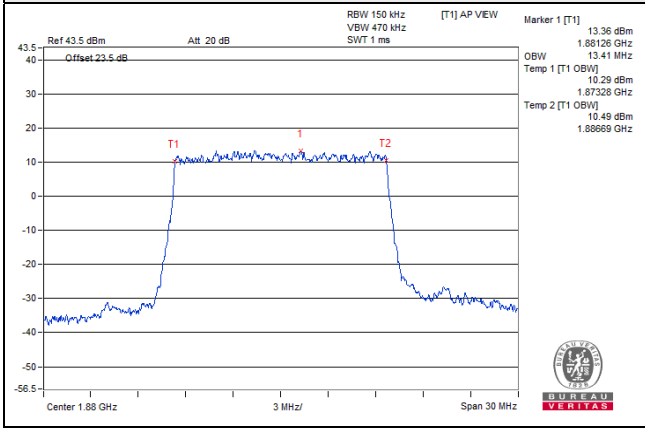
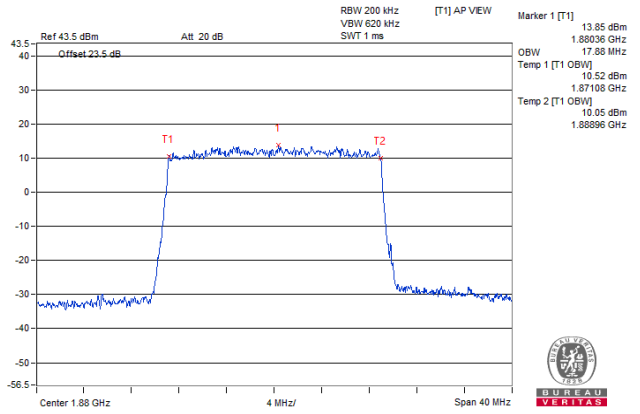
4.4.4 Test Result (Occupied Bandwidth)

WCDMA B2		
Channel	Freq. (MHz)	99% Occupied Bandwidth (MHz)
9262	1852.4	4.12
9400	1880.0	4.11
9538	1907.6	4.15

Spectrum Plot of Worst Value
WCDMA



LTE Band 2							
Channel Bandwidth 1.4MHz				Channel Bandwidth 3MHz			
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)		Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	
		QPSK	16QAM			QPSK	16QAM
18607	1850.7	1.08	1.08	18615	1851.5	2.69	2.68
18900	1880	1.08	1.08	18900	1880	2.68	2.68
19193	1909.3	1.08	1.08	19185	1908.5	2.69	2.68
Channel Bandwidth 5MHz				Channel Bandwidth 10MHz			
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)		Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	
		QPSK	16QAM			QPSK	16QAM
18625	1852.5	4.48	4.47	18650	1855	8.94	8.94
18900	1880	4.47	4.47	18900	1880	8.92	8.94
19175	1907.5	4.47	4.46	19150	1905	8.94	8.92
Channel Bandwidth 15MHz				Channel Bandwidth 20MHz			
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)		Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	
		QPSK	16QAM			QPSK	16QAM
18675	1857.5	13.38	13.38	18700	1860	17.84	17.84
18900	1880	13.41	13.38	18900	1880	17.88	17.80
19125	1902.5	13.41	13.38	19100	1900	17.84	17.80

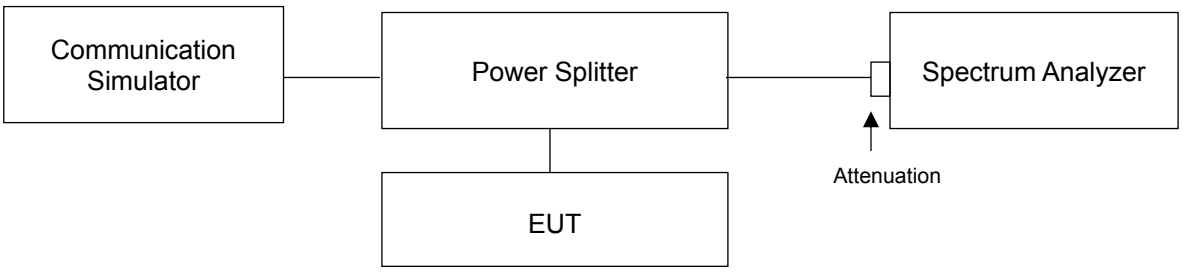
Spectrum Plot of Worst Value	
1.4MHz / QPSK	3MHz / QPSK
	
5MHz / QPSK	10MHz / QPSK
	
15MHz / QPSK	20MHz / QPSK
	

4.5 Band Edge Measurement

4.5.1 Limits of Band Edge Measurement

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

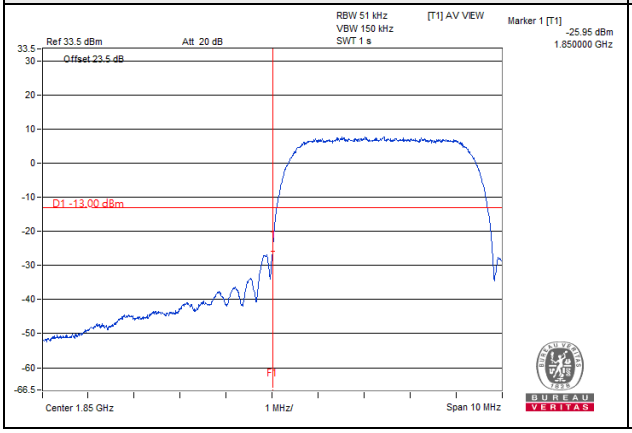
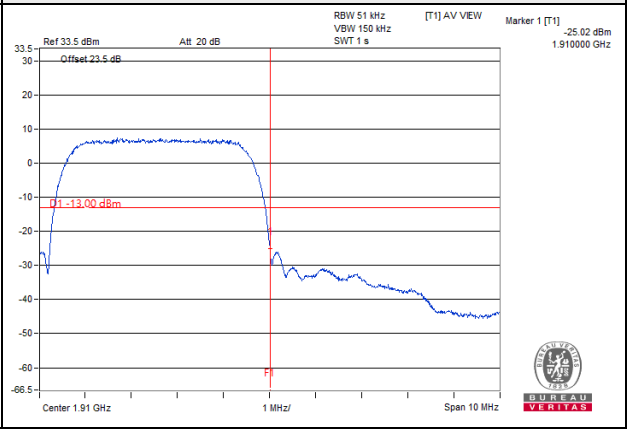
4.5.2 Test Setup

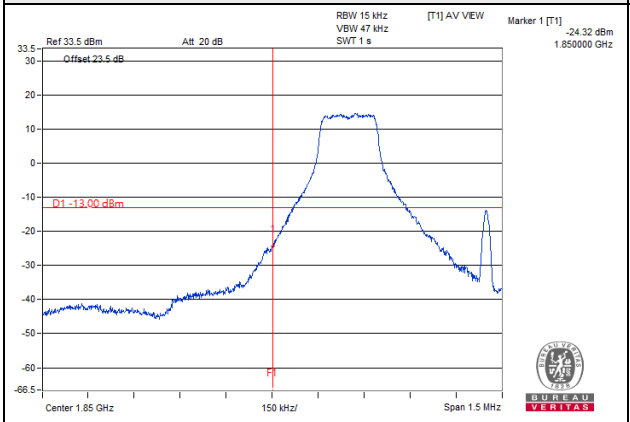
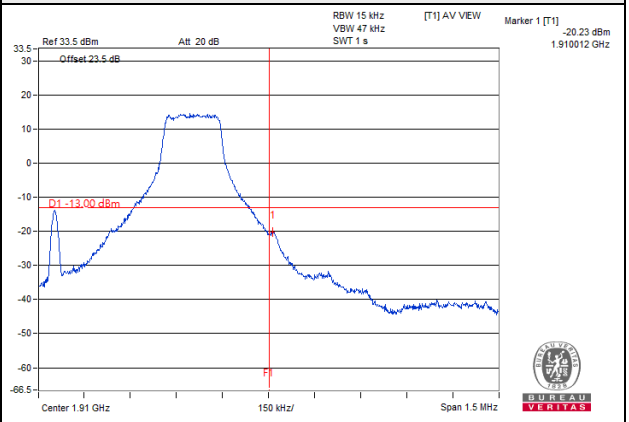
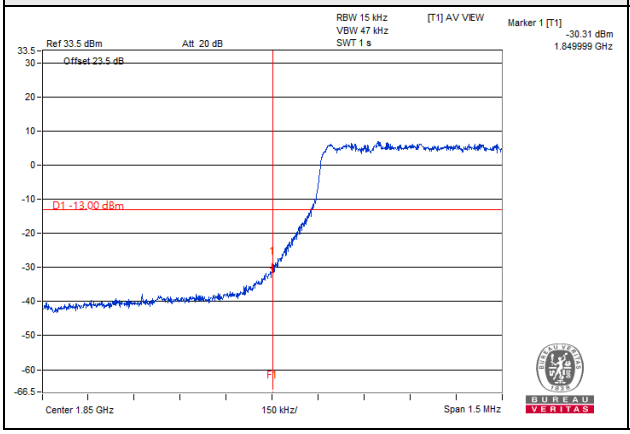
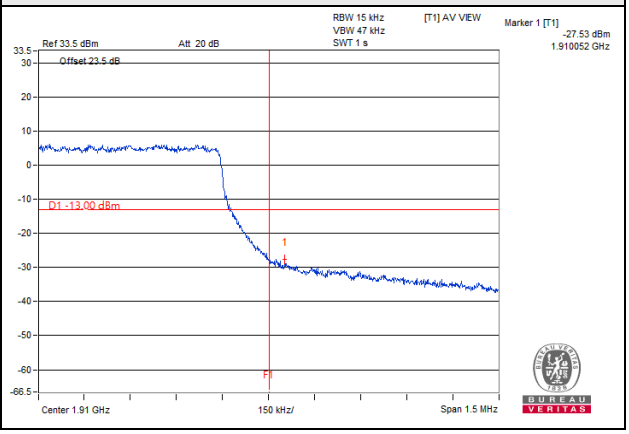


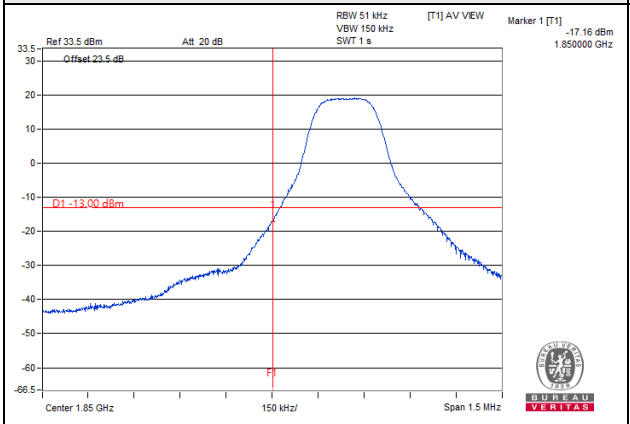
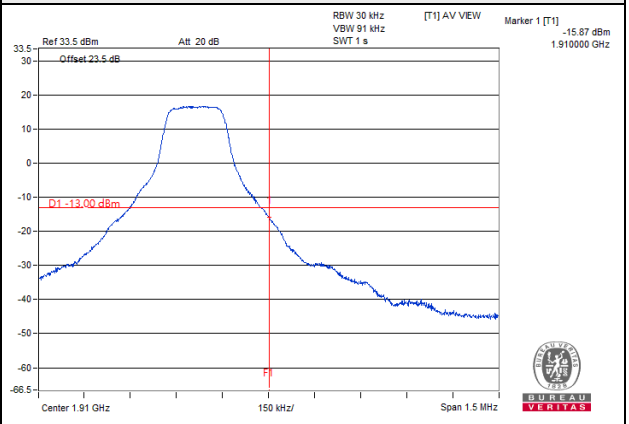
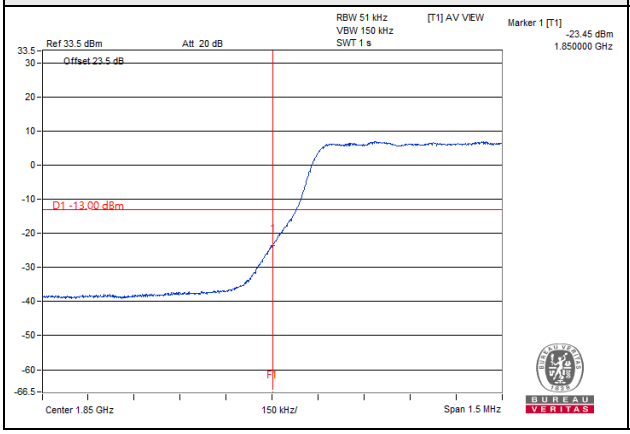
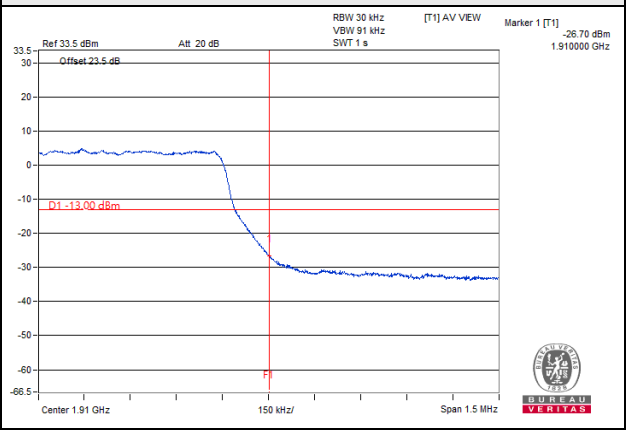
4.5.3 Test Procedures

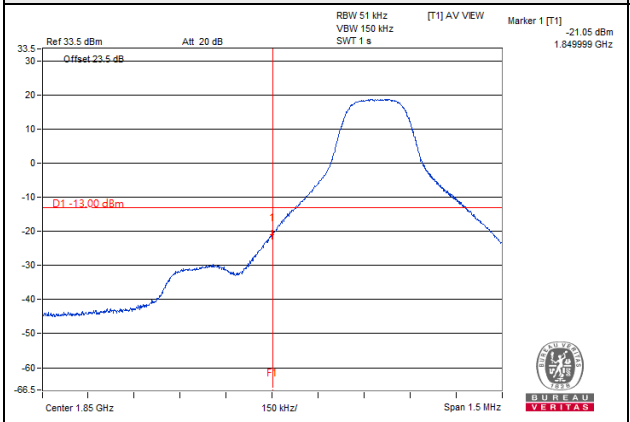
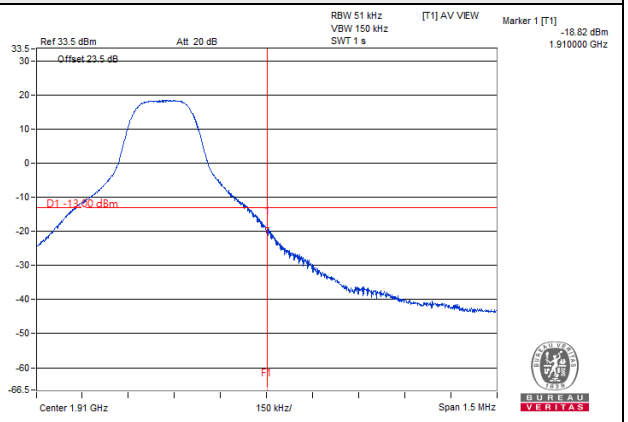
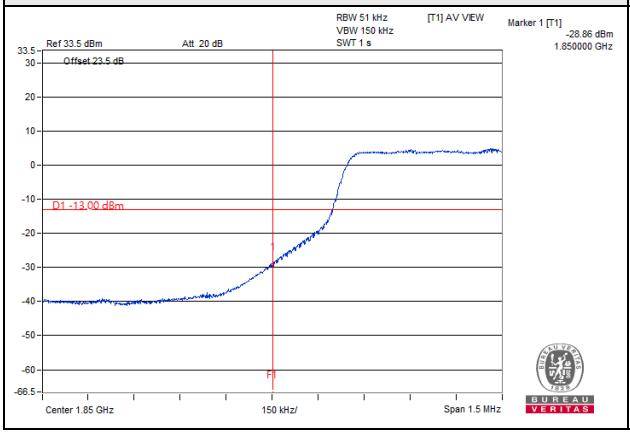
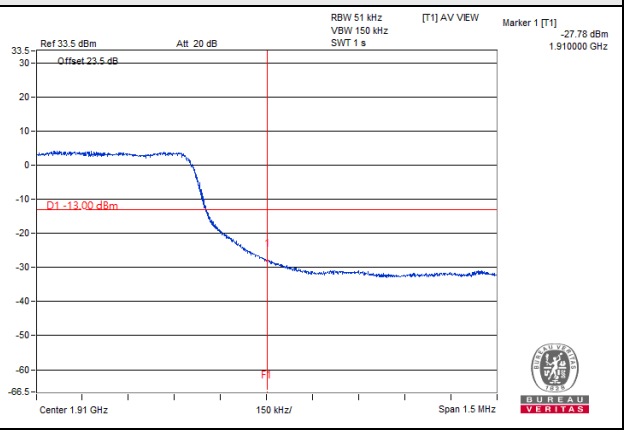
a. All measurements were done at low and high operational frequency range.
b. The center frequency of spectrum is the band edge frequency and RB of the spectrum is >1% emission bandwidth and VB of the spectrum is ≧ 3*RB.
c. Record the max trace plot into the test report.

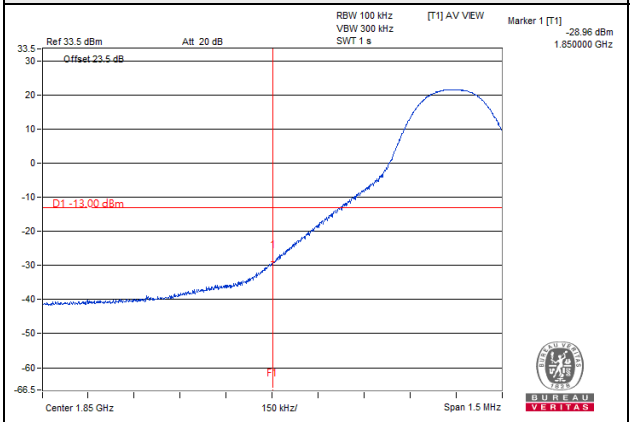
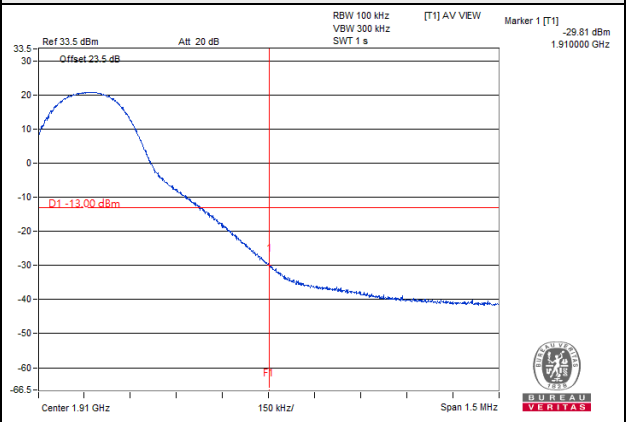
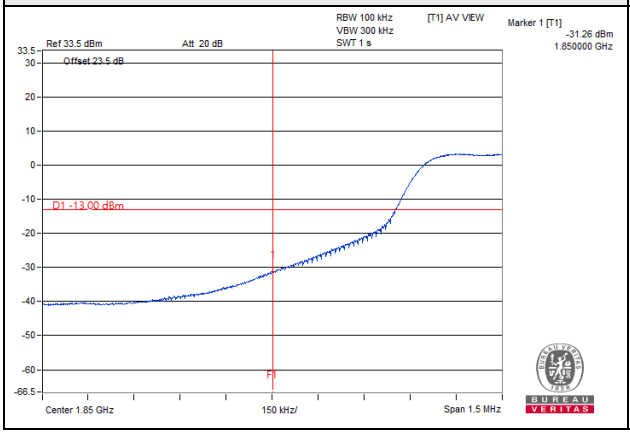
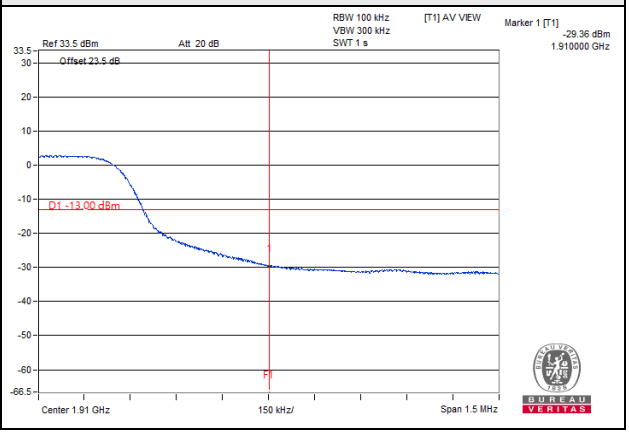
4.5.4 Test Results

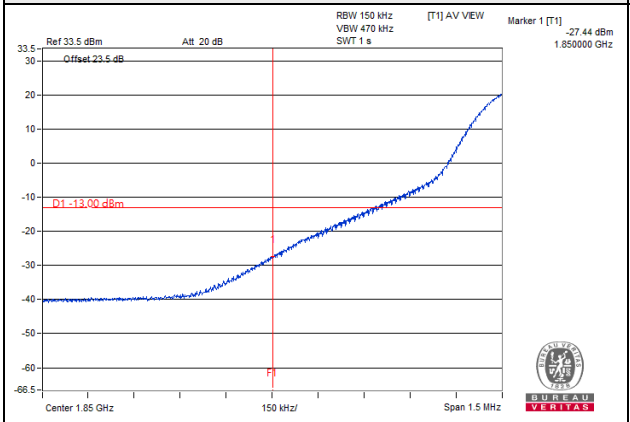
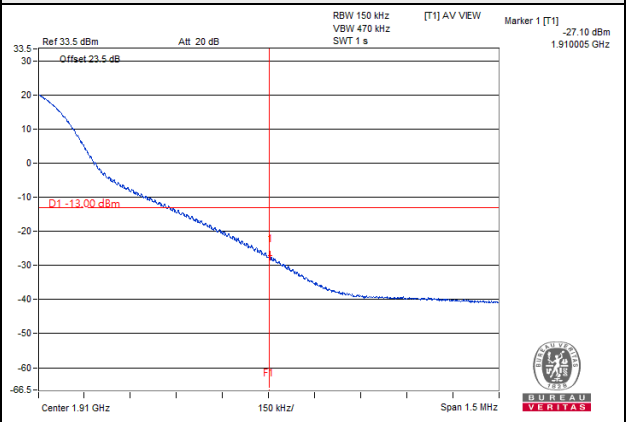
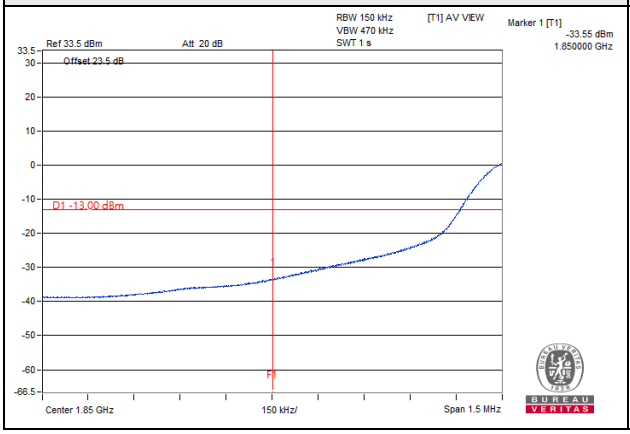
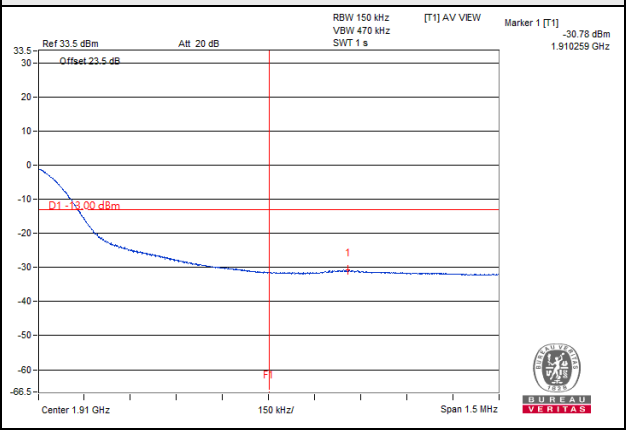
WCDMA B2	
Channel 9262	Channel 9538
	

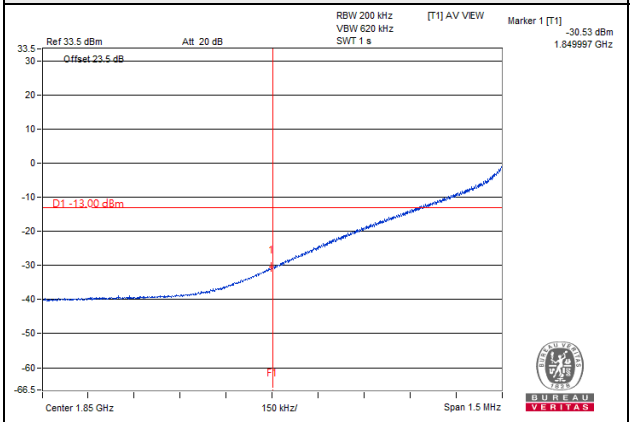
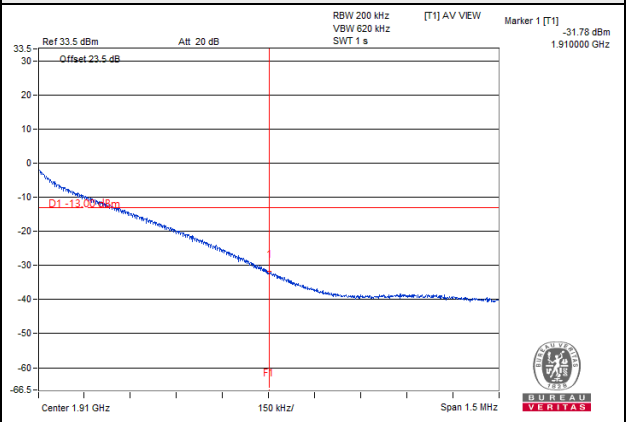
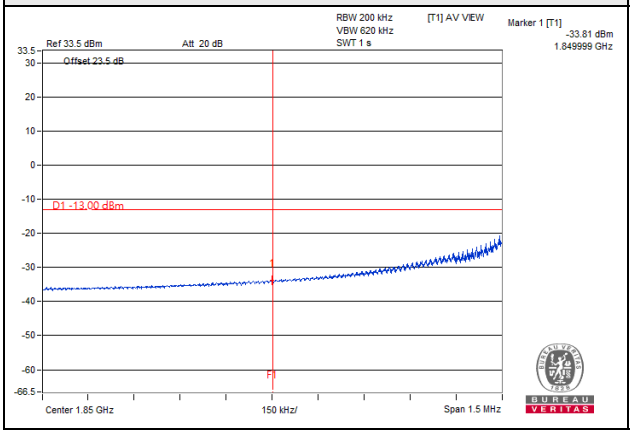
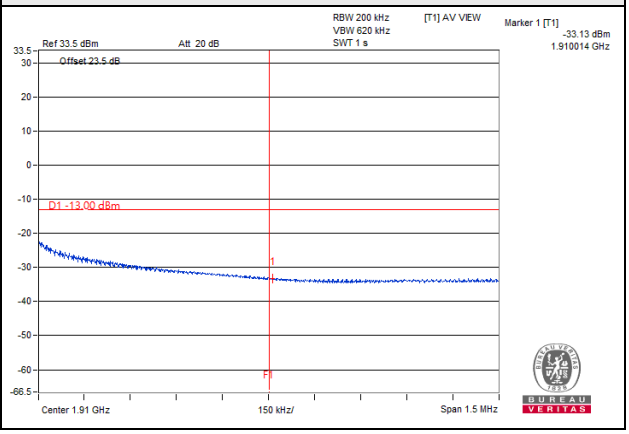
LTE Band 2 Channel Bandwidth: 1.4MHz	
Channel 18607	Channel 19193
1 RB	1 RB
	
6 RB	6 RB
	

LTE Band 2 Channel Bandwidth: 3MHz	
Channel 18615	Channel 19185
1 RB	1 RB
	
15 RB	15 RB
	

LTE Band 2 Channel Bandwidth: 5MHz	
Channel 18625	Channel 19175
1 RB	1 RB
	
25 RB	25 RB
	

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

LTE Band 2 Channel Bandwidth: 15MHz	
Channel 18675	Channel 19125
1 RB	1 RB
	
75 RB	75 RB
	

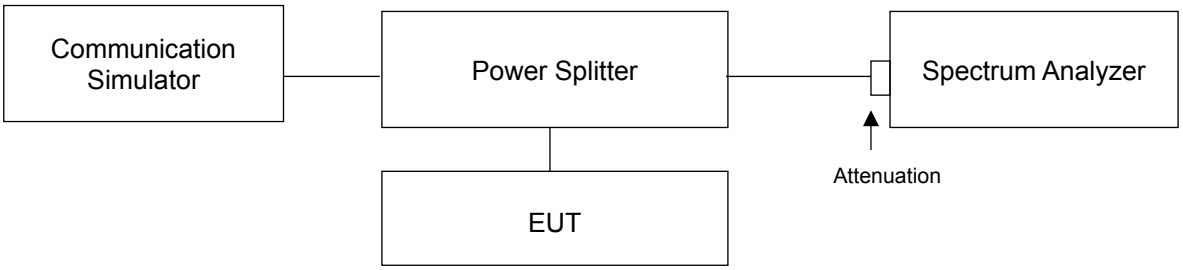
LTE Band 2 Channel Bandwidth: 20MHz	
Channel 18700	Channel 19100
1 RB	1 RB
	
100 RB	100 RB
	

4.6 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

WCDMA B2		
Channel	Freq. (MHz)	Peak to Average Ratio (dB)
9262	1852.4	3.00
9400	1880	3.07
9538	1907.6	2.98

Spectrum Plot of Worst Value
WCDMA

LTE Band 2							
Channel Bandwidth 1.4MHz				Channel Bandwidth 3MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM			QPSK	16QAM
18607	1850.7	5.16	5.96	18615	1851.5	5.43	5.98
18900	1880	5.23	6.04	18900	1880	5.21	6.09
19193	1909.3	5.04	5.80	19185	1908.5	5.10	5.98
Channel Bandwidth 5MHz				Channel Bandwidth 10MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM			QPSK	16QAM
18625	1852.5	5.14	5.99	18650	1855	5.11	5.97
18900	1880	5.26	6.13	18900	1880	5.22	6.05
19175	1907.5	5.19	6.12	19150	1905	5.23	6.14
Channel Bandwidth 15MHz				Channel Bandwidth 20MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM			QPSK	16QAM
18675	1857.5	5.28	6.02	18700	1860	5.17	5.99
18900	1880	5.32	6.02	18900	1880	5.11	5.95
19125	1902.5	5.36	6.09	19100	1900	5.15	5.98

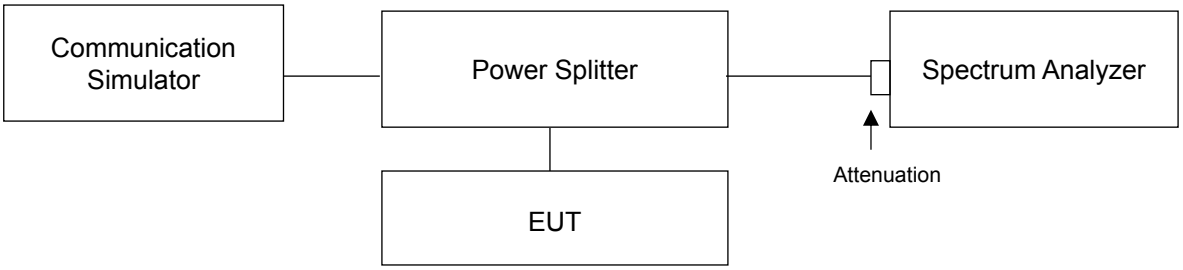
Spectrum Plot of Worst Value	
1.4MHz / 16QAM	3MHz / 16QAM
	
5MHz / 16QAM	10MHz / 16QAM
	
15MHz / 16QAM	20MHz / 16QAM
	

4.7 Conducted Spurious Emissions

4.7.1 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.

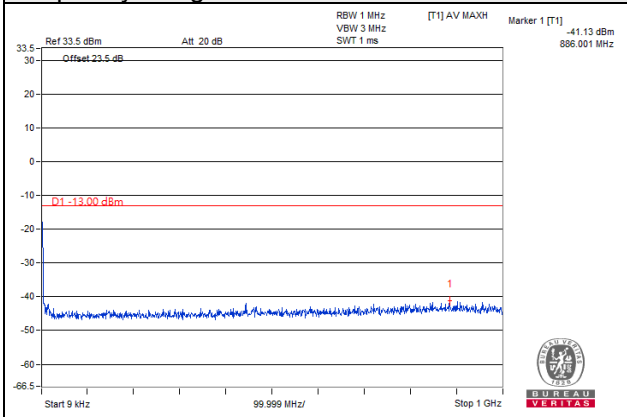
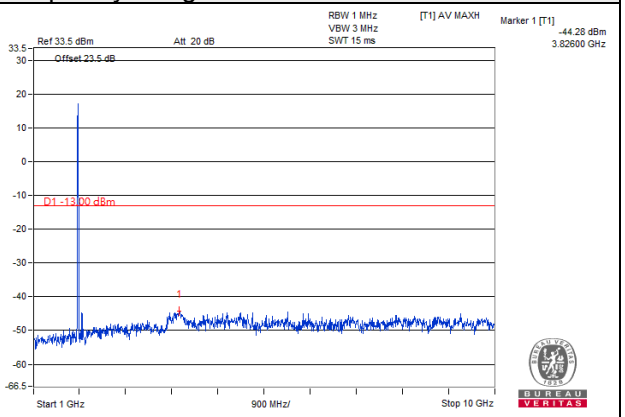
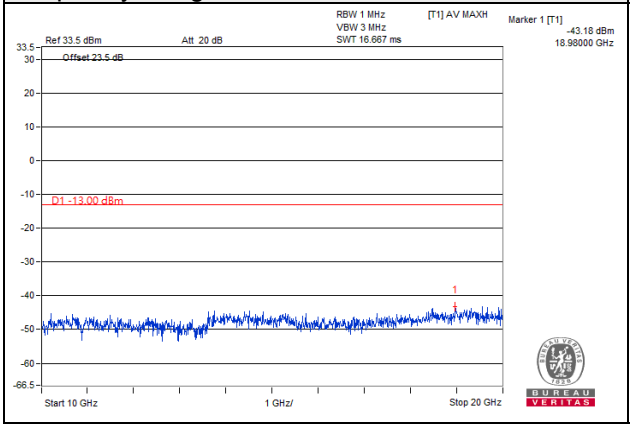
4.7.2 Test Setup



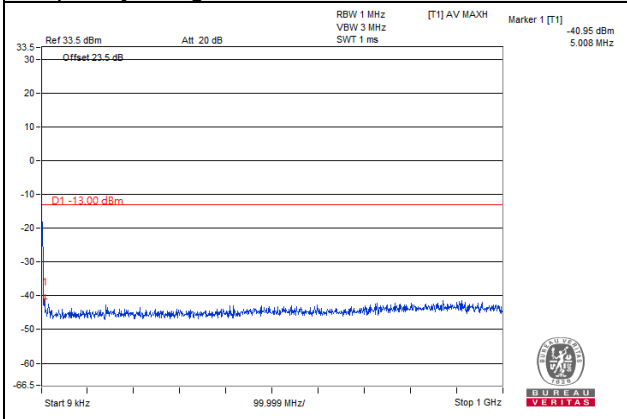
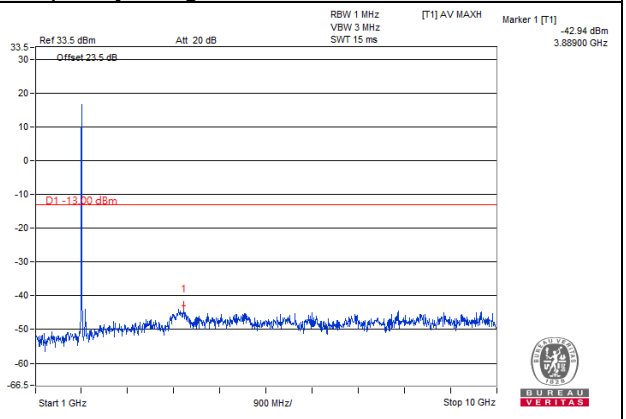
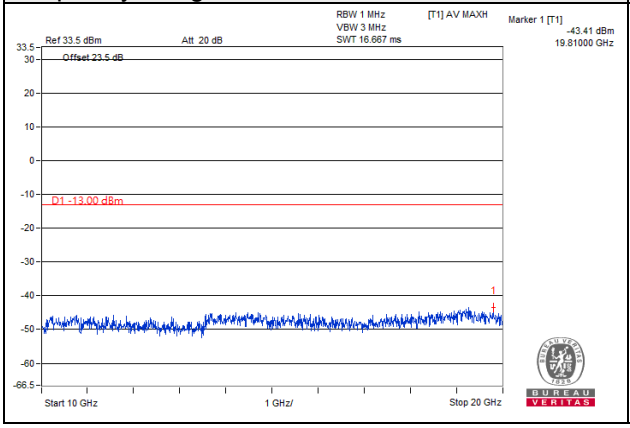
4.7.3 Test Procedure

a. All measurements were done at middle operational frequency range.
b. Measuring frequency range is from 9 kHz to the tenth harmonic of the highest fundamental frequency, it shall be connected to the pad attenuated the carried frequency.
   RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

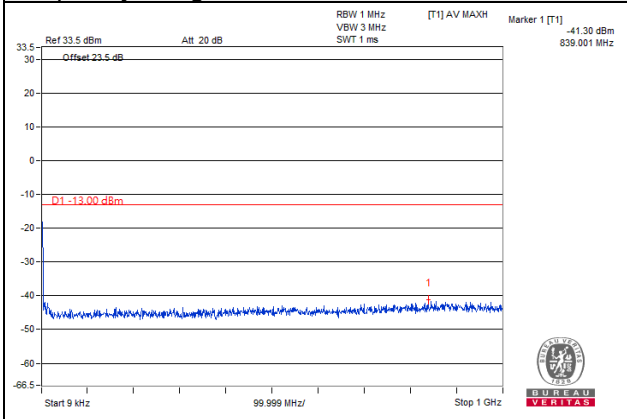
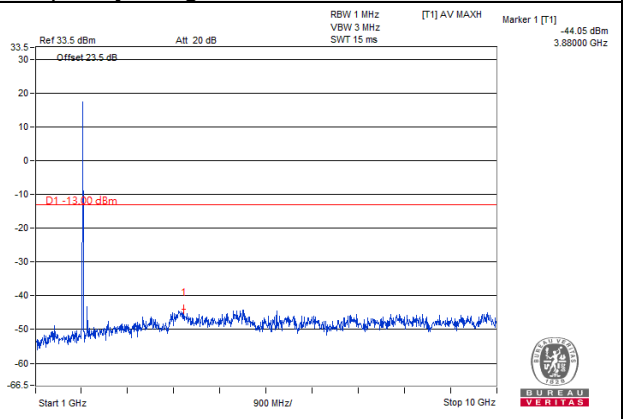
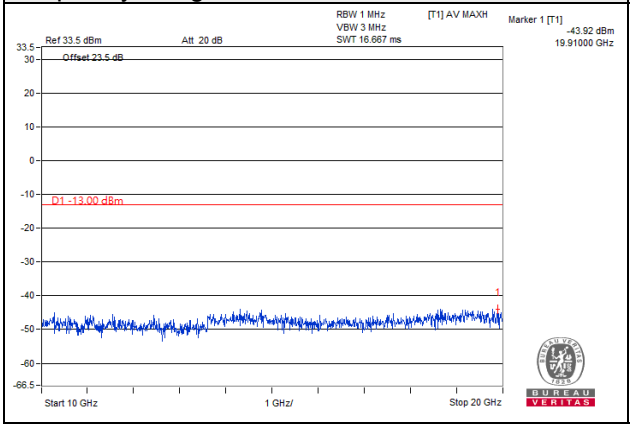
4.7.4 Test Results

WCDMA B2	
Channel 9262	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~20GHz	
	

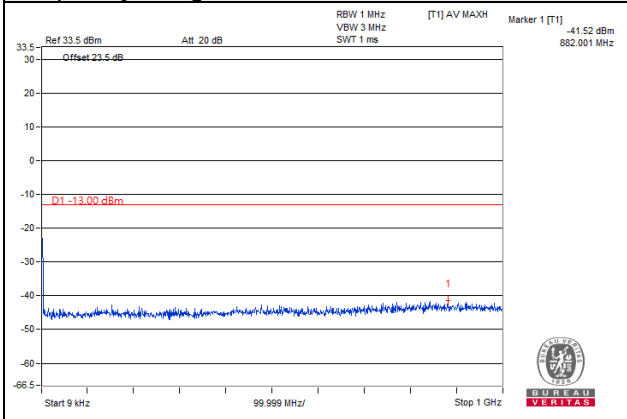
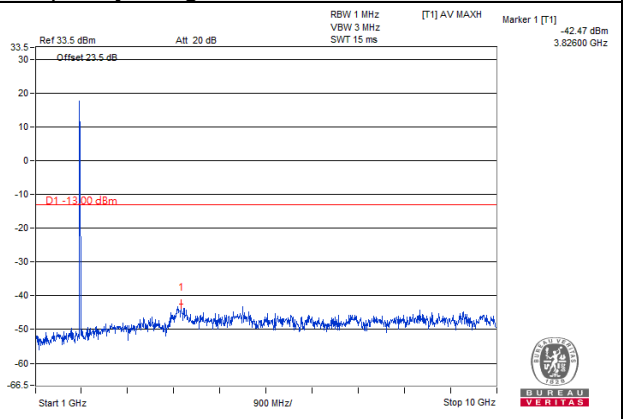
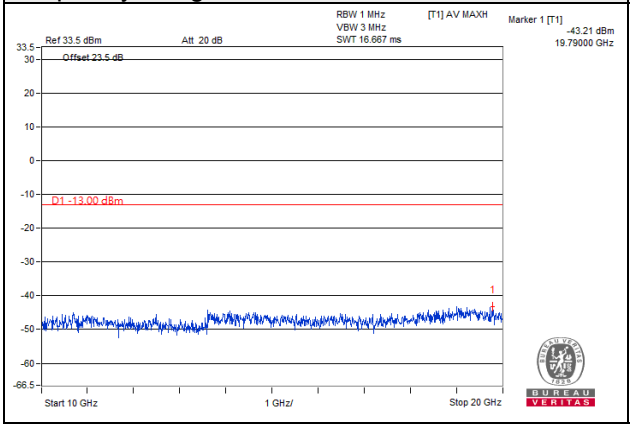
Note: The signal of 9kHz is IF signal from test instrument.

WCDMA B2	
Channel 9400	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~20GHz	
	

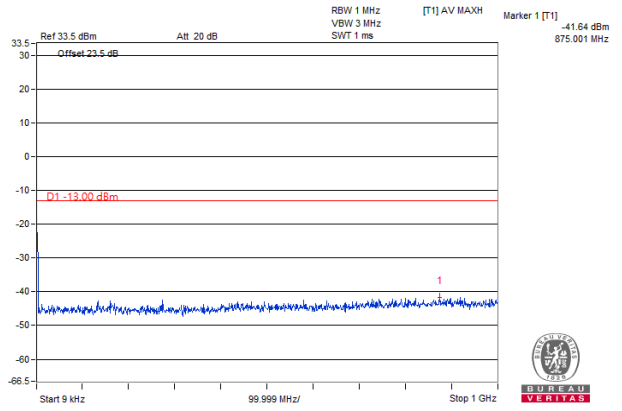
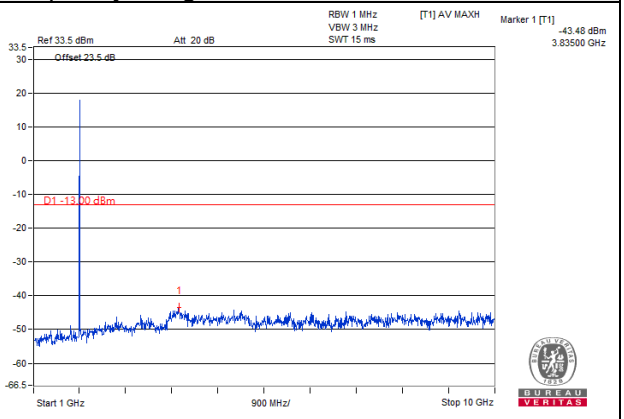
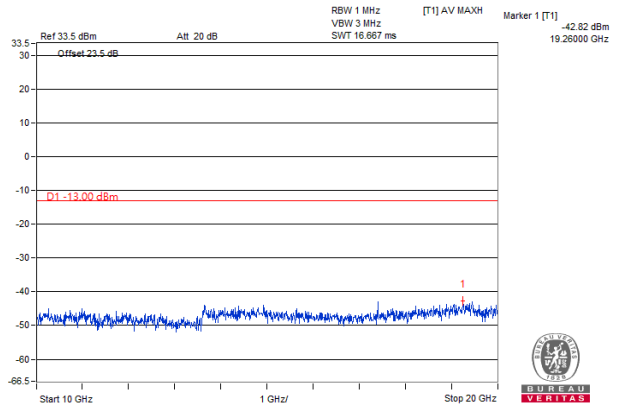
Note: The signal of 9kHz is IF signal from test instrument.

WCDMA B2	
Channel 9538	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Frequency Range : 10GHz~20GHz	
	

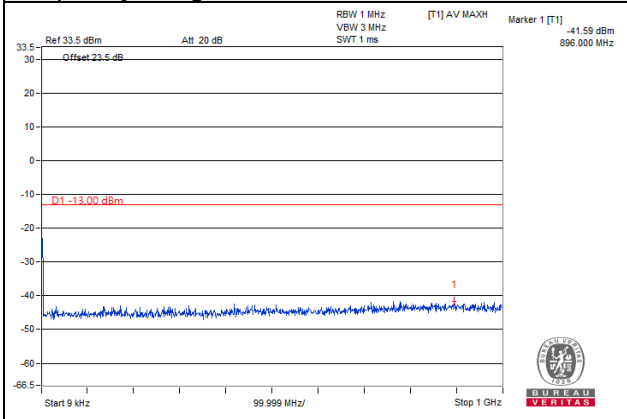
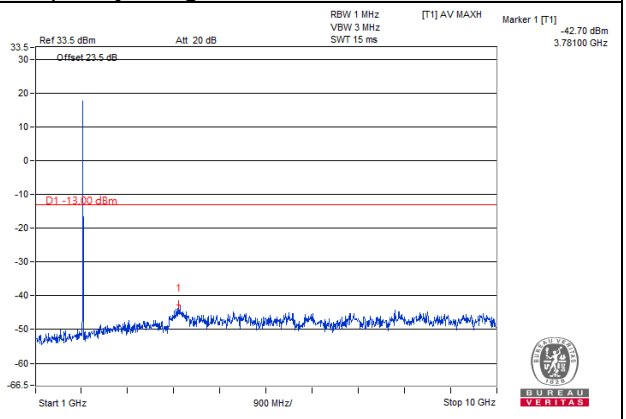
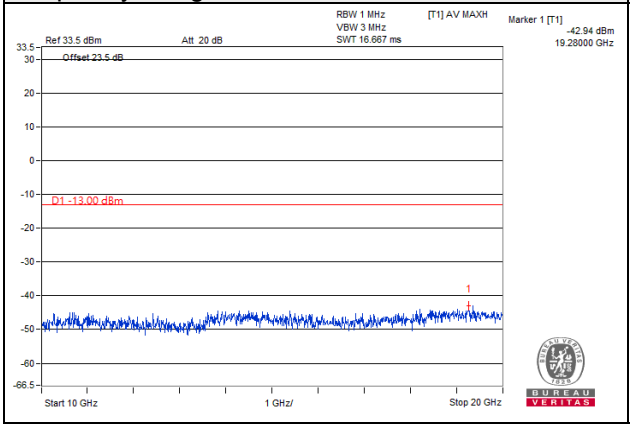
Note: The signal of 9kHz is IF signal from test instrument.

LTE Band 2 Channel Bandwidth: 1.4MHz	
Channel 18607	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz ~10GHz
	
Frequency Range : 10GHz~20GHz	
	

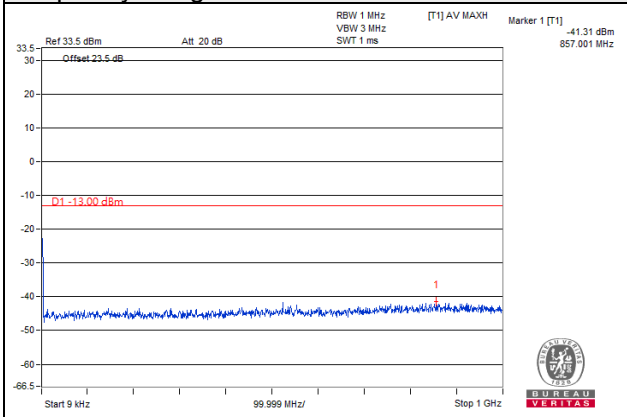
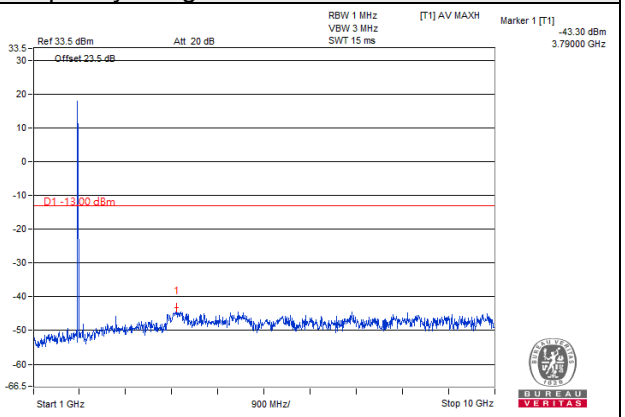
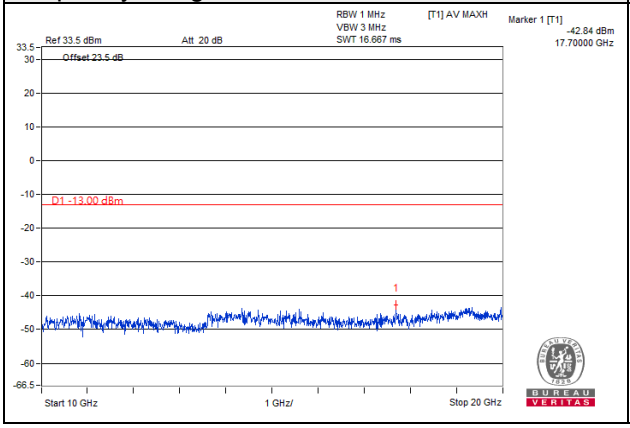
Note: The signal of 9kHz is IF signal from test instrument.

LTE Band 2 Channel Bandwidth: 1.4MHz	
Channel 18900	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz ~10GHz
	
Frequency Range : 10GHz~20GHz	
	

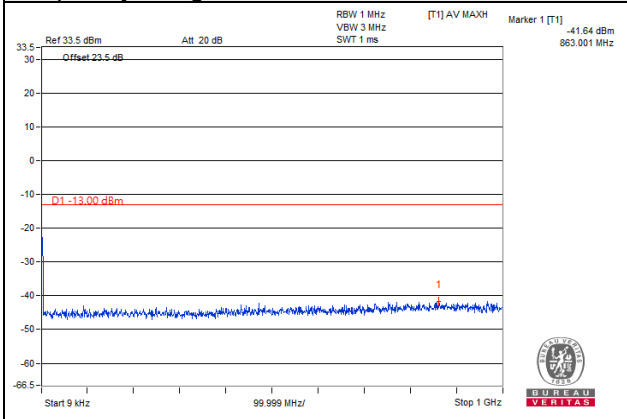
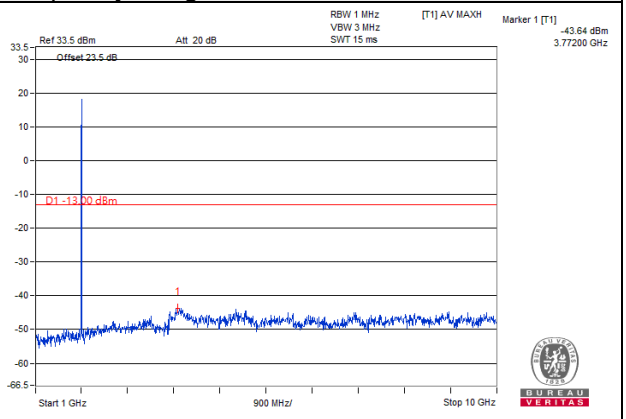
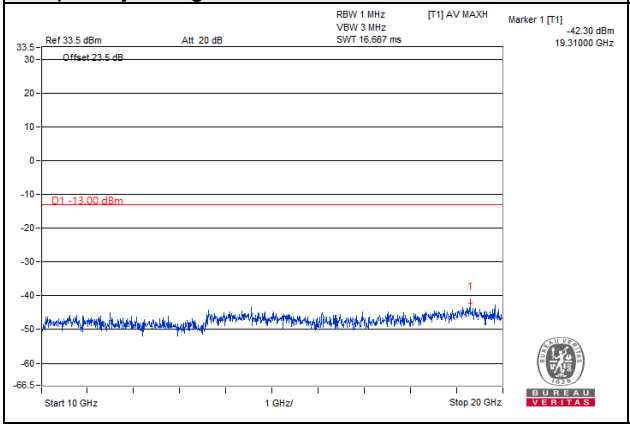
Note: The signal of 9kHz is IF signal from test instrument.

LTE Band 2 Channel Bandwidth: 1.4MHz	
Channel 19193	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz ~10GHz
	
Frequency Range : 10GHz~20GHz	
	

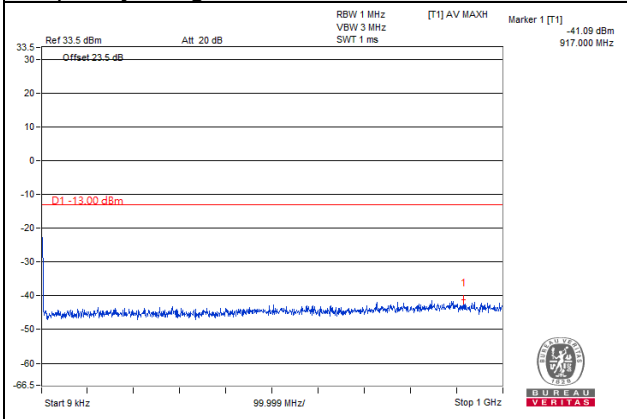
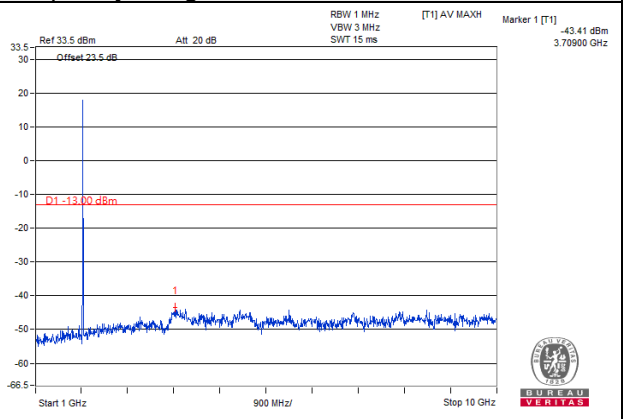
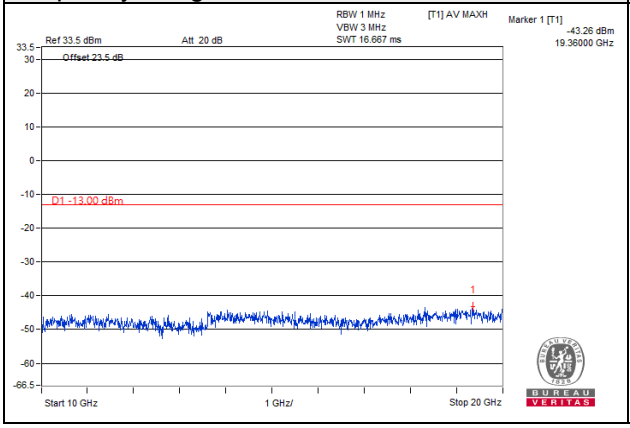
Note: The signal of 9kHz is IF signal from test instrument.

LTE Band 2 Channel Bandwidth: 3MHz	
Channel 18615	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz ~10GHz
	
Frequency Range : 10GHz~20GHz	
	

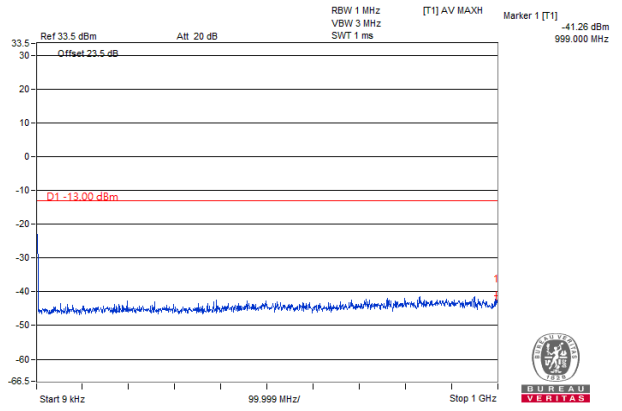
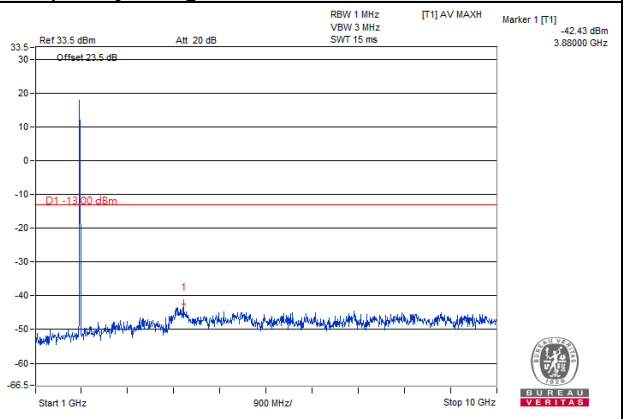
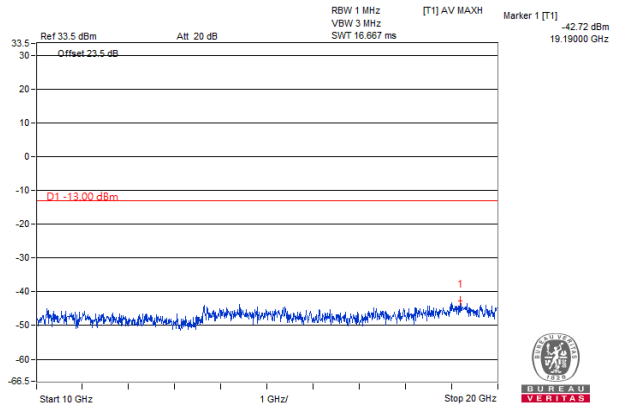
Note: The signal of 9kHz is IF signal from test instrument.

LTE Band 2 Channel Bandwidth: 3MHz	
Channel 18900	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz ~10GHz
	
Frequency Range : 10GHz~20GHz	
	

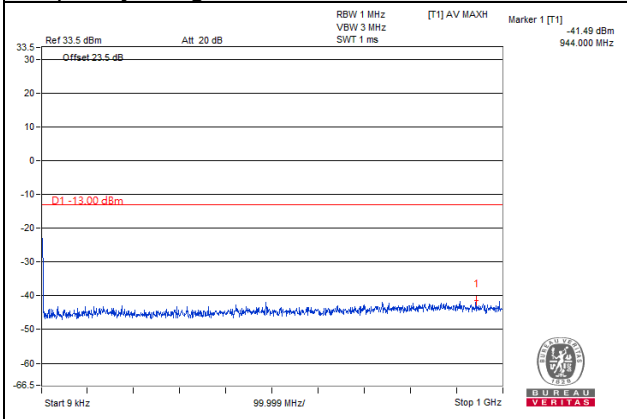
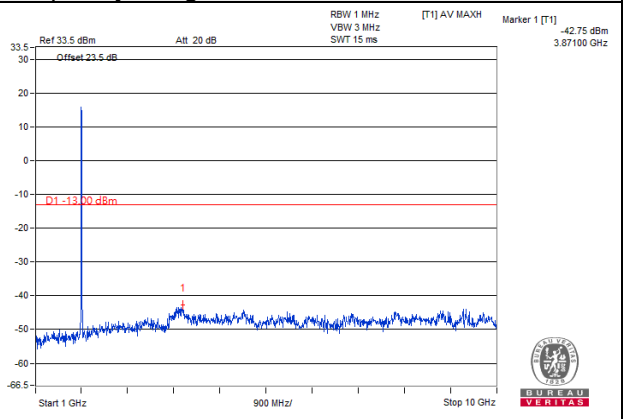
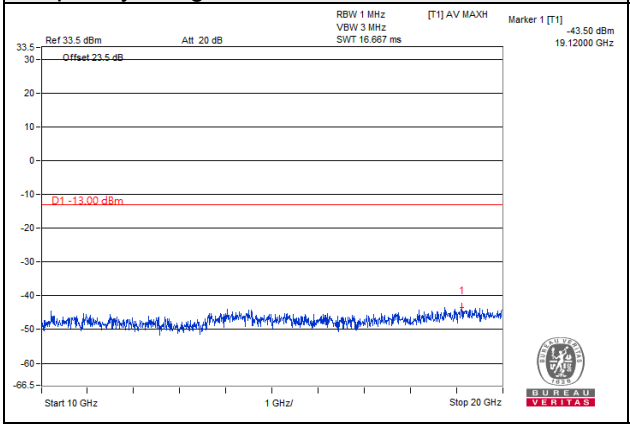
Note: The signal of 9kHz is IF signal from test instrument.

LTE Band 2 Channel Bandwidth: 3MHz	
Channel 19185	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz ~10GHz
	
Frequency Range : 10GHz~20GHz	
	

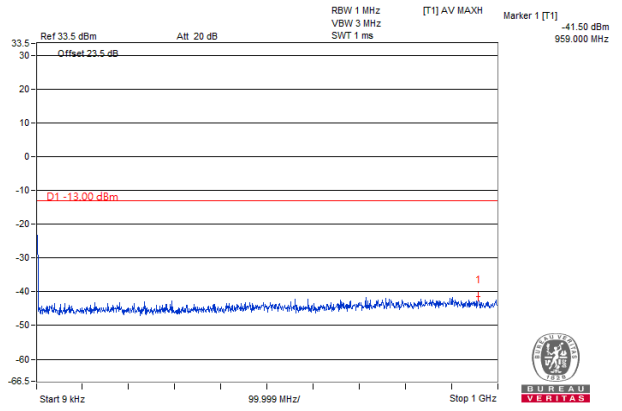
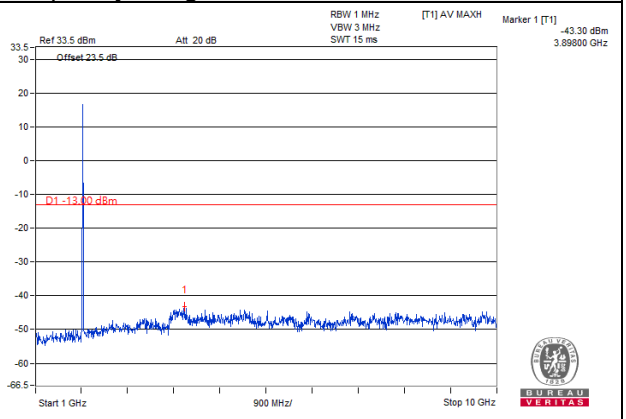
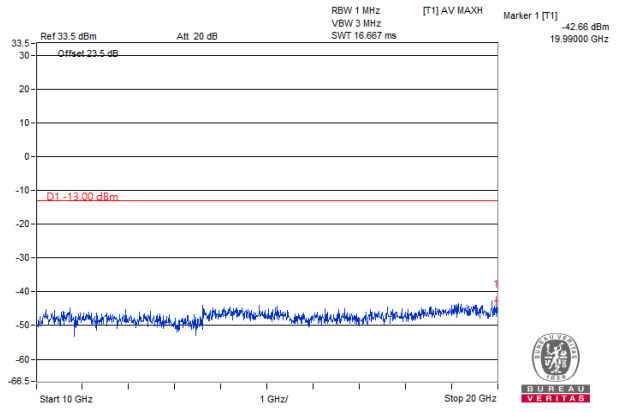
Note: The signal of 9kHz is IF signal from test instrument.

LTE Band 2 Channel Bandwidth: 5MHz	
Channel 18625	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz ~10GHz
	
Frequency Range : 10GHz~20GHz	
	

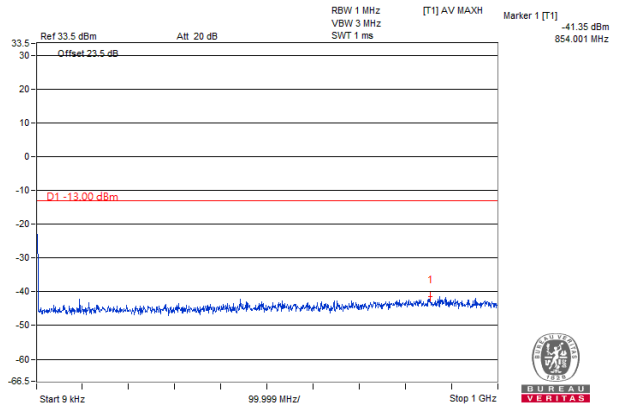
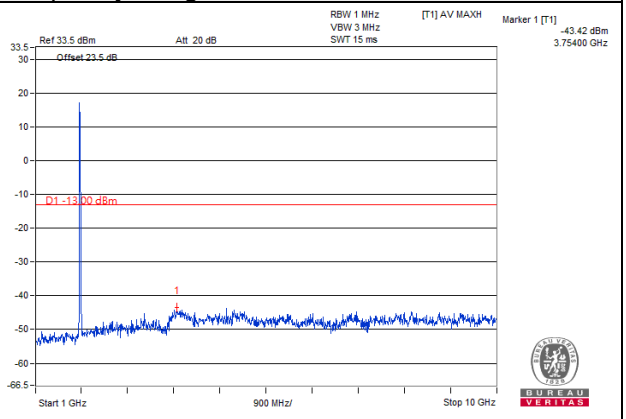
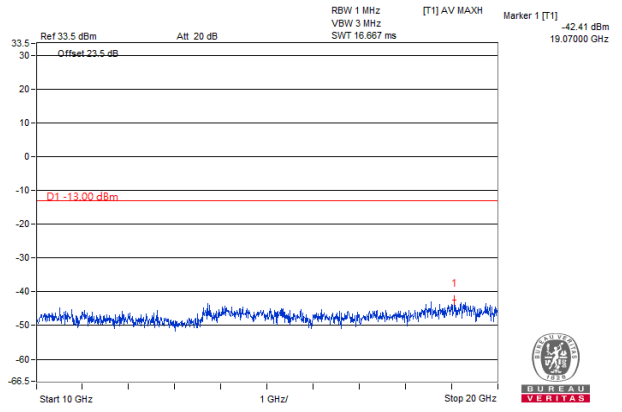
Note: The signal of 9kHz is IF signal from test instrument.

LTE Band 2 Channel Bandwidth: 5MHz	
Channel 18900	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz ~10GHz
	
Frequency Range : 10GHz~20GHz	
	

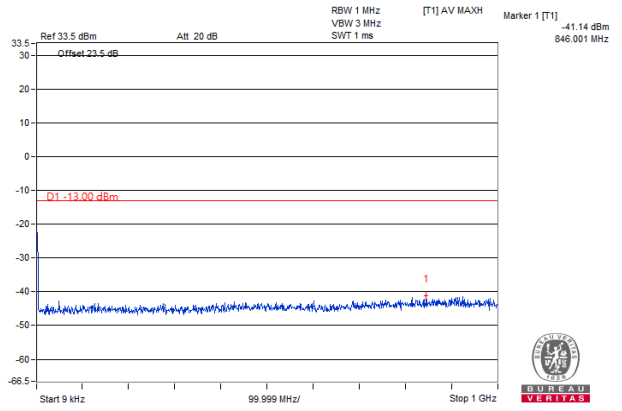
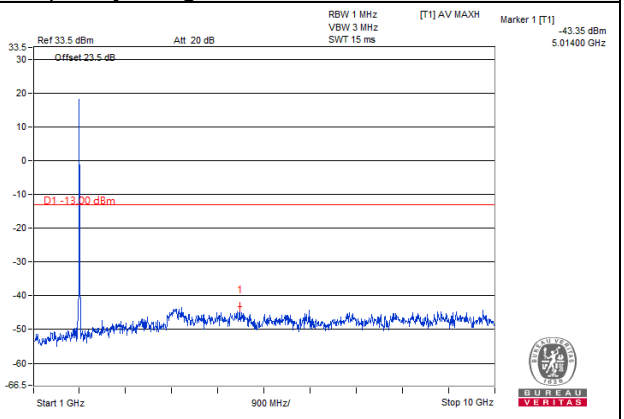
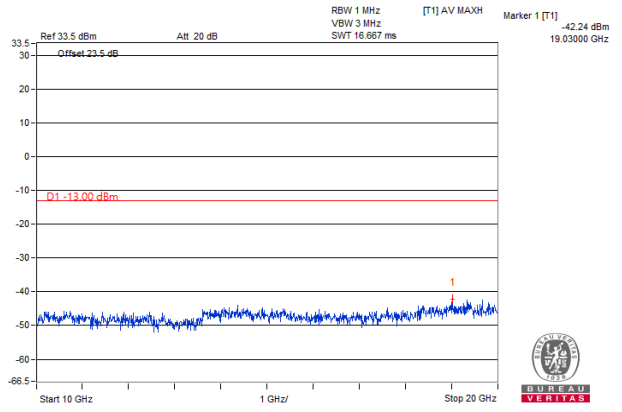
Note: The signal of 9kHz is IF signal from test instrument.

LTE Band 2 Channel Bandwidth: 5MHz	
Channel 19175	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz ~10GHz
	
Frequency Range : 10GHz~20GHz	
	

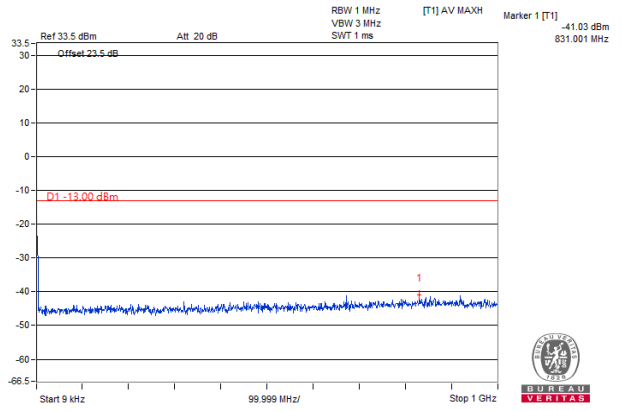
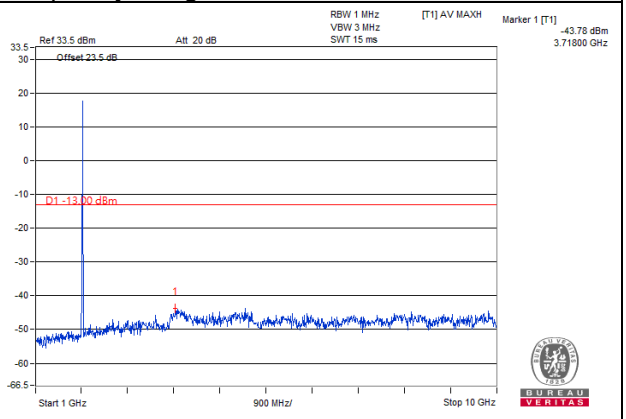
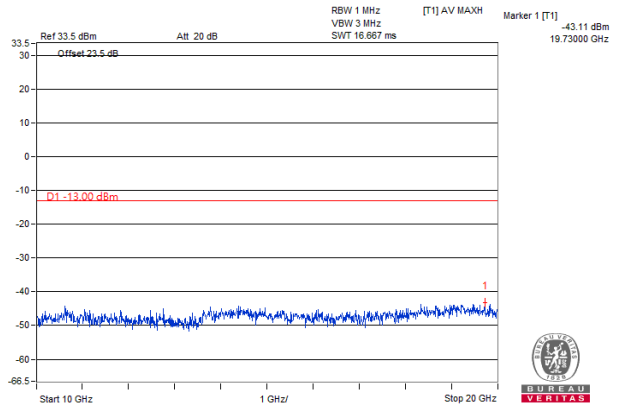
Note: The signal of 9kHz is IF signal from test instrument.

LTE Band 2 Channel Bandwidth: 10MHz	
Channel 18650	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz ~10GHz
	
Frequency Range : 10GHz~20GHz	
	

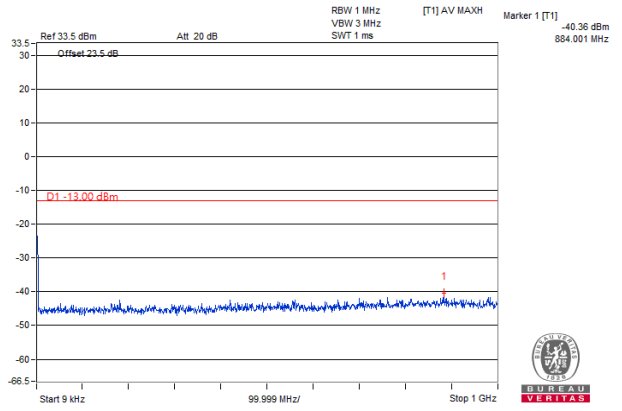
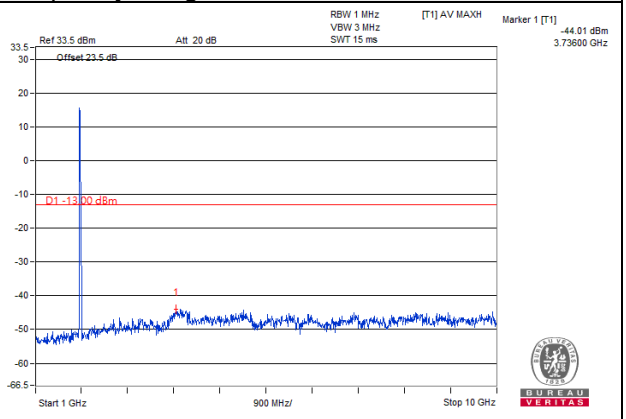
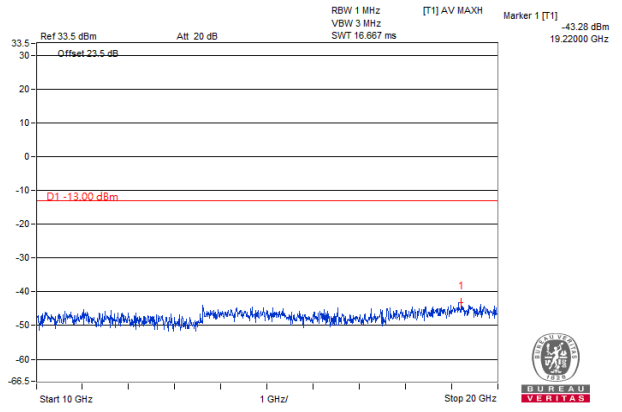
Note: The signal of 9kHz is IF signal from test instrument.

LTE Band 2 Channel Bandwidth: 10MHz	
Channel 18900	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz ~10GHz
	
Frequency Range : 10GHz~20GHz	
	

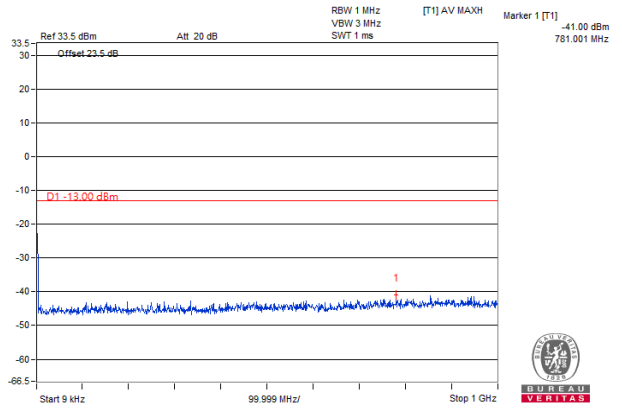
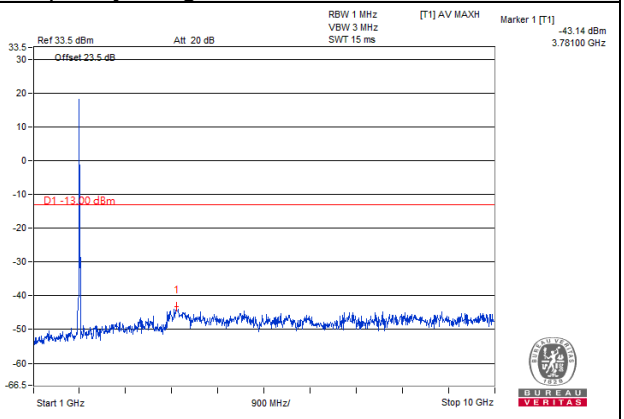
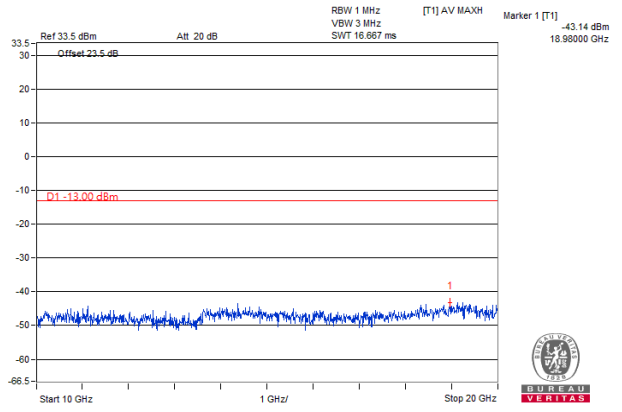
Note: The signal of 9kHz is IF signal from test instrument.

LTE Band 2 Channel Bandwidth: 10MHz	
Channel 19150	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz ~10GHz
	
Frequency Range : 10GHz~20GHz	
	

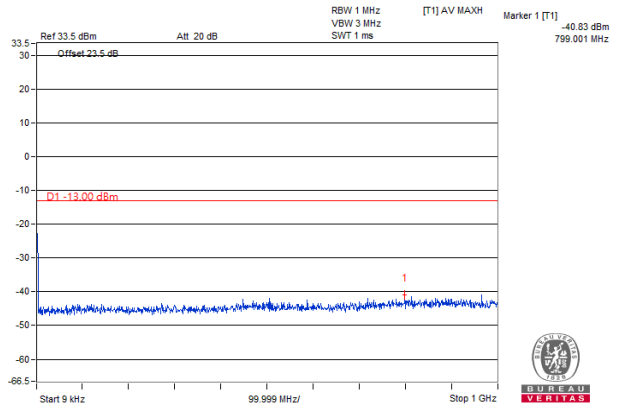
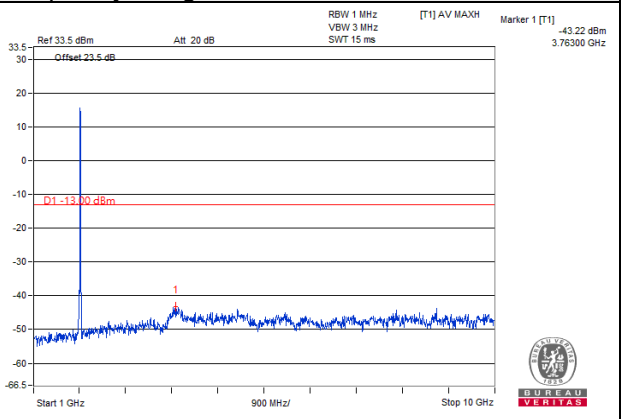
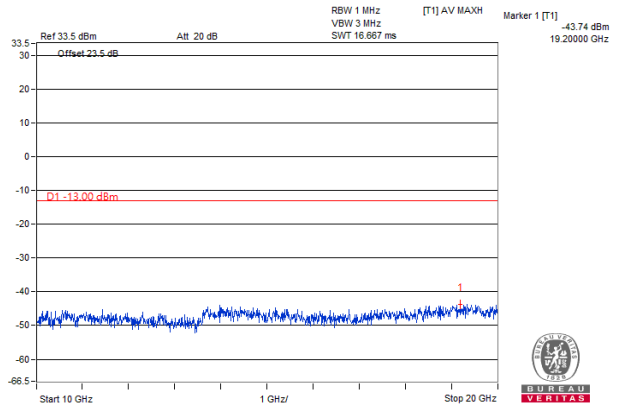
Note: The signal of 9kHz is IF signal from test instrument.

LTE Band 2 Channel Bandwidth: 15MHz	
Channel 18675	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz ~10GHz
	
Frequency Range : 10GHz~20GHz	
	

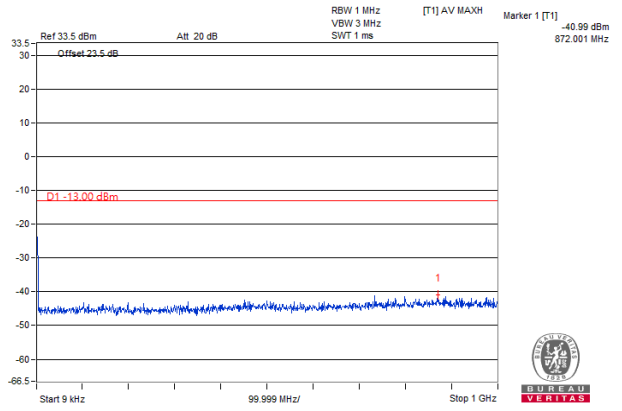
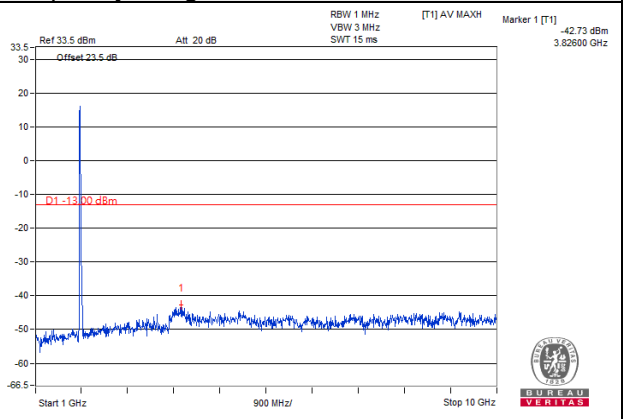
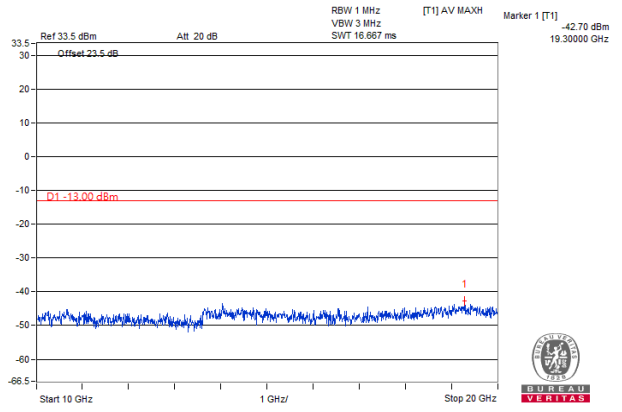
Note: The signal of 9kHz is IF signal from test instrument.

LTE Band 2 Channel Bandwidth: 15MHz	
Channel 18900	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz ~10GHz
	
Frequency Range : 10GHz~20GHz	
	

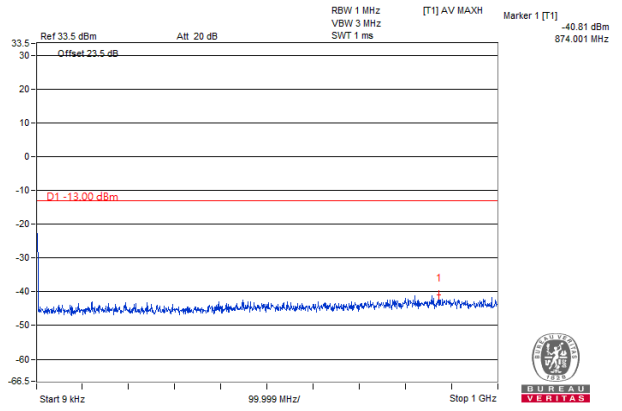
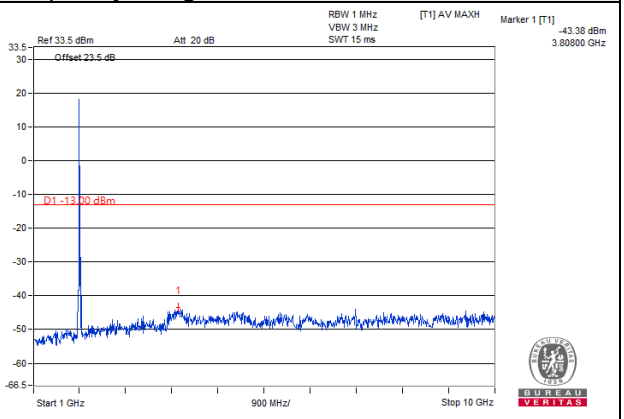
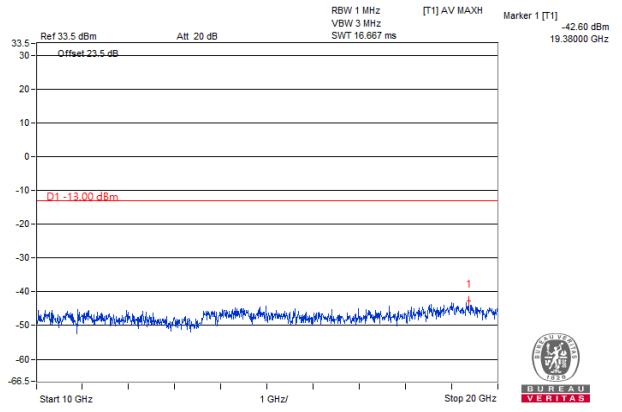
Note: The signal of 9kHz is IF signal from test instrument.

LTE Band 2 Channel Bandwidth: 15MHz	
Channel 19125	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz ~10GHz
	
Frequency Range : 10GHz~20GHz	
	

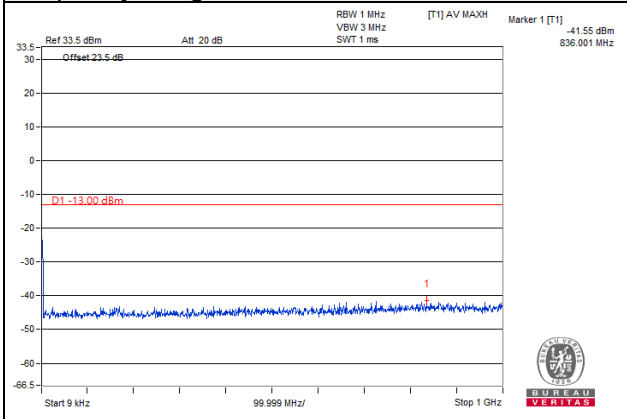
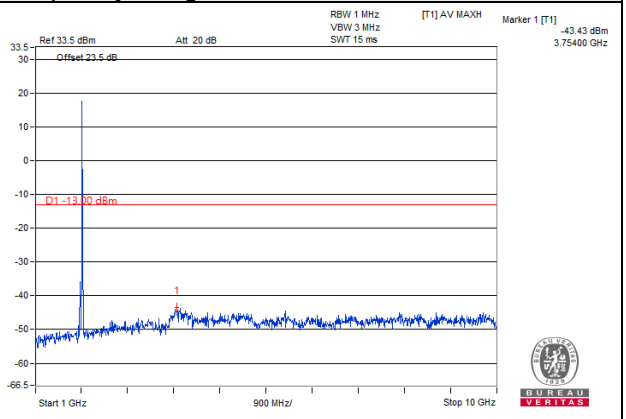
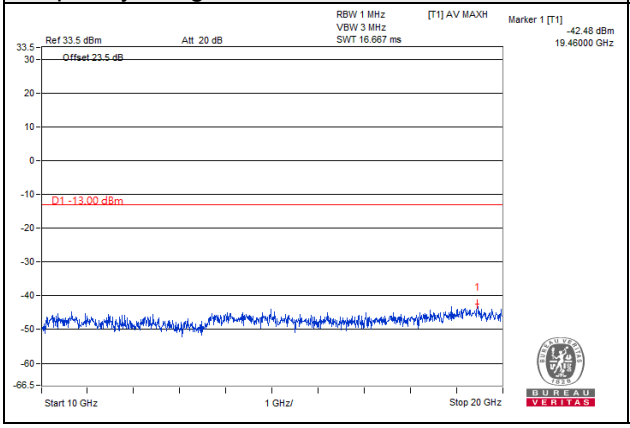
Note: The signal of 9kHz is IF signal from test instrument.

LTE Band 2 Channel Bandwidth: 20MHz	
Channel 18700	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz ~10GHz
	
Frequency Range : 10GHz~20GHz	
	

Note: The signal of 9kHz is IF signal from test instrument.

LTE Band 2 Channel Bandwidth: 20MHz	
Channel 18900	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz ~10GHz
	
Frequency Range : 10GHz~20GHz	
	

Note: The signal of 9kHz is IF signal from test instrument.

LTE Band 2 Channel Bandwidth: 20MHz	
Channel 19100	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz ~10GHz
	
Frequency Range : 10GHz~20GHz	
	

Note: The signal of 9kHz is IF signal from test instrument.

4.8 Radiated Emission Measurement

4.8.1 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.

4.8.2 Test Procedure

a. The field strength was measured with Spectrum Analyzer.

b. Measurement in the semi-anechoic chamber, EUT placed on the 0.8m/1.5m 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 field strength value via a spectrum reading obtained corrected for antenna factor, cable loss and pre-amplifier factor.

c. Perform a field strength measurement and then mathematically convert the measured field strength level to EIRP level.

d. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = Read Value (dBμV/m) - Correction Factor @ 3m

e. Correction Factor (dB) @ 3m = 20log(D) − 104.8; where D is the measurement distance @3m =-95.26dB

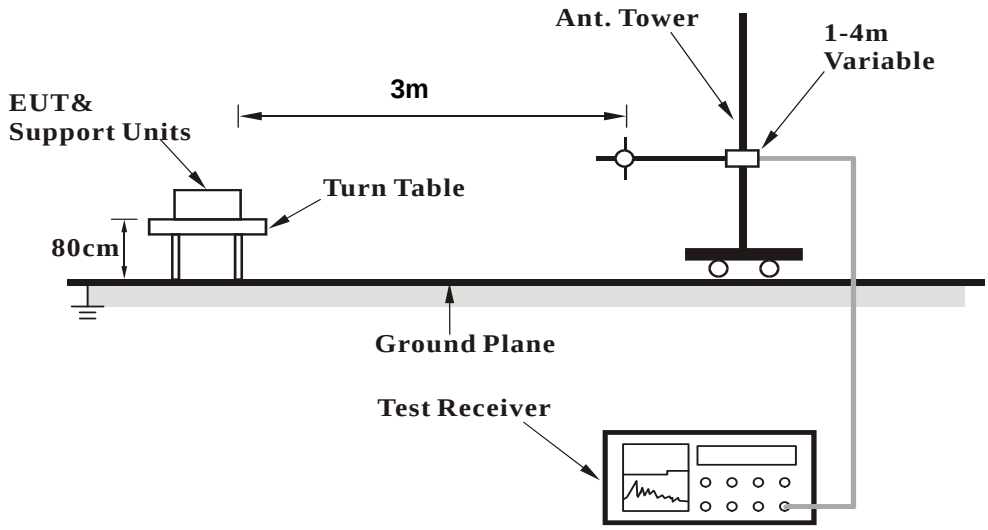
NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

4.8.3 Deviation from Test Standard

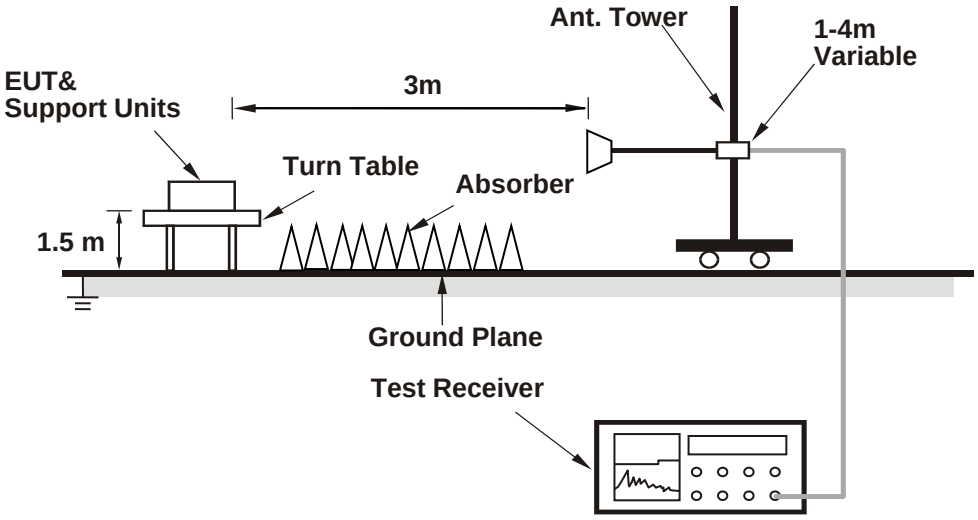
No deviation.

4.8.4 Test Setup

For Below 1GHz



For Above 1GHz:



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

4.8.5 Test Results

Below 1GHz

WCDMA B2:

Mode	TX channel 9262	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.76	29.84	-95.26	-65.42	-13	-52.42
2	105.8	26.34	-95.26	-68.92	-13	-55.92
3	179.4	25.52	-95.26	-69.74	-13	-56.74
4	253.6	26.19	-95.26	-69.07	-13	-56.07
5	303.9	27.43	-95.26	-67.83	-13	-54.83
6	379.2	29.03	-95.26	-66.23	-13	-53.23
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.74	32.89	-95.26	-62.37	-13	-49.37
2	78.2	30	-95.26	-65.26	-13	-52.26
3	152.5	25.98	-95.26	-69.28	-13	-56.28
4	202.6	26.26	-95.26	-69.00	-13	-56.00
5	264.3	25.22	-95.26	-70.04	-13	-57.04
6	387.2	27.89	-95.26	-67.37	-13	-54.37

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

Mode	TX channel 9400	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.83	29.88	-95.26	-65.38	-13	-52.38
2	106.03	26.54	-95.26	-68.72	-13	-55.72
3	179.48	25.6	-95.26	-69.66	-13	-56.66
4	253.81	26.21	-95.26	-69.05	-13	-56.05
5	304.01	27.5	-95.26	-67.76	-13	-54.76
6	379.41	28.99	-95.26	-66.27	-13	-53.27
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.81	32.71	-95.26	-62.55	-13	-49.55
2	78.31	30.1	-95.26	-65.16	-13	-52.16
3	152.71	25.94	-95.26	-69.32	-13	-56.32
4	202.8	26.33	-95.26	-68.93	-13	-55.93
5	264.44	25.29	-95.26	-69.97	-13	-56.97
6	387.38	27.76	-95.26	-67.50	-13	-54.50

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

Mode	TX channel 9538	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.98	29.82	-95.26	-65.44	-13	-52.44
2	106.02	26.35	-95.26	-68.91	-13	-55.91
3	179.62	25.59	-95.26	-69.67	-13	-56.67
4	253.76	26.11	-95.26	-69.15	-13	-56.15
5	303.96	27.48	-95.26	-67.78	-13	-54.78
6	379.32	28.94	-95.26	-66.32	-13	-53.32
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.88	32.74	-95.26	-62.52	-13	-49.52
2	78.28	30.08	-95.26	-65.18	-13	-52.18
3	152.64	25.78	-95.26	-69.48	-13	-56.48
4	202.71	26.16	-95.26	-69.10	-13	-56.10
5	264.36	25.21	-95.26	-70.05	-13	-57.05
6	387.4	27.89	-95.26	-67.37	-13	-54.37

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

LTE Band 2: 1.4 MHz

Mode	TX channel 18607	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.82	30.17	-95.26	-65.09	-13	-52.09
2	78.94	23.77	-95.26	-71.49	-13	-58.49
3	100.63	24.99	-95.26	-70.27	-13	-57.27
4	157.28	26.8	-95.26	-68.46	-13	-55.46
5	349.3	24.77	-95.26	-70.49	-13	-57.49
6	461.2	27.68	-95.26	-67.58	-13	-54.58
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.66	32.02	-95.26	-63.24	-13	-50.24
2	54.93	29.25	-95.26	-66.01	-13	-53.01
3	99.61	25.84	-95.26	-69.42	-13	-56.42
4	194.2	26.34	-95.26	-68.92	-13	-55.92
5	315.1	22.87	-95.26	-72.39	-13	-59.39
6	397.8	26.43	-95.26	-68.83	-13	-55.83

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

Mode	TX channel 18900	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.92	30.18	-95.26	-65.08	-13	-52.08
2	79.08	23.75	-95.26	-71.51	-13	-58.51
3	100.82	24.95	-95.26	-70.31	-13	-57.31
4	157.34	26.73	-95.26	-68.53	-13	-55.53
5	349.37	24.78	-95.26	-70.48	-13	-57.48
6	461.35	27.6	-95.26	-67.66	-13	-54.66
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.83	31.91	-95.26	-63.35	-13	-50.35
2	55.13	29.07	-95.26	-66.19	-13	-53.19
3	99.63	25.82	-95.26	-69.44	-13	-56.44
4	194.41	26.43	-95.26	-68.83	-13	-55.83
5	315.34	22.99	-95.26	-72.27	-13	-59.27
6	397.95	26.3	-95.26	-68.96	-13	-55.96

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

Mode	TX channel 19193	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	31	30.05	-95.26	-65.21	-13	-52.21
2	78.97	23.76	-95.26	-71.50	-13	-58.50
3	100.8	25.03	-95.26	-70.23	-13	-57.23
4	157.36	26.89	-95.26	-68.37	-13	-55.37
5	349.42	24.8	-95.26	-70.46	-13	-57.46
6	461.38	27.64	-95.26	-67.62	-13	-54.62
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.82	31.84	-95.26	-63.42	-13	-50.42
2	55.03	29.09	-95.26	-66.17	-13	-53.17
3	99.74	25.82	-95.26	-69.44	-13	-56.44
4	194.27	26.43	-95.26	-68.83	-13	-55.83
5	315.3	22.93	-95.26	-72.33	-13	-59.33
6	397.94	26.31	-95.26	-68.95	-13	-55.95

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

LTE Band 2: 3 MHz

Mode	TX channel 18615	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.88	30.13	-95.26	-65.13	-13	-52.13
2	79.16	23.74	-95.26	-71.52	-13	-58.52
3	100.91	25.03	-95.26	-70.23	-13	-57.23
4	157.36	26.76	-95.26	-68.50	-13	-55.50
5	349.4	24.71	-95.26	-70.55	-13	-57.55
6	461.39	27.71	-95.26	-67.55	-13	-54.55
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.71	31.99	-95.26	-63.27	-13	-50.27
2	55.04	29.2	-95.26	-66.06	-13	-53.06
3	99.69	25.69	-95.26	-69.57	-13	-56.57
4	194.2	26.56	-95.26	-68.70	-13	-55.70
5	315.33	23.12	-95.26	-72.14	-13	-59.14
6	397.89	26.38	-95.26	-68.88	-13	-55.88

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

Mode	TX channel 18900	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.99	30.14	-95.26	-65.12	-13	-52.12
2	79.3	23.75	-95.26	-71.51	-13	-58.51
3	101.02	24.92	-95.26	-70.34	-13	-57.34
4	157.45	26.89	-95.26	-68.37	-13	-55.37
5	349.57	24.71	-95.26	-70.55	-13	-57.55
6	461.42	27.62	-95.26	-67.64	-13	-54.64
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.78	31.85	-95.26	-63.41	-13	-50.41
2	55.03	29.1	-95.26	-66.16	-13	-53.16
3	99.71	25.78	-95.26	-69.48	-13	-56.48
4	194.25	26.41	-95.26	-68.85	-13	-55.85
5	315.21	22.95	-95.26	-72.31	-13	-59.31
6	397.8	26.21	-95.26	-69.05	-13	-56.05

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

Mode	TX channel 19185	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	31.11	30.12	-95.26	-65.14	-13	-52.14
2	79.12	23.66	-95.26	-71.60	-13	-58.60
3	100.97	24.85	-95.26	-70.41	-13	-57.41
4	157.48	26.82	-95.26	-68.44	-13	-55.44
5	349.51	24.71	-95.26	-70.55	-13	-57.55
6	461.5	27.64	-95.26	-67.62	-13	-54.62
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.81	31.89	-95.26	-63.37	-13	-50.37
2	55.17	29.3	-95.26	-65.96	-13	-52.96
3	99.69	25.84	-95.26	-69.42	-13	-56.42
4	194.33	26.38	-95.26	-68.88	-13	-55.88
5	315.33	23.08	-95.26	-72.18	-13	-59.18
6	397.83	26.26	-95.26	-69.00	-13	-56.00

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

LTE Band 2: 5 MHz

Mode	TX channel 18625	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.9	30.06	-95.26	-65.20	-13	-52.20
2	79.17	23.68	-95.26	-71.58	-13	-58.58
3	100.99	24.84	-95.26	-70.42	-13	-57.42
4	157.41	26.77	-95.26	-68.49	-13	-55.49
5	349.65	24.76	-95.26	-70.50	-13	-57.50
6	461.63	27.8	-95.26	-67.46	-13	-54.46
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.71	32.02	-95.26	-63.24	-13	-50.24
2	54.96	29.28	-95.26	-65.98	-13	-52.98
3	99.64	25.77	-95.26	-69.49	-13	-56.49
4	194.25	26.51	-95.26	-68.75	-13	-55.75
5	315.29	23.11	-95.26	-72.15	-13	-59.15
6	397.82	26.3	-95.26	-68.96	-13	-55.96

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

Mode	TX channel 18900	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.97	30.14	-95.26	-65.12	-13	-52.12
2	79.21	23.64	-95.26	-71.62	-13	-58.62
3	100.99	24.96	-95.26	-70.30	-13	-57.30
4	157.52	26.94	-95.26	-68.32	-13	-55.32
5	349.5	24.77	-95.26	-70.49	-13	-57.49
6	461.56	27.76	-95.26	-67.50	-13	-54.50
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.75	31.89	-95.26	-63.37	-13	-50.37
2	55.04	29.19	-95.26	-66.07	-13	-53.07
3	99.84	25.73	-95.26	-69.53	-13	-56.53
4	194.27	26.55	-95.26	-68.71	-13	-55.71
5	315.29	22.89	-95.26	-72.37	-13	-59.37
6	398.04	26.27	-95.26	-68.99	-13	-55.99

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

Mode	TX channel 19175	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	31.03	30.28	-95.26	-64.98	-13	-51.98
2	79.37	23.69	-95.26	-71.57	-13	-58.57
3	101.13	24.83	-95.26	-70.43	-13	-57.43
4	157.42	26.9	-95.26	-68.36	-13	-55.36
5	349.59	24.62	-95.26	-70.64	-13	-57.64
6	461.52	27.63	-95.26	-67.63	-13	-54.63
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.67	32.05	-95.26	-63.21	-13	-50.21
2	55.1	29.16	-95.26	-66.10	-13	-53.10
3	99.62	25.85	-95.26	-69.41	-13	-56.41
4	194.33	26.36	-95.26	-68.90	-13	-55.90
5	315.14	22.91	-95.26	-72.35	-13	-59.35
6	397.84	26.27	-95.26	-68.99	-13	-55.99

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

LTE Band 2: 10 MHz

Mode	TX channel 18650	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.94	30.1	-95.26	-65.16	-13	-52.16
2	79.24	23.72	-95.26	-71.54	-13	-58.54
3	101.09	24.83	-95.26	-70.43	-13	-57.43
4	157.61	26.88	-95.26	-68.38	-13	-55.38
5	349.51	24.75	-95.26	-70.51	-13	-57.51
6	461.5	27.58	-95.26	-67.68	-13	-54.68
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.77	32.02	-95.26	-63.24	-13	-50.24
2	55.1	29.28	-95.26	-65.98	-13	-52.98
3	99.78	25.75	-95.26	-69.51	-13	-56.51
4	194.27	26.39	-95.26	-68.87	-13	-55.87
5	315.21	22.96	-95.26	-72.30	-13	-59.30
6	397.91	26.3	-95.26	-68.96	-13	-55.96

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

Mode	TX channel 18900	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.89	30.21	-95.26	-65.05	-13	-52.05
2	79.2	23.59	-95.26	-71.67	-13	-58.67
3	101.16	24.95	-95.26	-70.31	-13	-57.31
4	157.54	26.79	-95.26	-68.47	-13	-55.47
5	349.64	24.7	-95.26	-70.56	-13	-57.56
6	461.44	27.71	-95.26	-67.55	-13	-54.55
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.83	31.83	-95.26	-63.43	-13	-50.43
2	55.02	29.08	-95.26	-66.18	-13	-53.18
3	99.74	25.8	-95.26	-69.46	-13	-56.46
4	194.43	26.32	-95.26	-68.94	-13	-55.94
5	315.14	23.01	-95.26	-72.25	-13	-59.25
6	397.96	26.36	-95.26	-68.90	-13	-55.90

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

Mode	TX channel 19150	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.79	30.11	-95.26	-65.15	-13	-52.15
2	79.27	23.7	-95.26	-71.56	-13	-58.56
3	101.06	25	-95.26	-70.26	-13	-57.26
4	157.56	26.89	-95.26	-68.37	-13	-55.37
5	349.52	24.79	-95.26	-70.47	-13	-57.47
6	461.5	27.57	-95.26	-67.69	-13	-54.69
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.68	31.88	-95.26	-63.38	-13	-50.38
2	55.07	29.17	-95.26	-66.09	-13	-53.09
3	99.73	25.76	-95.26	-69.50	-13	-56.50
4	194.22	26.38	-95.26	-68.88	-13	-55.88
5	315.26	23.07	-95.26	-72.19	-13	-59.19
6	397.91	26.29	-95.26	-68.97	-13	-55.97

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

LTE Band 2: 15 MHz

Mode	TX channel 18675	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.81	30.25	-95.26	-65.01	-13	-52.01
2	79.19	23.77	-95.26	-71.49	-13	-58.49
3	100.99	24.87	-95.26	-70.39	-13	-57.39
4	157.46	26.77	-95.26	-68.49	-13	-55.49
5	349.62	24.87	-95.26	-70.39	-13	-57.39
6	461.5	27.66	-95.26	-67.60	-13	-54.60
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.67	32	-95.26	-63.26	-13	-50.26
2	55.11	29.08	-95.26	-66.18	-13	-53.18
3	99.71	25.84	-95.26	-69.42	-13	-56.42
4	194.35	26.54	-95.26	-68.72	-13	-55.72
5	315.28	23.04	-95.26	-72.22	-13	-59.22
6	397.92	26.32	-95.26	-68.94	-13	-55.94

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

Mode	TX channel 18900	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.94	30.1	-95.26	-65.16	-13	-52.16
2	79.18	23.8	-95.26	-71.46	-13	-58.46
3	100.98	24.88	-95.26	-70.38	-13	-57.38
4	157.44	26.86	-95.26	-68.40	-13	-55.40
5	349.56	24.64	-95.26	-70.62	-13	-57.62
6	461.46	27.69	-95.26	-67.57	-13	-54.57
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.72	32.03	-95.26	-63.23	-13	-50.23
2	54.97	29.1	-95.26	-66.16	-13	-53.16
3	99.76	25.63	-95.26	-69.63	-13	-56.63
4	194.37	26.48	-95.26	-68.78	-13	-55.78
5	315.2	23.07	-95.26	-72.19	-13	-59.19
6	397.86	26.32	-95.26	-68.94	-13	-55.94

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

Mode	TX channel 19125	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	31.01	30.21	-95.26	-65.05	-13	-52.05
2	79.33	23.67	-95.26	-71.59	-13	-58.59
3	101.08	24.99	-95.26	-70.27	-13	-57.27
4	157.39	26.74	-95.26	-68.52	-13	-55.52
5	349.62	24.75	-95.26	-70.51	-13	-57.51
6	461.56	27.73	-95.26	-67.53	-13	-54.53
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.85	32.01	-95.26	-63.25	-13	-50.25
2	55.08	29.28	-95.26	-65.98	-13	-52.98
3	99.73	25.72	-95.26	-69.54	-13	-56.54
4	194.23	26.53	-95.26	-68.73	-13	-55.73
5	315.28	22.95	-95.26	-72.31	-13	-59.31
6	397.97	26.38	-95.26	-68.88	-13	-55.88

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

LTE Band 2: 20 MHz

Mode	TX channel 18700	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.91	30.17	-95.26	-65.09	-13	-52.09
2	79.36	23.58	-95.26	-71.68	-13	-58.68
3	100.93	24.96	-95.26	-70.30	-13	-57.30
4	157.42	26.74	-95.26	-68.52	-13	-55.52
5	349.46	24.71	-95.26	-70.55	-13	-57.55
6	461.39	27.78	-95.26	-67.48	-13	-54.48
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.87	31.91	-95.26	-63.35	-13	-50.35
2	55.18	29.23	-95.26	-66.03	-13	-53.03
3	99.73	25.64	-95.26	-69.62	-13	-56.62
4	194.2	26.36	-95.26	-68.90	-13	-55.90
5	315.29	22.94	-95.26	-72.32	-13	-59.32
6	397.88	26.31	-95.26	-68.95	-13	-55.95

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

Mode	TX channel 18900	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.82	30	-95.26	-65.26	-13	-52.26
2	79.17	23.64	-95.26	-71.62	-13	-58.62
3	101.08	24.9	-95.26	-70.36	-13	-57.36
4	157.45	26.82	-95.26	-68.44	-13	-55.44
5	349.46	24.8	-95.26	-70.46	-13	-57.46
6	461.43	27.59	-95.26	-67.67	-13	-54.67
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.69	31.94	-95.26	-63.32	-13	-50.32
2	55.14	29.3	-95.26	-65.96	-13	-52.96
3	99.62	25.8	-95.26	-69.46	-13	-56.46
4	194.24	26.47	-95.26	-68.79	-13	-55.79
5	315.28	22.92	-95.26	-72.34	-13	-59.34
6	397.95	26.21	-95.26	-69.05	-13	-56.05

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

Mode	TX channel 19100	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.95	30.25	-95.26	-65.01	-13	-52.01
2	79.22	23.79	-95.26	-71.47	-13	-58.47
3	101.14	24.83	-95.26	-70.43	-13	-57.43
4	157.45	26.85	-95.26	-68.41	-13	-55.41
5	349.49	24.64	-95.26	-70.62	-13	-57.62
6	461.41	27.66	-95.26	-67.60	-13	-54.60
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.67	32.02	-95.26	-63.24	-13	-50.24
2	55.07	29.3	-95.26	-65.96	-13	-52.96
3	99.63	25.83	-95.26	-69.43	-13	-56.43
4	194.3	26.39	-95.26	-68.87	-13	-55.87
5	315.3	23.1	-95.26	-72.16	-13	-59.16
6	397.82	26.23	-95.26	-69.03	-13	-56.03

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

Above 1GHz

WCDMA B2:

Mode	TX channel 9262	Frequency Range	Above 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3704.8	32.62	-95.26	-62.64	-13	-49.64
2	5557.2	33.15	-95.26	-62.11	-13	-49.11
3	7409.6	33.67	-95.26	-61.59	-13	-48.59
4	9262	34.3	-95.26	-60.96	-13	-47.96
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3704.8	33.31	-95.26	-61.95	-13	-48.95
2	5557.2	33.75	-95.26	-61.51	-13	-48.51
3	7409.6	34.3	-95.26	-60.96	-13	-47.96
4	9262	35.23	-95.26	-60.03	-13	-47.03

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

Mode	TX channel 9400	Frequency Range	Above 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3760	32.73	-95.26	-62.53	-13	-49.53
2	5640	33.29	-95.26	-61.97	-13	-48.97
3	7520	33.73	-95.26	-61.53	-13	-48.53
4	9400	34.37	-95.26	-60.89	-13	-47.89
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3760	33.31	-95.26	-61.95	-13	-48.95
2	5640	33.9	-95.26	-61.36	-13	-48.36
3	7520	34.44	-95.26	-60.82	-13	-47.82
4	**9400**	**35.43**	**-95.26**	**-59.83**	**-13**	**-46.83**

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

Mode	TX channel 9538	Frequency Range	Above 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3814	32.7	-95.26	-62.56	-13	-49.56
2	5721	33.25	-95.26	-62.01	-13	-49.01
3	7628	33.87	-95.26	-61.39	-13	-48.39
4	9535	34.48	-95.26	-60.78	-13	-47.78
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3814	33.18	-95.26	-62.08	-13	-49.08
2	5721	33.76	-95.26	-61.50	-13	-48.50
3	7628	34.3	-95.26	-60.96	-13	-47.96
4	9535	35.24	-95.26	-60.02	-13	-47.02

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

LTE Band 2: 1.4 MHz

Mode	TX channel 18607	Frequency Range	Above 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μV/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3701.4	32.12	-95.26	-63.14	-13	-50.14
2	5552.1	32.34	-95.26	-62.92	-13	-49.92
3	7402.8	32.77	-95.26	-62.49	-13	-49.49
4	9253.5	32.33	-95.26	-62.93	-13	-49.93
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μV/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3701.4	32.97	-95.26	-62.29	-13	-49.29
2	5552.1	32.76	-95.26	-62.50	-13	-49.50
3	7402.8	32.99	-95.26	-62.27	-13	-49.27
4	9253.5	32.85	-95.26	-62.41	-13	-49.41

Remarks:
1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

Mode	TX channel 18900	Frequency Range	Above 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3760	32.06	-95.26	-63.20	-13	-50.20
2	5640	32.45	-95.26	-62.81	-13	-49.81
3	7520	32.78	-95.26	-62.48	-13	-49.48
4	9400	32.29	-95.26	-62.97	-13	-49.97
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3760	33.13	-95.26	-62.13	-13	-49.13
2	5640	32.59	-95.26	-62.67	-13	-49.67
3	7520	32.9	-95.26	-62.36	-13	-49.36
4	9400	32.86	-95.26	-62.40	-13	-49.40

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

Mode	TX channel 19193	Frequency Range	Above 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3818.6	32.29	-95.26	-62.97	-13	-49.97
2	5727.9	32.54	-95.26	-62.72	-13	-49.72
3	7637.2	32.85	-95.26	-62.41	-13	-49.41
4	9546.5	32.37	-95.26	-62.89	-13	-49.89
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3818.6	33	-95.26	-62.26	-13	-49.26
2	5727.9	32.64	-95.26	-62.62	-13	-49.62
3	7637.2	32.93	-95.26	-62.33	-13	-49.33
4	9546.5	33.01	-95.26	-62.25	-13	-49.25

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

LTE Band 2: 3 MHz

Mode	TX channel 18615	Frequency Range	Above 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3703	32.36	-95.26	-62.90	-13	-49.90
2	5554.5	32.66	-95.26	-62.60	-13	-49.60
3	7406	32.9	-95.26	-62.36	-13	-49.36
4	9257.5	32.38	-95.26	-62.88	-13	-49.88
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3703	32.93	-95.26	-62.33	-13	-49.33
2	5554.5	32.78	-95.26	-62.48	-13	-49.48
3	7406	32.97	-95.26	-62.29	-13	-49.29
4	9257.5	32.95	-95.26	-62.31	-13	-49.31

Remarks:
1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

Mode	TX channel 18900	Frequency Range	Above 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3760	32.3	-95.26	-62.96	-13	-49.96
2	5640	32.52	-95.26	-62.74	-13	-49.74
3	7520	32.99	-95.26	-62.27	-13	-49.27
4	9400	32.26	-95.26	-63.00	-13	-50.00
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3760	32.95	-95.26	-62.31	-13	-49.31
2	5640	32.62	-95.26	-62.64	-13	-49.64
3	7520	32.96	-95.26	-62.30	-13	-49.30
4	9400	32.95	-95.26	-62.31	-13	-49.31

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

Mode	TX channel 19185	Frequency Range	Above 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3817	32.37	-95.26	-62.89	-13	-49.89
2	5725.5	32.64	-95.26	-62.62	-13	-49.62
3	7634	33.08	-95.26	-62.18	-13	-49.18
4	9542.5	32.3	-95.26	-62.96	-13	-49.96
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3817	32.95	-95.26	-62.31	-13	-49.31
2	5725.5	32.58	-95.26	-62.68	-13	-49.68
3	7634	33.07	-95.26	-62.19	-13	-49.19
4	9542.5	32.86	-95.26	-62.40	-13	-49.40

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

LTE Band 2: 5 MHz

Mode	TX channel 18625	Frequency Range	Above 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μV/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3705	32.43	-95.26	-62.83	-13	-49.83
2	5557.5	32.58	-95.26	-62.68	-13	-49.68
3	7410	32.93	-95.26	-62.33	-13	-49.33
4	9262.5	32.34	-95.26	-62.92	-13	-49.92
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μV/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3705	32.97	-95.26	-62.29	-13	-49.29
2	5557.5	32.6	-95.26	-62.66	-13	-49.66
3	7410	32.94	-95.26	-62.32	-13	-49.32
4	9262.5	32.95	-95.26	-62.31	-13	-49.31

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

Mode	TX channel 18900	Frequency Range	Above 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3760	32.42	-95.26	-62.84	-13	-49.84
2	5640	32.62	-95.26	-62.64	-13	-49.64
3	7520	33.05	-95.26	-62.21	-13	-49.21
4	9400	32.41	-95.26	-62.85	-13	-49.85
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3760	33.01	-95.26	-62.25	-13	-49.25
2	5640	32.7	-95.26	-62.56	-13	-49.56
3	7520	33.02	-95.26	-62.24	-13	-49.24
4	9400	32.99	-95.26	-62.27	-13	-49.27

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

Mode	TX channel 19175	Frequency Range	Above 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3815	32.24	-95.26	-63.02	-13	-50.02
2	5722.5	32.49	-95.26	-62.77	-13	-49.77
3	7630	33.06	-95.26	-62.20	-13	-49.20
4	9537.5	32.34	-95.26	-62.92	-13	-49.92
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3815	32.98	-95.26	-62.28	-13	-49.28
2	5722.5	32.65	-95.26	-62.61	-13	-49.61
3	7630	32.92	-95.26	-62.34	-13	-49.34
4	9537.5	32.92	-95.26	-62.34	-13	-49.34

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

LTE Band 2: 10 MHz

Mode	TX channel 18650	Frequency Range	Above 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μV/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3710	32.25	-95.26	-63.01	-13	-50.01
2	5565	32.53	-95.26	-62.73	-13	-49.73
3	7420	33.12	-95.26	-62.14	-13	-49.14
4	9275	32.44	-95.26	-62.82	-13	-49.82
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μV/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3710	33.14	-95.26	-62.12	-13	-49.12
2	5565	32.8	-95.26	-62.46	-13	-49.46
3	7420	32.93	-95.26	-62.33	-13	-49.33
4	9275	32.95	-95.26	-62.31	-13	-49.31

Remarks:
1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

Mode	TX channel 18900	Frequency Range	Above 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3760	32.28	-95.26	-62.98	-13	-49.98
2	5640	32.62	-95.26	-62.64	-13	-49.64
3	7520	33.06	-95.26	-62.20	-13	-49.20
4	9400	32.33	-95.26	-62.93	-13	-49.93
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3760	33.09	-95.26	-62.17	-13	-49.17
2	5640	32.65	-95.26	-62.61	-13	-49.61
3	7520	32.92	-95.26	-62.34	-13	-49.34
4	9400	32.98	-95.26	-62.28	-13	-49.28

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

Mode	TX channel 19150	Frequency Range	Above 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3810	32.37	-95.26	-62.89	-13	-49.89
2	5715	32.55	-95.26	-62.71	-13	-49.71
3	7620	33.07	-95.26	-62.19	-13	-49.19
4	9525	32.33	-95.26	-62.93	-13	-49.93
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3810	33.13	-95.26	-62.13	-13	-49.13
2	5715	32.78	-95.26	-62.48	-13	-49.48
3	7620	33.01	-95.26	-62.25	-13	-49.25
4	9525	33.03	-95.26	-62.23	-13	-49.23

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

LTE Band 2: 15 MHz

Mode	TX channel 18675	Frequency Range	Above 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μV/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3715	32.17	-95.26	-63.09	-13	-50.09
2	5572.5	32.64	-95.26	-62.62	-13	-49.62
3	7430	33.05	-95.26	-62.21	-13	-49.21
4	9287.5	32.23	-95.26	-63.03	-13	-50.03
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μV/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3715	33.12	-95.26	-62.14	-13	-49.14
2	5572.5	32.57	-95.26	-62.69	-13	-49.69
3	7430	32.89	-95.26	-62.37	-13	-49.37
4	9287.5	32.88	-95.26	-62.38	-13	-49.38

Remarks:
1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

Mode	TX channel 18900	Frequency Range	Above 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3760	32.19	-95.26	-63.07	-13	-50.07
2	5640	32.64	-95.26	-62.62	-13	-49.62
3	7520	33.08	-95.26	-62.18	-13	-49.18
4	9400	32.21	-95.26	-63.05	-13	-50.05
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3760	33.12	-95.26	-62.14	-13	-49.14
2	5640	32.72	-95.26	-62.54	-13	-49.54
3	7520	32.88	-95.26	-62.38	-13	-49.38
4	9400	33.02	-95.26	-62.24	-13	-49.24

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

Mode	TX channel 19125	Frequency Range	Above 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3805	32.18	-95.26	-63.08	-13	-50.08
2	5707.5	32.46	-95.26	-62.80	-13	-49.80
3	7610	33.04	-95.26	-62.22	-13	-49.22
4	9512.5	32.21	-95.26	-63.05	-13	-50.05
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3805	33.19	-95.26	-62.07	-13	-49.07
2	5707.5	32.91	-95.26	-62.35	-13	-49.35
3	7610	33.01	-95.26	-62.25	-13	-49.25
4	9512.5	32.98	-95.26	-62.28	-13	-49.28

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

LTE Band 2: 20 MHz

Mode	TX channel 18700	Frequency Range	Above 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3720	32.27	-95.26	-62.99	-13	-49.99
2	5580	32.52	-95.26	-62.74	-13	-49.74
3	7440	33.02	-95.26	-62.24	-13	-49.24
4	9300	32.42	-95.26	-62.84	-13	-49.84
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3720	33.1	-95.26	-62.16	-13	-49.16
2	5580	32.92	-95.26	-62.34	-13	-49.34
3	7440	32.95	-95.26	-62.31	-13	-49.31
4	9300	33.1	-95.26	-62.16	-13	-49.16

Remarks:
1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

Mode	TX channel 18900	Frequency Range	Above 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3760	32.32	-95.26	-62.94	-13	-49.94
2	5640	32.63	-95.26	-62.63	-13	-49.63
3	7520	33.01	-95.26	-62.25	-13	-49.25
4	9400	32.44	-95.26	-62.82	-13	-49.82
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3760	33.13	-95.26	-62.13	-13	-49.13
2	5640	32.72	-95.26	-62.54	-13	-49.54
3	7520	32.95	-95.26	-62.31	-13	-49.31
4	9400	33.11	-95.26	-62.15	-13	-49.15

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

Mode	TX channel 19100	Frequency Range	Above 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3800	32.22	-95.26	-63.04	-13	-50.04
2	5700	32.63	-95.26	-62.63	-13	-49.63
3	7600	33.01	-95.26	-62.25	-13	-49.25
4	9500	32.38	-95.26	-62.88	-13	-49.88
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dB μ V/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	3800	33.22	-95.26	-62.04	-13	-49.04
2	5700	32.9	-95.26	-62.36	-13	-49.36
3	7600	33.03	-95.26	-62.23	-13	-49.23
4	9500	33.14	-95.26	-62.12	-13	-49.12

Remarks:

1. Follow ANSI 63.26 section 5.2.7 d), Emission Value (dBm) = E (dBμV/m) - Correction Factor @ 3m.
2. Correction Factor (dB) = 20log(D) − 104.8; where D is the measurement distance @3m.

5 Pictures of Test Arrangements

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

Appendix – Information of 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.

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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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