Partial FCC Test Report
(Part 22– WCDMA B5, LTE B5/B26)

Report No.:	RFBASM-WTW-P21071003-6
FCC ID:	QYLEM7511Z
Test Model:	EM7511
Received Date:	Jul. 28, 2021
Test Date:	Aug. 24 ~ Aug. 26, 2021
Issued Date:	Nov. 19, 2021
Applicant:	Getac Technology Corporation.
Address:	5F., Building A, No. 209, Sec.1, Nangang Rd.,Nangang Dist., Taipei City 11568, Taiwan, R.O.C.
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Lin Kou Laboratories
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location (1):	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan
Test Location (2):	No. 70, Wenming Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)
FCC Registration / Designation Number (1):	788550 / TW0003
FCC Registration / Designation Number (2):	281270 / TW0032

Testing Laboratory
2021

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Release Control Record

Issue No.	Description	Date Issued
RFBASM-WTW-P21071003-6	Original release	Nov. 19, 2021

1 Certificate of Conformity

Product:	Wireless Module
Brand:	Sierra Wireless, Inc.
Test Model:	EM7511
Sample Status:	Identical Prototype
Applicant:	Getac Technology Corporation.
Test Date:	Aug. 24 ~ Aug. 26, 2021
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 RF characteristics under the conditions specified in this report.

Prepared by : _____ , **Date:** Nov. 19, 2021

Polly Chien / Specialist

Approved by : _____ , **Date:** Nov. 19, 2021

Jeremy Lin / Project Engineer

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.
2.1047	Modulation Characteristics	N/A	Refer to Note
22.913 (d)	Peak To Average Ratio	N/A	Refer to Note
2.1055 22.355	Frequency Stability	N/A	Refer to Note
2.1049	Occupied Bandwidth	N/A	Refer to Note
22.917	Band Edge Measurements	N/A	Refer to Note
2.1051 22.917	Conducted Spurious Emissions	N/A	Refer to Note
2.1053 22.917	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -37.50dB at 30.00MHz.

Note:

1. This report is a partial report, only test item of Effective Radiated Power and Radiated Emissions were performed for this report. Other testing data please refer to SPORTON INTERNATIONAL INC. report no.: FG791919B_R01 for module (Brand: Sierra Wireless, Inc., Model: EM7511).
2. 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	9 kHz ~ 30 MHz	3.00 dB
	30MHz ~ 200MHz	2.91 dB
	200MHz ~1000MHz	2.93 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	1.76 dB
	18GHz ~ 40GHz	1.77 dB

2.2 Test Site and Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver Rohde & Schwarz	N9038A	MY55420137	Apr. 09, 2021	Apr. 08, 2022
Spectrum Analyzer KEYSIGHT	N9020B	MY60110440	Dec. 18, 2020	Dec. 17, 2021
BILOG Antenna SCHWARZBECK	VULB9168	9168-1213	Nov. 04, 2020	Nov. 03, 2021
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-563	Nov. 22, 2020	Nov. 21, 2021
HORN Antenna SCHWARZBECK	BBHA 9170	995	Nov. 22, 2020	Nov. 21, 2021
Loop Antenna TESEQ	HLA 6121	45745	Jul. 21, 2021	Jul. 20, 2022
Preamplifier EMCI	EMC330N	980782	Jan. 12, 2021	Jan. 11, 2022
Preamplifier EMCI	EMC118A45SE	980808	Jan. 12, 2021	Jan. 11, 2022
Preamplifier EMCI	EMC184045SE	980788	Jan. 12, 2021	Jan. 11, 2022
RF signal cable EMCI	EMC104-SM-SM-(9000+2000+1000)	201243+ 201231+ 210102	Jan. 12, 2021	Jan. 11, 2022
RF signal cable EMCI	EMCCFD400-NM-NM-(9000+300+500)	201236+ 201235+ 201233	Jan. 12, 2021	Jan. 11, 2022
RF signal cable EMCI	EMC101G-KM-KM-(5000+3000+2000)	201260+201257+201254	Jan. 12, 2021	Jan. 11, 2022
Software BV ADT	ADT_Radiated_V7.6.15.9.5	NA	NA	NA
Antenna Tower Max-Full	MFT-151SS-0.5T	NA	NA	NA
Turn Table Max-Full	MF-7802BS	NA	NA	NA
Turn Table Controller Max-Full	MF-7802BS	MF780208674	NA	NA
JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA
DC Power Supply Keysight	U8002A	MY56330015	NA	NA
Radio Communication Analyzer Anritsu	MT8821C	6201462755	Feb. 07, 2021	Feb. 06, 2022
Digital Multimeter Fluke	87-III	70360742	Jun. 24, 2021	Jun. 23, 2022
MXG Vector signal generator Agilent	N5182B	MY53050430	Nov. 25, 2020	Nov. 24, 2021

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 WM Chamber 8.

3 General Information

3.1 General Description of EUT

Product	Wireless Module	
Brand	Sierra Wireless, Inc.	
Test Model	EM7511	
Sample Status	Identical Prototype	
Power Supply Rating	End-product : 19Vdc (from adapter) 3.84Vdc (from battery)	
Modulation Type	WCDMA: BPSK, QPSK HSDPA: BPSK HSUPA: QPSK LTE: QPSK, 16QAM, 64QAM	
Operating Frequency	WCDMA Band 5	826.4~846.6MHz
	LTE Band 5 (Channel Bandwidth 1.4MHz)	824.7~848.3MHz
	LTE Band 5 (Channel Bandwidth 3MHz)	825.5~847.5MHz
	LTE Band 5 (Channel Bandwidth 5MHz)	826.5~846.5MHz
	LTE Band 5 (Channel Bandwidth 10MHz)	829.0~844.0MHz
	LTE Band 26 (Channel Bandwidth 1.4MHz)	824.7~848.3MHz
	LTE Band 26 (Channel Bandwidth 3MHz)	825.5~847.5MHz
	LTE Band 26 (Channel Bandwidth 5MHz)	826.5~846.5MHz
	LTE Band 26 (Channel Bandwidth 10MHz)	829.0~844.0MHz
	LTE Band 26 (Channel Bandwidth 15MHz)	831.5~841.5MHz
Max. ERP Power	WCDMA Band 5	224.388mW(23.51dBm)
	LTE Band 5 (Channel Bandwidth 1.4MHz)	194.089mW(22.88dBm)
	LTE Band 5 (Channel Bandwidth 3MHz)	190.546mW(22.80dBm)
	LTE Band 5 (Channel Bandwidth 5MHz)	191.867mW(22.83dBm)
	LTE Band 5 (Channel Bandwidth 10MHz)	194.984mW(22.90dBm)
	LTE Band 26 (Channel Bandwidth 1.4MHz)	208.930mW(23.20dBm)
	LTE Band 26 (Channel Bandwidth 3MHz)	191.426mW(22.82dBm)
	LTE Band 26 (Channel Bandwidth 5MHz)	191.426mW(22.82dBm)
	LTE Band 26 (Channel Bandwidth 10MHz)	194.536mW(22.89dBm)
	LTE Band 26 (Channel Bandwidth 15MHz)	196.789mW(22.94dBm)
Antenna Type	Refer to Note as below	
Antenna Connector	Refer to Note as below	
Accessory Device	Refer to Note as below	
Cable Supplied	Refer to Note as below	

Note:

1. The EUT uses the following antennas.

Antenna Type	Ant. Connector	Ant.	Antenna Gain (dBi)		
			WCDMA V	LTE B5	LTE B26
PIFA	IPEX	Main	1.97	1.97	1.97
		Aux	-0.76	-0.76	-0.76

* 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.

2. The EUT is authorized for use in specific End-product. The model of the ZX10 was chosen for final test.

Product	Brand	Model	Description
Tablet	Getac	ZX10	For marketing purpose
		ZX10Y (Y= 10 characters, Y can be 0-9, a-z, A-Z, " - ", " _ ", " / ", " \ " or blank for marketing purpose and no impact safety related critical components and constructions.)	

3. The End-product contains following accessory devices.

Product	Brand	Model	Description
Adapter	FSP	FSP065-RBBN3	I/P: 100-240 Vac, 50-60Hz, 1.5 A O/P: 19.0 Vdc, 3.42 A 1.47m non-shielded cable with 1 core
Battery 1	Getac	BP1S2P4990B	Rating: 3.84Vdc, 9740mAh, 37.4Wh Typical Capacity: 9980mAh, 38.32Wh
Battery 2	Getac	BP1S1P4990B	Rating: 3.84Vdc, 4870mAh, 18.7Wh Typical Capacity: 4990mAh, 19.16Wh
Power cord	I-SHENG ELECTRIC WIRE & CABLE CO., LTD.	SP-305B+IS-034	1.7M
Touch pen	Getac	N52 Magnet	N/A

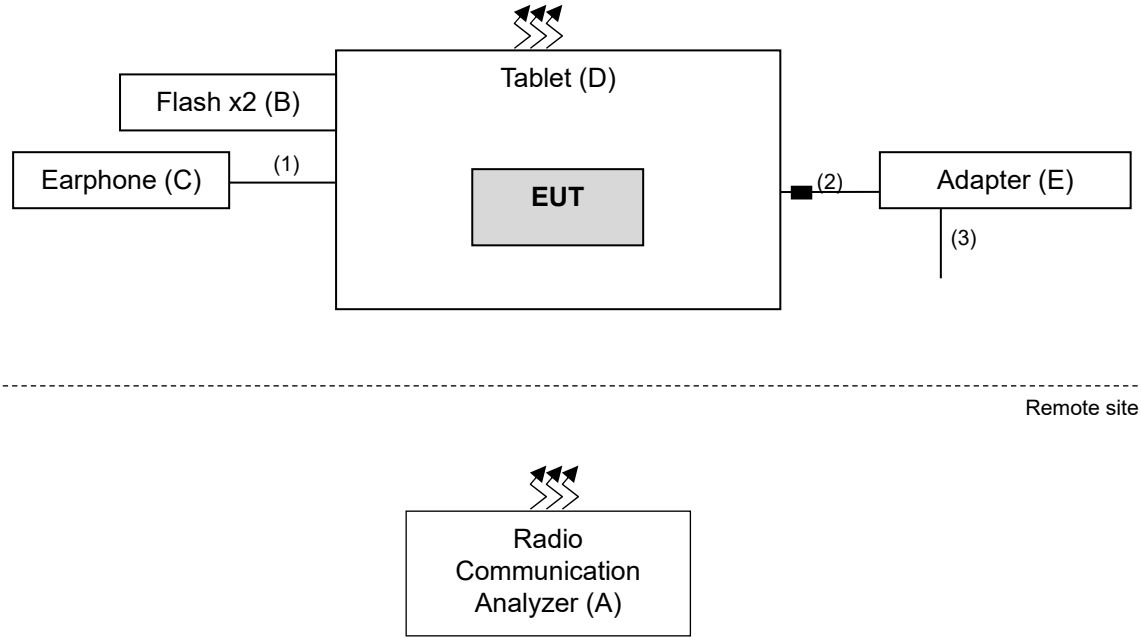
* After the pretesting battery, battery 2 mode is found to be the worst case and therefore had been chosen for final test.

4. The End-product contains following configurations.

Part	Brand	Model	Note	Configuration			
				1	2	3	4
CPU	Qualcomm	SDA 660	-	V	V	V	V
Memory	Samsung	KM3V6001CM-B705	4GB	V	V	V	V
VIDEO CONTROLLER	Qaulcomm	Adreno GU 512	-	V	V	V	V
eMMC Storage	Samsung	-	64GB	V	V	V	V
DISPLAY	AUO	G101UAN2.0	-	V	V	V	V
Touch Screen	EETI	EXC80H60	-	V	V	V	V
Real Camera	Unison	MV21A6A1-TF5D	16M PLCC MIPI	V	V	V	V
Front Camera	Unison	MV2980A1-TF4R-P	8M PLCC MIPI	V	V	V	V
WWAN	Sierra	EM7511	-	V	V	V	V
WLAN/BT	Qualcomm	WCN3990	-	V	V	V	V
HF-RFID	Getac	PN7150	-	V	V	V	V
GPS	Locosys	MC-1010-V2B	-	V	V	V	V
Barcode Reader	Honeywell	N6703SR-W5-103	-	V	V	V	V
Smart Card Option Bay	Alcor	AU9560-GBS-GR	-			V	V
Normal capacity battery	Getac	BP1S1P4990B	BYD Cell, CSL595490HPlus	V		V	
High capacity battery	Getac	BP1S2P4990B	BYD Cell, CSL595490HPlus		V		V

*After the pretesting, the configuration 3 is found to be the worst case and had been chosen for final test.

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.	Radio Communication Analyzer	Anritsu	MT8821C	6261806803	NA	-
B.	Flash	SanDisk	SDDDC3-032G	NA	NA	Type-C
	Flash	HP	v250W	05	NA	Type-A
C.	Earphone	APPLE	MB770FE	NA	NA	-
D.	Tablet	Getac	ZX10	NA	NA	Provided by client
E.	Adapter	FSP	FSP065-RBBN3	NA	NA	Provided by client

Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item A acted as a communication partner to transfer data.

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	Audio cable	1	1.2	N	0	-
2.	Power cable	1	1.47	N	1	Provided by client
3.	Power cable	1	1.7	-	0	Provided by client

Note: The core(s) is(are) originally attached to the cable(s).

3.3 Test Mode Applicability and Tested Channel Detail

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

Band	Radiated Emission
WCDMA Band 5	X-plane
LTE Band 5	X-plane
LTE Band 26	X-plane

WCDMA Band 5

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Mode
-	ERP	4132 to 4233	4132 (826.4MHz), 4182 (836.4MHz), 4233 (846.6MHz)	WCDMA, HSDPA, HSUPA
-	Radiated Emission Below 1GHz	4132 to 4233	4182 (836.4MHz)	WCDMA
-	Radiated Emission Above 1GHz	4132 to 4233	4132 (826.4MHz), 4182 (836.4MHz), 4233 (846.6MHz)	WCDMA

Note: For radiated emission below 1GHz, select the worst radiated emission (above 1GHz) channel for final testing.

LTE Band 5

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	RB #
-	ERP	20407 to 20643	20407(824.7MHz), 20525(836.5MHz), 20643(848.3MHz)	1.4MHz	QPSK / 16QAM / 64QAM	1 Half Full
		20415 to 20635	20415(825.5MHz), 20525(836.5MHz), 20635(847.5MHz)	3MHz	QPSK / 16QAM / 64QAM	1 Half Full
		20425 to 20625	20425(826.5MHz), 20525(836.5MHz), 20625(846.5MHz)	5MHz	QPSK / 16QAM / 64QAM	1 Half Full
		20450 to 20600	20450(829.0MHz), 20525(836.5MHz), 20600(844.0MHz)	10MHz	QPSK / 16QAM / 64QAM	1 Half Full
-	Radiated Emission Below 1GHz	20407 to 20643	20525(836.5MHz)	1.4MHz	QPSK	1
-	Radiated Emission Above 1GHz	20407 to 20643	20407(824.7MHz), 20525(836.5MHz), 20643(848.3MHz)	1.4MHz	QPSK	1
		20425 to 20625	20425(826.5MHz), 20525(836.5MHz), 20625(846.5MHz)	5MHz	QPSK	1
		20450 to 20600	20450(829.0MHz), 20525(836.5MHz), 20600(844.0MHz)	10MHz	QPSK	1

Note:

1. This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.
2. For radiated emission below 1GHz, select the worst radiated emission (above 1GHz) channel for final testing.

LTE Band 26

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	RB #
-	ERP	26797 to 27033	26797 (824.7MHz), 26915 (836.5MHz), 27033 (848.3MHz)	1.4MHz	QPSK / 16QAM / 64QAM	1 Half Full
		26805 to 27025	26805 (825.5MHz), 26915 (836.5MHz), 27025 (847.5MHz)	3MHz	QPSK / 16QAM / 64QAM	1 Half Full
		26815 to 27015	26815 (826.5MHz), 26915 (836.5MHz), 27015 (846.5MHz)	5MHz	QPSK / 16QAM / 64QAM	1 Half Full
		26840 to 26990	26840 (829MHz), 26915 (836.5MHz), 26990 (844MHz)	10MHz	QPSK / 16QAM / 64QAM	1 Half Full
		26865 to 26965	26865 (831.5MHz), 26915 (836.5MHz), 26965 (841.5MHz)	15MHz	QPSK / 16QAM / 64QAM	1 Half Full
-	Radiated Emission Below 1GHz	26865 to 26965	26865 (831.5MHz)	15MHz	QPSK	1
-	Radiated Emission Above 1GHz	26797 to 27033	26797 (824.7MHz), 26915 (836.5MHz), 27033 (848.3MHz)	1.4MHz	QPSK	1
		26815 to 27015	26815 (826.5MHz), 26915 (836.5MHz), 27015 (846.5MHz)	5MHz	QPSK	1
		26865 to 26965	26865 (831.5MHz), 26915 (836.5MHz), 26965 (841.5MHz)	15MHz	QPSK	1

Note:
1. This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.
2. For radiated emission below 1GHz, select the worst radiated emission (above 1GHz) channel for final testing.

Test Condition:

Test Item	Environmental Conditions	Input Power	Tested By
ERP	25deg. C, 70%RH	120Vac, 60Hz	James Yang
Radiated Emission	23deg. C, 66%RH, 24deg. C, 67%RH	120Vac, 60Hz	Titan Hsu, Raymond Lee

3.4 EUT Operating Conditions

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

3.5 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

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 CDMA, GSM, WCDMA, LTE link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

Maximum EIRP / ERP

The relevant equation for determining the maximum ERP or EIRP from the measured RF output power is given in Equation as follows:

$EIRP = P_{Meas} + G_T$

$ERP = P_{Meas} + G_T - 2.15$

where

ERP or EIRP effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as P_{Meas}, e.g., dBm or dBW)

P_{Meas} measured transmitter output power or PSD, in dBm or dBW

G_T gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP)

4.1.3 Test Setup

Conducted Power Measurement:

4.1.4 Test Results

Conducted Output Power (dBm)

Band	WCDMA V		
TX Channel	4132	4182	4233
Rx Channel	4357	4407	4458
Frequency (MHz)	826.4	836.4	846.6
RMC 12.2K	23.64	23.69	23.56
HSDPA Subtest-1	22.50	22.37	22.27
HSDPA Subtest-2	22.40	22.41	22.33
HSDPA Subtest-3	21.74	21.92	21.85
HSDPA Subtest-4	21.90	21.93	21.80
HSUPA Subtest-1	22.30	22.35	22.32
HSUPA Subtest-2	20.35	20.39	20.28
HSUPA Subtest-3	21.50	21.39	21.32
HSUPA Subtest-4	20.47	20.32	20.29
HSUPA Subtest-5	22.41	22.43	22.33

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20450	20525	20600
		Frequency (MHz)		829	836.5	844
10M	QPSK	1	0	22.97	23.08	22.96
		1	24	23.00	23.05	22.98
		1	49	22.82	22.87	22.80
		25	0	22.52	22.58	22.50
		25	12	22.49	22.54	22.47
		25	25	21.97	22.02	21.95
		50	0	22.10	22.15	22.08
	16QAM	1	0	22.43	22.48	22.41
		1	24	22.42	22.47	22.40
		1	49	22.20	22.25	22.18
		25	0	21.14	21.19	21.12
		25	12	21.15	21.20	21.13
		25	25	20.95	21.00	20.93
		50	0	21.13	21.18	21.11
	64QAM	1	0	20.97	21.08	20.96
		1	24	21.00	21.05	20.98
		1	49	20.82	20.87	20.80
		25	0	20.17	20.22	20.15
		25	12	20.14	20.19	20.12
		25	25	19.97	20.02	19.95
		50	0	20.10	20.15	20.08

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20425	20525	20625
		Frequency (MHz)		826.5	836.5	846.5
5M	QPSK	1	0	22.90	23.01	22.89
		1	12	22.91	22.95	22.94
		1	24	22.82	22.81	22.72
		12	0	22.08	22.22	22.11
		12	6	22.10	22.18	22.03
		12	13	21.90	22.00	21.93
		25	0	22.01	22.15	22.00
	16QAM	1	0	22.42	22.41	22.41
		1	12	22.42	22.45	22.38
		1	24	22.20	22.16	22.18
		12	0	21.12	21.12	21.12
		12	6	21.13	21.20	21.13
		12	13	20.91	20.97	20.92
		25	0	21.03	21.10	21.11
	64QAM	1	0	20.95	21.06	20.92
		1	12	20.93	21.02	20.97
		1	24	20.75	20.77	20.73
		12	0	20.15	20.18	20.05
		12	6	20.10	20.19	20.06
		12	13	19.90	19.94	19.92
		25	0	20.00	20.07	19.98

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20415	20525	20635
		Frequency (MHz)		825.5	836.5	847.5
3M	QPSK	1	0	22.77	22.98	22.89
		1	7	22.88	22.83	22.88
		1	14	22.78	22.86	22.67
		8	0	22.13	22.09	21.96
		8	3	22.01	22.00	22.09
		8	7	21.83	21.91	21.80
		15	0	21.91	22.03	21.98
	16QAM	1	0	22.30	22.40	22.27
		1	7	22.39	22.38	22.27
		1	14	22.09	22.20	22.00
		8	0	20.93	20.98	20.96
		8	3	20.99	21.05	20.97
		8	7	20.82	20.91	20.86
		15	0	21.08	21.13	20.99
	64QAM	1	0	20.89	20.93	20.91
		1	7	20.93	20.87	20.76
		1	14	20.65	20.83	20.72
		8	0	20.10	20.01	19.99
		8	3	20.02	20.14	20.00
		8	7	19.88	20.02	19.89
		15	0	20.01	20.13	19.89

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20407	20525	20643
		Frequency (MHz)		824.7	836.5	848.3
1.4M	QPSK	1	0	22.87	23.03	22.85
		1	2	22.84	22.98	22.78
		1	5	22.75	22.70	22.57
		3	0	23.05	23.06	22.97
		3	1	23.01	23.06	22.93
		3	3	22.79	22.96	22.78
		6	0	21.99	21.94	21.99
	16QAM	1	0	22.28	22.39	22.30
		1	2	22.30	22.41	22.35
		1	5	22.06	22.05	22.04
		3	0	21.97	22.15	22.00
		3	1	21.95	22.06	22.04
		3	3	21.75	21.80	21.79
		6	0	21.01	21.03	20.87
	64QAM	1	0	20.83	20.86	20.86
		1	2	20.77	20.91	20.78
		1	5	20.76	20.73	20.69
		3	0	21.04	20.97	20.96
		3	1	20.95	21.05	20.90
		3	3	20.74	20.89	20.78
		6	0	20.00	20.03	19.91

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26865	26915	26965
		Frequency (MHz)		831.5	836.5	841.5
15M	QPSK	1	0	23.12	23.06	23.10
		1	37	23.10	23.02	23.08
		1	74	23.00	22.95	22.98
		36	0	22.60	22.55	22.58
		36	19	22.48	22.40	22.46
		36	39	22.45	22.37	22.43
		75	0	22.54	22.54	22.52
	16QAM	1	0	22.40	22.33	22.38
		1	37	22.37	22.36	22.35
		1	74	22.26	22.17	22.24
		36	0	21.24	21.14	21.22
		36	19	21.27	21.24	21.25
		36	39	21.15	21.14	21.13
		75	0	21.24	21.20	21.22
	64QAM	1	0	21.12	21.06	21.10
		1	37	21.10	21.01	21.08
		1	74	21.00	20.90	20.98
		36	0	20.30	20.24	20.28
		36	19	20.18	20.18	20.16
		36	39	20.15	20.11	20.13
		75	0	20.24	20.14	20.22

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26840	26915	26990
		Frequency (MHz)		829	836.5	844
10M	QPSK	1	0	23.01	23.01	23.04
		1	24	23.10	22.88	23.07
		1	49	23.00	22.83	22.88
		25	0	22.49	22.44	22.28
		25	12	22.48	22.37	22.12
		25	25	22.32	22.23	22.12
		50	0	22.45	22.49	22.13
	16QAM	1	0	22.25	22.25	22.31
		1	24	22.24	22.28	22.34
		1	49	22.12	22.08	22.19
		25	0	21.09	21.12	21.19
		25	12	21.22	21.20	21.18
		25	25	21.12	20.99	21.09
		50	0	21.20	21.08	21.15
	64QAM	1	0	21.12	20.99	21.07
		1	24	21.09	20.91	20.98
		1	49	20.94	20.83	20.94
		25	0	20.27	20.22	20.21
		25	12	20.07	20.12	20.06
		25	25	20.14	20.07	20.06
		50	0	20.09	20.06	20.14

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26815	26915	27015
		Frequency (MHz)		826.5	836.5	846.5
5M	QPSK	1	0	22.90	22.87	22.93
		1	12	23.03	22.88	22.99
		1	24	22.95	22.73	22.81
		12	0	22.38	22.37	22.13
		12	6	22.45	22.31	21.96
		12	13	22.19	22.23	22.01
		25	0	22.44	22.42	22.09
	16QAM	1	0	22.15	22.20	22.33
		1	12	22.23	22.17	22.31
		1	24	22.11	21.95	22.05
		12	0	20.95	21.12	21.10
		12	6	21.09	21.14	21.10
		12	13	21.00	20.91	21.03
		25	0	21.12	21.08	21.12
	64QAM	1	0	20.97	20.93	20.95
		1	12	21.05	20.77	20.88
		1	24	20.83	20.73	20.89
		12	0	20.27	20.13	20.14
		12	6	20.06	20.10	19.96
		12	13	20.07	20.07	19.93
		25	0	19.99	20.05	20.06

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26805	26915	27025
		Frequency (MHz)		825.5	836.5	847.5
3M	QPSK	1	0	22.90	22.90	22.86
		1	7	22.90	23.00	22.91
		1	14	22.78	22.80	22.73
		8	0	22.29	22.25	22.00
		8	3	22.27	22.02	21.97
		8	7	22.24	21.98	21.81
		15	0	22.33	22.01	22.03
	16QAM	1	0	22.26	22.31	22.21
		1	7	22.24	22.32	22.20
		1	14	22.11	22.06	22.13
		8	0	21.12	21.18	20.99
		8	3	21.02	21.08	21.11
		8	7	21.03	21.09	20.90
		15	0	21.07	21.01	21.06
	64QAM	1	0	20.96	20.94	20.93
		1	7	20.94	20.85	20.95
		1	14	20.88	20.79	20.97
		8	0	20.07	20.11	20.22
		8	3	20.04	19.97	20.09
		8	7	19.94	19.96	20.04
		15	0	20.18	20.13	20.06

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26797	26915	27033
		Frequency (MHz)		824.7	836.5	848.3
1.4M	QPSK	1	0	22.98	22.91	23.04
		1	2	22.82	22.97	23.02
		1	5	22.83	22.73	22.82
		3	0	23.42	23.26	23.00
		3	1	23.24	23.10	23.01
		3	3	23.22	23.00	22.94
		6	0	22.46	21.99	22.04
	16QAM	1	0	22.21	22.26	22.27
		1	2	22.21	22.32	22.29
		1	5	22.02	22.18	22.15
		3	0	21.97	22.13	22.07
		3	1	22.15	22.08	22.11
		3	3	21.91	21.98	21.93
		6	0	20.96	21.01	21.07
	64QAM	1	0	20.99	21.02	20.91
		1	2	20.83	20.89	20.93
		1	5	20.80	20.87	20.90
		3	0	21.16	21.19	21.28
		3	1	21.12	21.00	21.06
		3	3	20.94	20.97	20.96
		6	0	20.04	20.14	20.08

ERP Power (dBm)

Band	WCDMA V		
TX Channel	4132	4182	4233
Rx Channel	4357	4407	4458
Frequency	826.4	836.4	846.6
RMC 12.2K	23.46	**23.51**	23.38
HSDPA Subtest-1	22.32	22.19	22.09
HSDPA Subtest-2	22.22	22.23	22.15
HSDPA Subtest-3	21.56	21.74	21.67
HSDPA Subtest-4	21.72	21.75	21.62
HSUPA Subtest-1	22.12	22.17	22.14
HSUPA Subtest-2	20.17	20.21	20.10
HSUPA Subtest-3	21.32	21.21	21.14
HSUPA Subtest-4	20.29	20.14	20.11
HSUPA Subtest-5	22.23	22.25	22.15

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20450	20525	20600
		Frequency (MHz)		829	836.5	844
10M	QPSK	1	0	22.79	**22.90**	22.78
		1	24	22.82	22.87	22.80
		1	49	22.64	22.69	22.62
		25	0	22.34	22.40	22.32
		25	12	22.31	22.36	22.29
		25	25	21.79	21.84	21.77
		50	0	21.92	21.97	21.90
10M	16QAM	1	0	22.25	22.30	22.23
		1	24	22.24	22.29	22.22
		1	49	22.02	22.07	22.00
		25	0	20.96	21.01	20.94
		25	12	20.97	21.02	20.95
		25	25	20.77	20.82	20.75
		50	0	20.95	21.00	20.93
10M	64QAM	1	0	20.79	20.90	20.78
		1	24	20.82	20.87	20.80
		1	49	20.64	20.69	20.62
		25	0	19.99	20.04	19.97
		25	12	19.96	20.01	19.94
		25	25	19.79	19.84	19.77
		50	0	19.92	19.97	19.90

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20425	20525	20625
		Frequency (MHz)		826.5	836.5	846.5
5M	QPSK	1	0	22.72	**22.83**	22.71
		1	12	22.73	22.77	22.76
		1	24	22.64	22.63	22.54
		12	0	21.90	22.04	21.93
		12	6	21.92	22.00	21.85
		12	13	21.72	21.82	21.75
		25	0	21.83	21.97	21.82
5M	16QAM	1	0	22.24	22.23	22.23
		1	12	22.24	22.27	22.20
		1	24	22.02	21.98	22.00
		12	0	20.94	20.94	20.94
		12	6	20.95	21.02	20.95
		12	13	20.73	20.79	20.74
		25	0	20.85	20.92	20.93
5M	64QAM	1	0	20.77	20.88	20.74
		1	12	20.75	20.84	20.79
		1	24	20.57	20.59	20.55
		12	0	19.97	20.00	19.87
		12	6	19.92	20.01	19.88
		12	13	19.72	19.76	19.74
		25	0	19.82	19.89	19.80

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20415	20525	20635
		Frequency (MHz)		825.5	836.5	847.5
3M	QPSK	1	0	22.59	**22.80**	22.71
		1	7	22.70	22.65	22.70
		1	14	22.60	22.68	22.49
		8	0	21.95	21.91	21.78
		8	3	21.83	21.82	21.91
		8	7	21.65	21.73	21.62
		15	0	21.73	21.85	21.80
3M	16QAM	1	0	22.12	22.22	22.09
		1	7	22.21	22.20	22.09
		1	14	21.91	22.02	21.82
		8	0	20.75	20.80	20.78
		8	3	20.81	20.87	20.79
		8	7	20.64	20.73	20.68
		15	0	20.90	20.95	20.81
3M	64QAM	1	0	20.71	20.75	20.73
		1	7	20.75	20.69	20.58
		1	14	20.47	20.65	20.54
		8	0	19.92	19.83	19.81
		8	3	19.84	19.96	19.82
		8	7	19.70	19.84	19.71
		15	0	19.83	19.95	19.71

LTE Band 5						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20407	20525	20643
		Frequency (MHz)		824.7	836.5	848.3
1.4M	QPSK	1	0	22.69	22.85	22.67
		1	2	22.66	22.80	22.60
		1	5	22.57	22.52	22.39
		3	0	22.87	**22.88**	22.79
		3	1	22.83	**22.88**	22.75
		3	3	22.61	22.78	22.60
		6	0	21.81	21.76	21.81
1.4M	16QAM	1	0	22.10	22.21	22.12
		1	2	22.12	22.23	22.17
		1	5	21.88	21.87	21.86
		3	0	21.79	21.97	21.82
		3	1	21.77	21.88	21.86
		3	3	21.57	21.62	21.61
		6	0	20.83	20.85	20.69
1.4M	64QAM	1	0	20.65	20.68	20.68
		1	2	20.59	20.73	20.60
		1	5	20.58	20.55	20.51
		3	0	20.86	20.79	20.78
		3	1	20.77	20.87	20.72
		3	3	20.56	20.71	20.60
		6	0	19.82	19.85	19.73

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26865	26915	26965
		Frequency (MHz)		831.5	836.5	841.5
15M	QPSK	1	0	**22.94**	22.86	22.92
		1	37	22.92	22.86	22.90
		1	74	22.82	22.78	22.80
		36	0	22.42	22.37	22.40
		36	19	22.30	22.28	22.28
		36	39	22.27	22.22	22.25
		75	0	22.36	22.30	22.34
15M	16QAM	1	0	22.22	22.20	22.20
		1	37	22.19	22.10	22.17
		1	74	22.08	22.06	22.06
		36	0	21.06	21.00	21.04
		36	19	21.09	21.08	21.07
		36	39	20.97	20.92	20.95
		75	0	21.06	20.97	21.04
15M	64QAM	1	0	20.94	20.94	20.92
		1	37	20.92	20.87	20.90
		1	74	20.82	20.80	20.80
		36	0	20.12	20.03	20.10
		36	19	20.00	19.91	19.98
		36	39	19.97	19.95	19.95
		75	0	20.06	19.97	20.04

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26840	26915	26990
		Frequency (MHz)		829	836.5	844
10M	QPSK	1	0	22.85	22.78	22.86
		1	24	**22.89**	22.77	**22.89**
		1	49	22.73	22.75	22.70
		25	0	22.39	22.26	22.10
		25	12	22.24	22.24	21.94
		25	25	22.15	22.15	21.94
		50	0	22.27	22.22	21.95
10M	16QAM	1	0	22.17	22.06	22.13
		1	24	22.13	21.99	22.16
		1	49	22.02	21.95	22.01
		25	0	20.95	20.97	21.01
		25	12	20.94	20.94	21.00
		25	25	20.95	20.88	20.91
		50	0	21.06	20.95	20.97
10M	64QAM	1	0	20.80	20.86	20.89
		1	24	20.90	20.80	20.80
		1	49	20.80	20.71	20.76
		25	0	20.02	19.92	20.03
		25	12	19.85	19.85	19.88
		25	25	19.92	19.84	19.88
		50	0	20.05	19.85	19.96

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26815	26915	27015
		Frequency (MHz)		826.5	836.5	846.5
5M	QPSK	1	0	**22.82**	22.77	22.75
		1	12	22.78	22.71	22.81
		1	24	22.71	22.63	22.63
		12	0	22.29	22.22	21.95
		12	6	22.22	22.22	21.78
		12	13	22.14	22.14	21.83
		25	0	22.19	22.10	21.91
5M	16QAM	1	0	22.09	21.96	22.15
		1	12	22.11	21.89	22.13
		1	24	21.95	21.84	21.87
		12	0	20.89	20.84	20.92
		12	6	20.90	20.92	20.92
		12	13	20.88	20.88	20.85
		25	0	20.95	20.93	20.94
5M	64QAM	1	0	20.69	20.83	20.77
		1	12	20.82	20.79	20.70
		1	24	20.78	20.68	20.71
		12	0	19.96	19.88	19.96
		12	6	19.80	19.83	19.78
		12	13	19.79	19.79	19.75
		25	0	19.92	19.73	19.88

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26805	26915	27025
		Frequency (MHz)		825.5	836.5	847.5
3M	QPSK	1	0	22.74	**22.82**	22.68
		1	7	22.67	22.80	22.73
		1	14	22.74	22.56	22.55
		8	0	22.18	21.95	21.82
		8	3	22.16	21.88	21.79
		8	7	22.01	21.81	21.63
		15	0	22.10	21.86	21.85
3M	16QAM	1	0	22.06	22.09	22.03
		1	7	21.98	22.16	22.02
		1	14	21.95	21.99	21.95
		8	0	20.90	20.93	20.81
		8	3	20.79	20.88	20.93
		8	7	20.79	20.81	20.72
		15	0	20.86	20.82	20.88
3M	64QAM	1	0	20.85	20.82	20.75
		1	7	20.80	20.80	20.77
		1	14	20.60	20.61	20.79
		8	0	19.78	20.03	20.04
		8	3	19.83	19.81	19.91
		8	7	19.83	19.82	19.86
		15	0	19.71	19.86	19.88

LTE Band 26						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26797	26915	27033
		Frequency (MHz)		824.7	836.5	848.3
1.4M	QPSK	1	0	22.64	22.73	22.86
		1	2	22.63	22.74	22.84
		1	5	22.68	22.57	22.64
		3	0	**23.20**	23.04	22.82
		3	1	23.11	22.91	22.83
		3	3	23.13	22.84	22.76
		6	0	22.15	21.91	21.86
1.4M	16QAM	1	0	21.98	22.11	22.09
		1	2	21.98	22.07	22.11
		1	5	21.84	21.89	21.97
		3	0	21.92	21.96	21.89
		3	1	21.82	21.87	21.93
		3	3	21.86	21.89	21.75
		6	0	20.84	20.97	20.89
1.4M	64QAM	1	0	20.84	20.76	20.73
		1	2	20.76	20.76	20.75
		1	5	20.59	20.61	20.72
		3	0	20.79	20.99	21.10
		3	1	20.73	20.79	20.88
		3	3	20.76	20.75	20.78
		6	0	19.85	19.81	19.90

4.2 Radiated Emission Measurement

4.2.1 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.

4.2.2 Test Procedure

a. In the semi-anechoic chamber, EUT placed on the 0.8m (below or equal 1 GHz) and/or 1.5 m (above 1 GHz) height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.

b. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

c. Perform a field strength measurement and record the worse read value, is the field strength value via a spectrum reading obtained corrected for antenna factor, cable loss and pre-amplifier factor and then mathematically convert the measured field strength level to EIRP/ERP level.

d. Following C63.26 section 5.5 and 5.2.7
   - EIRP (dBm) = E (dBμV/m) + 20log(D) - 104.8; where D is the measurement distance (in the far field region) in m.
   - ERP (dBm) = E (dBμV/m) + 20log(D) - 104.8 - 2.15; where D is the measurement distance (in the far field region) in m.

NOTE:

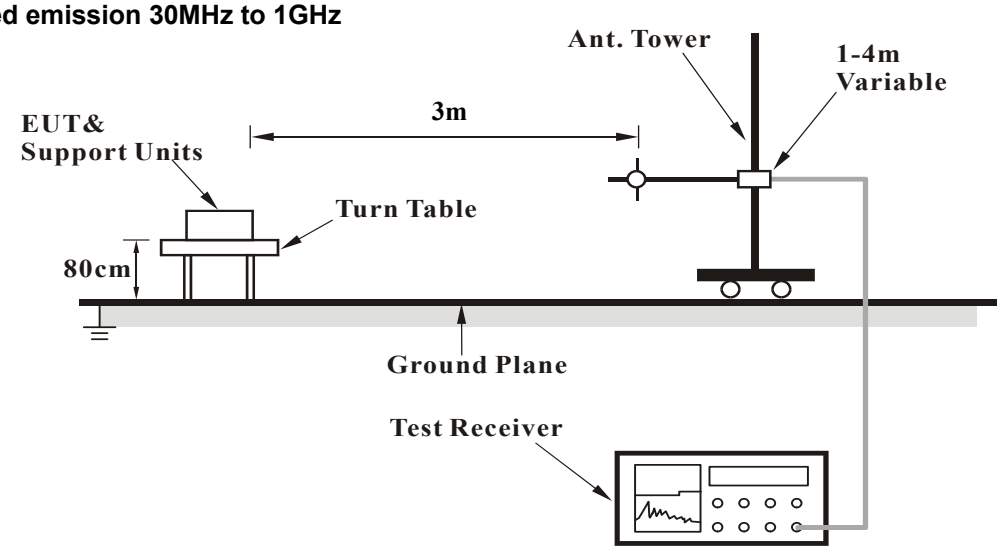
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz/3 MHz.
2. The emission levels were against the limit of frequency range 9 kHz ~ 30 MHz: The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

4.2.3 Deviation from Test Standard

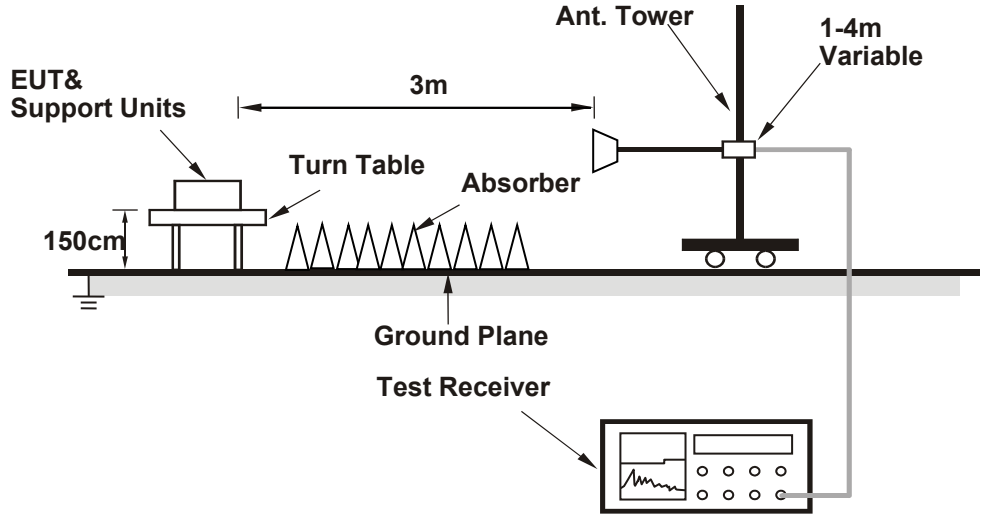
No deviation.

4.2.4 Test Setup

For radiated emission 30MHz to 1GHz



For radiated emission above 1GHz



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

4.2.5 Test Results

Below 1GHz

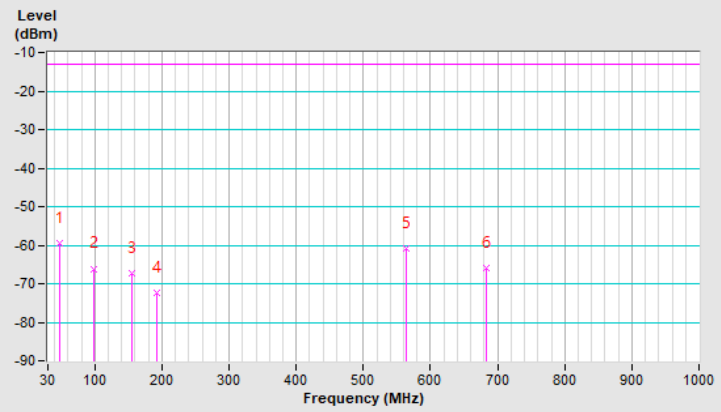
WCDMA Band 5

Mode	TX channel 4182 (836.4MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Raymond Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	46.87	-59.50	-13.00	-46.50	1.50 H	176	56.60	-116.10
2	97.48	-66.10	-13.00	-53.10	1.50 H	79	54.90	-121.00
3	155.12	-67.30	-13.00	-54.30	1.01 H	239	48.20	-115.50
4	191.67	-72.40	-13.00	-59.40	1.01 H	239	46.30	-118.70
5	564.20	-60.90	-13.00	-47.90	1.50 H	60	48.10	-109.00
6	683.70	-66.00	-13.00	-53.00	1.01 H	18	41.00	-107.00

Remarks:

1. ERP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

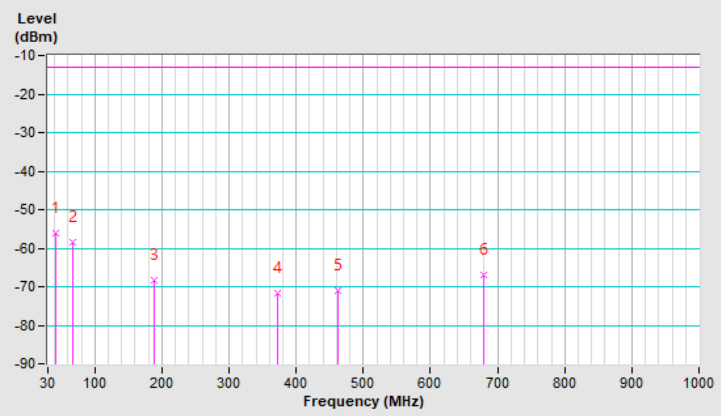


Mode	TX channel 4182 (836.4MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Raymond Lee		

Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	42.65	-56.10	-13.00	-43.10	1.00 V	328	60.10	-116.20
2	66.55	-58.50	-13.00	-45.50	1.00 V	27	59.20	-117.70
3	188.86	-68.20	-13.00	-55.20	1.49 V	105	50.20	-118.40
4	373.01	-71.60	-13.00	-58.60	1.49 V	190	41.60	-113.20
5	462.99	-71.10	-13.00	-58.10	1.49 V	323	39.80	-110.90
6	679.48	-67.00	-13.00	-54.00	1.49 V	18	40.10	-107.10

Remarks:

1. ERP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.



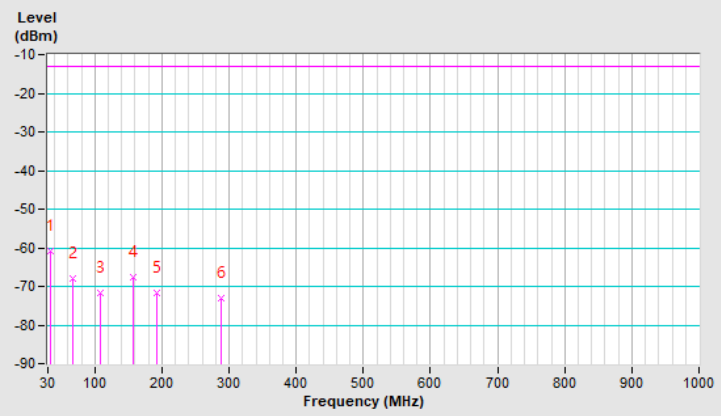
LTE Band 5, Channel Bandwidth 1.4MHz

Mode	TX channel 20525 (836.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Raymond Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	34.22	-60.90	-13.00	-47.90	1.99 H	33	56.00	-116.90
2	66.55	-68.00	-13.00	-55.00	1.99 H	237	49.70	-117.70
3	107.32	-71.60	-13.00	-58.60	1.99 H	71	47.90	-119.50
4	156.52	-67.50	-13.00	-54.50	1.49 H	96	48.00	-115.50
5	193.07	-71.70	-13.00	-58.70	1.00 H	66	47.20	-118.90
6	287.26	-73.20	-13.00	-60.20	1.00 H	78	42.20	-115.40

Remarks:

1. ERP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

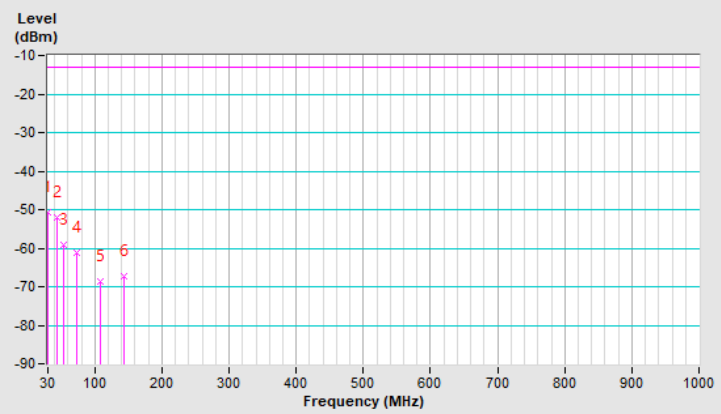


Mode	TX channel 20525 (836.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Raymond Lee		

Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	30.00	-50.70	-13.00	-37.70	1.01 V	56	66.60	-117.30
2	44.06	-52.00	-13.00	-39.00	1.01 V	2	64.00	-116.00
3	53.90	-59.20	-13.00	-46.20	1.51 V	18	57.20	-116.40
4	73.58	-61.30	-13.00	-48.30	1.01 V	30	58.20	-119.50
5	107.32	-68.60	-13.00	-55.60	1.01 V	59	50.90	-119.50
6	143.87	-67.30	-13.00	-54.30	1.01 V	135	48.50	-115.80

Remarks:

1. ERP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.



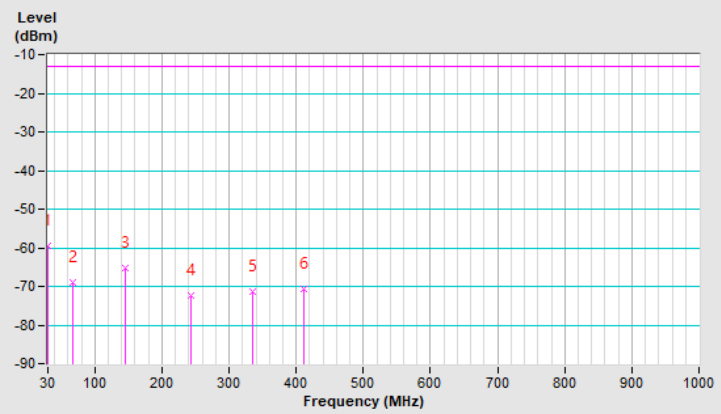
LTE Band 26, Channel Bandwidth 15MHz

Mode	TX channel 26865 (831.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Raymond Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	30.00	-59.40	-13.00	-46.40	1.00 H	18	57.90	-117.30
2	66.55	-68.90	-13.00	-55.90	1.50 H	216	48.80	-117.70
3	145.28	-65.20	-13.00	-52.20	1.00 H	74	50.50	-115.70
4	243.68	-72.40	-13.00	-59.40	2.00 H	109	44.70	-117.10
5	335.06	-71.50	-13.00	-58.50	1.50 H	352	42.60	-114.10
6	410.97	-70.70	-13.00	-57.70	1.00 H	2	41.50	-112.20

Remarks:

1. ERP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

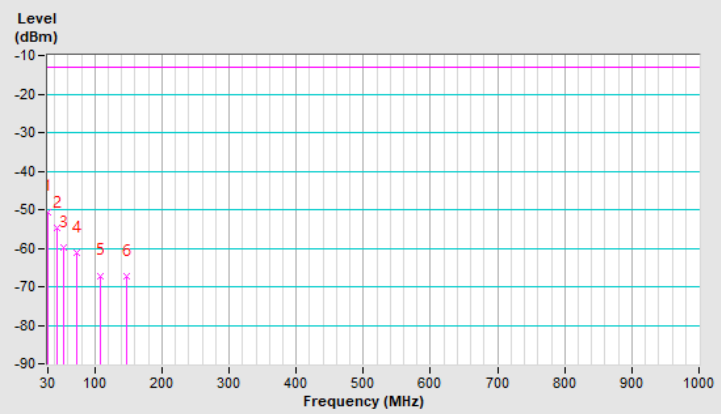


Mode	TX channel 26865 (831.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Raymond Lee		

Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	**30.00**	**-50.50**	**-13.00**	**-37.50**	**1.00 V**	**316**	**66.80**	**-117.30**
2	44.06	-54.90	-13.00	-41.90	1.49 V	352	61.10	-116.00
3	53.90	-59.70	-13.00	-46.70	1.99 V	18	56.70	-116.40
4	73.58	-61.30	-13.00	-48.30	1.00 V	147	58.20	-119.50
5	108.72	-67.10	-13.00	-54.10	1.00 V	98	52.40	-119.50
6	146.68	-67.30	-13.00	-54.30	1.00 V	80	48.20	-115.50

Remarks:

1. ERP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.



Above 1GHz
WCDMA Band 5

Mode	TX channel 4132 (826.4MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	24deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Raymond Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1652.80	-59.48	-13.00	-46.48	1.27 H	190	44.84	-104.32
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1652.80	-59.24	-13.00	-46.24	1.48 V	208	45.08	-104.32

Remarks:

1. ERP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Mode	TX channel 4182 (836.4MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	24deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Raymond Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1672.80	-59.43	-13.00	-46.43	1.30 H	192	44.88	-104.31
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1672.80	-59.19	-13.00	-46.19	1.53 V	210	45.12	-104.31

Remarks:

1. ERP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Mode	TX channel 4233 (846.6MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	24deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Raymond Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1693.20	-59.37	-13.00	-46.37	1.25 H	188	44.91	-104.28
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1693.20	-59.22	-13.00	-46.22	1.49 V	209	45.06	-104.28

Remarks:

1. ERP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

LTE Band 5, Channel Bandwidth 1.4MHz

Mode	TX channel 20407 (824.7MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	24deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Raymond Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1649.40	-58.25	-13.00	-45.25	1.36 H	177	46.09	-104.34
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1649.40	-58.32	-13.00	-45.32	1.43 V	159	46.02	-104.34

Remarks:

1. ERP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Mode	TX channel 20525 (836.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	24deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Raymond Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1673.00	-57.89	-13.00	-44.89	1.39 H	176	46.42	-104.31
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1673.00	-58.06	-13.00	-45.06	1.46 V	160	46.25	-104.31

Remarks:

1. ERP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Mode	TX channel 20643 (848.3MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	24deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Raymond Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1696.60	-58.33	-13.00	-45.33	1.37 H	174	45.94	-104.27
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1696.60	-58.59	-13.00	-45.59	1.47 V	156	45.68	-104.27

Remarks:

1. ERP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

LTE Band 5, Channel Bandwidth 5MHz

Mode	TX channel 20425 (826.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	24deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Raymond Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1653.00	-58.23	-13.00	-45.23	1.37 H	175	46.09	-104.32
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1653.00	-58.15	-13.00	-45.15	1.43 V	158	46.17	-104.32

Remarks:

1. ERP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Mode	TX channel 20525 (836.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	24deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Raymond Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1673.00	-58.05	-13.00	-45.05	1.34 H	178	46.26	-104.31
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1673.00	-58.45	-13.00	-45.45	1.46 V	156	45.86	-104.31

Remarks:

1. ERP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Mode	TX channel 20625 (846.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	24deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Raymond Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1693.00	-58.23	-13.00	-45.23	1.40 H	177	46.05	-104.28
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1693.00	-58.25	-13.00	-45.25	1.48 V	160	46.03	-104.28

Remarks:

1. ERP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

LTE Band 5, Channel Bandwidth 10MHz

Mode	TX channel 20450 (829.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	24deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Raymond Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1658.00	-58.32	-13.00	-45.32	1.34 H	174	45.99	-104.31
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1658.00	-58.37	-13.00	-45.37	1.45 V	159	45.94	-104.31

Remarks:

1. ERP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Mode	TX channel 20525 (836.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	24deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Raymond Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1673.00	-58.21	-13.00	-45.21	1.33 H	178	46.10	-104.31
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1673.00	-58.06	-13.00	-45.06	1.42 V	156	46.25	-104.31

Remarks:

1. ERP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Mode	TX channel 20600 (844.0MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	24deg. C, 67%RH	Input Power	120Vac, 60Hz
Tested By	Raymond Lee		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1688.00	-58.22	-13.00	-45.22	1.35 H	175	46.07	-104.29
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1688.00	-58.43	-13.00	-45.43	1.45 V	157	45.86	-104.29

Remarks:

1. ERP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

LTE Band 26, Channel Bandwidth 1.4MHz

Mode	TX channel 26797 (824.7MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1649.40	-52.25	-13.00	-39.25	1.62 H	249	52.09	-104.34
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1649.40	-55.06	-13.00	-42.06	2.29 V	360	49.28	-104.34

Remarks:

1. ERP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Mode	TX channel 26915 (836.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1673.00	-52.70	-13.00	-39.70	1.60 H	246	51.61	-104.31
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1673.00	-55.68	-13.00	-42.68	2.25 V	356	48.63	-104.31

Remarks:

1. ERP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Mode	TX channel 27033 (848.3MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1696.60	-52.51	-13.00	-39.51	1.57 H	253	51.76	-104.27
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1696.60	-55.23	-13.00	-42.23	2.28 V	357	49.04	-104.27

Remarks:

1. ERP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

LTE Band 26, Channel Bandwidth 5MHz

Mode	TX channel 26815 (826.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1653.00	-51.72	-13.00	-38.72	1.62 H	246	52.60	-104.32
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1653.00	-55.20	-13.00	-42.20	2.23 V	357	49.12	-104.32

Remarks:

1. ERP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Mode	TX channel 26915 (836.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1673.00	-52.11	-13.00	-39.11	1.55 H	252	52.20	-104.31
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1673.00	-55.66	-13.00	-42.66	2.29 V	357	48.65	-104.31

Remarks:

1. ERP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Mode	TX channel 27015 (846.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1693.00	-51.61	-13.00	-38.61	1.62 H	249	52.67	-104.28
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1693.00	-56.13	-13.00	-43.13	2.21 V	2	48.15	-104.28

Remarks:

1. ERP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

LTE Band 26, Channel Bandwidth 15MHz

Mode	TX channel 26865 (831.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1663.00	-51.31	-13.00	-38.31	1.60 H	247	53.01	-104.32
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1663.00	-55.37	-13.00	-42.37	2.22 V	355	48.95	-104.32

Remarks:

1. ERP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Mode	TX channel 26915 (836.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1673.00	-52.33	-13.00	-39.33	1.61 H	249	51.98	-104.31
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1673.00	-55.34	-13.00	-42.34	2.23 V	357	48.97	-104.31

Remarks:

1. ERP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Mode	TX channel 26965 (841.5MHz)	Frequency Range	1GHz ~ 18GHz
Environmental Conditions	23deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Titan Hsu		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1683.00	-52.27	-13.00	-39.27	1.56 H	249	52.02	-104.29
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1683.00	-56.41	-13.00	-43.41	2.23 V	355	47.88	-104.29

Remarks:

1. ERP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

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 FCC recognized accredited test firms and 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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