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

Report No.:	RFCDVB-WTW-P22100074
FCC ID:	QYLEM9190V
Test Model:	EM9190
Received Date:	Nov. 15, 2022
Test Date:	Nov. 29, 2022 ~ Dec. 06, 2022
Issued Date:	Apr. 07, 2023
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:	B2F., No.215, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City 231, Taiwan
FCC Registration / Designation Number:	788550 / TW0003

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Release Control Record

Issue No.	Description	Date Issued
RFCDVB-WTW-P22100074	Original Release	Apr. 07, 2023

1 Certificate of Conformity

Product:	Radio Module
Brand:	Getac
Test Model:	EM9190
Sample Status:	Engineering Sample
Applicant:	Getac Technology Corporation.
Test Date:	Nov. 29, 2022 ~ Dec. 06, 2022
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 : Vera Huang , **Date:** Apr. 07, 2023

Vera Huang / Specialist

Approved by : Jeremy Lin , **Date:** Apr. 07, 2023

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
2.1046 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 -24.55 dB at 41.64 MHz.

Note:

1. This report is a Class II change partial report. Therefore, only test item of Radiated Spurious Emissions tests and Effective Radiated Power were performed for this report. Other testing data please refer to Sporton International (Shenzhen) Inc. report no.: FG021501A_Rev. 02 and FG021501B_Rev. 02 for module (Brand: Airprime, Model: EM9190).
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	3.59 dB
	30 MHz ~ 1000 MHz	3.6 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Test Site and Instruments

Description & Manufacturer	Model no.	Serial No.	Calibrated Date	Calibrated Until
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower &Turn BV ADT	AT100	AT93021705	NA	NA
Turn Table BV ADT	TT100	TT93021705	NA	NA
Turn Table Controller BV ADT	SC100	SC93021705	NA	NA
Test Receiver KEYSIGHT	N9038A	MY55420137	Apr. 27, 2022	Apr. 26, 2023
Spectrum Analyzer R&S	FSW43	101867	Jan. 07, 2022	Jan. 06, 2023
Loop Antenna TESEQ	HLA 6121	45745	Jul. 27, 2022	Jul. 26, 2023
Loop Antenna EMCI	EM-6879	269	Sep. 19, 2022	Sep. 18, 2023
Pre-amplifier EMCI	EMC001340	980201	Sep. 23, 2022	Sep. 22, 2023
RF Coaxial Cable EMCI	5D-NM-BM	140903+140902	Jan. 15, 2022	Jan. 14, 2023
Preamplifier Agilent	8447D	2944A10638	May 14, 2022	May 13, 2023
Bi_Log Antenna Schwarbeck	VULB9168	9168-160	Oct. 20, 2022	Oct. 19, 2023
RF Coaxial Cable WOKEN	8D-FB	Cable-CH9-01	May 14, 2022	May 13, 2023
Horn Antenna Schwarzbeck	9120D	9120D-1169	Nov. 13, 2022	Nov. 12, 2023
Preamplifier Agilent	8449B	3008A02367	Feb. 16, 2022	Feb. 15, 2023
RF Coaxial Cable HUBER+SUHNER&EMCI	SUCOFLEX 104& EMC104-SM-SM8000	CABLE-CH9-02 (248780+171006)	Jan. 15, 2022	Jan. 14, 2023
RF Coaxial Cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9- (250795/4)	Jan. 15, 2022	Jan. 14, 2023
RF FLITER MICRO-TRONICS	BRM50716	060	Jan. 10, 2022	Jan. 09, 2023
RF FLITER MICRO-TRONICS	BRM17690	004	Jan. 10, 2022	Jan. 09, 2023
Boresight antenna tower fixture BV	BAF-02	5	NA	NA
Pre-Ammlifier EMCI	EMC 184045	980116	Oct. 01, 2022	Sep. 30, 2023
Horn Antenna Schwarzbeck	BBHA 9170	9170-480	Nov. 13, 2022	Nov. 12, 2023
Horn Antenna Schwarzbeck	BBHA 9170	BBHA9170243	Nov. 13, 2022	Nov. 12, 2023
RF Coaxial Cable EMCI	EMC102-KM-KM-3000	150929	Jul. 09, 2022	Jul. 08, 2023
RF Coaxial Cable EMCI	EMC102-KM-KM-600	150928	Jul. 09, 2022	Jul. 08, 2023
Boresight antenna tower fixture BV	BAF-02	5	NA	NA
Radio Communication Analyzer Anritsu	MT8821C	6201462755	Mar. 03, 2022	Mar. 02, 2023

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 HY - 966 chamber 4.

3 General Information

3.1 General Description of EUT

Product	Radio Module	
Brand	Getac	
Test Model	EM9190	
Status of EUT	Engineering Sample	
Power Supply Rating	3.3 Vdc (Host equipment)	
Modulation Type	WCDMA: BPSK HSDPA/DC-HSDPA: QPSK HSUPA: QPSK LTE: QPSK, 16QAM, 64QAM, 256QAM	
Frequency Range	WCDMA Band 5	826.4 ~ 846.6 MHz
	LTE 5 (Channel Bandwidth: 1.4 MHz)	824.7 ~ 848.3 MHz
	LTE 5 (Channel Bandwidth: 3 MHz)	825.5 ~ 847.5 MHz
	LTE 5 (Channel Bandwidth: 5 MHz)	826.5 ~ 846.5 MHz
	LTE 5 (Channel Bandwidth: 10 MHz)	829 ~ 844 MHz
	LTE 26 (Channel Bandwidth: 1.4 MHz)	824.7 ~ 848.3 MHz
	LTE 26 (Channel Bandwidth: 3 MHz)	825.5 ~ 847.5 MHz
	LTE 26 (Channel Bandwidth: 5 MHz)	826.5 ~ 846.5 MHz
	LTE 26 (Channel Bandwidth: 10 MHz)	829 ~ 844 MHz
	LTE 26 (Channel Bandwidth: 15 MHz)	831.5 ~ 841.5 MHz
Max. ERP Power	WCDMA Band 5	114.815mW (20.60dBm)
	LTE 5 (Channel Bandwidth: 1.4 MHz)	103.276mW (20.14dBm)
	LTE 5 (Channel Bandwidth: 3 MHz)	103.276mW (20.14dBm)
	LTE 5 (Channel Bandwidth: 5 MHz)	103.039mW (20.13dBm)
	LTE 5 (Channel Bandwidth: 10 MHz)	103.514mW (20.15dBm)
	LTE 26 (Channel Bandwidth: 1.4 MHz)	102.565mW (20.11dBm)
	LTE 26 (Channel Bandwidth: 3 MHz)	100.000mW (20.00dBm)
	LTE 26 (Channel Bandwidth: 5 MHz)	98.628mW (19.94dBm)
	LTE 26 (Channel Bandwidth: 10 MHz)	101.158mW (20.05dBm)
	LTE 26 (Channel Bandwidth: 15 MHz)	102.802mW (20.12dBm)
Antenna Type	Refer to Note as below	
Accessory Device	N/A	
Data Cable Supplied	N/A	

Note:

1. The EUT is authorized for use in specific End-product.

Product	Brand	Model	Difference
Notebook	Getac	V110	For marketing purpose
		V110G7	
		V110Y (Y= 10 characters, Y can be 0 to 9, A to Z, a to z, "/", "\", "-", "_" or blank for marketing purpose)	

* The model of the V110G7 was chosen for final test.

2. The antenna information is listed as below.

Antenna Type	Antenna Gain (dBi)		
	WCDMA V	LTE B5	LTE B26
PIFA	-0.69	-0.69	-0.69

* Detail antenna specification please refer to antenna datasheet or an antenna gain measurement report.

3. The End-product contains following accessory devices.

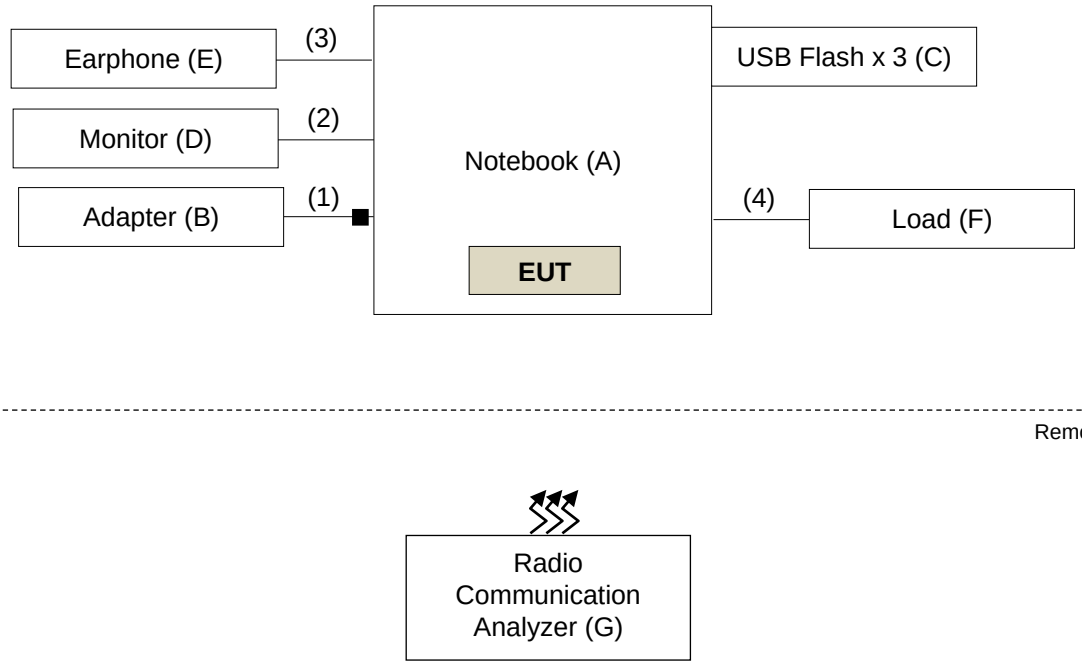
Part	Brand	Model	Specification
Adapter 1	FSP	FSP065-RBBN3	I/P: 100-240Vac, 50-60Hz, 1.5A O/P: 19.0Vdc, 3.42A 1.5m DC power cable with one core attached on adapter
Adapter 2	Getac	MTA190474W4	I/P: 100-240Vac, 50-60Hz, 1.6A O/P: 19.0Vdc, 4.74A 1.55m DC power cable with two cores attached on adapter
Battery	Getac	BP3S1P2100-S	Rating: 11.1Vdc, 2040mAh, 23Wh Typical name: 2100mAh, 24Wh
Digitizer Pen	EMpen Technology Corp	DIGITIZER PEN	-

4. The End-product has three SKUs for sale, after pre-test. SKU 3 was chosen for final test and presented in the test report.

Part	Brand	Model	Specification	Configuration		
				SKU 1	SKU 2	SKU 3
CPU	Intel	Alder Lake	i5-1235U (Non Vpro)	V		V
			i7-1265U (Vpro)		V	
DDR	Kingston	---	16GB (8GB+8GB)	V		
		---	32GB (16GB+16GB)		V	
		---	64GB (32GB+32GB)			V
SSD	SSSTC	---	256GB	V		
		---	512GB		V	
		---	1TB			V
LCD Panel	AUO	G116HAN01	11.6"	V	V	V
Finger Print	Egistec	---	---	V	V	V
WLAN Module	Intel	AX211NGW	---	V	V	V
WWAN Module	Sierra	EM9190	---	V	V	V
GPS	GlobalSat	MC1010G	---	V	V	V
RFID Module	NXP	PN-7462	---		V	V
Digitizer Module	Getac	EMR116-UA00	---		V	V
Bottom Camera	FOXLINK	FN80AF-443H	---	V	V	V
	Chicony	CKAM816	---	V	V	V
Camera	FOXLINK	FN20FF-679H	---	V	V	V
IR Camera	FOXLINK	FN23FF-678H	---		V	V
Option Bay	Honeywell	N6703	Barcode	V		V
	Getac	---	SD Card reader		V	
	Getac	---	Smart Card		V	

5. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

3.2 Configuration of System under Test



3.2.1 Description of Support Units

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

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Notebook	Getac	V110G7	NA	NA	Provided by manufacturer
B	Adapter	FSP	FSP065-RBBN3	NA	NA	Provided by manufacturer
C	USB Flash x 3	SanDisk	SDDDC3-032G	NA	NA	-
D	Monitor	ASUS	VA24EHE	LCLMTF243824	NA	-
E	Earphone	Apple	MB77PFEB	NA	NA	-
F	Load	NA	NA	NA	NA	-
G	Radio Communication Analyzer	Anritsu	MT8821C	6201462755	NA	-

Note:

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

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	DC Power Cable	1	1.5	N	1	Provided by manufacturer Attached on adapter
2.	HDMI Cable	1	1.0	Y	0	-
3.	Earphone Cable	1	1.5	N	0	-
4.	RJ45 Cable	1	1.5	N	0	-

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 for tablet mode, and NB mode. 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	NB mode
LTE Band 5	NB mode
LTE Band 26	NB mode

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 channel (above 1GHz) for final testing.

LTE Band 5

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	ERP	20407 to 20643	20407 (824.7MHz), 20525 (836.5MHz), 20643 (848.3MHz)	1.4MHz	QPSK / 16QAM / 64QAM / 256QAM	1 Half Full
		20415 to 20635	20415 (825.5MHz), 20525 (836.5MHz), 20635 (847.5MHz)	3MHz	QPSK / 16QAM / 64QAM / 256QAM	1 Half Full
		20425 to 20625	20425 (826.5MHz), 20525 (836.5MHz), 20625 (846.5MHz)	5MHz	QPSK / 16QAM / 64QAM / 256QAM	1 Half Full
		20450 to 20600	20450 (829.0MHz), 20525 (836.5MHz), 20600 (844.0MHz)	10MHz	QPSK / 16QAM / 64QAM / 256QAM	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 channel (above 1GHz) for final testing.
3. For radiated emission above 1GHz, according to 3GPP 36.521 Section 6.6.3.1.4, choose the lowest, 5MHz & highest channel bandwidth for final test.

LTE Band 26

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	ERP	26797 to 27033	26797 (824.7MHz), 26915 (836.5MHz), 27033 (848.3MHz)	1.4MHz	QPSK / 16QAM / 64QAM / 256QAM	1 Half Full
		26805 to 27025	26805 (825.5MHz), 26915 (836.5MHz), 27025 (847.5MHz)	3MHz	QPSK / 16QAM / 64QAM / 256QAM	1 Half Full
		26815 to 27015	26815 (826.5MHz), 26915 (836.5MHz), 27015 (846.5MHz)	5MHz	QPSK / 16QAM / 64QAM / 256QAM	1 Half Full
		26840 to 26990	26840 (829.0MHz), 26915 (836.5MHz), 26990 (844.0MHz)	10MHz	QPSK / 16QAM / 64QAM / 256QAM	1 Half Full
		26865 to 26965	26865 (831.5MHz), 26915 (836.5MHz), 26965 (841.5MHz)	15MHz	QPSK / 16QAM / 64QAM / 256QAM	1 Half Full
-	Radiated Emission Below 1GHz	26865 to 26965	26915 (836.5MHz)	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 channel (above 1GHz) for final testing.
3. For radiated emission above 1GHz, according to 3GPP 36.521 Section 6.6.3.1.4, choose the lowest, 5MHz & highest channel bandwidth for final test.

Test Condition:

Test Item	Environmental Conditions	Input Power	Tested By
ERP	25deg. C, 60%RH	120Vac, 60Hz (System)	Willy Cheng
Radiated Emission	23deg. C, 67%RH	120Vac, 60Hz (System)	Rex Wang Adair Peng

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

References Test Guidance:

KDB 971168 D01 Power Meas License Digital Systems v03r01

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

4 Test Types and Results

4.1 Output Power Measurement

4.1.1 Limits of Output Power Measurement

Mobile / Portable station are limited to 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	826.4	836.4	846.6
RMC 12.2K	23.44	23.25	23.05
HSDPA Subtest-1	22.92	22.80	22.77
HSDPA Subtest-2	22.96	22.77	22.66
HSDPA Subtest-3	22.44	22.24	22.15
HSDPA Subtest-4	22.43	22.25	22.13
DC-HSDPA Subtest-1	22.82	22.71	22.67
DC-HSDPA Subtest-2	22.85	22.69	22.58
DC-HSDPA Subtest-3	22.34	22.14	22.05
DC-HSDPA Subtest-4	22.32	22.16	22.03
HSUPA Subtest-1	22.93	22.75	22.54
HSUPA Subtest-2	20.88	20.74	20.52
HSUPA Subtest-3	21.93	21.74	21.52
HSUPA Subtest-4	20.96	20.76	20.55
HSUPA Subtest-5	22.89	22.76	22.54

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	22.98	22.99	22.87
		1	24	22.96	22.96	22.88
		1	49	22.88	22.84	22.83
		25	0	22.11	22.04	22.02
		25	12	22.09	22.01	21.95
		25	25	21.99	21.89	21.79
		50	0	21.94	21.88	21.79
10M	16QAM	1	0	22.44	22.34	22.29
		1	24	22.36	22.35	22.30
		1	49	22.24	22.23	22.23
		25	0	21.13	21.11	21.02
		25	12	21.09	21.08	21.01
		25	25	20.98	20.89	20.83
		50	0	20.96	20.88	20.85
10M	64QAM	1	0	21.31	21.29	21.24
		1	24	21.27	21.25	21.16
		1	49	21.22	21.13	21.03
		25	0	20.36	20.34	20.25
		25	12	20.27	20.27	20.17
		25	25	20.21	20.12	20.10
		50	0	20.18	20.10	20.09
10M	256QAM	1	0	18.39	18.39	18.32
		1	24	18.31	18.30	18.21
		1	49	18.27	18.22	18.20
		25	0	18.24	18.20	18.18
		25	12	18.16	18.12	18.12
		25	25	18.12	18.02	18.02
		50	0	18.07	17.98	17.97

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	22.97	22.89	22.78
		1	12	22.89	22.91	22.88
		1	24	22.84	22.74	22.79
		12	0	22.05	21.94	21.93
		12	6	22.07	21.91	21.87
		12	13	21.93	21.79	21.70
		25	0	21.92	21.88	21.78
5M	16QAM	1	0	22.44	22.27	22.23
		1	12	22.33	22.30	22.23
		1	24	22.15	22.19	22.23
		12	0	21.08	21.02	20.94
		12	6	21.08	21.07	20.99
		12	13	20.97	20.88	20.83
		25	0	20.86	20.81	20.82
5M	64QAM	1	0	21.21	21.26	21.23
		1	12	21.27	21.18	21.16
		1	24	21.13	21.12	21.01
		12	0	20.34	20.29	20.19
		12	6	20.21	20.27	20.13
		12	13	20.13	20.04	20.03
		25	0	20.08	20.10	20.04
5M	256QAM	1	0	18.39	18.34	18.22
		1	12	18.22	18.30	18.15
		1	24	18.19	18.17	18.12
		12	0	18.14	18.18	18.10
		12	6	18.14	18.05	18.09
		12	13	18.03	17.98	17.96
		25	0	17.97	17.96	17.92

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	22.98	22.95	22.85
		1	7	22.93	22.94	22.85
		1	14	22.82	22.74	22.81
		8	0	22.04	21.98	21.96
		8	3	22.06	22.00	21.92
		8	7	21.89	21.89	21.73
		15	0	21.88	21.86	21.75
3M	16QAM	1	0	22.41	22.28	22.26
		1	7	22.28	22.26	22.20
		1	14	22.15	22.17	22.17
		8	0	21.07	21.02	20.94
		8	3	21.09	21.06	20.95
		8	7	20.89	20.88	20.80
		15	0	20.96	20.84	20.83
3M	64QAM	1	0	21.31	21.24	21.16
		1	7	21.19	21.22	21.14
		1	14	21.18	21.11	21.03
		8	0	20.32	20.25	20.15
		8	3	20.20	20.23	20.08
		8	7	20.19	20.07	20.04
		15	0	20.14	20.02	19.99
3M	256QAM	1	0	18.37	18.30	18.23
		1	7	18.21	18.30	18.11
		1	14	18.25	18.17	18.15
		8	0	18.16	18.10	18.16
		8	3	18.16	18.03	18.10
		8	7	18.04	17.96	17.96
		15	0	18.07	17.95	17.96

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	22.95	22.84	22.74
		1	2	22.87	22.89	22.64
		1	5	22.76	22.83	22.72
		3	0	22.98	22.79	22.94
		3	1	23.01	22.86	22.84
		3	3	22.84	22.73	22.78
		6	0	21.74	21.71	21.64
1.4M	16QAM	1	0	22.33	22.19	22.28
		1	2	22.17	22.24	22.19
		1	5	22.07	22.03	22.05
		3	0	22.10	21.92	21.90
		3	1	21.89	22.06	21.92
		3	3	21.78	21.70	21.70
		6	0	20.75	20.76	20.70
1.4M	64QAM	1	0	21.12	21.13	21.10
		1	2	21.15	21.14	21.04
		1	5	21.09	20.95	20.97
		3	0	21.32	21.18	21.11
		3	1	21.05	21.22	21.13
		3	3	21.16	21.03	20.93
		6	0	19.96	20.00	20.03
1.4M	256QAM	1	0	18.38	18.34	18.25
		1	2	18.25	18.24	18.13
		1	5	18.27	18.14	18.14
		3	0	18.22	18.16	18.13
		3	1	18.07	18.09	18.10
		3	3	18.12	17.94	17.99
		6	0	18.01	17.95	17.89

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	22.96	22.92	22.76
		1	37	22.95	22.86	22.72
		1	74	22.94	22.88	22.70
		36	0	22.09	22.09	22.01
		36	19	22.06	21.98	22.04
		36	39	21.99	21.91	21.89
		75	0	22.00	21.95	21.91
15M	16QAM	1	0	22.31	22.21	22.26
		1	37	22.24	22.24	22.24
		1	74	22.16	22.10	22.16
		36	0	21.13	21.10	21.06
		36	19	21.01	20.91	20.93
		36	39	21.04	21.04	20.98
		75	0	21.05	20.95	21.04
15M	64QAM	1	0	21.17	21.15	21.12
		1	37	21.08	21.03	21.02
		1	74	21.09	21.01	21.01
		36	0	20.10	20.01	20.00
		36	19	19.96	19.88	19.94
		36	39	19.97	19.92	19.97
		75	0	19.95	19.89	19.85
15M	256QAM	1	0	18.17	18.15	18.12
		1	37	18.08	18.07	18.02
		1	74	18.09	18.01	18.00
		36	0	18.04	17.94	17.95
		36	19	18.02	17.98	17.95
		36	39	17.98	17.88	17.89
		75	0	17.94	17.90	17.88

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	22.82	22.88	22.68
		1	24	22.89	22.73	22.65
		1	49	22.82	22.82	22.60
		25	0	21.94	22.03	21.91
		25	12	21.95	21.94	22.03
		25	25	21.94	21.76	21.79
		50	0	21.97	21.86	21.83
10M	16QAM	1	0	22.19	22.07	22.16
		1	24	22.17	22.19	22.21
		1	49	22.10	21.98	22.10
		25	0	20.99	21.04	20.98
		25	12	20.87	20.90	20.89
		25	25	20.93	20.90	20.89
		50	0	21.02	20.82	20.94
10M	64QAM	1	0	21.07	21.02	21.06
		1	24	20.99	20.96	20.95
		1	49	20.94	20.90	20.95
		25	0	20.06	19.94	19.98
		25	12	19.91	19.87	19.93
		25	25	19.95	19.80	19.92
		50	0	19.91	19.75	19.82
10M	256QAM	1	0	18.14	18.01	18.08
		1	24	18.02	18.03	17.97
		1	49	18.00	17.86	17.97
		25	0	17.95	17.80	17.90
		25	12	17.93	17.95	17.93
		25	25	17.94	17.78	17.85
		50	0	17.80	17.77	17.83

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	22.78	22.77	22.76
		1	12	22.75	22.70	22.68
		1	24	22.67	22.70	22.67
		12	0	21.87	21.96	21.91
		12	6	21.90	21.82	22.00
		12	13	21.91	21.71	21.80
		25	0	21.94	21.79	21.85
5M	16QAM	1	0	22.11	22.02	22.23
		1	12	22.03	22.18	22.19
		1	24	21.97	21.84	22.10
		12	0	20.87	20.98	20.97
		12	6	20.77	20.84	20.91
		12	13	20.90	20.75	20.92
		25	0	20.87	20.80	20.96
5M	64QAM	1	0	20.96	20.87	21.11
		1	12	20.94	20.91	20.95
		1	24	20.86	20.76	20.97
		12	0	20.01	19.93	19.96
		12	6	19.84	19.73	19.90
		12	13	19.94	19.72	19.97
		25	0	19.82	19.63	19.79
5M	256QAM	1	0	18.09	18.00	18.08
		1	12	17.98	17.91	17.98
		1	24	17.85	17.73	17.95
		12	0	17.83	17.79	17.93
		12	6	17.87	17.81	17.93
		12	13	17.84	17.69	17.88
		25	0	17.73	17.74	17.87

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	22.84	22.56	22.69
		1	7	22.71	22.60	22.66
		1	14	22.81	22.57	22.65
		8	0	21.92	21.79	21.99
		8	3	21.81	21.88	22.00
		8	7	21.74	21.73	21.84
		15	0	21.83	21.82	21.85
3M	16QAM	1	0	22.02	22.05	22.20
		1	7	22.15	22.11	22.19
		1	14	21.94	22.06	22.16
		8	0	20.96	20.83	21.03
		8	3	20.77	20.75	20.87
		8	7	20.85	20.78	20.88
		15	0	20.75	20.85	20.95
3M	64QAM	1	0	20.92	20.96	21.05
		1	7	20.83	20.84	20.94
		1	14	20.84	20.91	20.93
		8	0	19.80	19.94	19.98
		8	3	19.77	19.92	19.92
		8	7	19.70	19.82	19.87
		15	0	19.67	19.71	19.77
3M	256QAM	1	0	17.91	17.96	18.04
		1	7	17.97	17.94	17.92
		1	14	17.79	17.97	17.92
		8	0	17.77	17.84	17.92
		8	3	17.86	17.93	17.94
		8	7	17.69	17.78	17.88
		15	0	17.64	17.69	17.83

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	22.88	22.63	22.72
		1	2	22.62	22.51	22.63
		1	5	22.72	22.56	22.50
		3	0	22.95	22.77	22.87
		3	1	22.81	22.90	22.95
		3	3	22.64	22.77	22.73
		6	0	21.86	21.72	21.81
1.4M	16QAM	1	0	21.95	22.10	22.09
		1	2	22.17	22.10	22.12
		1	5	21.91	22.05	22.05
		3	0	21.89	21.85	21.88
		3	1	21.82	21.88	21.76
		3	3	21.77	21.82	21.92
		6	0	20.70	20.86	20.93
1.4M	64QAM	1	0	20.98	20.99	21.02
		1	2	20.82	20.87	21.00
		1	5	20.75	20.94	20.91
		3	0	20.79	20.97	20.93
		3	1	20.79	20.93	20.84
		3	3	20.70	20.92	20.81
		6	0	19.72	19.80	19.70
1.4M	256QAM	1	0	17.95	17.94	18.11
		1	2	17.94	17.89	17.94
		1	5	17.80	17.87	17.93
		3	0	18.78	18.80	17.85
		3	1	18.80	18.86	17.92
		3	3	18.63	18.80	17.86
		6	0	17.72	17.69	17.79

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	**20.60**	20.41	20.21
HSDPA Subtest-1	20.08	19.96	19.93
HSDPA Subtest-2	20.12	19.93	19.82
HSDPA Subtest-3	19.60	19.40	19.31
HSDPA Subtest-4	19.59	19.41	19.29
DC-HSDPA Subtest-1	19.98	19.87	19.83
DC-HSDPA Subtest-2	20.01	19.85	19.74
DC-HSDPA Subtest-3	19.50	19.30	19.21
DC-HSDPA Subtest-4	19.48	19.32	19.19
HSUPA Subtest-1	20.09	19.91	19.70
HSUPA Subtest-2	18.04	17.90	17.68
HSUPA Subtest-3	19.09	18.90	18.68
HSUPA Subtest-4	18.12	17.92	17.71
HSUPA Subtest-5	20.05	19.92	19.70

*ERP (dBm) = Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15

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	20.14	**20.15**	20.03
		1	24	20.12	20.12	20.04
		1	49	20.04	20.00	19.99
		25	0	19.27	19.20	19.18
		25	12	19.25	19.17	19.11
		25	25	19.15	19.05	18.95
		50	0	19.10	19.04	18.95
10M	16QAM	1	0	19.60	19.50	19.45
		1	24	19.52	19.51	19.46
		1	49	19.40	19.39	19.39
		25	0	18.29	18.27	18.18
		25	12	18.25	18.24	18.17
		25	25	18.14	18.05	17.99
		50	0	18.12	18.04	18.01
10M	64QAM	1	0	18.47	18.45	18.40
		1	24	18.43	18.41	18.32
		1	49	18.38	18.29	18.19
		25	0	17.52	17.50	17.41
		25	12	17.43	17.43	17.33
		25	25	17.37	17.28	17.26
		50	0	17.34	17.26	17.25
10M	256QAM	1	0	15.55	15.55	15.48
		1	24	15.47	15.46	15.37
		1	49	15.43	15.38	15.36
		25	0	15.40	15.36	15.34
		25	12	15.32	15.28	15.28
		25	25	15.28	15.18	15.18
		50	0	15.23	15.14	15.13

*ERP (dBm) = Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15

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	**20.13**	20.05	19.94
		1	12	20.05	20.07	20.04
		1	24	20.00	19.90	19.95
		12	0	19.21	19.10	19.09
		12	6	19.23	19.07	19.03
		12	13	19.09	18.95	18.86
		25	0	19.08	19.04	18.94
5M	16QAM	1	0	19.60	19.43	19.39
		1	12	19.49	19.46	19.39
		1	24	19.31	19.35	19.39
		12	0	18.24	18.18	18.10
		12	6	18.24	18.23	18.15
		12	13	18.13	18.04	17.99
		25	0	18.02	17.97	17.98
5M	64QAM	1	0	18.37	18.42	18.39
		1	12	18.43	18.34	18.32
		1	24	18.29	18.28	18.17
		12	0	17.50	17.45	17.35
		12	6	17.37	17.43	17.29
		12	13	17.29	17.20	17.19
		25	0	17.24	17.26	17.20
5M	256QAM	1	0	15.55	15.50	15.38
		1	12	15.38	15.46	15.31
		1	24	15.35	15.33	15.28
		12	0	15.30	15.34	15.26
		12	6	15.30	15.21	15.25
		12	13	15.19	15.14	15.12
		25	0	15.13	15.12	15.08

*ERP (dBm) = Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15

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	**20.14**	20.11	20.01
		1	7	20.09	20.10	20.01
		1	14	19.98	19.90	19.97
		8	0	19.20	19.14	19.12
		8	3	19.22	19.16	19.08
		8	7	19.05	19.05	18.89
		15	0	19.04	19.02	18.91
3M	16QAM	1	0	19.57	19.44	19.42
		1	7	19.44	19.42	19.36
		1	14	19.31	19.33	19.33
		8	0	18.23	18.18	18.10
		8	3	18.25	18.22	18.11
		8	7	18.05	18.04	17.96
		15	0	18.12	18.00	17.99
3M	64QAM	1	0	18.47	18.40	18.32
		1	7	18.35	18.38	18.30
		1	14	18.34	18.27	18.19
		8	0	17.48	17.41	17.31
		8	3	17.36	17.39	17.24
		8	7	17.35	17.23	17.20
		15	0	17.30	17.18	17.15
3M	256QAM	1	0	15.53	15.46	15.39
		1	7	15.37	15.46	15.27
		1	14	15.41	15.33	15.31
		8	0	15.32	15.26	15.32
		8	3	15.32	15.19	15.26
		8	7	15.20	15.12	15.12
		15	0	15.23	15.11	15.12

*ERP (dBm) = Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15

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	20.11	20.00	19.90
		1	2	20.03	20.05	19.80
		1	5	19.92	19.99	19.88
		3	0	**20.14**	19.95	20.10
		3	1	20.17	20.02	20.00
		3	3	20.00	19.89	19.94
		6	0	18.90	18.87	18.80
1.4M	16QAM	1	0	19.49	19.35	19.44
		1	2	19.33	19.40	19.35
		1	5	19.23	19.19	19.21
		3	0	19.26	19.08	19.06
		3	1	19.05	19.22	19.08
		3	3	18.94	18.86	18.86
		6	0	17.91	17.92	17.86
1.4M	64QAM	1	0	18.28	18.29	18.26
		1	2	18.31	18.30	18.20
		1	5	18.25	18.11	18.13
		3	0	18.48	18.34	18.27
		3	1	18.21	18.38	18.29
		3	3	18.32	18.19	18.09
		6	0	17.12	17.16	17.19
1.4M	256QAM	1	0	15.54	15.50	15.41
		1	2	15.41	15.40	15.29
		1	5	15.43	15.30	15.30
		3	0	15.38	15.32	15.29
		3	1	15.23	15.25	15.26
		3	3	15.28	15.10	15.15
		6	0	15.17	15.11	15.05

*ERP (dBm) = Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15

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	**20.12**	20.08	19.92
		1	37	20.11	20.02	19.88
		1	74	20.10	20.04	19.86
		36	0	19.25	19.25	19.17
		36	19	19.22	19.14	19.20
		36	39	19.15	19.07	19.05
		75	0	19.16	19.11	19.07
15M	16QAM	1	0	19.47	19.37	19.42
		1	37	19.40	19.40	19.40
		1	74	19.32	19.26	19.32
		36	0	18.29	18.26	18.22
		36	19	18.17	18.07	18.09
		36	39	18.20	18.20	18.14
		75	0	18.21	18.11	18.20
15M	64QAM	1	0	18.33	18.31	18.28
		1	37	18.24	18.19	18.18
		1	74	18.25	18.17	18.17
		36	0	17.26	17.17	17.16
		36	19	17.12	17.04	17.10
		36	39	17.13	17.08	17.13
		75	0	17.11	17.05	17.01
15M	256QAM	1	0	15.33	15.31	15.28
		1	37	15.24	15.23	15.18
		1	74	15.25	15.17	15.16
		36	0	15.20	15.10	15.11
		36	19	15.18	15.14	15.11
		36	39	15.14	15.04	15.05
		75	0	15.10	15.06	15.04

*ERP (dBm) = Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15

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	19.98	20.04	19.84
		1	24	**20.05**	19.89	19.81
		1	49	19.98	19.98	19.76
		25	0	19.10	19.19	19.07
		25	12	19.11	19.10	19.19
		25	25	19.10	18.92	18.95
		50	0	19.13	19.02	18.99
10M	16QAM	1	0	19.35	19.23	19.32
		1	24	19.33	19.35	19.37
		1	49	19.26	19.14	19.26
		25	0	18.15	18.20	18.14
		25	12	18.03	18.06	18.05
		25	25	18.09	18.06	18.05
		50	0	18.18	17.98	18.10
10M	64QAM	1	0	18.23	18.18	18.22
		1	24	18.15	18.12	18.11
		1	49	18.10	18.06	18.11
		25	0	17.22	17.10	17.14
		25	12	17.07	17.03	17.09
		25	25	17.11	16.96	17.08
		50	0	17.07	16.91	16.98
10M	256QAM	1	0	15.30	15.17	15.24
		1	24	15.18	15.19	15.13
		1	49	15.16	15.02	15.13
		25	0	15.11	14.96	15.06
		25	12	15.09	15.11	15.09
		25	25	15.10	14.94	15.01
		50	0	14.96	14.93	14.99

*ERP (dBm) = Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15

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	**19.94**	19.93	19.92
		1	12	19.91	19.86	19.84
		1	24	19.83	19.86	19.83
		12	0	19.03	19.12	19.07
		12	6	19.06	18.98	19.16
		12	13	19.07	18.87	18.96
		25	0	19.10	18.95	19.01
5M	16QAM	1	0	19.27	19.18	19.39
		1	12	19.19	19.34	19.35
		1	24	19.13	19.00	19.26
		12	0	18.03	18.14	18.13
		12	6	17.93	18.00	18.07
		12	13	18.06	17.91	18.08
		25	0	18.03	17.96	18.12
5M	64QAM	1	0	18.12	18.03	18.27
		1	12	18.10	18.07	18.11
		1	24	18.02	17.92	18.13
		12	0	17.17	17.09	17.12
		12	6	17.00	16.89	17.06
		12	13	17.10	16.88	17.13
		25	0	16.98	16.79	16.95
5M	256QAM	1	0	15.25	15.16	15.24
		1	12	15.14	15.07	15.14
		1	24	15.01	14.89	15.11
		12	0	14.99	14.95	15.09
		12	6	15.03	14.97	15.09
		12	13	15.00	14.85	15.04
		25	0	14.89	14.90	15.03

*ERP (dBm) = Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15

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	**20.00**	19.72	19.85
		1	7	19.87	19.76	19.82
		1	14	19.97	19.73	19.81
		8	0	19.08	18.95	19.15
		8	3	18.97	19.04	19.16
		8	7	18.90	18.89	19.00
		15	0	18.99	18.98	19.01
3M	16QAM	1	0	19.18	19.21	19.36
		1	7	19.31	19.27	19.35
		1	14	19.10	19.22	19.32
		8	0	18.12	17.99	18.19
		8	3	17.93	17.91	18.03
		8	7	18.01	17.94	18.04
		15	0	17.91	18.01	18.11
3M	64QAM	1	0	18.08	18.12	18.21
		1	7	17.99	18.00	18.10
		1	14	18.00	18.07	18.09
		8	0	16.96	17.10	17.14
		8	3	16.93	17.08	17.08
		8	7	16.86	16.98	17.03
		15	0	16.83	16.87	16.93
3M	256QAM	1	0	15.07	15.12	15.20
		1	7	15.13	15.10	15.08
		1	14	14.95	15.13	15.08
		8	0	14.93	15.00	15.08
		8	3	15.02	15.09	15.10
		8	7	14.85	14.94	15.04
		15	0	14.80	14.85	14.99

*ERP (dBm) = Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15

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	20.04	19.79	19.88
		1	2	19.78	19.67	19.79
		1	5	19.88	19.72	19.66
		3	0	**20.11**	19.93	20.03
		3	1	19.97	20.06	20.11
		3	3	19.80	19.93	19.89
		6	0	19.02	18.88	18.97
1.4M	16QAM	1	0	19.11	19.26	19.25
		1	2	19.33	19.26	19.28
		1	5	19.07	19.21	19.21
		3	0	19.05	19.01	19.04
		3	1	18.98	19.04	18.92
		3	3	18.93	18.98	19.08
		6	0	17.86	18.02	18.09
1.4M	64QAM	1	0	18.14	18.15	18.18
		1	2	17.98	18.03	18.16
		1	5	17.91	18.10	18.07
		3	0	17.95	18.13	18.09
		3	1	17.95	18.09	18.00
		3	3	17.86	18.08	17.97
		6	0	16.88	16.96	16.86
1.4M	256QAM	1	0	15.11	15.10	15.27
		1	2	15.10	15.05	15.10
		1	5	14.96	15.03	15.09
		3	0	15.94	15.96	15.01
		3	1	15.96	16.02	15.08
		3	3	15.79	15.96	15.02
		6	0	14.88	14.85	14.95

*ERP (dBm) = Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15

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 is equal to -13 dBm.

4.2.2 Test Procedure

a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m(below or equal 1GHz) and/or 1.5m(above 1GHz) 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.

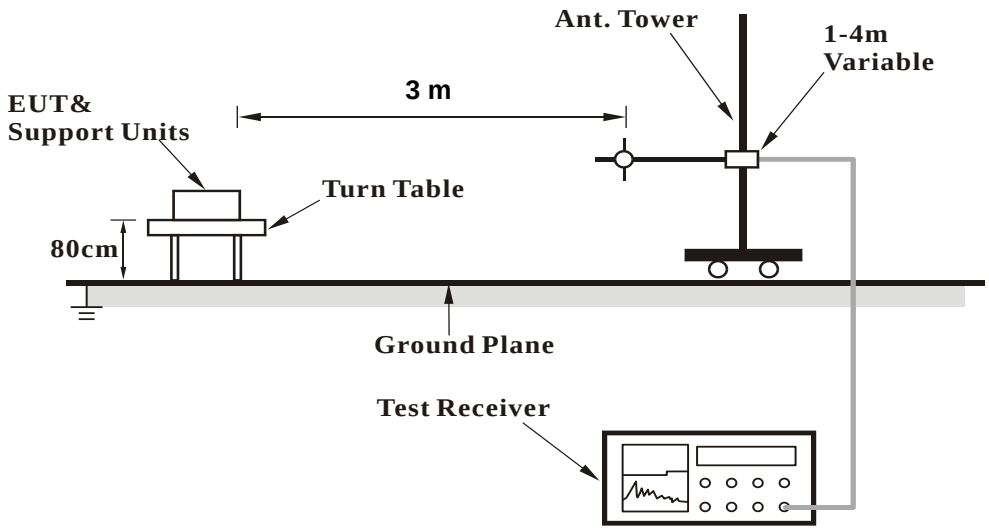
Note:
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.
2. The emission levels were against the limit of frequency range 9 kHz ~ 30 MHz:
   The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

4.2.3 Deviation from Test Standard

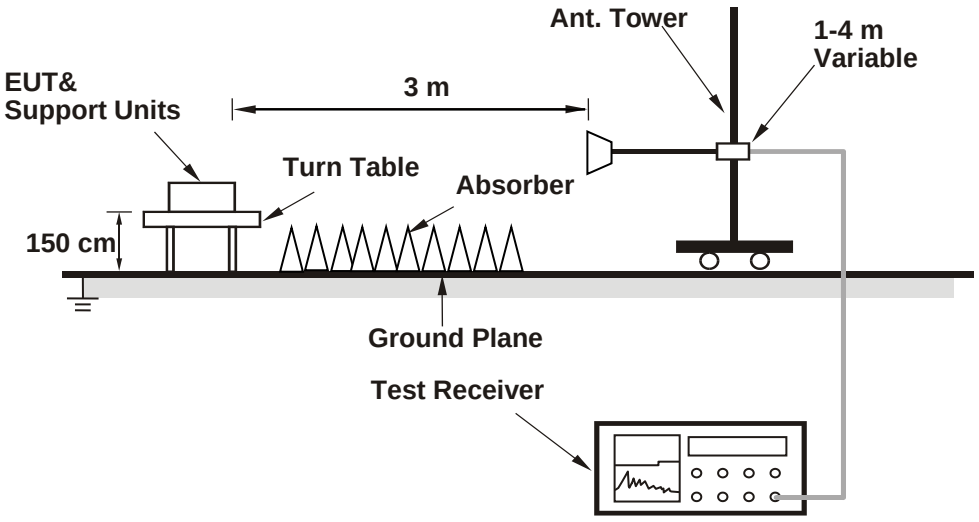
No deviation.

4.2.4 Test Setup

<Radiated Emission below or equal 1 GHz>



<Radiated Emission above 1 GHz>



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

4.2.5 Test Results

Below 1GHz

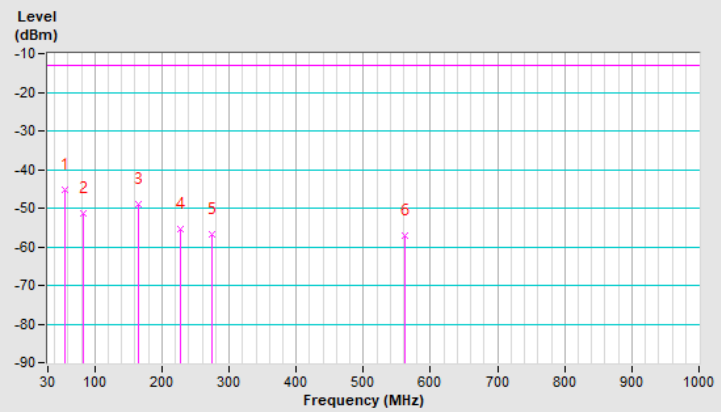
WCDMA Band 5

Mode	TX channel 4182 (836.4MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Rex Wang		

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	55.22	-45.28	-13.00	-32.28	1.25 H	128	61.33	-106.61
2	83.35	-51.46	-13.00	-38.46	1.00 H	22	60.15	-111.61
3	164.83	-49.02	-13.00	-36.02	1.50 H	144	57.32	-106.34
4	226.91	-55.58	-13.00	-42.58	1.00 H	179	52.92	-108.50
5	274.44	-56.92	-13.00	-43.92	2.00 H	208	48.18	-105.10
6	562.53	-56.96	-13.00	-43.96	1.50 H	123	41.91	-98.87

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.

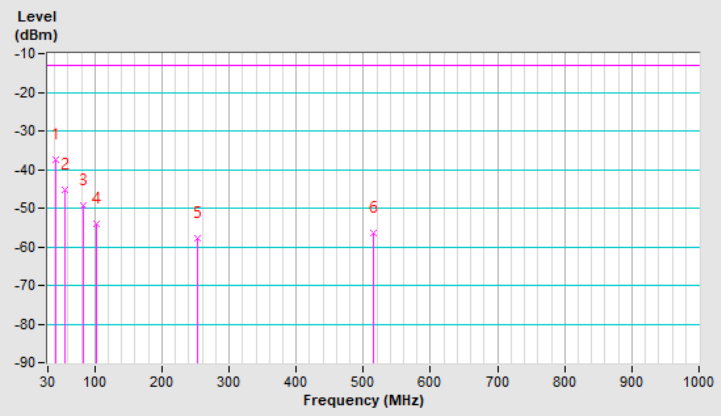


Mode	TX channel 4182 (836.4MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Rex Wang		

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	**41.64**	**-37.55**	**-13.00**	**-24.55**	**1.00 V**	**105**	**69.31**	**-106.86**
2	55.22	-45.20	-13.00	-32.20	1.25 V	228	61.41	-106.61
3	83.35	-49.21	-13.00	-36.21	1.00 V	220	62.40	-111.61
4	101.78	-54.23	-13.00	-41.23	1.50 V	120	56.57	-110.80
5	253.10	-57.82	-13.00	-44.82	2.00 V	144	48.48	-106.30
6	515.00	-56.42	-13.00	-43.42	1.00 V	126	43.23	-99.65

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.



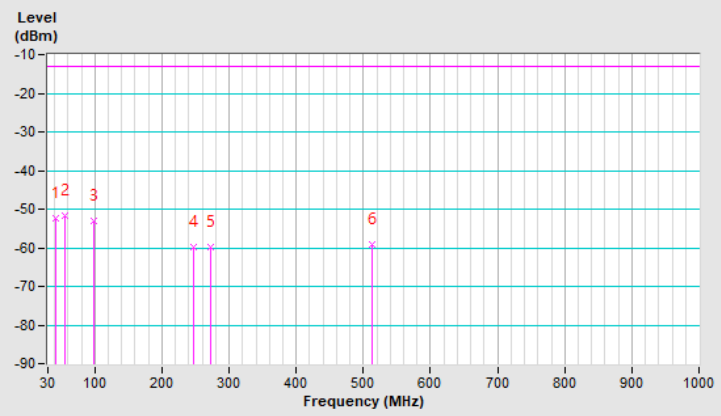
LTE Band 5, Channel Bandwidth 1.4MHz

Mode	TX channel 20525 (836.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Adair Peng		

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	42.61	-52.22	-13.00	-39.22	1.50 H	86	54.62	-106.84
2	55.22	-51.72	-13.00	-38.72	1.50 H	258	54.89	-106.61
3	97.90	-53.19	-13.00	-40.19	1.00 H	141	58.24	-111.43
4	247.28	-59.76	-13.00	-46.76	1.00 H	243	46.72	-106.48
5	272.50	-59.72	-13.00	-46.72	2.00 H	240	45.48	-105.20
6	512.09	-59.05	-13.00	-46.05	1.00 H	198	40.66	-99.71

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.

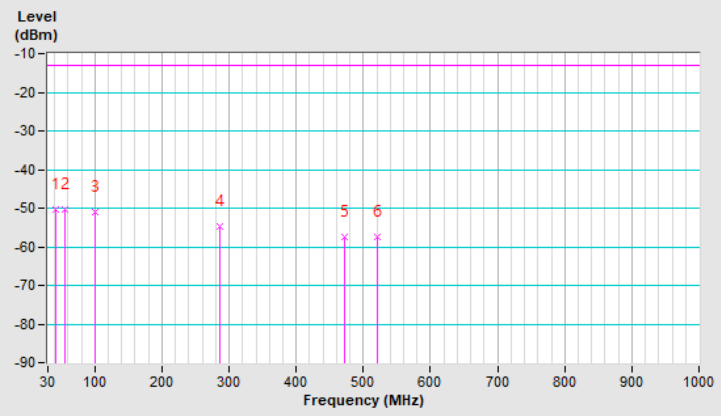


Mode	TX channel 20525 (836.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Adair Peng		

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	41.64	-50.41	-13.00	-37.41	2.00 V	273	56.45	-106.86
2	55.22	-50.47	-13.00	-37.47	1.00 V	286	56.14	-106.61
3	100.81	-50.96	-13.00	-37.96	1.50 V	152	59.92	-110.88
4	287.05	-54.71	-13.00	-41.71	1.00 V	115	49.98	-104.69
5	472.32	-57.57	-13.00	-44.57	1.50 V	123	42.90	-100.47
6	521.79	-57.58	-13.00	-44.58	1.00 V	191	41.98	-99.56

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.



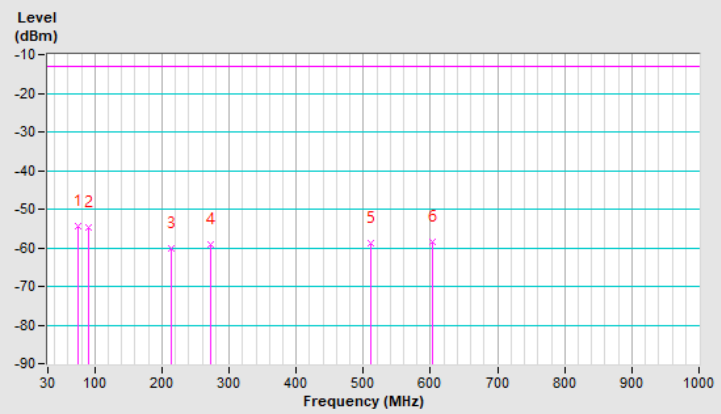
LTE Band 26, Channel Bandwidth 15MHz

Mode	TX channel 26915 (836.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Adair Peng		

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	74.62	-54.48	-13.00	-41.48	1.00 H	284	55.09	-109.57
2	91.11	-54.72	-13.00	-41.72	2.00 H	239	57.38	-112.10
3	213.33	-60.28	-13.00	-47.28	1.00 H	252	48.40	-108.68
4	271.53	-59.03	-13.00	-46.03	1.50 H	286	46.21	-105.24
5	510.15	-58.65	-13.00	-45.65	1.50 H	174	41.10	-99.75
6	603.27	-58.54	-13.00	-45.54	1.00 H	323	39.31	-97.85

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.

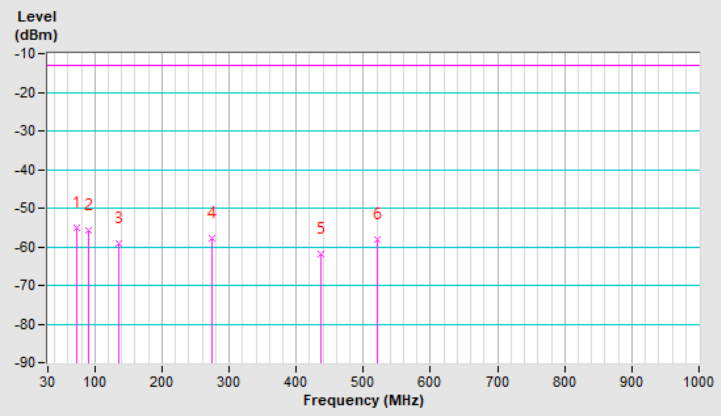


Mode	TX channel 26915 (836.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Adair Peng		

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	73.65	-55.14	-13.00	-42.14	2.00 V	98	54.27	-109.41
2	90.14	-55.61	-13.00	-42.61	1.00 V	274	56.59	-112.20
3	135.73	-59.08	-13.00	-46.08	2.00 V	155	48.02	-107.10
4	274.44	-57.92	-13.00	-44.92	1.50 V	263	47.18	-105.10
5	437.40	-61.71	-13.00	-48.71	1.00 V	218	39.38	-101.09
6	521.79	-57.99	-13.00	-44.99	1.00 V	142	41.57	-99.56

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 ~ 10GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Adair Peng		

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	-58.00	-13.00	-45.00	1.63 H	309	44.33	-102.33
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	-56.80	-13.00	-43.80	2.69 V	252	45.53	-102.33

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 ~ 10GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Adair Peng		

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	-56.80	-13.00	-43.80	1.59 H	316	45.46	-102.26
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	-55.64	-13.00	-42.64	2.72 V	259	46.62	-102.26

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 ~ 10GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Adair Peng		

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	-58.16	-13.00	-45.16	1.56 H	305	44.02	-102.18
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	-57.14	-13.00	-44.14	2.77 V	263	45.04	-102.18

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 ~ 10GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Adair Peng		

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	-50.89	-13.00	-37.89	1.50 H	150	51.45	-102.34
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	-48.29	-13.00	-35.29	1.48 V	350	54.05	-102.34

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 ~ 10GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Adair Peng		

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	-50.15	-13.00	-37.15	1.55 H	147	52.11	-102.26
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	-47.37	-13.00	-34.37	1.43 V	348	54.89	-102.26

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 ~ 10GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Adair Peng		

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	-50.36	-13.00	-37.36	1.47 H	147	51.81	-102.17
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	-47.66	-13.00	-34.66	1.45 V	349	54.51	-102.17

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 ~ 10GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Adair Peng		

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	-51.00	-13.00	-38.00	1.50 H	152	51.33	-102.33
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	-48.16	-13.00	-35.16	1.50 V	354	54.17	-102.33

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 ~ 10GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Adair Peng		

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	-50.43	-13.00	-37.43	1.53 H	150	51.83	-102.26
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	-47.83	-13.00	-34.83	1.44 V	349	54.43	-102.26

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 ~ 10GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Adair Peng		

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	-50.85	-13.00	-37.85	1.47 H	153	51.34	-102.19
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	-47.47	-13.00	-34.47	1.44 V	353	54.72	-102.19

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 ~ 10GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Adair Peng		

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	-50.48	-13.00	-37.48	1.51 H	148	51.83	-102.31
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	-47.86	-13.00	-34.86	1.52 V	351	54.45	-102.31

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 ~ 10GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Adair Peng		

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	-50.34	-13.00	-37.34	1.54 H	152	51.92	-102.26
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	-47.83	-13.00	-34.83	1.44 V	349	54.43	-102.26

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 ~ 10GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Adair Peng		

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	-49.59	-13.00	-36.59	1.48 H	149	52.61	-102.20
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	-48.22	-13.00	-35.22	1.49 V	354	53.98	-102.20

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.

LTE Band 26, Channel Bandwidth 1.4MHz

Mode	TX channel 26797 (824.7MHz)	Frequency Range	1GHz ~ 10GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Rex Wang		

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	-52.01	-13.00	-39.01	1.69 H	179	50.33	-102.34
2	2474.10	-42.44	-13.00	-29.44	1.60 H	63	56.40	-98.84
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	-51.88	-13.00	-38.88	2.45 V	21	50.46	-102.34
2	2474.10	-41.74	-13.00	-28.74	3.23 V	4	57.10	-98.84

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 ~ 10GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Rex Wang		

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	-52.17	-13.00	-39.17	1.69 H	177	50.09	-102.26
2	2509.50	-42.67	-13.00	-29.67	1.61 H	68	56.20	-98.87
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	-52.13	-13.00	-39.13	2.42 V	25	50.13	-102.26
2	2509.50	-41.47	-13.00	-28.47	3.24 V	0	57.40	-98.87

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 ~ 10GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Rex Wang		

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	-52.55	-13.00	-39.55	1.61 H	180	49.62	-102.17
2	2544.90	-42.02	-13.00	-29.02	1.57 H	62	56.80	-98.82
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	-52.32	-13.00	-39.32	2.42 V	24	49.85	-102.17
2	2544.90	-41.39	-13.00	-28.39	3.19 V	1	57.43	-98.82

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 ~ 10GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Rex Wang		

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	-52.41	-13.00	-39.41	1.66 H	175	49.92	-102.33
2	2479.50	-42.51	-13.00	-29.51	1.64 H	61	56.34	-98.85
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	-52.00	-13.00	-39.00	2.44 V	26	50.33	-102.33
2	2479.50	-41.64	-13.00	-28.64	3.22 V	2	57.21	-98.85

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 ~ 10GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Rex Wang		

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	-52.44	-13.00	-39.44	1.70 H	179	49.82	-102.26
2	2509.50	-42.23	-13.00	-29.23	1.63 H	66	56.64	-98.87
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	-51.94	-13.00	-38.94	2.47 V	24	50.32	-102.26
2	2509.50	-42.17	-13.00	-29.17	3.21 V	0	56.70	-98.87

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 ~ 10GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Rex Wang		

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	-52.47	-13.00	-39.47	1.70 H	176	49.72	-102.19
2	2539.50	-42.38	-13.00	-29.38	1.65 H	68	56.44	-98.82
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	-51.94	-13.00	-38.94	2.42 V	25	50.25	-102.19
2	2539.50	-41.32	-13.00	-28.32	3.19 V	7	57.50	-98.82

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 ~ 10GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Rex Wang		

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	-52.22	-13.00	-39.22	1.71 H	176	50.07	-102.29
2	2494.50	-42.30	-13.00	-29.30	1.62 H	61	56.58	-98.88
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	-51.90	-13.00	-38.90	2.48 V	24	50.39	-102.29
2	2494.50	-41.98	-13.00	-28.98	3.22 V	2	56.90	-98.88

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 ~ 10GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Rex Wang		

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	-51.70	-13.00	-38.70	1.62 H	174	50.56	-102.26
2	2509.50	-41.37	-13.00	-28.37	1.63 H	65	57.50	-98.87
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	-51.50	-13.00	-38.50	2.45 V	24	50.76	-102.26
2	2509.50	-41.17	-13.00	-28.17	3.19 V	4	57.70	-98.87

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 ~ 10GHz
Environmental Conditions	23deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Rex Wang		

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	1.68 H	174	49.95	-102.22
2	2524.50	-41.99	-13.00	-28.99	1.62 H	68	56.86	-98.85
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	-51.89	-13.00	-38.89	2.41 V	25	50.33	-102.22
2	2524.50	-41.47	-13.00	-28.47	3.24 V	3	57.38	-98.85

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 according to ISO/IEC 17025.

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

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

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