FCC Test Report (PART 22)

Report No.:	RFBEOP-WTW-P20100005
FCC ID:	NKRM18QAG
Test Model:	M18QAG
Received Date:	July 10, 2020
Test Date:	July 10 to Oct. 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	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:	July 10 to Oct. 15, 2020
Standards:	FCC Part 22, Subpart H

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 22 & Part 2			
FCC Clause	Test Item	Result	Remarks
2.1046 22.913 (a)	Effective radiated power	PASS	Meet the requirement of limit.
22.913(d)	Peak to Average Ratio	PASS	Meet the requirement of limit.
2.1047	Modulation characteristics	PASS	Meet the requirement
2.1055 22.355	Frequency Stability	PASS	Meet the requirement of limit.
2.1049	Occupied Bandwidth	PASS	Meet the requirement of limit.
22.917	Band Edge Measurements	PASS	Meet the requirement of limit.
2.1051 22.917	Conducted Spurious Emissions	PASS	Meet the requirement of limit.
2.1053 22.917	Radiated Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -46.88 dB at 4132 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 othet test items (for WCDMA band):

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 26, 2019	July 25, 2020
Power sensor Anritsu	MA2411B	1339443	July 26, 2019	July 25, 2020
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: July 19, 2020

For othet test items (for LTE band):

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 17, 2019	July 16, 2020
Power meter Anritsu	ML2495A	1529002	July 26, 2019	July 25, 2020
Power sensor Anritsu	MA2411B	1339443	July 26, 2019	July 25, 2020
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: July 10, 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 5	QPSK, 16QAM
Operating Frequency	WCDMA, HSDPA, HSUPA	826.4 MHz ~ 846.6 MHz
	LTE Band 5	824.7 MHz ~ 848.3 MHz
Max. ERP Power	WCDMA B5	25.90 dBm
	LTE Band 5 (Channel Bandwidth 1.4MHz)	25.26 dBm
	LTE Band 5 (Channel Bandwidth 3MHz)	25.33 dBm
	LTE Band 5 (Channel Bandwidth 5MHz)	25.13 dBm
	LTE Band 5 (Channel Bandwidth 10MHz)	25.15 dBm
Emission Designator	WCDMA B5	4M13F9W
	LTE Band 5 (Channel Bandwidth 1.4MHz)	QPSK: 1M08G7D 16QAM: 1M08D7W
	LTE Band 5 (Channel Bandwidth 3MHz)	QPSK: 2M68G7D 16QAM: 2M68D7W
	LTE Band 5 (Channel Bandwidth 5MHz)	QPSK: 4M48G7D 16QAM: 4M48D7W
	LTE Band 5 (Channel Bandwidth 10MHz)	QPSK: 8M94G7D 16QAM: 8M94D7W
Antenna Type	Refer to Note	
Antenna Connector	Refer to Note	
Accessory Device	NA	
Data Cable Supplied	NA	

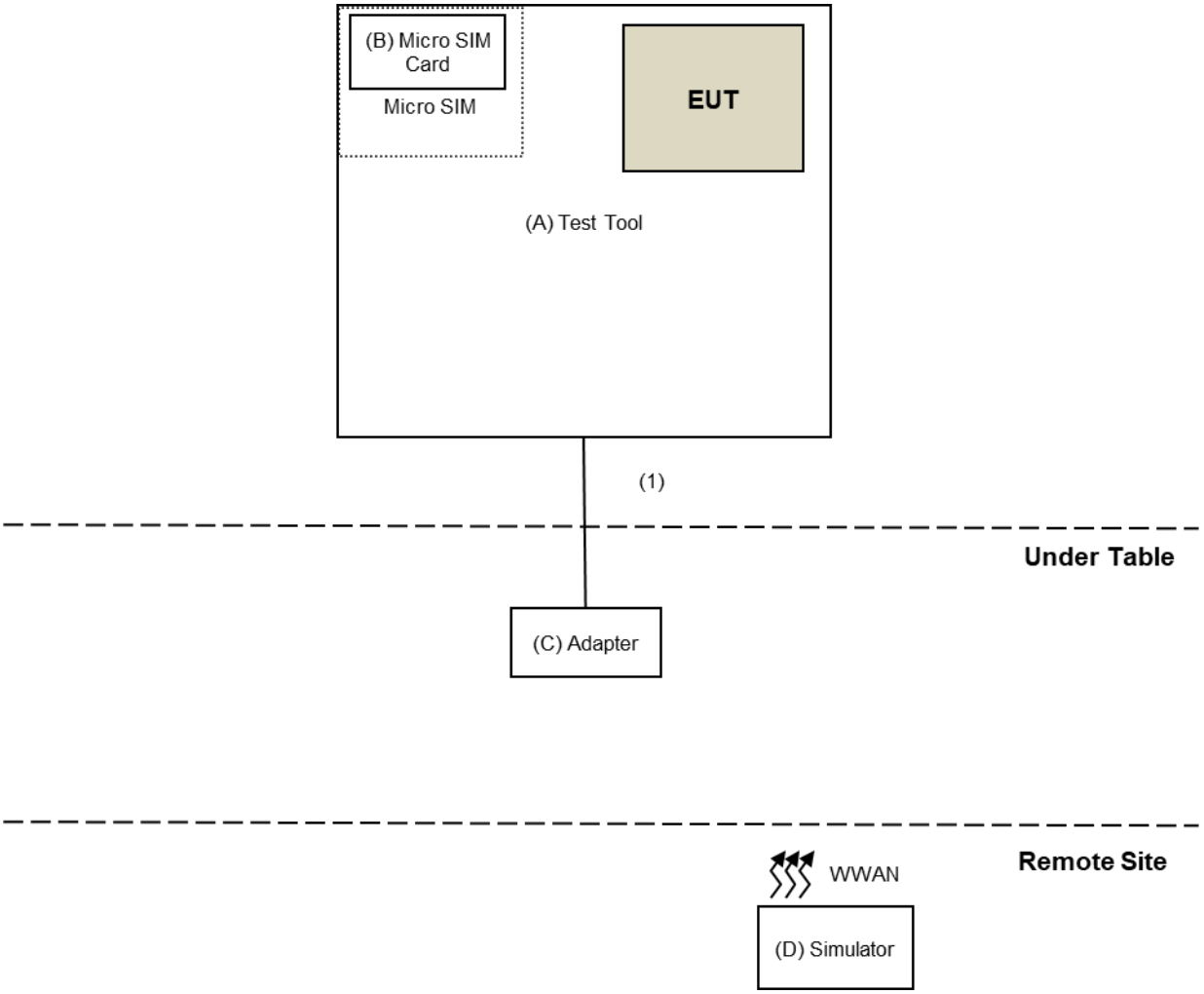
Note:

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 tests.

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 B5

Test Item	Available Channel	Tested Channel	Mode
ERP	4132 to 4233	4132, 4182, 4233	WCDMA
Frequency Stability	4132 to 4233	4182	WCDMA
Occupied Bandwidth	4132 to 4233	4132, 4182, 4233	WCDMA
Peak to Average Ratio	4132 to 4233	4132, 4182, 4233	WCDMA
Band Edge	4132 to 4233	4132, 4233	WCDMA
Conducted Emission	4132 to 4233	4132, 4182, 4233	WCDMA
Radiated Emission Below 1GHz	4132 to 4233	4132, 4182, 4233	WCDMA
Radiated Emission Above 1GHz	4132 to 4233	4132, 4182, 4233	WCDMA

LTE Band 5

TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
ERP	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK/16QAM	1RB / 0 RB offset
	20415 to 20635	20415, 20525, 20635	3MHz	QPSK/16QAM	1RB / 0 RB offset
	20425 to 20625	20425, 20525, 20625	5MHz	QPSK/16QAM	1RB / 0 RB offset
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK/16QAM	1RB / 0 RB offset
Frequency Stability	20407 to 20643	20525	1.4MHz	QPSK	-
	20415 to 20635	20525	3MHz	QPSK	-
	20425 to 20625	20525	5MHz	QPSK	-
	20450 to 20600	20525	10MHz	QPSK	-
Occupied Bandwidth	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK/16QAM	Full RB
	20415 to 20635	20415, 20525, 20635	3MHz	QPSK/16QAM	Full RB
	20425 to 20625	20425, 20525, 20625	5MHz	QPSK/16QAM	Full RB
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK/16QAM	Full RB
Peak to Average Ratio	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK/16QAM	Full RB
	20415 to 20635	20415, 20525, 20635	3MHz	QPSK/16QAM	Full RB
	20425 to 20625	20425, 20525, 20625	5MHz	QPSK/16QAM	Full RB
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK/16QAM	Full RB
Band Edge	20407 to 20643	20407	1.4MHz	QPSK	1 RB / 0 RB Offset
		20643			1 RB / 5 RB Offset
		20407, 20643			6 RB / 0 RB Offset
	20415 to 20635	20415	3MHz	QPSK	1 RB / 0 RB Offset
		20635			1 RB / 14 RB Offset
		20415, 20635			15 RB / 0 RB Offset
	20425 to 20625	20425	5MHz	QPSK	1 RB / 0 RB Offset
		20625			1 RB / 24 RB Offset
		20425, 20625			25 RB / 0 RB Offset
	20450 to 20600	20450	10MHz	QPSK	1 RB / 0 RB Offset
		20600			1 RB / 49 RB Offset
		20450, 20600			50 RB / 0 RB Offset
Conducted Emission	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK	1RB / 0 RB offset
	20415 to 20635	20415, 20525, 20635	3MHz	QPSK	1RB / 0 RB offset
	20425 to 20625	20425, 20525, 20625	5MHz	QPSK	1RB / 0 RB offset
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK	1RB / 0 RB offset
Radiated Emission	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK	1RB / 0 RB offset
	20415 to 20635	20415, 20525, 20635	3MHz	QPSK	1RB / 0 RB offset
	20425 to 20625	20425, 20525, 20625	5MHz	QPSK	1RB / 0 RB offset
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK	1RB / 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
ERP	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	23deg. C, 74%RH	120Vac, 60Hz	Tom Yang
Radiated Emission Above 1GHz	23deg. C, 74%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 22, Subpart H

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 7 watts e.r.p.

4.1.2 Test Procedures

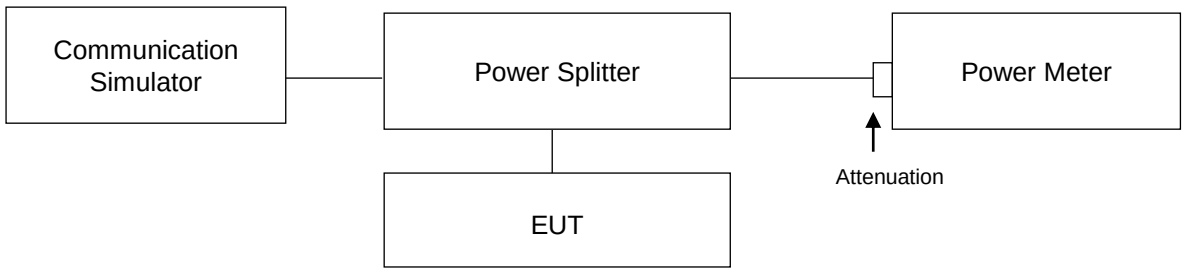
Conducted Power Measurement:

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 / ERP Measurement:

a. EIRP = Conducted Output power level + Antenna gain.
b. ERP power can be calculated form EIRP power by subtracting the gain of dipole, ERP power = EIRP power - 2.15dBi.
c. ERP = Conducted Output power level + Antenna gain (dBi) - Isotropically Factor (2.15dB).

4.1.3 Test Setup



4.1.4 Test Results

CONDUCTED OUTPUT POWER (dBm)

WCDMA B5

Band	WCDMA B5		
Channel	4132	4182	4233
Frequency (MHz)	826.4	836.4	846.6
RMC	24.72	24.85	24.81
HSDPA Subtest-1	24.18	24.01	23.96
HSDPA Subtest-2	23.68	23.25	23.73
HSDPA Subtest-3	23.76	23.36	23.40
HSDPA Subtest-4	23.33	23.21	23.60
HSUPA Subtest-1	23.96	24.05	23.58
HSUPA Subtest-2	23.75	23.96	23.74
HSUPA Subtest-3	23.82	23.69	23.50
HSUPA Subtest-4	23.58	23.49	23.92
HSUPA Subtest-5	23.88	24.18	24.12

LTE Band 5

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	
			20407	20525	20643		20407	20525	20643	
			824.7	836.5	848.3		824.7	836.5	848.3	
			MHz	MHz	MHz		MHz	MHz	MHz	
5 / 1.4M	1	0	24.21	24.05	24.10	0	22.85	23.22	23.05	1
	1	2	23.82	24.03	24.13	0	23.08	23.32	23.19	1
	1	5	23.78	24.12	23.87	0	22.89	23.30	22.93	1
	3	0	23.80	23.97	24.15	0	22.75	22.96	23.10	1
	3	1	23.93	24.01	24.07	0	23.06	22.98	23.14	1
	3	3	23.77	24.04	24.14	0	23.01	23.03	23.18	1
	6	0	23.18	23.14	23.13	1	22.19	22.09	22.08	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	
			20415	20525	20635		20415	20525	20635	
			825.5	836.5	847.5		825.5	836.5	847.5	
			MHz	MHz	MHz		MHz	MHz	MHz	
5 / 3M	1	0	24.28	24.19	24.14	0	23.23	22.82	23.17	1
	1	7	24.16	24.13	24.24	0	23.32	23.05	23.31	1
	1	14	24.21	24.18	24.23	0	23.24	23.19	23.21	1
	8	0	22.98	22.82	23.10	1	21.73	22.10	22.04	2
	8	3	23.12	23.07	23.08	1	21.90	21.98	21.85	2
	8	7	23.09	22.91	23.10	1	21.88	22.16	21.85	2
	15	0	23.22	22.92	23.04	1	22.23	22.17	22.03	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	
			20425	20525	20625		20425	20525	20625	
			826.5	836.5	846.5		826.5	836.5	846.5	
			MHz	MHz	MHz		MHz	MHz	MHz	
5 / 5M	1	0	24.08	24.03	24.06	0	23.12	23.07	23.02	1
	1	12	23.90	23.91	23.89	0	22.90	22.87	23.05	1
	1	24	23.98	23.87	23.78	0	22.84	22.96	22.89	1
	12	0	22.79	22.94	22.99	1	21.69	21.78	21.92	2
	12	6	22.88	22.85	23.01	1	21.77	21.87	21.89	2
	12	13	22.85	22.81	23.05	1	21.69	21.84	21.86	2
	25	0	22.91	22.84	22.76	1	21.61	21.84	21.92	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	
			20450	20525	20600		20450	20525	20600	
			829	836.5	844		829	836.5	844	
			MHz	MHz	MHz		MHz	MHz	MHz	
5 / 10M	1	0	24.10	23.96	23.75	0	23.04	22.98	23.22	1
	1	24	24.07	24.03	23.97	0	23.06	23.15	23.16	1
	1	49	24.05	23.87	24.07	0	23.24	22.85	23.18	1
	25	0	22.91	23.05	22.91	1	21.89	22.08	21.89	2
	25	12	22.98	22.97	22.91	1	21.99	21.97	21.73	2
	25	25	22.91	22.81	22.96	1	21.91	21.70	21.78	2
	50	0	22.96	23.02	22.95	1	21.87	21.95	21.76	2

ERP POWER

WCDMA B5

Band	WCDMA B5		
Channel	4132	4182	4233
Frequency (MHz)	826.4	836.4	846.6
RMC 12.2K	24.72	24.85	24.81
Gain (dBi)	3.2	3.2	3.2
Isotropically Factor (dB)	2.15	2.15	2.15
Max. ERP Power (dBm)	25.77	25.90	25.86

LTE Band 5

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	
			20407	20525	20643		20407	20525	20643	
			824.7	836.5	848.3		824.7	836.5	848.3	
			MHz	MHz	MHz		MHz	MHz	MHz	
5 / 1.4M	1	0	24.21	24.05	24.10	0	22.85	23.22	23.05	1
Gain (dBi)			3.2	3.2	3.2		3.2	3.2	3.2	
Isotropically Factor (dB)			2.15	2.15	2.15		2.15	2.15	2.15	
Max. ERP Power (dBm)			25.26	25.10	25.15		23.90	24.27	24.10	

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	
			20415	20525	20635		20415	20525	20635	
			825.5	836.5	847.5		825.5	836.5	847.5	
			MHz	MHz	MHz		MHz	MHz	MHz	
5 / 3M	1	0	24.28	24.19	24.14	0	23.23	22.82	23.17	1
Gain (dBi)			3.2	3.2	3.2		3.2	3.2	3.2	
Isotropically Factor (dB)			2.15	2.15	2.15		2.15	2.15	2.15	
Max. ERP Power (dBm)			25.33	25.24	25.19		24.28	23.87	24.22	

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	
			20425	20525	20625		20425	20525	20625	
			826.5	836.5	846.5		826.5	836.5	846.5	
			MHz	MHz	MHz		MHz	MHz	MHz	
5 / 5M	1	0	24.08	24.03	24.06	0	23.12	23.07	23.02	1
Gain (dBi)			3.2	3.2	3.2		3.2	3.2	3.2	
Isotropically Factor (dB)			2.15	2.15	2.15		2.15	2.15	2.15	
Max. ERP Power (dBm)			25.13	25.08	25.11		24.17	24.12	24.07	

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	
			20450	20525	20600		20450	20525	20600	
			829	836.5	844		829	836.5	844	
			MHz	MHz	MHz		MHz	MHz	MHz	
5 / 10M	1	0	24.10	23.96	23.75	0	23.04	22.98	23.22	1
Gain (dBi)			3.2	3.2	3.2		3.2	3.2	3.2	
Isotropically Factor (dB)			2.15	2.15	2.15		2.15	2.15	2.15	
Max. ERP Power (dBm)			25.15	25.01	24.80		24.09	24.03	24.27	

4.2 Modulation Characteristics Measurement

4.2.1 Limits of Modulation Characteristics

N/A

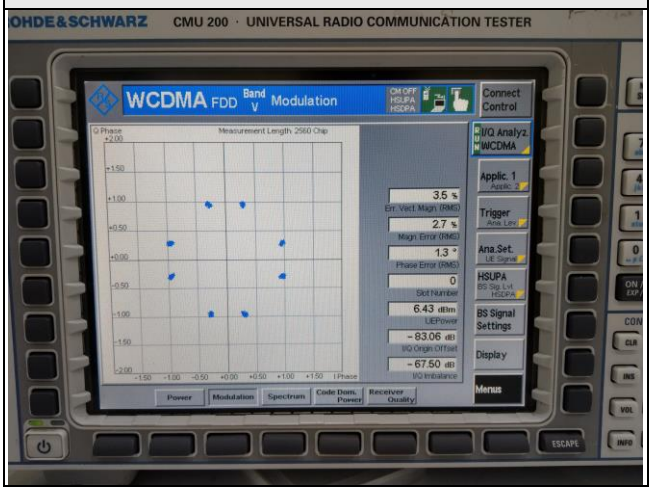
4.2.2 Test Procedure

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.

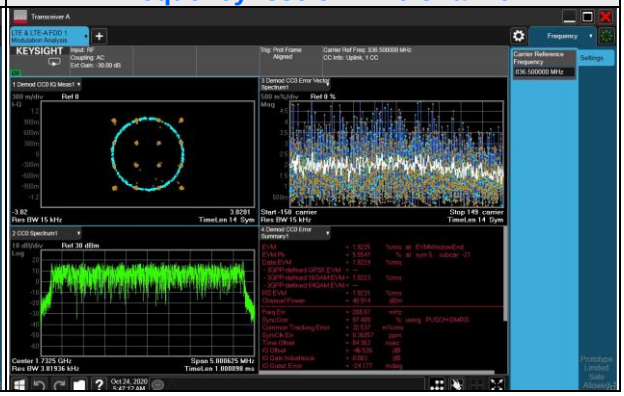
4.2.3 Test Setup

4.2.4 Test Results

WCDMA B5

Frequency: 836.4 MHz / Chain 0


LTE Band 5

QPSK / Channel Bandwidth: 10MHz / Frequency: 836.5 MHz / Chain 0	16QAM / Channel Bandwidth: 10MHz / Frequency: 836.5 MHz / Chain 0
	

4.3 Frequency Stability Measurement

4.3.1 Limits of Frequency Stability Measurement

1.5 ppm is for base and fixed station. 2.5 ppm is for mobile station.

4.3.2 Test Procedure

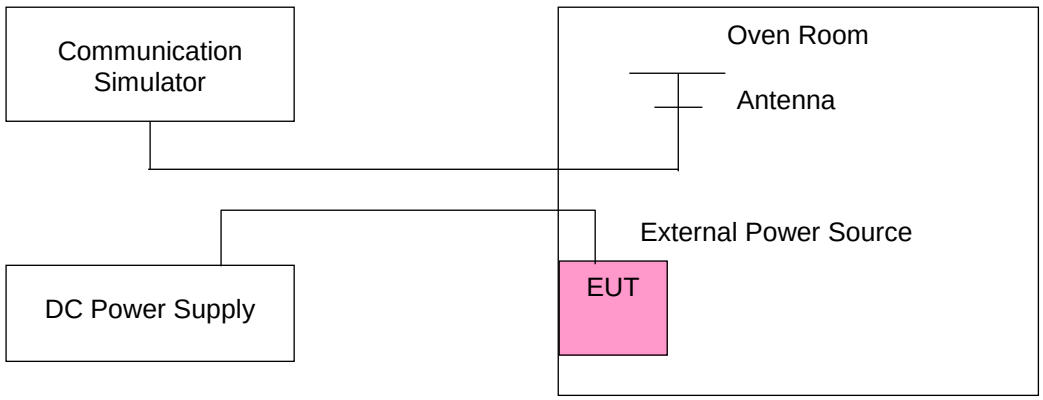
a. Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.

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 B5

Frequency Error vs. Voltage

Voltage (Volts)	Test result (ppm)	Limit (ppm)	Pass / Fail
3.3	0.029	2.5	Pass
4.2	0.019	2.5	Pass

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 (ppm)	Limit (ppm)	Pass / Fail
60	0.057	2.5	Pass
50	-0.044	2.5	Pass
40	-0.014	2.5	Pass
30	-0.020	2.5	Pass
20	-0.008	2.5	Pass
10	-0.056	2.5	Pass
0	0.041	2.5	Pass
-10	0.058	2.5	Pass
-20	-0.003	2.5	Pass
-30	-0.029	2.5	Pass

LTE Band 5

Frequency Error vs. Voltage

Voltage (Volts)	Test result (ppm)				Limit (ppm)	Pass / Fail
	1.4M	3M	5M	10M		
3.3	0.038	0.054	0.051	0.033	2.5	Pass
4.2	0.026	0.031	0.036	0.043	2.5	Pass

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 (ppm)				Limit (ppm)	Pass / Fail
	1.4M	3M	5M	10M		
60	0.050	0.036	0.029	0.054	2.5	Pass
50	0.059	0.030	0.031	0.024	2.5	Pass
40	0.049	0.050	0.057	0.038	2.5	Pass
30	0.026	0.025	0.053	0.056	2.5	Pass
20	0.035	0.026	0.036	0.048	2.5	Pass
10	0.035	0.025	0.038	0.039	2.5	Pass
0	0.043	0.032	0.051	0.036	2.5	Pass
-10	0.026	0.026	0.044	0.043	2.5	Pass
-20	0.036	0.047	0.050	0.027	2.5	Pass
-30	0.036	0.055	0.041	0.050	2.5	Pass

4.4 Emission Bandwidth Measurement

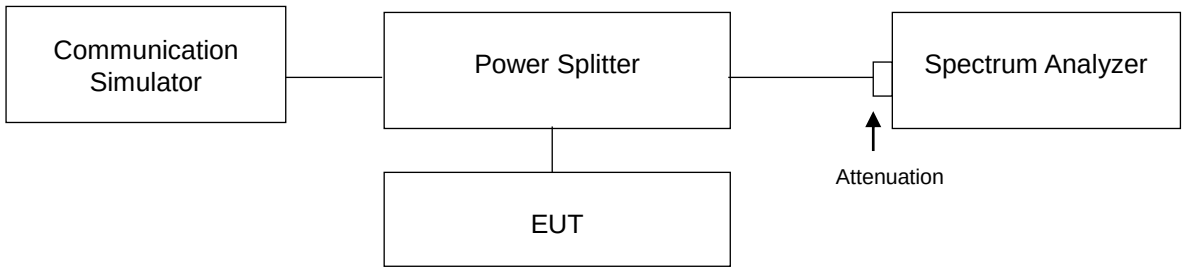
4.4.1 Test Procedure

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.

26dB 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.

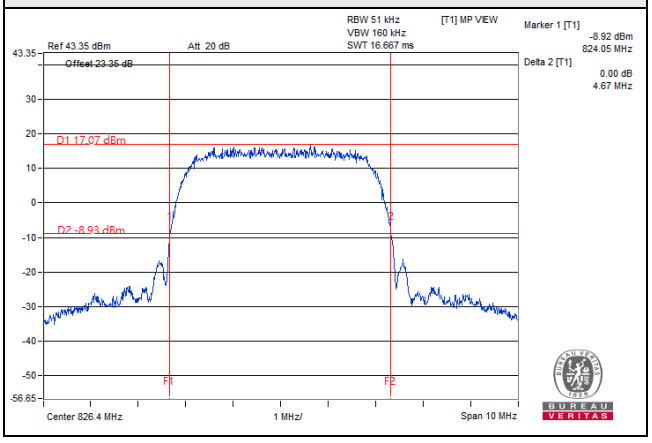
4.4.2 Test Setup



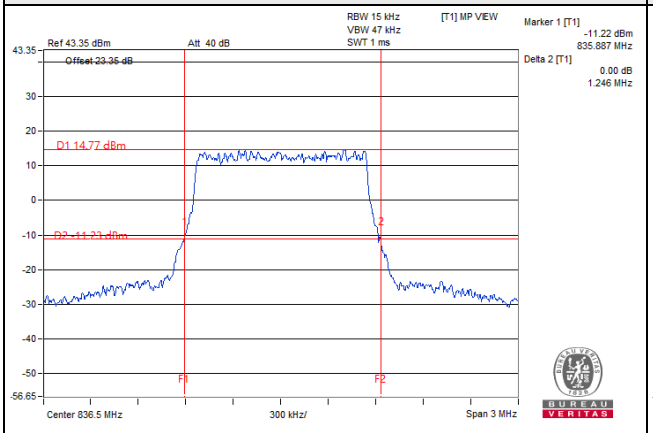
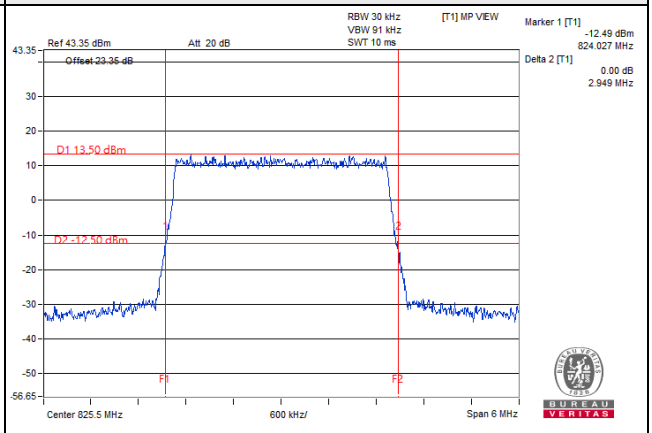
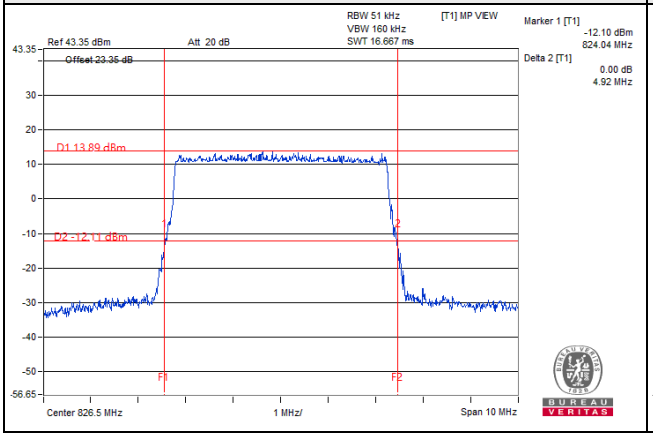
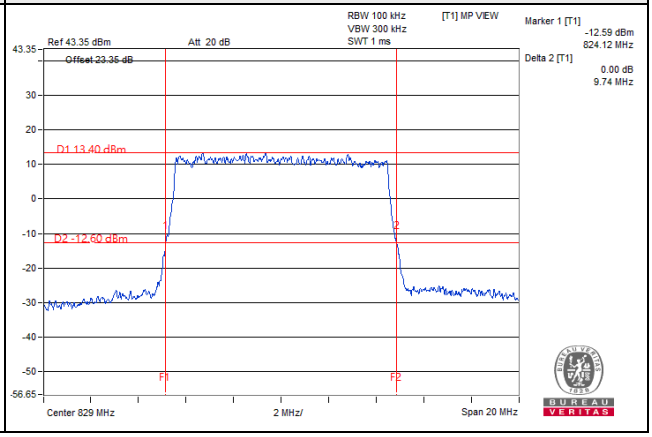
4.4.3 Test Result (-26dB Bandwidth)

WCDMA B5		
Channel	Freq. (MHz)	-26dB Bandwidth (MHz)
4132	826.4	4.67
4182	836.4	4.65
4233	846.6	4.65

Spectrum Plot of Worst Value
WCDMA



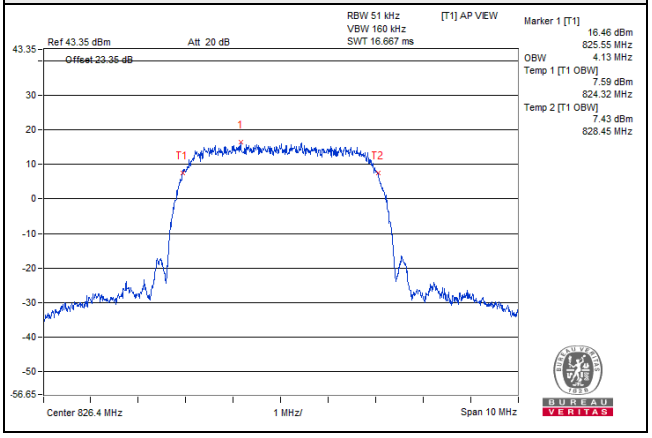
LTE Band 5							
Channel Bandwidth 1.4MHz				Channel Bandwidth 3MHz			
Channel	Frequency (MHz)	-26dB Bandwidth (MHz)		Channel	Frequency (MHz)	-26dB Bandwidth (MHz)	
		QPSK	16QAM			QPSK	16QAM
20407	824.7	1.22	1.24	20415	825.5	2.95	2.91
20525	836.5	1.25	1.25	20525	836.5	2.95	2.92
20643	848.3	1.23	1.24	20635	847.5	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
20425	826.5	4.92	4.85	20450	829	9.69	9.74
20525	836.5	4.91	4.86	20525	836.5	9.65	9.69
20625	846.5	4.88	4.89	20600	844	9.66	9.72

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

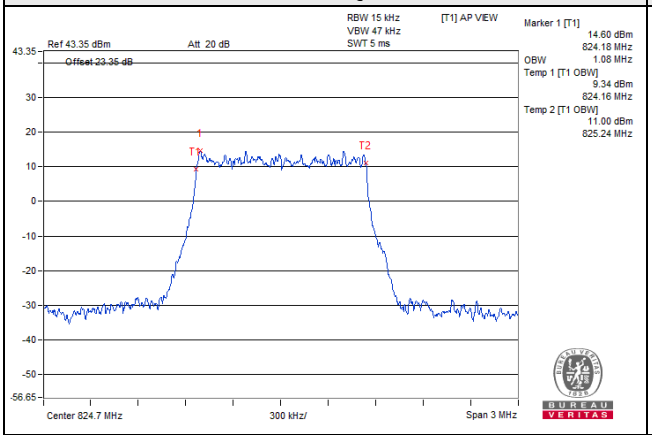
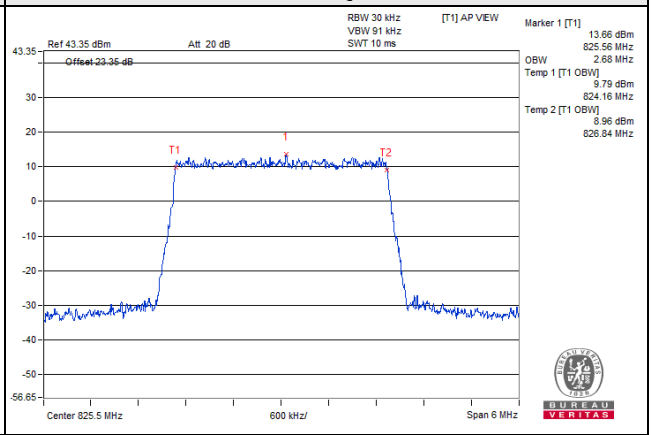
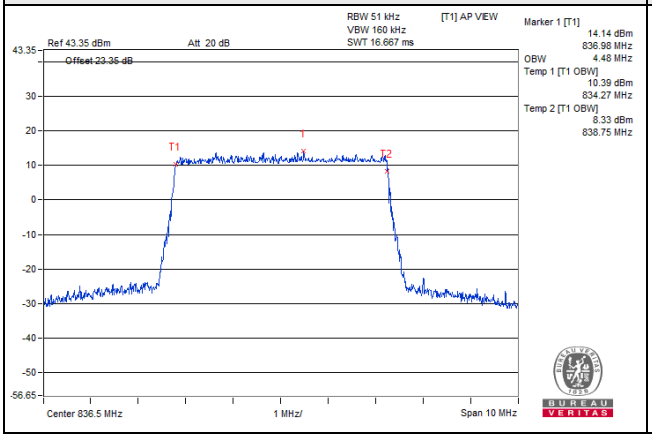
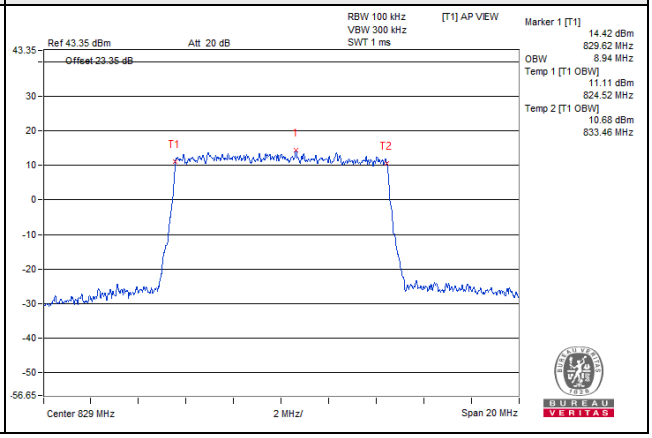
4.4.4 Test Result (Occupied Bandwidth)

WCDMA B5		
Channel	Freq. (MHz)	99% Occupied Bandwidth (MHz)
4132	826.4	4.13
4182	836.4	4.13
4233	846.6	4.13

Spectrum Plot of Worst Value
WCDMA



LTE Band 5							
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
20407	824.7	1.08	1.08	20415	825.5	2.68	2.68
20525	836.5	1.08	1.08	20525	836.5	2.68	2.68
20643	848.3	1.08	1.08	20635	847.5	2.68	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
20425	826.5	4.45	4.47	20450	829	8.94	8.92
20525	836.5	4.48	4.48	20525	836.5	8.94	8.94
20625	846.5	4.47	4.46	20600	844	8.94	8.92

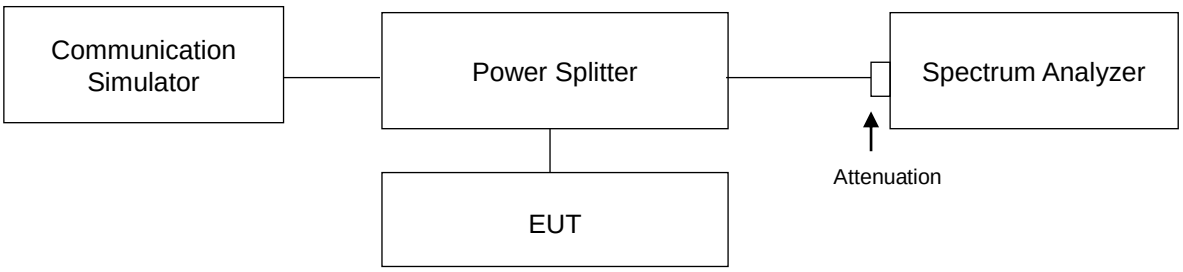
Spectrum Plot of Worst Value	
1.4MHz / QPSK	3MHz / QPSK
	
5MHz / QPSK	10MHz / QPSK
	

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.

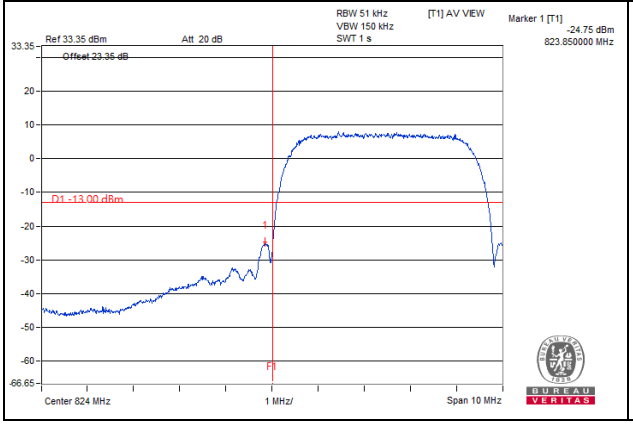
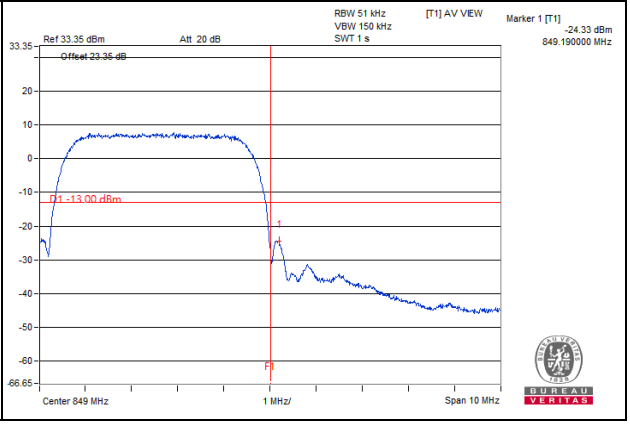
4.5.2 Test Setup

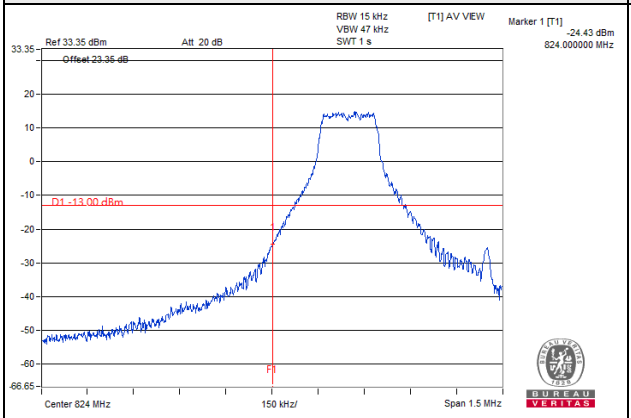
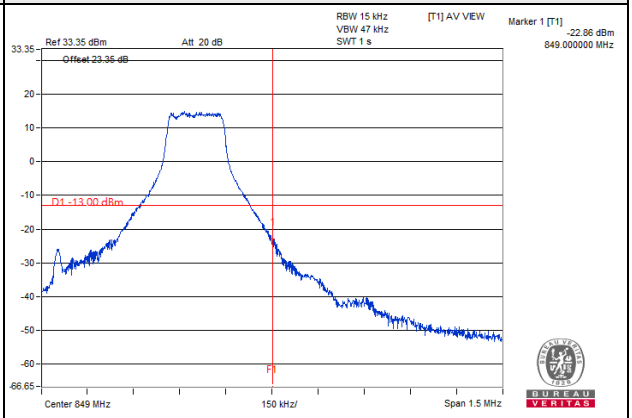
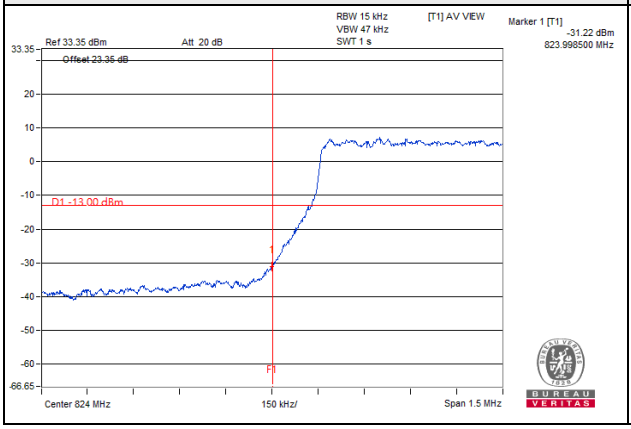
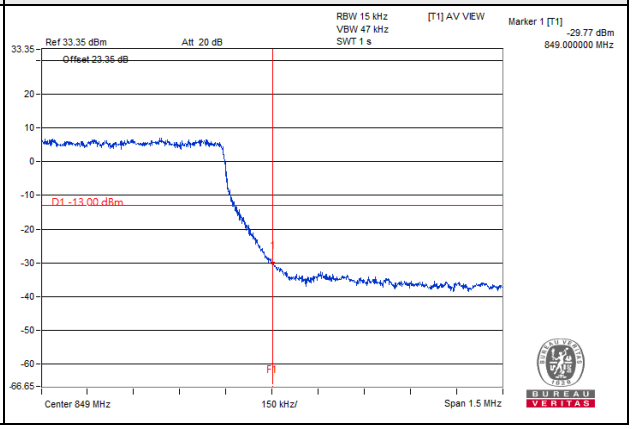


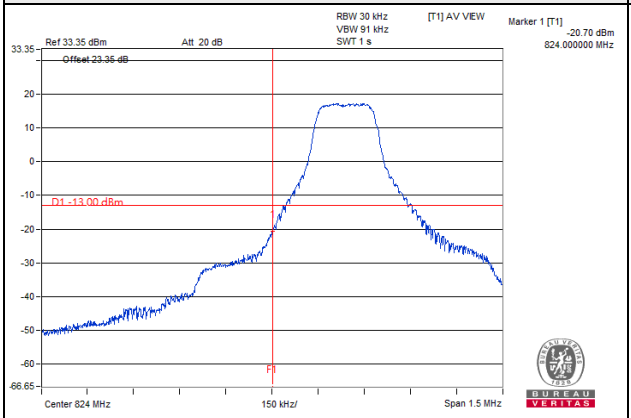
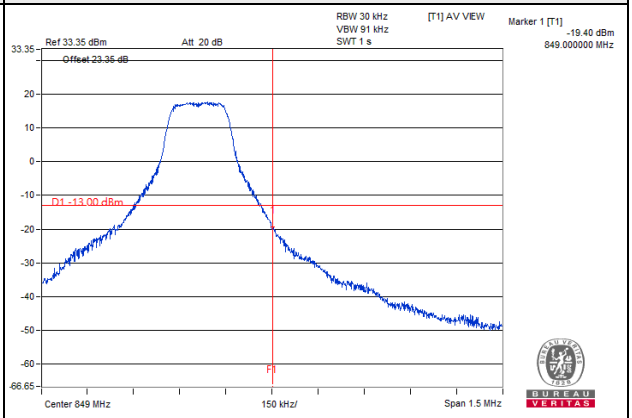
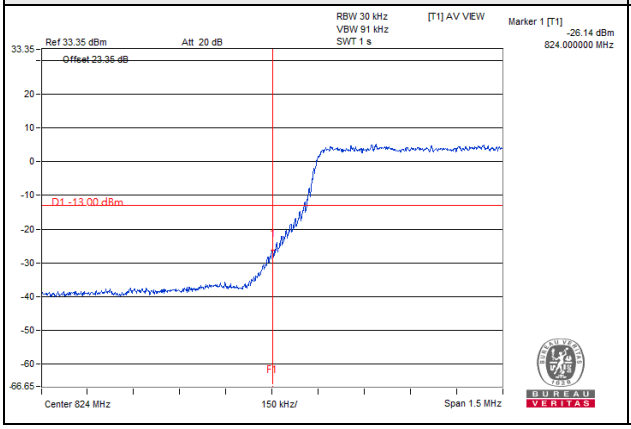
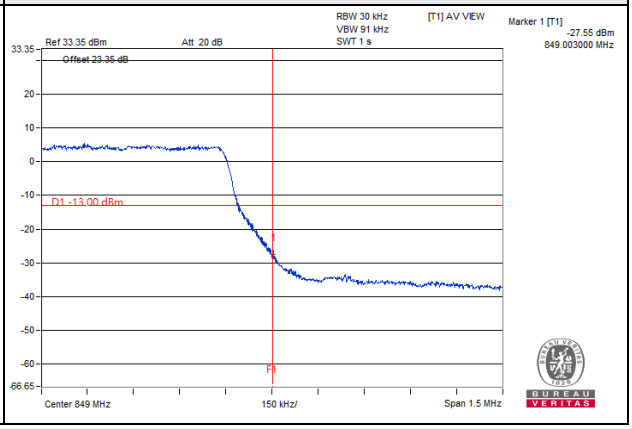
4.5.3 Test Procedures

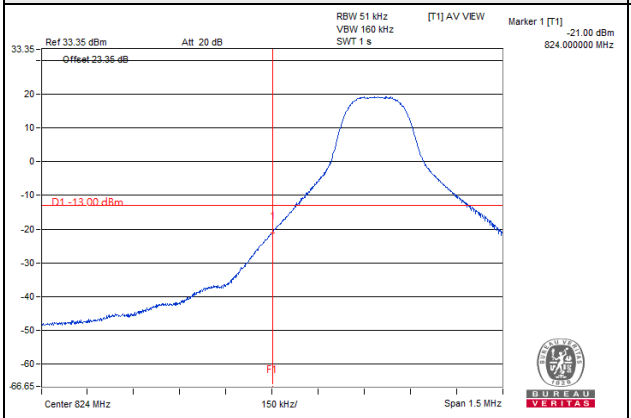
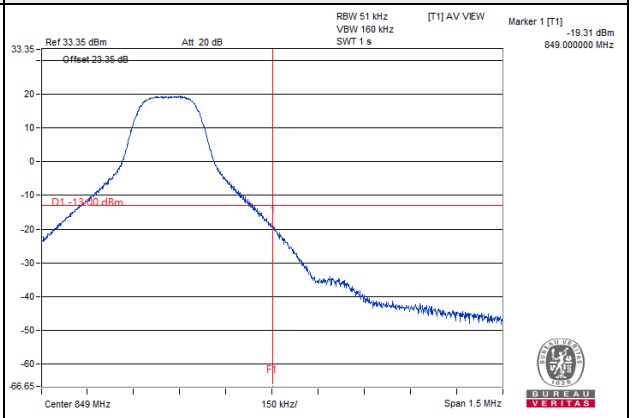
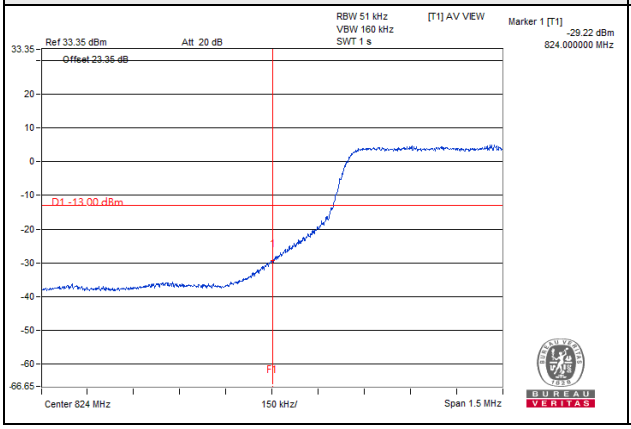
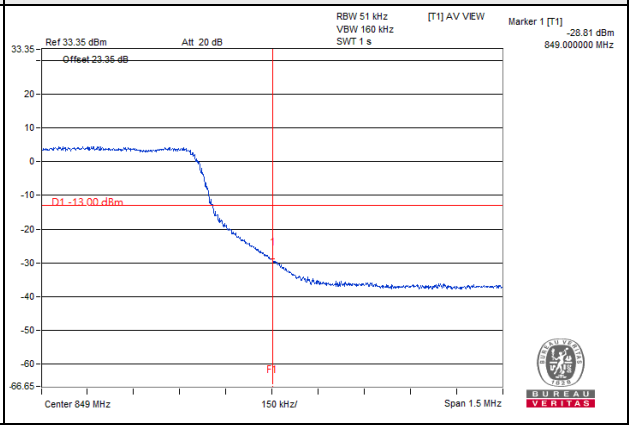
a. All measurements were done at low and high operational frequency range.
b. The center frequency of spectrum is the band edge frequency and RB of the spectrum is >1% Emission Bandwidth and VB of the spectrum is ≧ 3*RB.
c. Record the max trace plot into the test report.

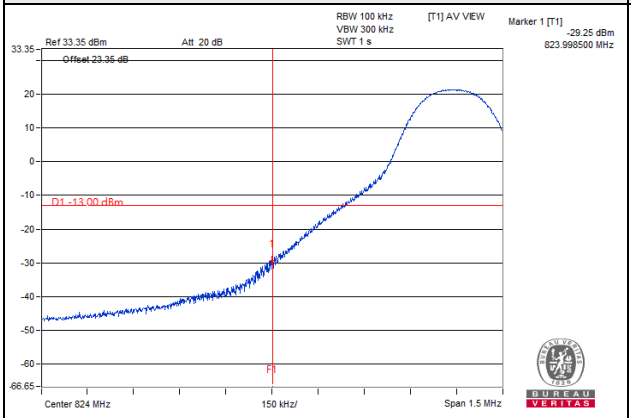
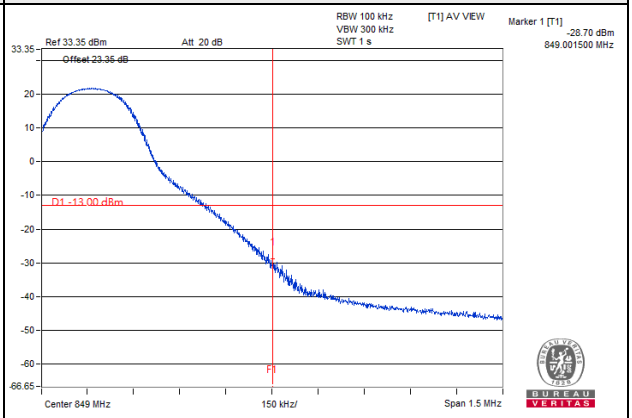
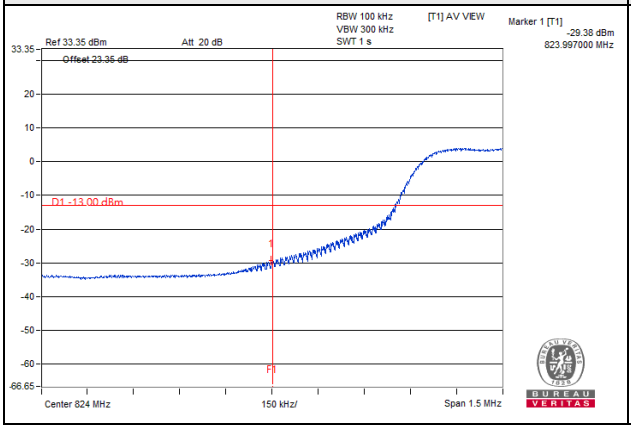
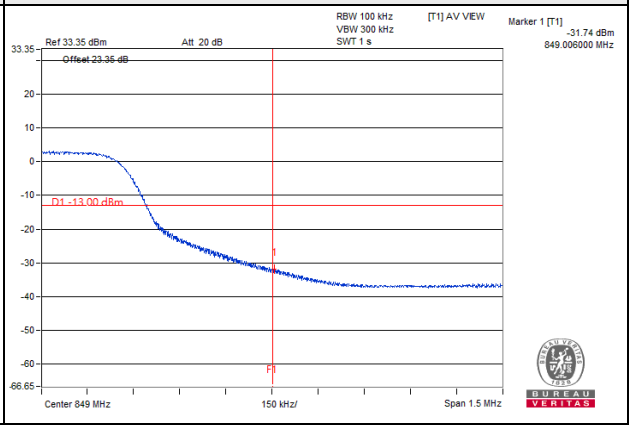
4.5.4 Test Results

WCDMA B5	
Channel 4132	Channel 4233
	

LTE Band 5 Channel Bandwidth: 1.4MHz	
Channel 20407 824.7	Channel 20643 848.3
1 RB	1 RB
	
6 RB	6 RB
	

LTE Band 5 Channel Bandwidth: 3MHz	
Channel 20415	Channel 20635
1 RB	1 RB
	
15 RB	15 RB
	

LTE Band 5 Channel Bandwidth: 5MHz	
Channel 20425	Channel 20625
1 RB	1 RB
	
25 RB	25 RB
	

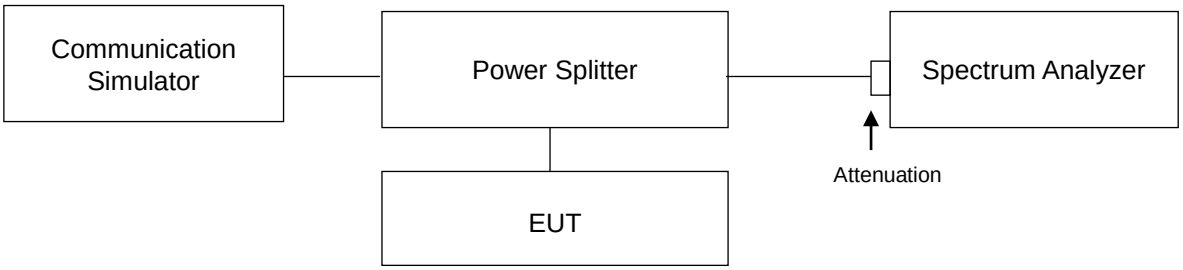
LTE Band 5 Channel Bandwidth: 10MHz	
Channel 20450	Channel 20600
1 RB	1 RB
	
50 RB	50 RB
	

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



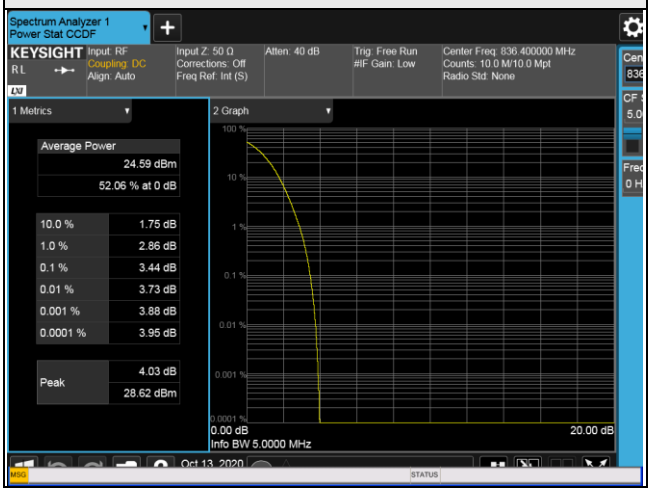
4.5.3 Test Procedures

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%.

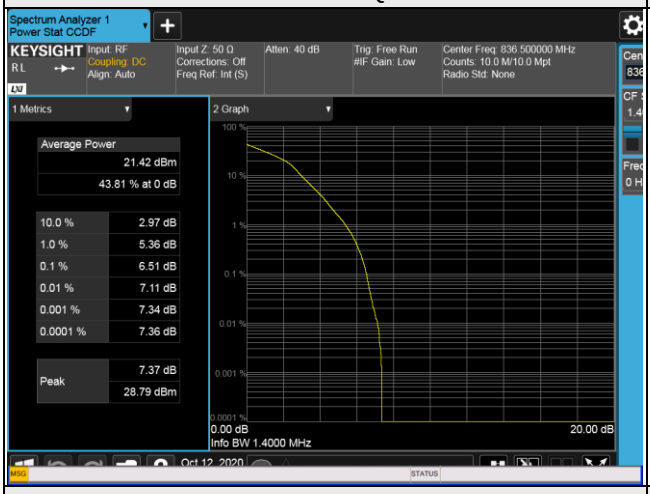
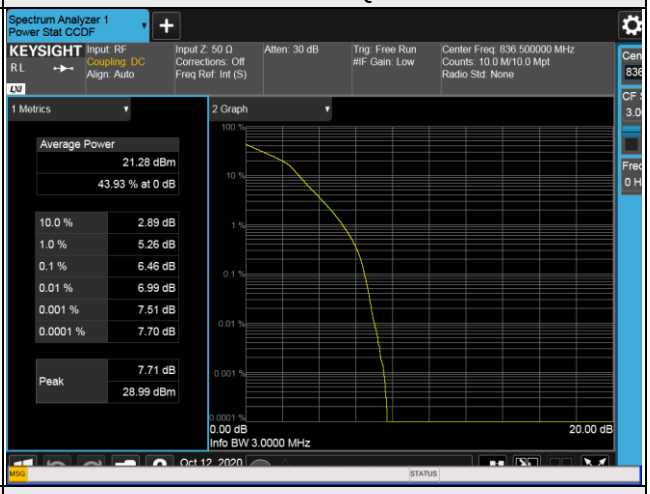
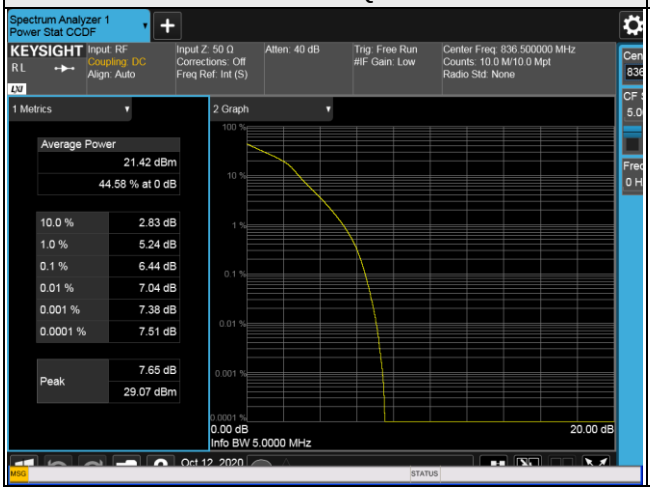
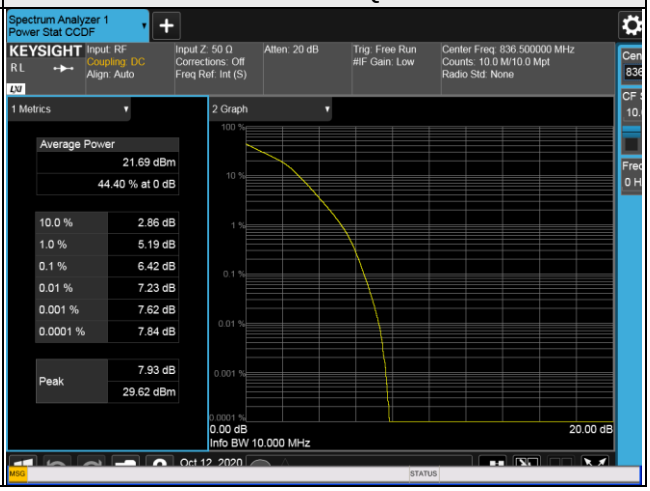
4.5.4 Test Results

WCDMA B5		
Channel	Freq. (MHz)	Peak to Average Ratio (dB)
4132	826.4	3.31
4183	836.4	3.44
4233	846.6	3.28

Spectrum Plot of Worst Value
WCDMA



LTE Band 5							
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
20407	824.7	5.52	6.29	20415	825.5	5.43	6.28
20525	836.5	5.74	6.51	20525	836.5	5.62	6.46
20643	848.3	5.51	6.33	20635	847.5	5.46	6.33
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
20425	826.5	5.45	6.31	20450	829	5.56	6.37
20525	836.5	5.60	6.44	20525	836.5	5.58	6.42
20625	846.5	5.46	6.31	20600	844	5.41	6.22

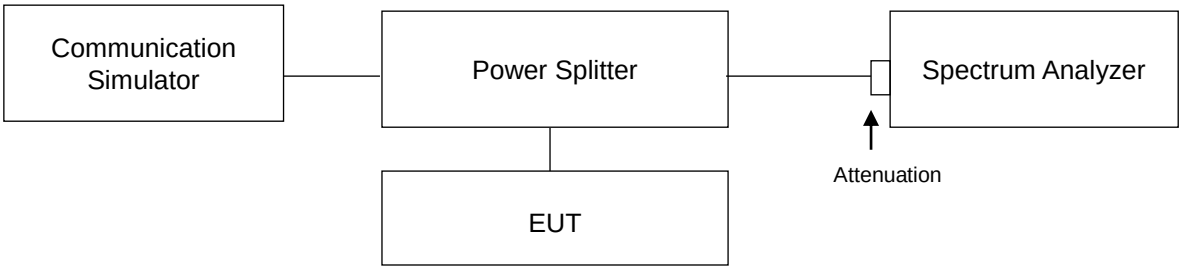
Spectrum Plot of Worst Value	
1.4MHz / 16QAM	3MHz / 16QAM
	
5MHz / 16QAM	10MHz / 16QAM
	

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

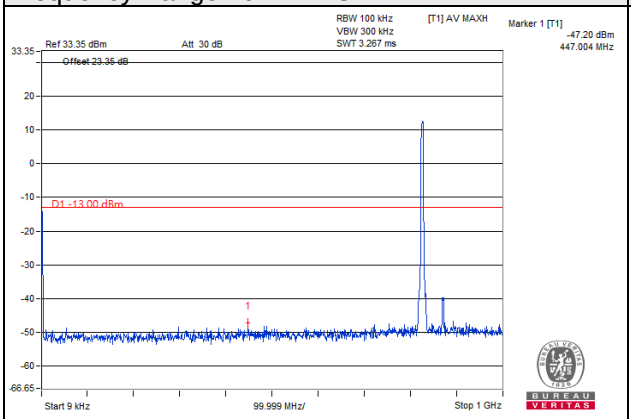
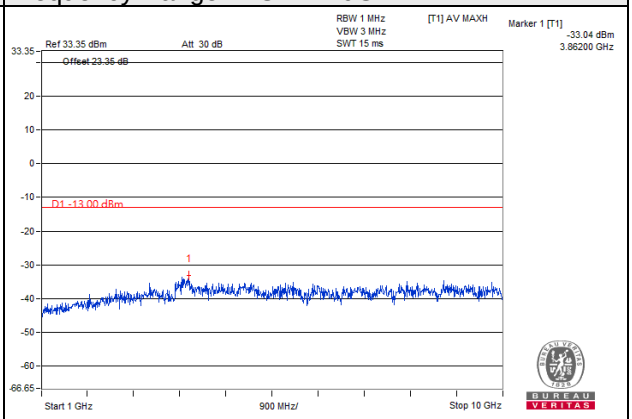
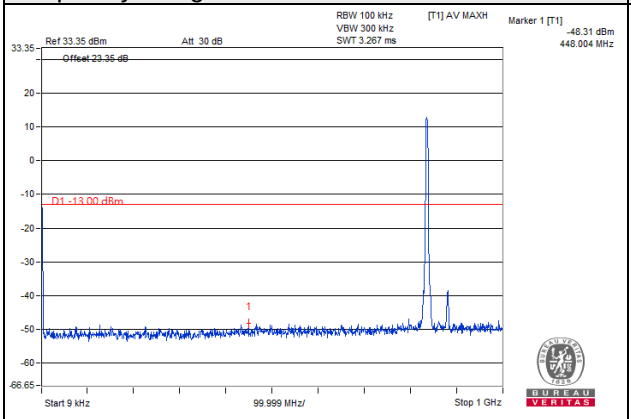
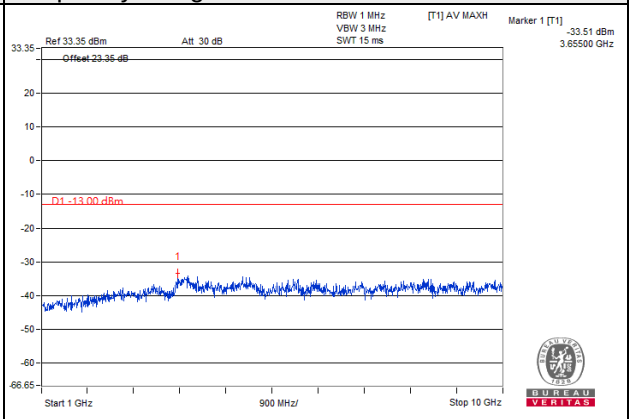
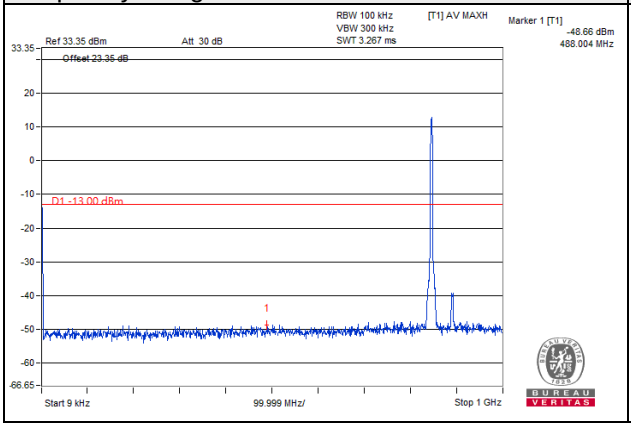
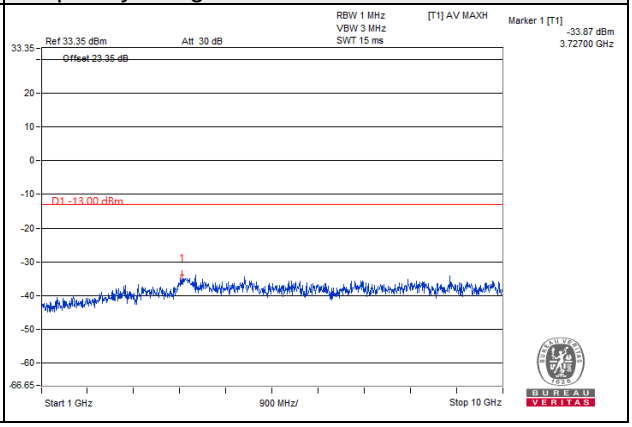


4.7.3 Test Procedure

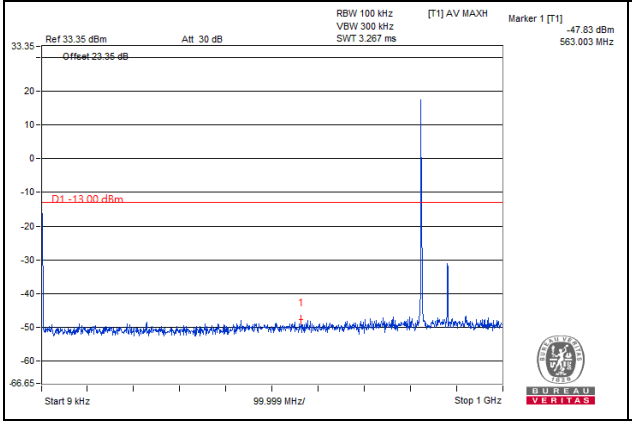
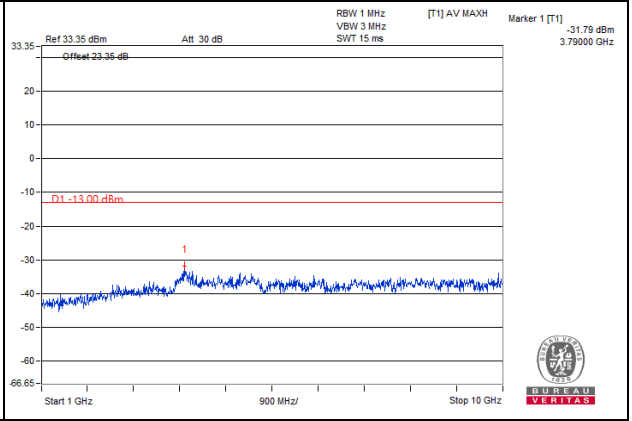
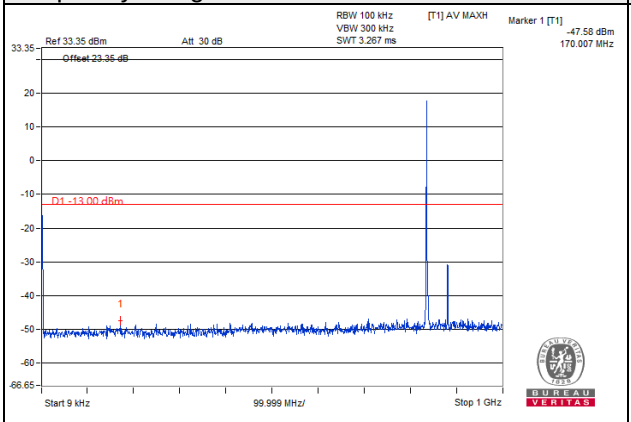
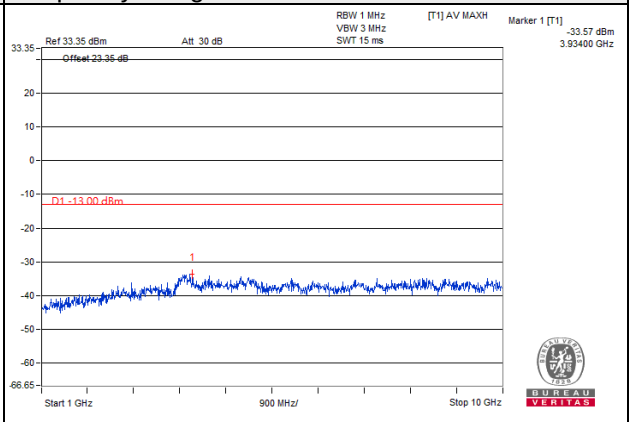
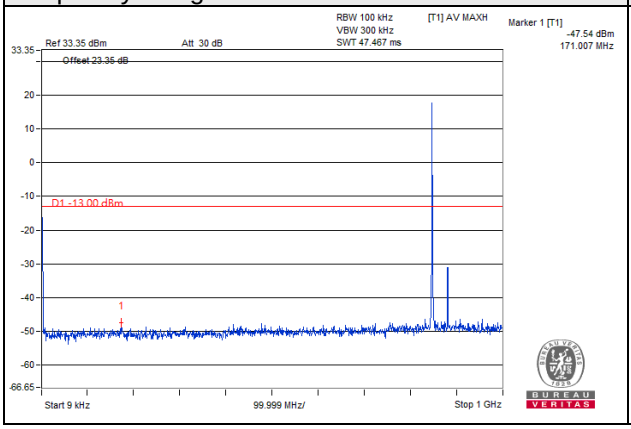
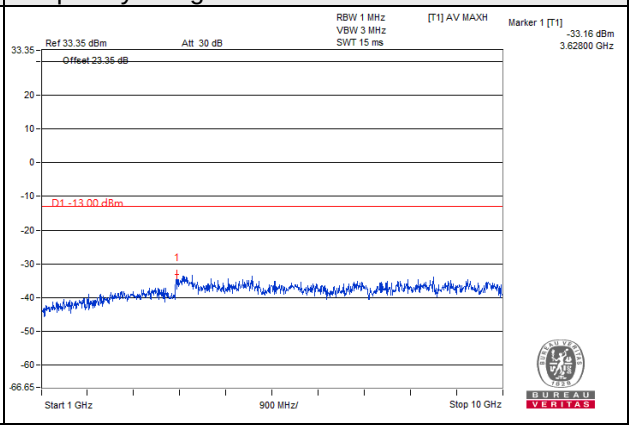
a. All measurements were done at 3 channels: low, middle and high operational frequency range.

b. When the spectrum scanned from 9 kHz to the tenth harmonic of the highest fundamental frequency, it shall be connected to the 20dB pad attenuated the carried frequency.

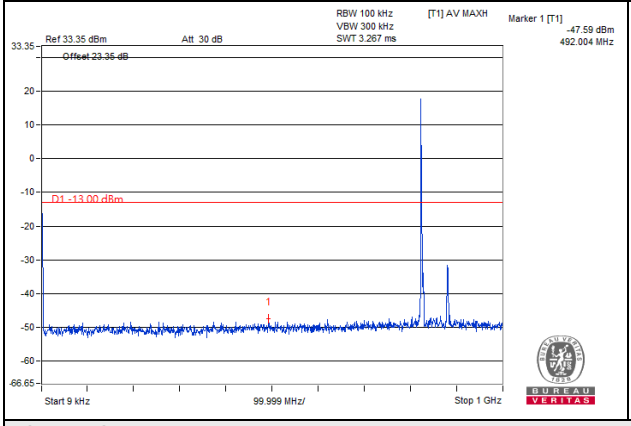
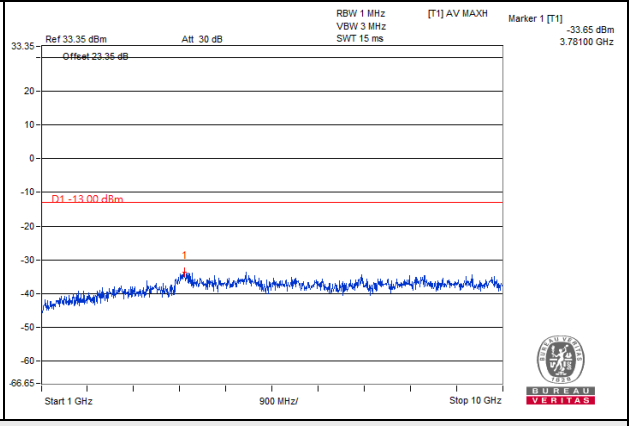
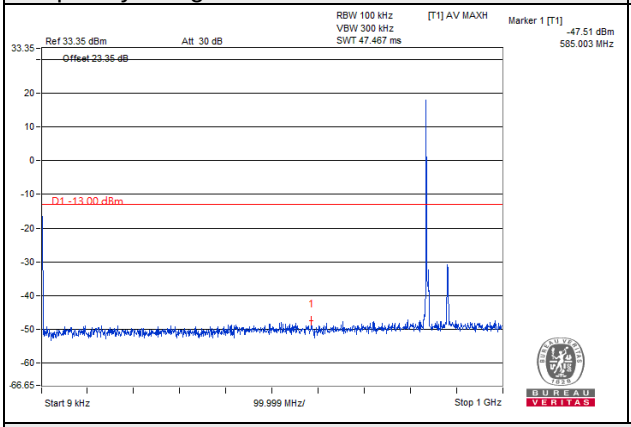
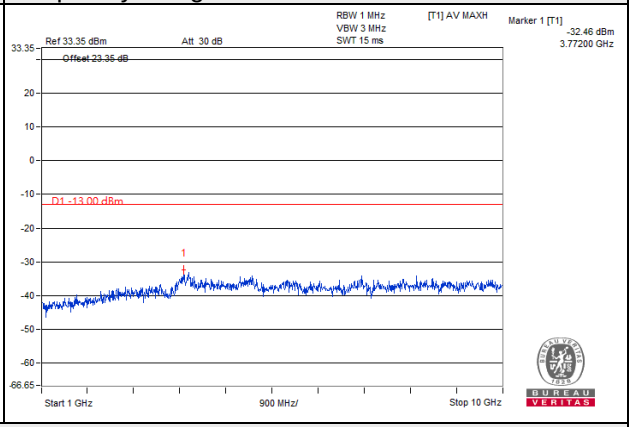
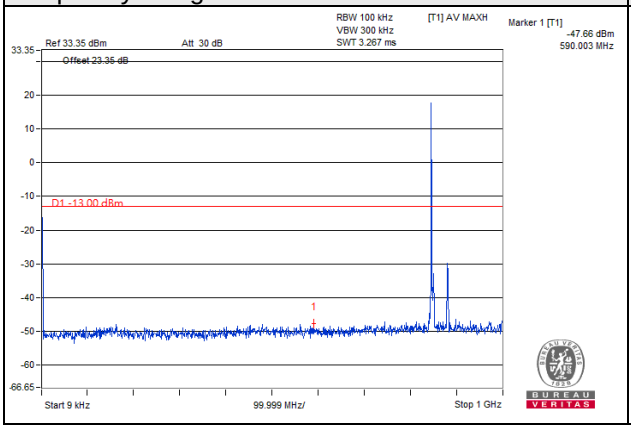
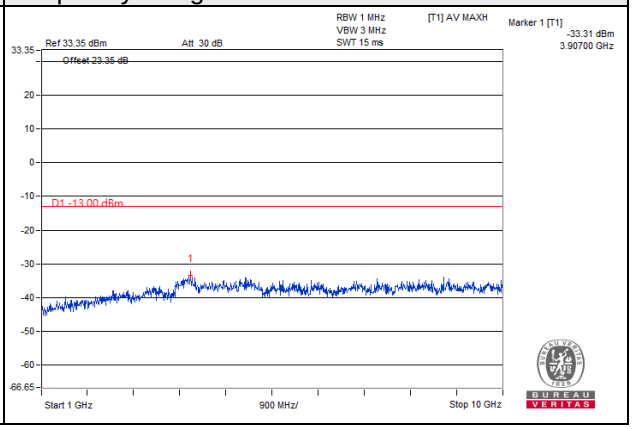
4.7.4 Test Results

WCDMA B5	
Channel 4132	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 4182	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 4233	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	

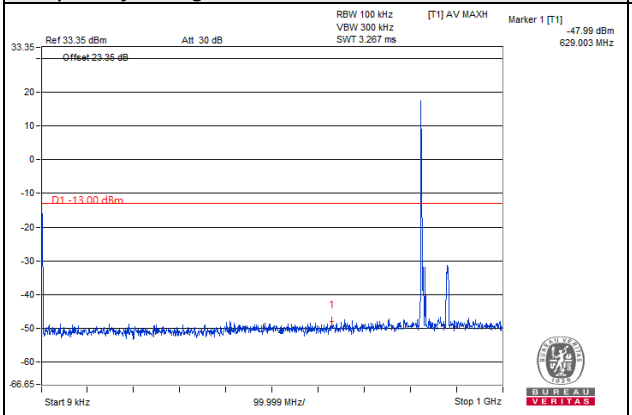
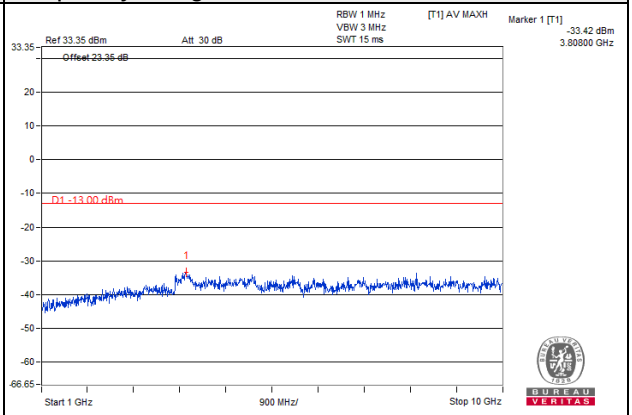
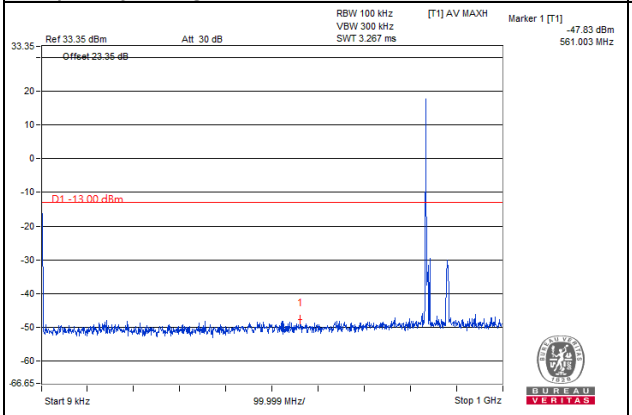
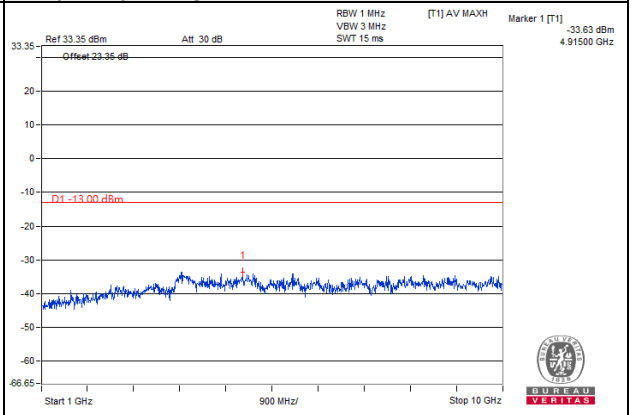
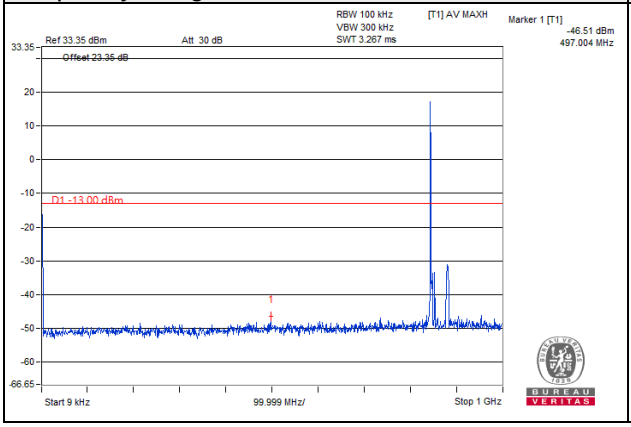
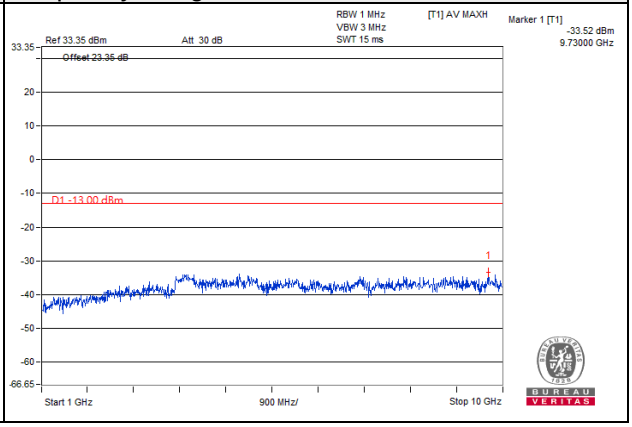
Note: The signal of 9kHz is IF signal from test instrument.

LTE Band 5 Channel Bandwidth: 1.4MHz	
Channel 20407	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 20525	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 20643	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	

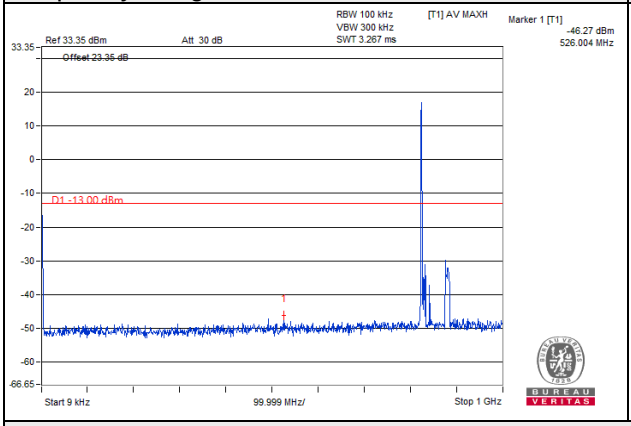
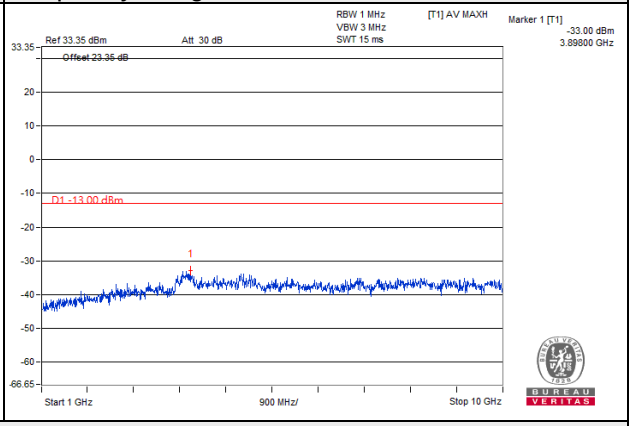
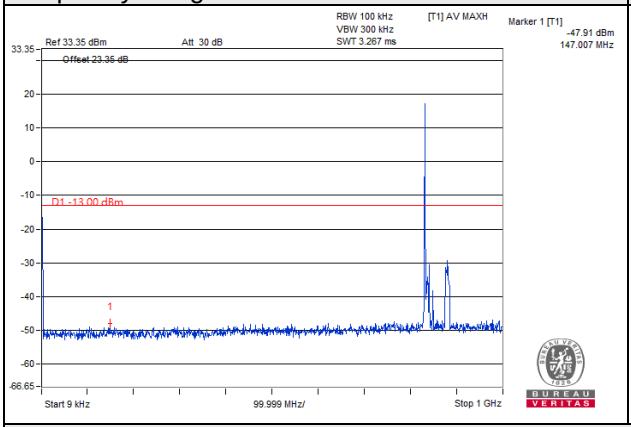
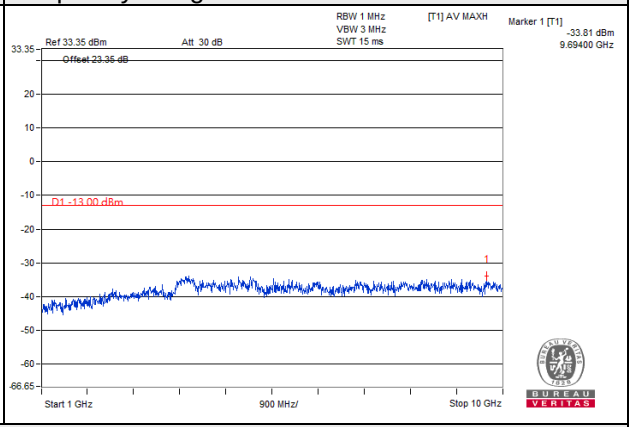
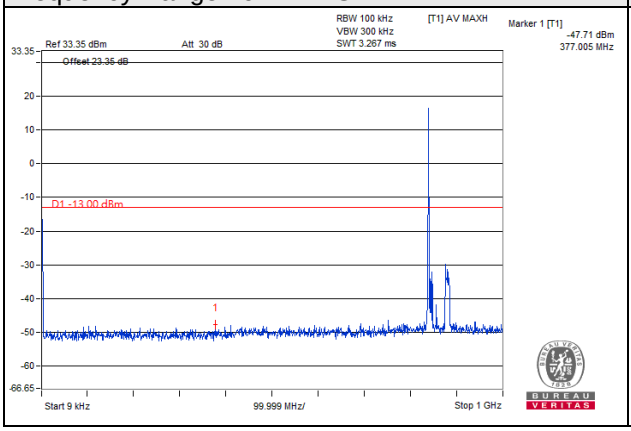
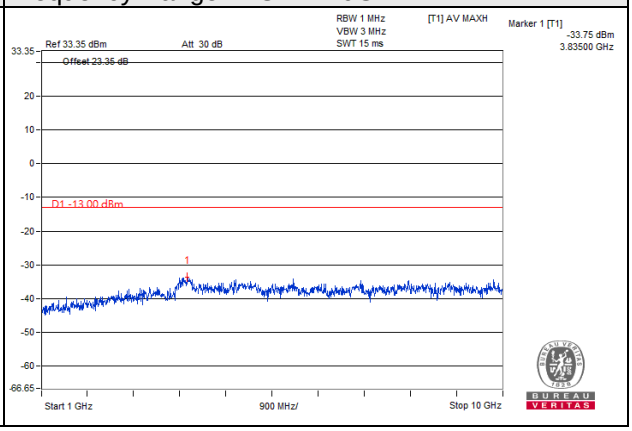
Note: The signal of 9kHz is IF signal from test instrument.

LTE Band 5 Channel Bandwidth: 3MHz	
Channel 20415	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 20525	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 20635	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	

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

LTE Band 5 Channel Bandwidth: 5MHz	
Channel 20425	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 20525	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 20625	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	

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

LTE Band 5 Channel Bandwidth: 10MHz	
Channel 20450	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 20525	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	
Channel 20600	
Frequency Range : 9kHz~1GHz	Frequency Range : 1GHz~10GHz
	

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

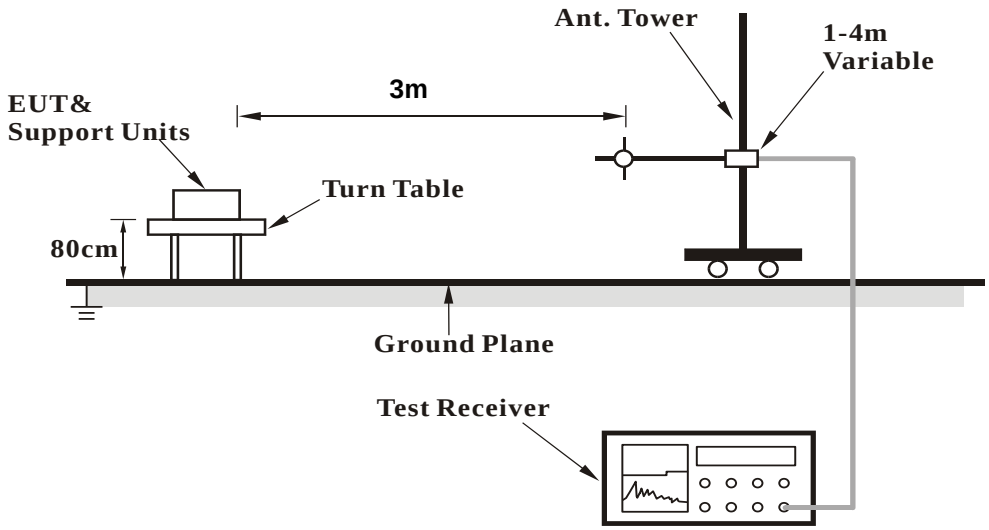
NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

4.8.3 Deviation from Test Standard

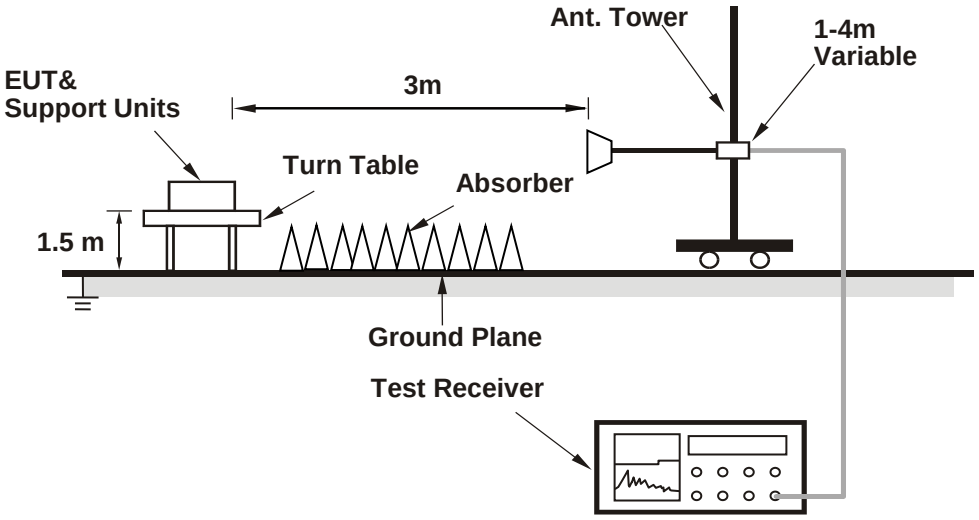
No deviation.

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 B5:

Mode	TX channel 4132	Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance: Horizontal at 3 M						
No.	Freq. (MHz)	Reading (dBμV/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.53	29.82	-95.26	-65.44	-13	-52.44
2	105.51	26.52	-95.26	-68.74	-13	-55.74
3	179.2	25.62	-95.26	-69.64	-13	-56.64
4	253.34	26.2	-95.26	-69.06	-13	-56.06
5	303.65	27.43	-95.26	-67.83	-13	-54.83
6	378.96	28.89	-95.26	-66.37	-13	-53.37
Antenna Polarity & Test Distance: Vertical at 3 M						
No.	Freq. (MHz)	Reading (dBμV/m)	Correction Factor (dB)	Emission (dBm)	Limit (dBm)	Margin (dB)
1	30.59	32.82	-95.26	-62.44	-13	-49.44
2	105.78	30.14	-95.26	-65.12	-13	-52.12
3	179.19	25.77	-95.26	-69.49	-13	-56.49
4	253.56	26.36	-95.26	-68.90	-13	-55.90
5	303.76	25.37	-95.26	-69.89	-13	-56.89
6	379.13	27.8	-95.26	-67.46	-13	-54.46

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 4182	Frequency Range	Below 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	30.47	29.79	-95.26	-65.47	-13	-52.47
2	105.55	26.48	-95.26	-68.78	-13	-55.78
3	179.15	25.6	-95.26	-69.66	-13	-56.66
4	253.32	26.18	-95.26	-69.08	-13	-56.08
5	303.62	27.4	-95.26	-67.86	-13	-54.86
6	378.97	28.86	-95.26	-66.40	-13	-53.40
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	30.61	32.73	-95.26	-62.53	-13	-49.53
2	105.79	30.06	-95.26	-65.20	-13	-52.20
3	179.25	25.74	-95.26	-69.52	-13	-56.52
4	253.61	26.17	-95.26	-69.09	-13	-56.09
5	303.75	25.23	-95.26	-70.03	-13	-57.03
6	379.16	27.78	-95.26	-67.48	-13	-54.48

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 4233	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	30.51	29.74	-95.26	-65.52	-13	-52.52
2	105.56	26.4	-95.26	-68.86	-13	-55.86
3	179.17	25.47	-95.26	-69.79	-13	-56.79
4	253.34	26.3	-95.26	-68.96	-13	-55.96
5	303.65	27.45	-95.26	-67.81	-13	-54.81
6	378.96	28.87	-95.26	-66.39	-13	-53.39
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	30.54	32.67	-95.26	-62.59	-13	-49.59
2	105.78	29.93	-95.26	-65.33	-13	-52.33
3	179.19	25.85	-95.26	-69.41	-13	-56.41
4	253.57	26.22	-95.26	-69.04	-13	-56.04
5	303.74	25.34	-95.26	-69.92	-13	-56.92
6	379.12	27.82	-95.26	-67.44	-13	-54.44

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 5: 1.4MHz

Mode	TX channel 20407	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	30.67	29.68	-95.26	-65.58	-13	-52.58
2	110.26	24.58	-95.26	-70.68	-13	-57.68
3	154.8	24.5	-95.26	-70.76	-13	-57.76
4	197.96	26.57	-95.26	-68.69	-13	-55.69
5	310.25	24.68	-95.26	-70.58	-13	-57.58
6	485.46	28.77	-95.26	-66.49	-13	-53.49
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	30.62	32.57	-95.26	-62.69	-13	-49.69
2	48.24	29.72	-95.26	-65.54	-13	-52.54
3	106.29	24.52	-95.26	-70.74	-13	-57.74
4	159.98	26.17	-95.26	-69.09	-13	-56.09
5	197.22	22.37	-95.26	-72.89	-13	-59.89
6	380.56	26.46	-95.26	-68.80	-13	-55.80

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 20525	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	30.69	29.73	-95.26	-65.53	-13	-52.53
2	109.35	24.74	-95.26	-70.52	-13	-57.52
3	149.58	24.7	-95.26	-70.56	-13	-57.56
4	196.96	26.69	-95.26	-68.57	-13	-55.57
5	310.25	24.91	-95.26	-70.35	-13	-57.35
6	485.48	28.84	-95.26	-66.42	-13	-53.42
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	30.58	32.65	-95.26	-62.61	-13	-49.61
2	48.35	29.9	-95.26	-65.36	-13	-52.36
3	106.35	24.73	-95.26	-70.53	-13	-57.53
4	159.98	26.29	-95.26	-68.97	-13	-55.97
5	197.18	22.44	-95.26	-72.82	-13	-59.82
6	380.53	26.67	-95.26	-68.59	-13	-55.59

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 20643	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	30.47	29.82	-95.26	-65.44	-13	-52.44
2	109.32	24.71	-95.26	-70.55	-13	-57.55
3	149.56	24.6	-95.26	-70.66	-13	-57.66
4	197.01	26.71	-95.26	-68.55	-13	-55.55
5	310.14	24.77	-95.26	-70.49	-13	-57.49
6	485.56	28.85	-95.26	-66.41	-13	-53.41
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	30.58	32.71	-95.26	-62.55	-13	-49.55
2	48.42	29.87	-95.26	-65.39	-13	-52.39
3	106.36	24.53	-95.26	-70.73	-13	-57.73
4	159.96	26.4	-95.26	-68.86	-13	-55.86
5	197.2	22.44	-95.26	-72.82	-13	-59.82
6	380.62	26.61	-95.26	-68.65	-13	-55.65

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 5: 3MHz

Mode	TX channel 20415	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	30.47	30.05	-95.26	-65.21	-13	-52.21
2	109.44	24.65	-95.26	-70.61	-13	-57.61
3	149.67	24.7	-95.26	-70.56	-13	-57.56
4	197.16	26.85	-95.26	-68.41	-13	-55.41
5	310.35	25.02	-95.26	-70.24	-13	-57.24
6	485.62	28.92	-95.26	-66.34	-13	-53.34
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	32.66	-95.26	-62.60	-13	-49.60
2	48.35	29.73	-95.26	-65.53	-13	-52.53
3	106.57	24.73	-95.26	-70.53	-13	-57.53
4	160.07	26.4	-95.26	-68.86	-13	-55.86
5	197.35	22.42	-95.26	-72.84	-13	-59.84
6	380.72	26.65	-95.26	-68.61	-13	-55.61

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 20525	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	30.56	30.13	-95.26	-65.13	-13	-52.13
2	109.37	24.81	-95.26	-70.45	-13	-57.45
3	149.61	24.81	-95.26	-70.45	-13	-57.45
4	197.2	26.96	-95.26	-68.30	-13	-55.30
5	310.24	25.22	-95.26	-70.04	-13	-57.04
6	485.76	29.1	-95.26	-66.16	-13	-53.16
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	32.67	-95.26	-62.59	-13	-49.59
2	48.47	29.84	-95.26	-65.42	-13	-52.42
3	106.51	24.96	-95.26	-70.30	-13	-57.30
4	160.16	26.51	-95.26	-68.75	-13	-55.75
5	197.18	22.43	-95.26	-72.83	-13	-59.83
6	380.64	26.84	-95.26	-68.42	-13	-55.42

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 20635	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	30.63	30.22	-95.26	-65.04	-13	-52.04
2	109.46	24.7	-95.26	-70.56	-13	-57.56
3	149.73	24.9	-95.26	-70.36	-13	-57.36
4	197.22	27.03	-95.26	-68.23	-13	-55.23
5	310.31	25.09	-95.26	-70.17	-13	-57.17
6	485.66	28.95	-95.26	-66.31	-13	-53.31
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	32.82	-95.26	-62.44	-13	-49.44
2	48.6	29.78	-95.26	-65.48	-13	-52.48
3	106.46	24.86	-95.26	-70.40	-13	-57.40
4	160.09	26.5	-95.26	-68.76	-13	-55.76
5	197.29	22.55	-95.26	-72.71	-13	-59.71
6	380.6	26.87	-95.26	-68.39	-13	-55.39

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 5: 5MHz

Mode	TX channel 20425	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	30.67	30.95	-95.26	-64.31	-13	-51.31
2	109.46	24.86	-95.26	-70.40	-13	-57.40
3	149.69	24.95	-95.26	-70.31	-13	-57.31
4	197.2	27	-95.26	-68.26	-13	-55.26
5	310.4	25.26	-95.26	-70.00	-13	-57.00
6	485.7	29.16	-95.26	-66.10	-13	-53.10
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	32.82	-95.26	-62.44	-13	-49.44
2	48.6	29.87	-95.26	-65.39	-13	-52.39
3	106.72	24.9	-95.26	-70.36	-13	-57.36
4	160.11	26.49	-95.26	-68.77	-13	-55.77
5	197.49	22.49	-95.26	-72.77	-13	-59.77
6	380.95	26.79	-95.26	-68.47	-13	-55.47

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 20525	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	30.48	31.18	-95.26	-64.08	-13	-51.08
2	109.57	24.99	-95.26	-70.27	-13	-57.27
3	149.78	24.95	-95.26	-70.31	-13	-57.31
4	197.38	27.04	-95.26	-68.22	-13	-55.22
5	310.44	25.42	-95.26	-69.84	-13	-56.84
6	485.73	29.24	-95.26	-66.02	-13	-53.02
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	30.84	32.84	-95.26	-62.42	-13	-49.42
2	48.5	29.99	-95.26	-65.27	-13	-52.27
3	106.65	25.02	-95.26	-70.24	-13	-57.24
4	160.31	26.56	-95.26	-68.70	-13	-55.70
5	197.45	22.57	-95.26	-72.69	-13	-59.69
6	380.96	26.92	-95.26	-68.34	-13	-55.34

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.

Mode	TX channel 20625	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	30.72	31.17	-95.26	-64.09	-13	-51.09
2	109.66	24.89	-95.26	-70.37	-13	-57.37
3	149.76	25.2	-95.26	-70.06	-13	-57.06
4	197.31	27.22	-95.26	-68.04	-13	-55.04
5	310.42	25.31	-95.26	-69.95	-13	-56.95
6	485.77	29.26	-95.26	-66.00	-13	-53.00
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	30.74	32.96	-95.26	-62.30	-13	-49.30
2	48.45	30.1	-95.26	-65.16	-13	-52.16
3	106.62	25.07	-95.26	-70.19	-13	-57.19
4	160.14	26.61	-95.26	-68.65	-13	-55.65
5	197.36	22.64	-95.26	-72.62	-13	-59.62
6	380.75	26.88	-95.26	-68.38	-13	-55.38

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.

LTE Band 5: 10MHz

Mode	TX channel 20450	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	30.57	30.85	-95.26	-64.41	-13	-51.41
2	109.61	24.89	-95.26	-70.37	-13	-57.37
3	149.76	25	-95.26	-70.26	-13	-57.26
4	197.18	27.11	-95.26	-68.15	-13	-55.15
5	310.44	25.45	-95.26	-69.81	-13	-56.81
6	485.76	29.4	-95.26	-65.86	-13	-52.86
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	32.61	-95.26	-62.65	-13	-49.65
2	48.76	29.97	-95.26	-65.29	-13	-52.29
3	106.8	25.11	-95.26	-70.15	-13	-57.15
4	160.19	26.61	-95.26	-68.65	-13	-55.65
5	197.39	22.66	-95.26	-72.60	-13	-59.60
6	380.85	26.91	-95.26	-68.35	-13	-55.35

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 20525	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	30.62	30.97	-95.26	-64.29	-13	-51.29
2	109.49	25.1	-95.26	-70.16	-13	-57.16
3	149.71	25.1	-95.26	-70.16	-13	-57.16
4	197.24	27.21	-95.26	-68.05	-13	-55.05
5	310.52	25.53	-95.26	-69.73	-13	-56.73
6	485.86	29.48	-95.26	-65.78	-13	-52.78
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	30.75	32.75	-95.26	-62.51	-13	-49.51
2	48.58	30.2	-95.26	-65.06	-13	-52.06
3	106.79	25.19	-95.26	-70.07	-13	-57.07
4	160.14	26.72	-95.26	-68.54	-13	-55.54
5	197.38	22.74	-95.26	-72.52	-13	-59.52
6	380.82	27.1	-95.26	-68.16	-13	-55.16

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 20600	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	30.78	30.92	-95.26	-64.34	-13	-51.34
2	109.87	25.07	-95.26	-70.19	-13	-57.19
3	150	25.14	-95.26	-70.12	-13	-57.12
4	197.32	27.36	-95.26	-67.90	-13	-54.90
5	310.52	25.51	-95.26	-69.75	-13	-56.75
6	485.9	29.43	-95.26	-65.83	-13	-52.83
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	32.75	-95.26	-62.51	-13	-49.51
2	48.52	30.16	-95.26	-65.10	-13	-52.10
3	106.59	25.28	-95.26	-69.98	-13	-56.98
4	160.11	26.84	-95.26	-68.42	-13	-55.42
5	197.48	22.8	-95.26	-72.46	-13	-59.46
6	380.97	27.08	-95.26	-68.18	-13	-55.18

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 B5:

Mode	TX channel 4132	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	1652.8	32.86	-95.26	-62.40	-13	-49.40
2	2479.2	33.25	-95.26	-62.01	-13	-49.01
3	3305.6	33.78	-95.26	-61.48	-13	-48.48
4	4132	34.54	-95.26	-60.72	-13	-47.72
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	1652.8	33.2	-95.26	-62.06	-13	-49.06
2	2479.2	33.67	-95.26	-61.59	-13	-48.59
3	3305.6	34.49	-95.26	-60.77	-13	-47.77
4	**4132**	**35.38**	**-95.26**	**-59.88**	**-13**	**-46.88**

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 4182	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	1672.8	32.86	-95.26	-62.40	-13	-49.40
2	2509.2	33.29	-95.26	-61.97	-13	-48.97
3	3345.6	33.88	-95.26	-61.38	-13	-48.38
4	4182	34.4	-95.26	-60.86	-13	-47.86
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	1672.8	33.41	-95.26	-61.85	-13	-48.85
2	2509.2	33.84	-95.26	-61.42	-13	-48.42
3	3345.6	34.37	-95.26	-60.89	-13	-47.89
4	4182	35.35	-95.26	-59.91	-13	-46.91

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 4233	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	1693.2	32.63	-95.26	-62.63	-13	-49.63
2	2539.8	33.16	-95.26	-62.10	-13	-49.10
3	3386.4	33.87	-95.26	-61.39	-13	-48.39
4	4233	34.35	-95.26	-60.91	-13	-47.91
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	1693.2	33.2	-95.26	-62.06	-13	-49.06
2	2539.8	33.68	-95.26	-61.58	-13	-48.58
3	3386.4	34.42	-95.26	-60.84	-13	-47.84
4	4233	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 5: 1.4MHz

Mode	TX channel 20407	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	1649.4	32.14	-95.26	-63.12	-13	-50.12
2	2474.1	32.46	-95.26	-62.80	-13	-49.80
3	3298.8	32.84	-95.26	-62.42	-13	-49.42
4	4123.5	33.27	-95.26	-61.99	-13	-48.99
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	1649.4	32.21	-95.26	-63.05	-13	-50.05
2	2474.1	32.63	-95.26	-62.63	-13	-49.63
3	3298.8	33.17	-95.26	-62.09	-13	-49.09
4	4123.5	33.5	-95.26	-61.76	-13	-48.76

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 20525	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	1673	32.22	-95.26	-63.04	-13	-50.04
2	2509.5	32.55	-95.26	-62.71	-13	-49.71
3	3346	33.01	-95.26	-62.25	-13	-49.25
4	4182.5	33.35	-95.26	-61.91	-13	-48.91
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	1673	32.27	-95.26	-62.99	-13	-49.99
2	2509.5	32.64	-95.26	-62.62	-13	-49.62
3	3346	33.26	-95.26	-62.00	-13	-49.00
4	4182.5	33.51	-95.26	-61.75	-13	-48.75

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 20643	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	1696.6	32.39	-95.26	-62.87	-13	-49.87
2	2544.9	32.66	-95.26	-62.60	-13	-49.60
3	3393.2	33.18	-95.26	-62.08	-13	-49.08
4	4241.5	33.71	-95.26	-61.55	-13	-48.55
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	1696.6	32.18	-95.26	-63.08	-13	-50.08
2	2544.9	32.64	-95.26	-62.62	-13	-49.62
3	3393.2	32.89	-95.26	-62.37	-13	-49.37
4	4241.5	33.47	-95.26	-61.79	-13	-48.79

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 5: 3MHz

Mode	TX channel 20415	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	1651	32.24	-95.26	-63.02	-13	-50.02
2	2476.5	32.58	-95.26	-62.68	-13	-49.68
3	3302	33.04	-95.26	-62.22	-13	-49.22
4	4127.5	33.28	-95.26	-61.98	-13	-48.98
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	1651	32.46	-95.26	-62.80	-13	-49.80
2	2476.5	32.83	-95.26	-62.43	-13	-49.43
3	3302	33.19	-95.26	-62.07	-13	-49.07
4	4127.5	33.66	-95.26	-61.60	-13	-48.60

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 20525	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	1673	32.38	-95.26	-62.88	-13	-49.88
2	2509.5	32.67	-95.26	-62.59	-13	-49.59
3	3346	32.87	-95.26	-62.39	-13	-49.39
4	4182.5	33.39	-95.26	-61.87	-13	-48.87
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	1673	32.25	-95.26	-63.01	-13	-50.01
2	2509.5	32.79	-95.26	-62.47	-13	-49.47
3	3346	33.35	-95.26	-61.91	-13	-48.91
4	4182.5	33.51	-95.26	-61.75	-13	-48.75

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 20635	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	1695	32.32	-95.26	-62.94	-13	-49.94
2	2542.5	32.64	-95.26	-62.62	-13	-49.62
3	3390	33.07	-95.26	-62.19	-13	-49.19
4	4237.5	33.51	-95.26	-61.75	-13	-48.75
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	1695	32.44	-95.26	-62.82	-13	-49.82
2	2542.5	32.78	-95.26	-62.48	-13	-49.48
3	3390	33.42	-95.26	-61.84	-13	-48.84
4	4237.5	33.58	-95.26	-61.68	-13	-48.68

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 5: 5MHz

Mode	TX channel 20425	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	1653	32.21	-95.26	-63.05	-13	-50.05
2	2479.5	32.62	-95.26	-62.64	-13	-49.64
3	3306	32.95	-95.26	-62.31	-13	-49.31
4	4132.5	33.27	-95.26	-61.99	-13	-48.99
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	1653	32.32	-95.26	-62.94	-13	-49.94
2	2479.5	32.75	-95.26	-62.51	-13	-49.51
3	3306	33.26	-95.26	-62.00	-13	-49.00
4	4132.5	33.73	-95.26	-61.53	-13	-48.53

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 20525	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	1673	32.37	-95.26	-62.89	-13	-49.89
2	2509.5	32.46	-95.26	-62.80	-13	-49.80
3	3346	32.94	-95.26	-62.32	-13	-49.32
4	4182.5	33.43	-95.26	-61.83	-13	-48.83
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	1673	32.31	-95.26	-62.95	-13	-49.95
2	2509.5	32.72	-95.26	-62.54	-13	-49.54
3	3346	33.21	-95.26	-62.05	-13	-49.05
4	4182.5	33.61	-95.26	-61.65	-13	-48.65

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 20625	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	1693	32.23	-95.26	-63.03	-13	-50.03
2	2539.5	32.55	-95.26	-62.71	-13	-49.71
3	3386	32.9	-95.26	-62.36	-13	-49.36
4	4232.5	33.28	-95.26	-61.98	-13	-48.98
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	1693	32.27	-95.26	-62.99	-13	-49.99
2	2539.5	32.73	-95.26	-62.53	-13	-49.53
3	3386	33.32	-95.26	-61.94	-13	-48.94
4	4232.5	33.74	-95.26	-61.52	-13	-48.52

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 5: 10MHz

Mode	TX channel 20450	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	1658	32.28	-95.26	-62.98	-13	-49.98
2	2487	32.53	-95.26	-62.73	-13	-49.73
3	3316	33.08	-95.26	-62.18	-13	-49.18
4	4145	33.42	-95.26	-61.84	-13	-48.84
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	1658	32.28	-95.26	-62.98	-13	-49.98
2	2487	32.73	-95.26	-62.53	-13	-49.53
3	3316	33.3	-95.26	-61.96	-13	-48.96
4	4145	33.71	-95.26	-61.55	-13	-48.55

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 20525	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	1673	32.25	-95.26	-63.01	-13	-50.01
2	2509.5	32.67	-95.26	-62.59	-13	-49.59
3	3346	33.03	-95.26	-62.23	-13	-49.23
4	4182.5	33.45	-95.26	-61.81	-13	-48.81
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	1673	32.35	-95.26	-62.91	-13	-49.91
2	2509.5	32.81	-95.26	-62.45	-13	-49.45
3	3346	33.31	-95.26	-61.95	-13	-48.95
4	4182.5	33.67	-95.26	-61.59	-13	-48.59

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 20600	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	1688	32.33	-95.26	-62.93	-13	-49.93
2	2532	32.56	-95.26	-62.70	-13	-49.70
3	3376	33.05	-95.26	-62.21	-13	-49.21
4	4220	33.38	-95.26	-61.88	-13	-48.88
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	1688	32.44	-95.26	-62.82	-13	-49.82
2	2532	32.83	-95.26	-62.43	-13	-49.43
3	3376	33.18	-95.26	-62.08	-13	-49.08
4	4220	33.52	-95.26	-61.74	-13	-48.74

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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