Partial FCC Test Report
(Part 24 – GSM1900, WCDMA B2, LTE B2/B25)

Report No.:	RFBBGM-WTW-P22110832-1
FCC ID:	WIYSLM500QA
Test Model:	SLM500
Received Date:	Nov. 30, 2022
Test Date:	Dec. 28, 2022 ~ Jan. 11, 2023
Issued Date:	Mar. 14, 2023
Applicant:	CASTLES TECHNOLOGY CO., LTD.
Address:	6F, NO. 207-5, SEC. 3, BEIXIN RD., XINDIAN DISTRICT, NEW TAIPEI CITY 23143, 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:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN
FCC Registration / Designation Number:	788550 / TW0003

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
RFBBGM-WTW-P22110832-1	Original release	Mar. 14, 2023

1 Certificate of Conformity

Product:	Smart module
Brand:	CASTLES TECHNOLOGY
Test Model:	SLM500
Sample Status:	Identical Prototype
Applicant:	CASTLES TECHNOLOGY CO., LTD.
Test Date:	Dec. 28, 2022 ~ Jan. 11, 2023
Standards:	FCC Part 24, Subpart E

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

Prepared by : Celine Chou , **Date:** Mar. 14, 2023

Celine Chou / Senior Specialist

Approved by : Jeremy Lin , **Date:** Mar. 14, 2023

Jeremy Lin / Project Engineer

2 Summary of Test Results

Applied Standard: FCC Part 24 & Part 2			
FCC Clause	Test Item	Result	Remarks
2.1046 24.232	Eequivalent Isotropically Radiated Power	Pass	Meet the requirement of limit.
2.1046 24.232 (d)	Peak To Average Ratio	N/A	Refer to Note
2.1047	Modulation Characteristics	N/A	Refer to Note
2.1055 24.235	Frequency Stability	N/A	Refer to Note
2.1049	Occupied Bandwidth	N/A	Refer to Note
24.238	Band Edge Measurements	N/A	Refer to Note
2.1051 24.238	Conducted Spurious Emissions	N/A	Refer to Note
2.1053 24.238	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -28.19dB at 3818.60MHz.

Note:

1. This report is a Class II change partial report. Therefore, only test item of Radiated Spurious Emissions tests and Eequivalent Isotropically Radiated Power were performed for this report. Other testing data please refer to SGS report no.: SZCR210300003005 & SZCR210300003006 & SZCR210300003007 (Smart module, Brand: Meig Link, Model: SLM500, FCC ID: 2APJ4-SLM500).
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	9kHz ~ 30MHz	2.44 dB
	30MHz ~ 200MHz	2.93 dB
	200MHz ~1000MHz	2.95 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.26 dB
	18GHz ~ 40GHz	1.94 dB

2.2 Test Site and Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver KEYSIGHT	N9038A	MY55420137	Apr. 27, 2022	Apr. 26, 2023
Signal Analyzer Agilent	N9010A	MY52220207	Jan. 06, 2022	Jan. 05, 2023
			Jan. 03, 2023	Jan. 02, 2024
Loop Antenna TESEQ	HLA 6121	45745	Jul. 27, 2022	Jul. 26, 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 EMCI	EMC 330H	980112	Oct. 01, 2022	Sep. 30, 2023
BILOG Antenna SCHWARZBECK	VULB 9168	9168-472	Oct. 21, 2022	Oct. 20, 2023
RF Coaxial Cable WOKEN	8D-FB	Cable-Ch10-01	Oct. 01, 2022	Sep. 30, 2023
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-969	Nov. 13, 2022	Nov. 12, 2023
Preamplifier EMCI	EMC 012645	980115	Oct. 01, 2022	Sep. 30, 2023
RF Coaxial Cable EMCI	EMC104-SM-SM-8000	171005	Oct. 01, 2022	Sep. 30, 2023
RF Coaxial Cable HUBER+SUHNNER	SUCOFLEX 104	EMC104-SM-SM-1000(140807)	Oct. 01, 2022	Sep. 30, 2023
RF FLITER MICRO-TRONICS	BRM50716	060	Jan. 10, 2022	Jan. 09, 2023
			Jan. 11, 2023	Jan. 10, 2024
RF FLITER MICRO-TRONICS	BRM17690	004	Jan. 10, 2022	Jan. 09, 2023
			Jan. 11, 2023	Jan. 10, 2024
Pre-Amplifier EMCI	EMC 184045	980116	Oct. 01, 2022	Sep. 30, 2023
Broadband Horn Antenna SCHWARZBECK	BBHA 9170	148	Nov. 13, 2022	Nov. 12, 2023
RF Coaxial Cable EMCI	EMC102-KM-KM-600	150928	Jul. 09, 2022	Jul. 08, 2023
RF Coaxial Cable EMCI	EMC102-KM-KM-3000	150929	Jul. 09, 2022	Jul. 08, 2023
Software BV ADT	ADT_Radiated_V7.6.15.9.5	NA	NA	NA
Antenna Tower Max-Full	MFA-440H	AT93021705	NA	NA
Turn Table Max-Full	MFT-201SS	NA	NA	NA
Antenna Tower &Turn Table Controller Max-Full	MF-7802	NA	NA	NA
Boresight antenna tower fixture BV	BAF-02	7	NA	NA
Radio Communication Analyzer Anritsu	MT8820C	6201300640	Aug. 26, 2021	Aug. 22, 2023

Note: 1. The calibration interval of the above test instruments is 12/24 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HY - 966 chamber 5.

3 General Information

3.1 General Description of EUT

Product	Smart module	
Brand	CASTLES TECHNOLOGY	
Test Model	SLM500	
Sample Status	Identical Prototype	
Power Supply Rating	3.55-4.40Vdc	
Modulation Type	GSM, GPRS: GMSK EDGE: 8PSK WCDMA: BPSK, QPSK HSDPA: BPSK HSUPA: QPSK LTE: QPSK, 16QAM	
Operating Frequency	GSM, GPRS, EDGE	1850.2MHz ~ 1909.8MHz
	WCDMA Band 2	1852.4MHz ~ 1907.6MHz
	LTE Band 2 (Channel Bandwidth 1.4MHz)	1850.7MHz ~ 1909.3MHz
	LTE Band 2 (Channel Bandwidth 3MHz)	1851.5MHz ~ 1908.5MHz
	LTE Band 2 (Channel Bandwidth 5MHz)	1852.5MHz ~ 1907.5MHz
	LTE Band 2 (Channel Bandwidth 10MHz)	1855.0MHz ~ 1905.0MHz
	LTE Band 2 (Channel Bandwidth 15MHz)	1857.5MHz ~ 1902.5MHz
	LTE Band 2 (Channel Bandwidth 20MHz)	1860.0MHz ~ 1900.0MHz
	LTE Band 25 (Channel Bandwidth 1.4MHz)	1850.7MHz ~ 1914.3MHz
	LTE Band 25 (Channel Bandwidth 3MHz)	1851.5MHz ~ 1913.5MHz
	LTE Band 25 (Channel Bandwidth 5MHz)	1852.5MHz ~ 1912.5MHz
	LTE Band 25 (Channel Bandwidth 10MHz)	1855.0MHz ~ 1910.0MHz
	LTE Band 25 (Channel Bandwidth 15MHz)	1857.5MHz ~ 1907.5MHz
	LTE Band 25 (Channel Bandwidth 20MHz)	1860.0MHz ~ 1905.0MHz

Max. EIRP Power	GSM, GPRS	518.800mW (27.15dBm)	
	EDGE	284.446mW (24.54dBm)	
	WCDMA Band 2	82.035mW (19.14dBm)	
		QPSK	16QAM
	LTE Band 2 (Channel Bandwidth 1.4MHz)	86.099mW (19.35dBm)	69.502mW (18.42dBm)
	LTE Band 2 (Channel Bandwidth 3MHz)	86.696mW (19.38dBm)	67.453mW (18.29dBm)
	LTE Band 2 (Channel Bandwidth 5MHz)	87.902mW (19.44dBm)	68.391mW (18.35dBm)
	LTE Band 2 (Channel Bandwidth 10MHz)	87.902mW (19.44dBm)	67.920mW (18.32dBm)
	LTE Band 2 (Channel Bandwidth 15MHz)	88.105mW (19.45dBm)	69.183mW (18.40dBm)
	LTE Band 2 (Channel Bandwidth 20MHz)	88.716mW (19.48dBm)	69.343mW (18.41dBm)
	LTE Band 25 (Channel Bandwidth 1.4MHz)	103.753mW (20.16dBm)	84.333mW (19.26dBm)
	LTE Band 25 (Channel Bandwidth 3MHz)	104.713mW (20.20dBm)	76.384mW (18.83dBm)
	LTE Band 25 (Channel Bandwidth 5MHz)	105.439mW (20.23dBm)	78.343mW (18.94dBm)
	LTE Band 25 (Channel Bandwidth 10MHz)	106.170mW (20.26dBm)	77.804mW (18.91dBm)
	LTE Band 25 (Channel Bandwidth 15MHz)	107.152mW (20.30dBm)	77.983mW (18.92dBm)
	LTE Band 25 (Channel Bandwidth 20MHz)	107.647mW (20.32dBm)	79.433mW (19.00dBm)
Antenna Type	Refer to Note as below		
Antenna Connector	Refer to Note as below		
Accessory Device	NA		
Cable Supplied	NA		

Note:

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

Product	Brand	Model
POS Terminal	CASTLES TECHNOLOGY	SATURN1000MINI

2. The End-product contains following accessory devices.

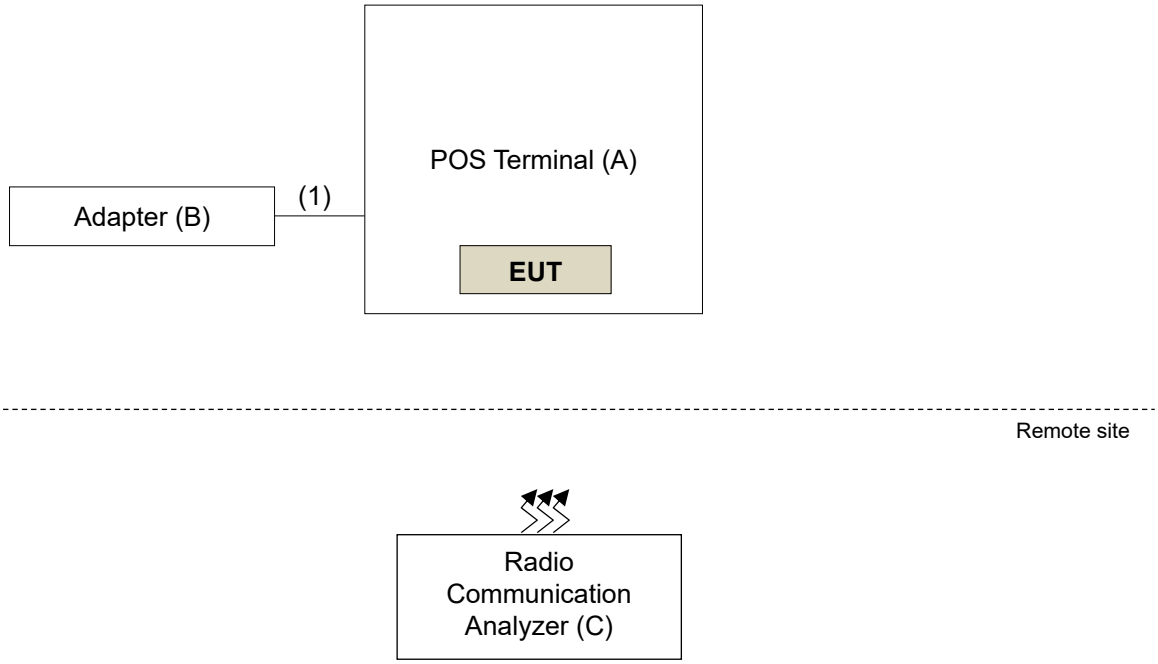
Part	Brand	Model	Specification
Adapter	CASTLES TECHNOLOGY	1A52-UB52A	I/P: 100-240Vac, 50-60Hz, 0.3A O/P: 5Vdc, 2A, 10W
Battery	CASTLES TECHNOLOGY	S1Mini	Rating: 3.7Vdc, 1600mAh, 5.92Wh
USB Cable	CHANG YANG ELECTRON CO.,LTD	CY-AS-HK0059	0.95m shielded cable without core

3. The following antennas were provided to the End-product.

Type	Connector	Gain (dBi)							
		GSM 850	GSM 1900	WCDMA B2	WCDMA B4	WCDMA B5	LTE B2	LTE B4	LTE B5
PIFA	ipex(MHF)	-3.62	-0.95	-0.95	0.56	-3.62	-0.95	0.56	-3.62
		LTE B7	LTE B12	LTE B13	LTE B17	LTE B25	LTE B26 (814-824 MHz)	LTE B26 (824-849 MHz)	LTE B66
		-2.99	-12.50	-5.21	-12.50	-0.95	-4.21	-3.62	0.56

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

3.2 Configuration of System under Test



3.2.1 Description of Support Units

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

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	POS Terminal	CASTLES TECHNOLOGY	SATURN1000MINI	NA	NA	Provided by manufacturer
B.	Adapter	CASTLES TECHNOLOGY	1A52-UB52A	NA	NA	Provided by manufacturer
C.	Radio Communication Analyzer	Anritsu	MT8820C	6201300640	NA	-

Note:

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

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	USB Cable	1	0.95	Y	0	Provided by manufacturer

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 and XYZ axis. 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
GSM, EDGE	Y-Plane
WCDMA Band 2	Y-Plane
LTE Band 2	Y-Plane
LTE Band 25	Y-Plane

GSM

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Mode
-	EIRP	512 to 810	512 (1850.2MHz), 661 (1880.0MHz), 810 (1909.8MHz)	GSM, GPRS, EDGE
-	Radiated Emission Below 1GHz	512 to 810	810 (1909.8MHz)	GSM, EDGE
-	Radiated Emission Above 1GHz	512 to 810	512 (1850.2MHz), 661 (1880.0MHz), 810 (1909.8MHz)	GSM, EDGE

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

WCDMA Band 2

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Mode
-	EIRP	9262 to 9538	9262 (1852.4MHz), 9400 (1880.0MHz), 9538 (1907.6MHz)	WCDMA, HSDPA, HSUPA
-	Radiated Emission Below 1GHz	9262 to 9538	9538 (1907.6MHz)	WCDMA
-	Radiated Emission Above 1GHz	9262 to 9538	9262 (1852.4MHz), 9400 (1880.0MHz), 9538 (1907.6MHz)	WCDMA

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

LTE Band 2

EUT Configure Mode	Test item	Available channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	EIRP	18607 to 19193	18607 (1850.7MHz), 18900 (1880.0MHz), 19193 (1909.3MHz)	1.4MHz	QPSK / 16QAM	1 Half Full
		18615 to 19185	18615 (1851.5MHz), 18900 (1880.0MHz), 19185 (1908.5MHz)	3MHz	QPSK / 16QAM	1 Half Full
		18625 to 19175	18625 (1852.5MHz), 18900 (1880.0MHz), 19175 (1907.5MHz)	5MHz	QPSK / 16QAM	1 Half Full
		18650 to 19150	18650 (1855.0MHz), 18900 (1880.0MHz), 19150 (1905.0MHz)	10MHz	QPSK / 16QAM	1 Half Full
		18675 to 19125	18675 (1857.5MHz), 18900 (1880.0MHz), 19125 (1902.5MHz)	15MHz	QPSK / 16QAM	1 Half Full
		18700 to 19100	18700 (1860.0MHz), 18900 (1880.0MHz), 19100 (1900.0MHz)	20MHz	QPSK / 16QAM	1 Half Full
-	Radiated Emission Below 1GHz	18607 to 19193	19193 (1909.3MHz)	1.4MHz	QPSK	1
-	Radiated Emission Above 1GHz	18607 to 19193	18607 (1850.7MHz), 18900 (1880.0MHz), 19193 (1909.3MHz)	1.4MHz	QPSK	1
		18625 to 19175	18625 (1852.5MHz), 18900 (1880.0MHz), 19175 (1907.5MHz)	5MHz	QPSK	1
		18700 to 19100	18700 (1860.0MHz), 18900 (1880.0MHz), 19100 (1900.0MHz)	20MHz	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 25

EUT Configure Mode	Test item	Available channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	EIRP	26047 to 26683	26047 (1850.7MHz), 26365 (1882.5MHz), 26683 (1914.3MHz)	1.4MHz	QPSK / 16QAM	1 Half Full
		26055 to 26675	26055 (1851.5MHz), 26365 (1882.5MHz), 26675 (1913.5MHz)	3MHz	QPSK / 16QAM	1 Half Full
		26065 to 26665	26065 (1852.5MHz), 26365 (1882.5MHz), 26665 (1912.5MHz)	5MHz	QPSK / 16QAM	1 Half Full
		26090 to 26640	26090 (1855.0MHz), 26365 (1882.5MHz), 26640 (1910.0MHz)	10MHz	QPSK / 16QAM	1 Half Full
		26115 to 26615	26115 (1857.5MHz), 26365 (1882.5MHz), 26615 (1907.5MHz)	15MHz	QPSK / 16QAM	1 Half Full
		26140 to 26590	26140 (1860.0MHz), 26365 (1882.5MHz), 26590 (1905.0MHz)	20MHz	QPSK / 16QAM	1 Half Full
-	Radiated Emission Below 1GHz	26140 to 26590	26365 (1882.5MHz)	20MHz	QPSK	1
-	Radiated Emission Above 1GHz	26047 to 26683	26047 (1850.7MHz), 26365 (1882.5MHz), 26683 (1914.3MHz)	1.4MHz	QPSK	1
		26065 to 26665	26065 (1852.5MHz), 26365 (1882.5MHz), 26665 (1912.5MHz)	5MHz	QPSK	1
		26140 to 26590	26140 (1860.0MHz), 26365 (1882.5MHz), 26590 (1905.0MHz)	20MHz	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
EIRP	25deg. C, 60%RH	120Vac, 60Hz (System)	Willy Cheng
Radiated Emission	24deg. C, 78%RH, 19deg. C, 67%RH	120Vac, 60Hz (System)	Vincent Chen, Thomas Cheng

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:

Test Standard:

FCC 47 CFR Part 2

FCC 47 CFR Part 24

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 2 watts e.i.r.p.

4.1.2 Test Procedures

Conducted Power Measurement:

The EUT was set up for the maximum power with GSM, WCDMA, LTE link data modulation and link up with simulator. The power measurement was performed on emulator and power value was measured from power function on emulator. 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	GSM, GPRS, EDGE 1900		
Channel	512	661	810
Frequency	1850.2	1880	1909.8
GSM	27.95	28.10	27.66
GPRS 1Tx Slot	27.46	27.57	27.02
GPRS 2Tx Slot	26.58	27.13	26.51
GPRS 3Tx Slot	26.31	25.98	25.46
GPRS 4Tx Slot	25.21	24.78	24.25
EDGE 1Tx Slot (MCS9)	25.49	25.24	24.88
EDGE 2Tx Slot (MCS9)	25.25	24.98	24.63
EDGE 3Tx Slot (MCS9)	22.68	22.42	22.15
EDGE 4Tx Slot (MCS9)	20.39	20.45	20.02

Band	WCDMA II		
TX Channel	9262	9400	9538
Frequency	1852.4	1880	1907.6
RMC 12.2K	20.09	19.97	19.81
HSDPA Subtest-1	19.22	19.13	19.07
HSDPA Subtest-2	19.14	19.00	18.86
HSDPA Subtest-3	18.67	18.55	18.47
HSDPA Subtest-4	18.61	18.50	18.37
DC-HSDPA Subtest-1	19.11	18.97	18.88
DC-HSDPA Subtest-2	19.06	18.99	18.92
DC-HSDPA Subtest-3	18.56	18.44	18.39
DC-HSDPA Subtest-4	18.51	18.45	18.33
HSUPA Subtest-1	19.01	18.90	18.77
HSUPA Subtest-2	17.26	17.11	17.04
HSUPA Subtest-3	18.16	18.10	18.00
HSUPA Subtest-4	17.21	17.08	17.01
HSUPA Subtest-5	18.92	18.80	18.75

LTE Band 2						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		18700	18900	19100
		Frequency (MHz)		1860	1880	1900
20M	QPSK	1	0	20.38	20.43	20.35
		1	50	20.36	20.41	20.33
		1	99	20.32	20.35	20.26
		50	0	19.43	19.49	19.45
		50	25	19.47	19.47	19.38
		50	50	19.27	19.37	19.20
		100	0	19.32	19.42	19.24
20M	16QAM	1	0	19.30	19.36	19.22
		1	50	19.26	19.32	19.18
		1	99	19.15	19.22	19.13
		50	0	18.41	18.48	18.31
		50	25	18.43	18.45	18.43
		50	50	18.36	18.41	18.36
		100	0	18.37	18.42	18.34
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		18675	18900	19125
		Frequency (MHz)		1857.5	1880	1902.5
15M	QPSK	1	0	20.36	20.40	20.26
		1	37	20.29	20.32	20.24
		1	74	20.22	20.35	20.17
		36	0	19.49	19.50	19.50
		36	19	19.43	19.40	19.34
		36	39	19.26	19.35	19.15
		75	0	19.23	19.40	19.19
15M	16QAM	1	0	19.27	19.35	19.15
		1	37	19.18	19.24	19.16
		1	74	19.10	19.14	19.05
		36	0	18.36	18.40	18.31
		36	19	18.39	18.44	18.33
		36	39	18.26	18.40	18.33
		75	0	18.35	18.32	18.27

LTE Band 2						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		18650	18900	19150
		Frequency (MHz)		1855	1880	1905
10M	QPSK	1	0	20.31	20.39	20.26
		1	24	20.26	20.31	20.31
		1	49	20.32	20.33	20.22
		25	0	19.48	19.49	19.48
		25	12	19.45	19.46	19.33
		25	25	19.24	19.37	19.16
		50	0	19.27	19.33	19.16
10M	16QAM	1	0	19.26	19.26	19.17
		1	24	19.18	19.27	19.11
		1	49	19.07	19.20	19.06
		25	0	18.32	18.46	18.26
		25	12	18.35	18.43	18.42
		25	25	18.32	18.31	18.32
		50	0	18.37	18.41	18.28
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		18625	18900	19175
		Frequency (MHz)		1852.5	1880	1907.5
5M	QPSK	1	0	20.33	20.36	20.27
		1	12	20.35	20.39	20.28
		1	24	20.22	20.30	20.22
		12	0	19.46	19.48	19.41
		12	6	19.47	19.46	19.32
		12	13	19.20	19.35	19.12
		25	0	19.29	19.38	19.17
5M	16QAM	1	0	19.26	19.30	19.20
		1	12	19.24	19.25	19.16
		1	24	19.09	19.19	19.03
		12	0	18.33	18.44	18.25
		12	6	18.42	18.40	18.40
		12	13	18.33	18.32	18.34
		25	0	18.30	18.32	18.32

LTE Band 2						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		18615	18900	19185
		Frequency (MHz)		1851.5	1880	1908.5
3M	QPSK	1	0	20.28	20.33	20.18
		1	7	20.17	20.28	20.23
		1	14	20.22	20.16	20.12
		8	0	19.41	19.39	19.35
		8	3	19.28	19.29	19.26
		8	7	19.11	19.23	19.09
		15	0	19.19	19.31	19.09
3M	16QAM	1	0	19.16	19.24	19.07
		1	7	19.12	19.14	19.03
		1	14	19.01	19.07	19.01
		8	0	18.27	18.37	18.16
		8	3	18.33	18.31	18.30
		8	7	18.18	18.22	18.22
		15	0	18.26	18.29	18.17
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		18607	18900	19193
		Frequency (MHz)		1850.7	1880	1909.3
1.4M	QPSK	1	0	20.20	20.24	20.15
		1	2	20.15	20.13	20.18
		1	5	20.19	20.07	19.98
		3	0	20.29	20.30	20.27
		3	1	20.14	20.18	20.26
		3	3	20.01	20.08	19.95
		6	0	19.07	19.19	19.07
1.4M	16QAM	1	0	19.16	19.11	19.04
		1	2	18.98	19.02	19.02
		1	5	18.96	18.98	18.87
		3	0	19.13	19.37	19.04
		3	1	19.29	19.30	19.17
		3	3	19.10	19.09	19.21
		6	0	18.17	18.23	18.16

LTE Band 25						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26140	26365	26590
		Frequency (MHz)		1860	1882.5	1905
20M	QPSK	1	0	21.15	21.27	21.13
		1	50	21.17	21.22	21.10
		1	99	21.14	21.18	21.05
		50	0	20.26	20.32	20.20
		50	25	20.23	20.28	20.18
		50	50	20.16	20.18	20.09
		100	0	20.18	20.26	20.13
20M	16QAM	1	0	19.92	19.95	19.91
		1	50	19.81	19.86	19.75
		1	99	19.77	19.82	19.70
		50	0	19.32	19.34	19.23
		50	25	19.13	19.22	19.15
		50	50	19.10	19.18	19.10
		100	0	19.13	19.16	19.12
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26115	26365	26615
		Frequency (MHz)		1857.5	1882.5	1907.5
15M	QPSK	1	0	21.08	21.25	21.10
		1	37	21.09	21.15	21.06
		1	74	21.06	21.16	21.01
		36	0	20.23	20.30	20.10
		36	19	20.17	20.20	20.17
		36	39	20.12	20.18	20.06
		75	0	20.13	20.23	20.06
15M	16QAM	1	0	19.85	19.87	19.85
		1	37	19.81	19.82	19.71
		1	74	19.67	19.77	19.67
		36	0	19.32	19.31	19.14
		36	19	19.10	19.18	19.06
		36	39	19.02	19.09	19.02
		75	0	19.13	19.09	19.12

LTE Band 25						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26090	26365	26640
		Frequency (MHz)		1855	1882.5	1910
10M	QPSK	1	0	21.07	21.21	21.07
		1	24	21.15	21.13	21.03
		1	49	21.07	21.15	21.02
		25	0	20.22	20.23	20.18
		25	12	20.17	20.21	20.08
		25	25	20.12	20.14	19.99
		50	0	20.16	20.19	20.03
10M	16QAM	1	0	19.86	19.86	19.85
		1	24	19.75	19.83	19.73
		1	49	19.72	19.79	19.67
		25	0	19.28	19.27	19.19
		25	12	19.11	19.20	19.13
		25	25	19.10	19.16	19.01
		50	0	19.11	19.08	19.06
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26065	26365	26665
		Frequency (MHz)		1852.5	1882.5	1912.5
5M	QPSK	1	0	21.13	21.18	21.13
		1	12	21.16	21.13	21.08
		1	24	21.08	21.08	20.95
		12	0	20.18	20.29	20.17
		12	6	20.23	20.28	20.18
		12	13	20.07	20.13	19.99
		25	0	20.12	20.17	20.03
5M	16QAM	1	0	19.89	19.85	19.88
		1	12	19.73	19.80	19.71
		1	24	19.73	19.76	19.67
		12	0	19.22	19.29	19.16
		12	6	19.04	19.22	19.12
		12	13	19.07	19.10	19.00
		25	0	19.05	19.06	19.10

LTE Band 25						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26055	26365	26675
		Frequency (MHz)		1851.5	1882.5	1913.5
3M	QPSK	1	0	21.03	21.15	21.02
		1	7	21.02	21.11	20.90
		1	14	20.97	21.03	20.95
		8	0	20.09	20.19	20.07
		8	3	20.03	20.14	20.08
		8	7	20.04	19.98	19.95
		15	0	20.02	20.08	19.98
3M	16QAM	1	0	19.74	19.77	19.78
		1	7	19.64	19.72	19.57
		1	14	19.65	19.69	19.55
		8	0	19.16	19.20	19.05
		8	3	19.00	19.03	18.95
		8	7	18.98	19.05	18.96
		15	0	18.93	18.97	18.96
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26047	26365	26683
		Frequency (MHz)		1850.7	1882.5	1914.3
1.4M	QPSK	1	0	20.95	21.11	20.98
		1	2	21.02	21.09	20.90
		1	5	20.93	20.93	20.99
		3	0	21.02	21.08	20.97
		3	1	20.99	21.05	21.06
		3	3	21.09	20.92	20.86
		6	0	19.95	20.07	19.97
1.4M	16QAM	1	0	19.65	19.68	19.68
		1	2	19.62	19.63	19.50
		1	5	19.60	19.73	19.59
		3	0	20.08	20.21	19.95
		3	1	19.98	19.94	19.91
		3	3	19.95	20.00	19.96
		6	0	18.95	19.01	18.88

EIRP Power (dBm)

Band	GSM, GPRS, EDGE 1900		
Channel	512	661	810
Frequency	1850.2	1880	1909.8
GSM	27.00	27.15	26.71
GPRS 1Tx Slot	26.51	26.62	26.07
GPRS 2Tx Slot	25.63	26.18	25.56
GPRS 3Tx Slot	25.36	25.03	24.51
GPRS 4Tx Slot	24.26	23.83	23.30
EDGE 1Tx Slot (MCS9)	24.54	24.29	23.93
EDGE 2Tx Slot (MCS9)	24.30	24.03	23.68
EDGE 3Tx Slot (MCS9)	21.73	21.47	21.20
EDGE 4Tx Slot (MCS9)	19.44	19.50	19.07

*EIRP (dBm) = Conducted Output Power (dBm) + Antenna Gain (dBi)

Band	WCDMA II		
TX Channel	9262	9400	9538
Frequency	1852.4	1880	1907.6
RMC 12.2K	19.14	19.02	18.86
HSDPA Subtest-1	18.27	18.18	18.12
HSDPA Subtest-2	18.19	18.05	17.91
HSDPA Subtest-3	17.72	17.60	17.52
HSDPA Subtest-4	17.66	17.55	17.42
DC-HSDPA Subtest-1	18.16	18.02	17.93
DC-HSDPA Subtest-2	18.11	18.04	17.97
DC-HSDPA Subtest-3	17.61	17.49	17.44
DC-HSDPA Subtest-4	17.56	17.50	17.38
HSUPA Subtest-1	18.06	17.95	17.82
HSUPA Subtest-2	16.31	16.16	16.09
HSUPA Subtest-3	17.21	17.15	17.05
HSUPA Subtest-4	16.26	16.13	16.06
HSUPA Subtest-5	17.97	17.85	17.80

*EIRP (dBm) = Conducted Output Power (dBm) + Antenna Gain (dBi)

LTE Band 2						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		18700	18900	19100
		Frequency (MHz)		1860	1880	1900
20M	QPSK	1	0	19.43	19.48	19.40
		1	50	19.41	19.46	19.38
		1	99	19.37	19.40	19.31
		50	0	18.48	18.54	18.50
		50	25	18.52	18.52	18.43
		50	50	18.32	18.42	18.25
		100	0	18.37	18.47	18.29
20M	16QAM	1	0	18.35	18.41	18.27
		1	50	18.31	18.37	18.23
		1	99	18.20	18.27	18.18
		50	0	17.46	17.53	17.36
		50	25	17.48	17.50	17.48
		50	50	17.41	17.46	17.41
		100	0	17.42	17.47	17.39
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		18675	18900	19125
		Frequency (MHz)		1857.5	1880	1902.5
15M	QPSK	1	0	19.41	19.45	19.31
		1	37	19.34	19.37	19.29
		1	74	19.27	19.40	19.22
		36	0	18.54	18.55	18.55
		36	19	18.48	18.45	18.39
		36	39	18.31	18.40	18.20
		75	0	18.28	18.45	18.24
15M	16QAM	1	0	18.32	18.40	18.20
		1	37	18.23	18.29	18.21
		1	74	18.15	18.19	18.10
		36	0	17.41	17.45	17.36
		36	19	17.44	17.49	17.38
		36	39	17.31	17.45	17.38
		75	0	17.40	17.37	17.32

*EIRP (dBm) = Conducted Output Power (dBm) + Antenna Gain (dBi)

LTE Band 2						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		18650	18900	19150
		Frequency (MHz)		1855	1880	1905
10M	QPSK	1	0	19.36	19.44	19.31
		1	24	19.31	19.36	19.36
		1	49	19.37	19.38	19.27
		25	0	18.53	18.54	18.53
		25	12	18.50	18.51	18.38
		25	25	18.29	18.42	18.21
		50	0	18.32	18.38	18.21
10M	16QAM	1	0	18.31	18.31	18.22
		1	24	18.23	18.32	18.16
		1	49	18.12	18.25	18.11
		25	0	17.37	17.51	17.31
		25	12	17.40	17.48	17.47
		25	25	17.37	17.36	17.37
		50	0	17.42	17.46	17.33
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		18625	18900	19175
		Frequency (MHz)		1852.5	1880	1907.5
5M	QPSK	1	0	19.38	19.41	19.32
		1	12	19.40	19.44	19.33
		1	24	19.27	19.35	19.27
		12	0	18.51	18.53	18.46
		12	6	18.52	18.51	18.37
		12	13	18.25	18.40	18.17
		25	0	18.34	18.43	18.22
5M	16QAM	1	0	18.31	18.35	18.25
		1	12	18.29	18.30	18.21
		1	24	18.14	18.24	18.08
		12	0	17.38	17.49	17.30
		12	6	17.47	17.45	17.45
		12	13	17.38	17.37	17.39
		25	0	17.35	17.37	17.37

*EIRP (dBm) = Conducted Output Power (dBm) + Antenna Gain (dBi)

LTE Band 2						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		18615	18900	19185
		Frequency (MHz)		1851.5	1880	1908.5
3M	QPSK	1	0	19.33	19.38	19.23
		1	7	19.22	19.33	19.28
		1	14	19.27	19.21	19.17
		8	0	18.46	18.44	18.40
		8	3	18.33	18.34	18.31
		8	7	18.16	18.28	18.14
		15	0	18.24	18.36	18.14
3M	16QAM	1	0	18.21	18.29	18.12
		1	7	18.17	18.19	18.08
		1	14	18.06	18.12	18.06
		8	0	17.32	17.42	17.21
		8	3	17.38	17.36	17.35
		8	7	17.23	17.27	17.27
		15	0	17.31	17.34	17.22
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		18607	18900	19193
		Frequency (MHz)		1850.7	1880	1909.3
1.4M	QPSK	1	0	19.25	19.29	19.20
		1	2	19.20	19.18	19.23
		1	5	19.24	19.12	19.03
		3	0	19.34	19.35	19.32
		3	1	19.19	19.23	19.31
		3	3	19.06	19.13	19.00
		6	0	18.12	18.24	18.12
1.4M	16QAM	1	0	18.21	18.16	18.09
		1	2	18.03	18.07	18.07
		1	5	18.01	18.03	17.92
		3	0	18.18	18.42	18.09
		3	1	18.34	18.35	18.22
		3	3	18.15	18.14	18.26
		6	0	17.22	17.28	17.21

*EIRP (dBm) = Conducted Output Power (dBm) + Antenna Gain (dBi)

LTE Band 25						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26140	26365	26590
		Frequency (MHz)		1860	1882.5	1905
20M	QPSK	1	0	20.20	20.32	20.18
		1	50	20.22	20.27	20.15
		1	99	20.19	20.23	20.10
		50	0	19.31	19.37	19.25
		50	25	19.28	19.33	19.23
		50	50	19.21	19.23	19.14
		100	0	19.23	19.31	19.18
20M	16QAM	1	0	18.97	19.00	18.96
		1	50	18.86	18.91	18.80
		1	99	18.82	18.87	18.75
		50	0	18.37	18.39	18.28
		50	25	18.18	18.27	18.20
		50	50	18.15	18.23	18.15
		100	0	18.18	18.21	18.17
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26115	26365	26615
		Frequency (MHz)		1857.5	1882.5	1907.5
15M	QPSK	1	0	20.13	20.30	20.15
		1	37	20.14	20.20	20.11
		1	74	20.11	20.21	20.06
		36	0	19.28	19.35	19.15
		36	19	19.22	19.25	19.22
		36	39	19.17	19.23	19.11
		75	0	19.18	19.28	19.11
15M	16QAM	1	0	18.90	18.92	18.90
		1	37	18.86	18.87	18.76
		1	74	18.72	18.82	18.72
		36	0	18.37	18.36	18.19
		36	19	18.15	18.23	18.11
		36	39	18.07	18.14	18.07
		75	0	18.18	18.14	18.17

*EIRP (dBm) = Conducted Output Power (dBm) + Antenna Gain (dBi)

LTE Band 25						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26090	26365	26640
		Frequency (MHz)		1855	1882.5	1910
10M	QPSK	1	0	20.12	20.26	20.12
		1	24	20.20	20.18	20.08
		1	49	20.12	20.20	20.07
		25	0	19.27	19.28	19.23
		25	12	19.22	19.26	19.13
		25	25	19.17	19.19	19.04
		50	0	19.21	19.24	19.08
10M	16QAM	1	0	18.91	18.91	18.90
		1	24	18.80	18.88	18.78
		1	49	18.77	18.84	18.72
		25	0	18.33	18.32	18.24
		25	12	18.16	18.25	18.18
		25	25	18.15	18.21	18.06
		50	0	18.16	18.13	18.11
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26065	26365	26665
		Frequency (MHz)		1852.5	1882.5	1912.5
5M	QPSK	1	0	20.18	20.23	20.18
		1	12	20.21	20.18	20.13
		1	24	20.13	20.13	20.00
		12	0	19.23	19.34	19.22
		12	6	19.28	19.33	19.23
		12	13	19.12	19.18	19.04
		25	0	19.17	19.22	19.08
5M	16QAM	1	0	18.94	18.90	18.93
		1	12	18.78	18.85	18.76
		1	24	18.78	18.81	18.72
		12	0	18.27	18.34	18.21
		12	6	18.09	18.27	18.17
		12	13	18.12	18.15	18.05
		25	0	18.10	18.11	18.15

*EIRP (dBm) = Conducted Output Power (dBm) + Antenna Gain (dBi)

LTE Band 25						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26055	26365	26675
		Frequency (MHz)		1851.5	1882.5	1913.5
3M	QPSK	1	0	20.08	20.20	20.07
		1	7	20.07	20.16	19.95
		1	14	20.02	20.08	20.00
		8	0	19.14	19.24	19.12
		8	3	19.08	19.19	19.13
		8	7	19.09	19.03	19.00
		15	0	19.07	19.13	19.03
3M	16QAM	1	0	18.79	18.82	18.83
		1	7	18.69	18.77	18.62
		1	14	18.70	18.74	18.60
		8	0	18.21	18.25	18.10
		8	3	18.05	18.08	18.00
		8	7	18.03	18.10	18.01
		15	0	17.98	18.02	18.01
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		26047	26365	26683
		Frequency (MHz)		1850.7	1882.5	1914.3
1.4M	QPSK	1	0	20.00	20.16	20.03
		1	2	20.07	20.14	19.95
		1	5	19.98	19.98	20.04
		3	0	20.07	20.13	20.02
		3	1	20.04	20.10	20.11
		3	3	20.14	19.97	19.91
		6	0	19.00	19.12	19.02
1.4M	16QAM	1	0	18.70	18.73	18.73
		1	2	18.67	18.68	18.55
		1	5	18.65	18.78	18.64
		3	0	19.13	19.26	19.00
		3	1	19.03	18.99	18.96
		3	3	19.00	19.05	19.01
		6	0	18.00	18.06	17.93

*EIRP (dBm) = Conducted Output Power (dBm) + Antenna Gain (dBi)

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 0.8 m (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 1 m to 4 m 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.

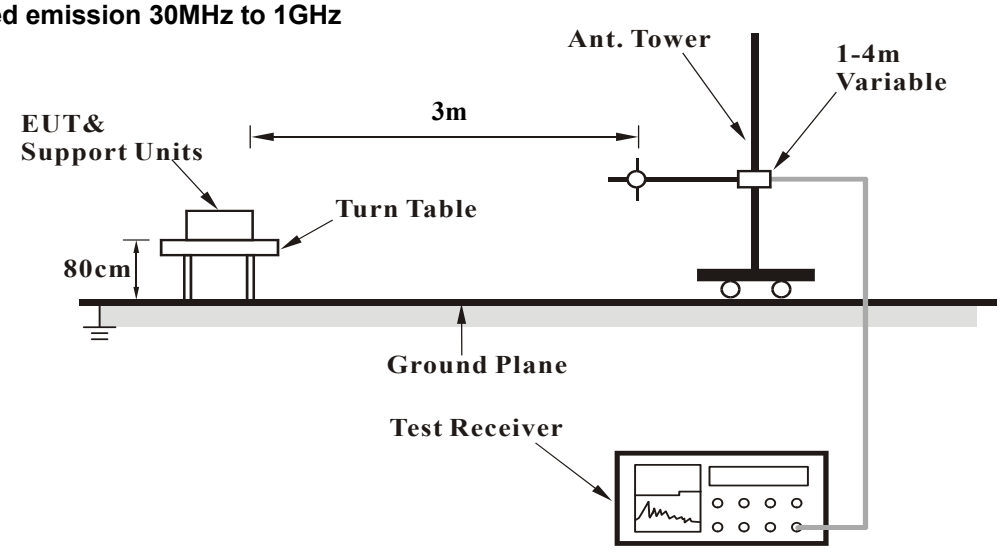
Note:
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.
2. The emission levels were against the limit of frequency range 9 kHz ~ 30 MHz:
The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

4.2.3 Deviation from Test Standard

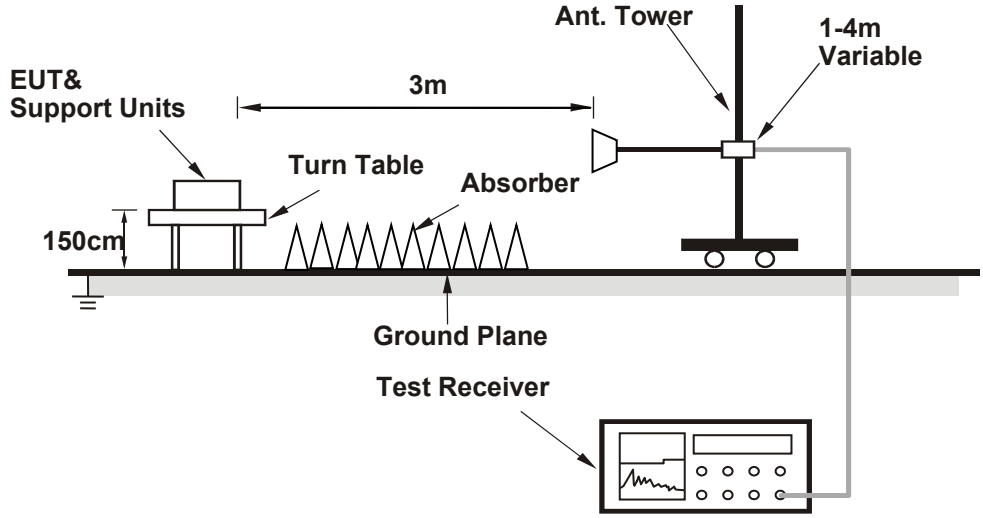
No deviation.

4.2.4 Test Setup

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

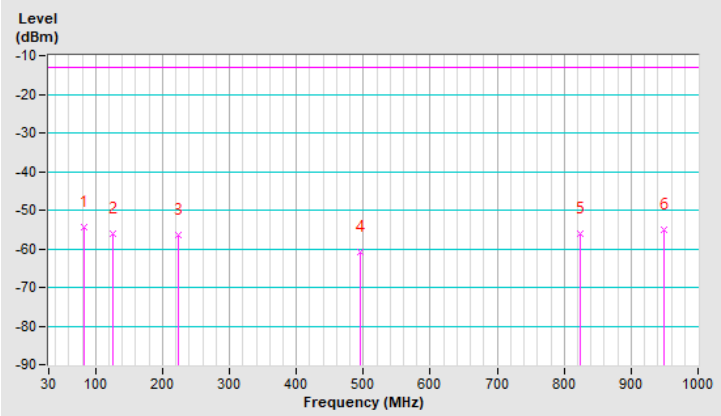
GSM 1900

Mode	TX channel 810 (1909.8MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	24deg. C, 78%RH	Input Power	120Vac, 60Hz (System)
Tested By	Vincent Chen		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	82.38	-54.34	-13.00	-41.34	1.00 H	207	58.24	-112.58
2	125.06	-56.12	-13.00	-43.12	1.50 H	258	53.01	-109.13
3	223.03	-56.61	-13.00	-43.61	2.00 H	12	54.54	-111.15
4	494.63	-60.88	-13.00	-47.88	1.00 H	18	41.44	-102.32
5	823.46	-56.08	-13.00	-43.08	2.00 H	91	40.65	-96.73
6	948.59	-55.11	-13.00	-42.11	1.50 H	171	40.58	-95.69

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

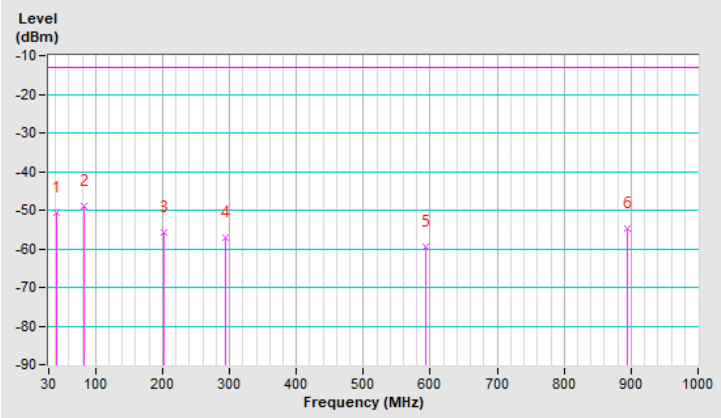


Mode	TX channel 810 (1909.8MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	24deg. C, 78%RH	Input Power	120Vac, 60Hz (System)
Tested By	Vincent Chen		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	41.64	-50.51	-13.00	-37.51	1.00 V	74	57.08	-107.59
2	82.38	-48.88	-13.00	-35.88	1.50 V	156	63.70	-112.58
3	202.66	-55.91	-13.00	-42.91	1.00 V	357	55.01	-110.92
4	294.81	-57.26	-13.00	-44.26	1.50 V	151	49.90	-107.16
5	592.60	-59.38	-13.00	-46.38	2.00 V	12	41.40	-100.78
6	894.27	-54.90	-13.00	-41.90	1.50 V	184	41.45	-96.35

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.



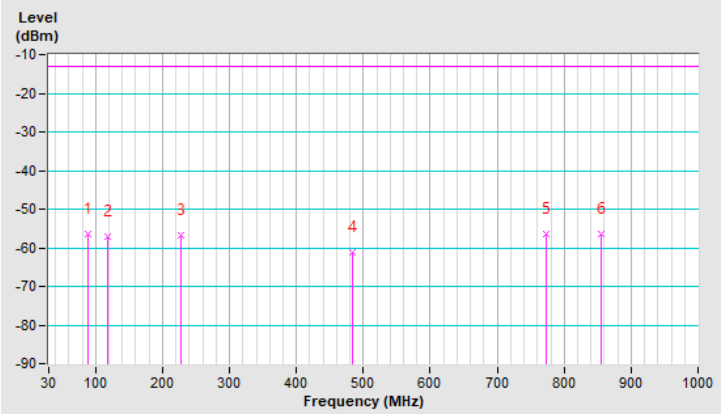
EDGE 1900

Mode	TX channel 810 (1909.8MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	24deg. C, 78%RH	Input Power	120Vac, 60Hz (System)
Tested By	Vincent Chen		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	89.17	-56.40	-13.00	-43.40	1.00 H	214	56.87	-113.27
2	118.27	-57.09	-13.00	-44.09	1.50 H	239	52.62	-109.71
3	226.91	-56.89	-13.00	-43.89	2.00 H	1	54.02	-110.91
4	483.96	-61.17	-13.00	-48.17	1.50 H	171	41.39	-102.56
5	773.99	-56.51	-13.00	-43.51	1.00 H	274	40.45	-96.96
6	855.47	-56.44	-13.00	-43.44	2.00 H	107	40.37	-96.81

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

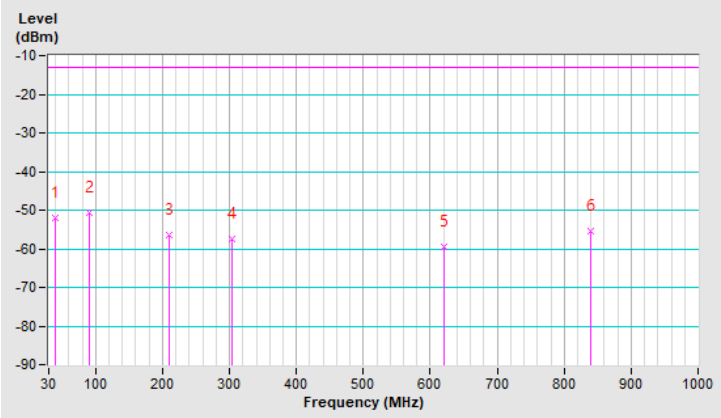


Mode	TX channel 810 (1909.8MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	24deg. C, 78%RH	Input Power	120Vac, 60Hz (System)
Tested By	Vincent Chen		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	39.70	-52.06	-13.00	-39.06	1.00 V	77	55.77	-107.83
2	91.11	-50.78	-13.00	-37.78	1.50 V	211	62.40	-113.18
3	209.45	-56.57	-13.00	-43.57	1.50 V	2	54.34	-110.91
4	303.54	-57.36	-13.00	-44.36	2.00 V	136	49.58	-106.94
5	619.76	-59.48	-13.00	-46.48	1.50 V	355	40.61	-100.09
6	839.95	-55.45	-13.00	-42.45	1.00 V	256	41.30	-96.75

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.



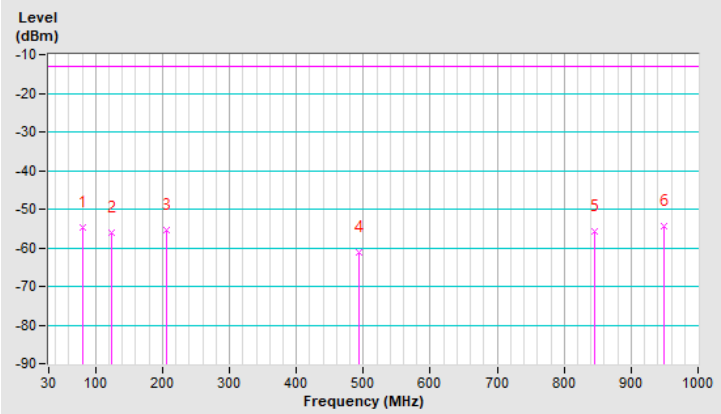
WCDMA Band 2

Mode	TX channel 9538 (1907.6MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	24deg. C, 78%RH	Input Power	120Vac, 60Hz (System)
Tested By	Vincent Chen		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	80.44	-54.79	-13.00	-41.79	1.00 H	194	57.41	-112.20
2	124.09	-55.99	-13.00	-42.99	2.00 H	246	53.22	-109.21
3	206.54	-55.31	-13.00	-42.31	2.00 H	273	55.62	-110.93
4	492.69	-61.19	-13.00	-48.19	1.50 H	246	41.16	-102.35
5	844.80	-55.70	-13.00	-42.70	1.50 H	250	41.11	-96.81
6	948.59	-54.57	-13.00	-41.57	1.50 H	76	41.12	-95.69

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

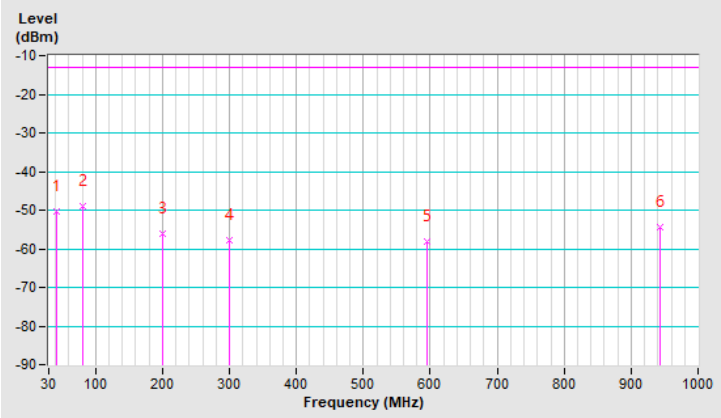


Mode	TX channel 9538 (1907.6MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	24deg. C, 78%RH	Input Power	120Vac, 60Hz (System)
Tested By	Vincent Chen		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	42.61	-50.41	-13.00	-37.41	2.00 V	151	57.20	-107.61
2	81.41	-49.08	-13.00	-36.08	1.50 V	159	63.35	-112.43
3	199.75	-56.04	-13.00	-43.04	1.00 V	5	54.85	-110.89
4	300.63	-57.92	-13.00	-44.92	1.50 V	141	49.08	-107.00
5	595.51	-58.28	-13.00	-45.28	1.00 V	33	42.45	-100.73
6	942.77	-54.25	-13.00	-41.25	1.50 V	266	41.56	-95.81

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.



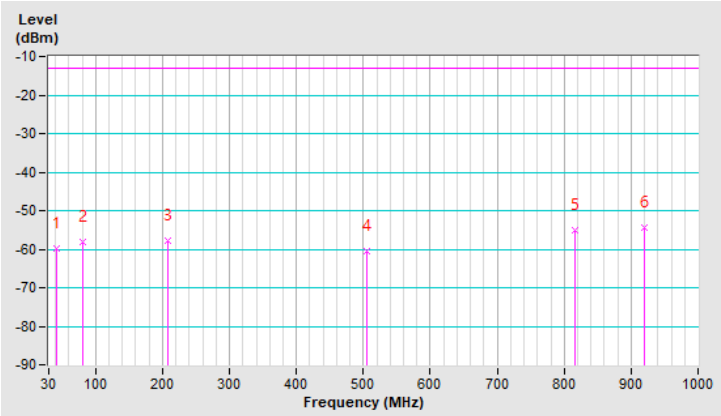
LTE Band 2, Channel Bandwidth 1.4MHz

Mode	TX channel 19193 (1909.3MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	24deg. C, 78%RH	Input Power	120Vac, 60Hz (System)
Tested By	Vincent Chen		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	41.64	-59.68	-13.00	-46.68	1.00 H	129	47.91	-107.59
2	80.44	-58.19	-13.00	-45.19	1.50 H	222	54.01	-112.20
3	207.51	-57.91	-13.00	-44.91	1.00 H	259	53.01	-110.92
4	504.33	-60.61	-13.00	-47.61	2.00 H	226	41.41	-102.02
5	816.67	-54.97	-13.00	-41.97	2.00 H	24	41.78	-96.75
6	920.46	-54.54	-13.00	-41.54	1.50 H	222	41.53	-96.07

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

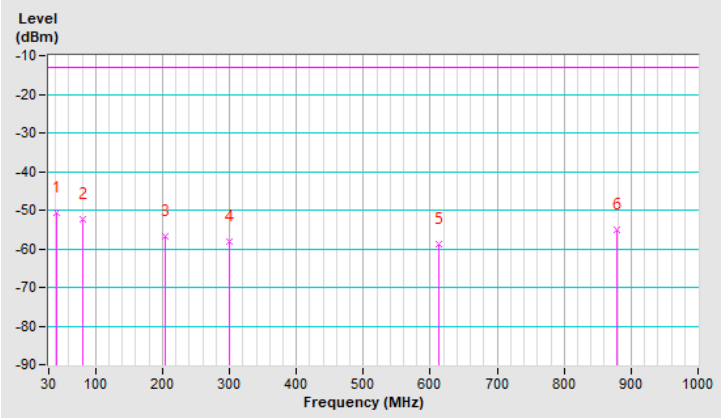


Mode	TX channel 19193 (1909.3MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	24deg. C, 78%RH	Input Power	120Vac, 60Hz (System)
Tested By	Vincent Chen		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	41.64	-50.81	-13.00	-37.81	1.00 V	132	56.78	-107.59
2	81.41	-52.24	-13.00	-39.24	2.00 V	192	60.19	-112.43
3	203.63	-56.77	-13.00	-43.77	1.50 V	11	54.16	-110.93
4	299.66	-58.04	-13.00	-45.04	1.00 V	161	48.99	-107.03
5	612.97	-58.93	-13.00	-45.93	1.00 V	2	41.32	-100.25
6	879.72	-55.21	-13.00	-42.21	1.50 V	31	41.32	-96.53

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.



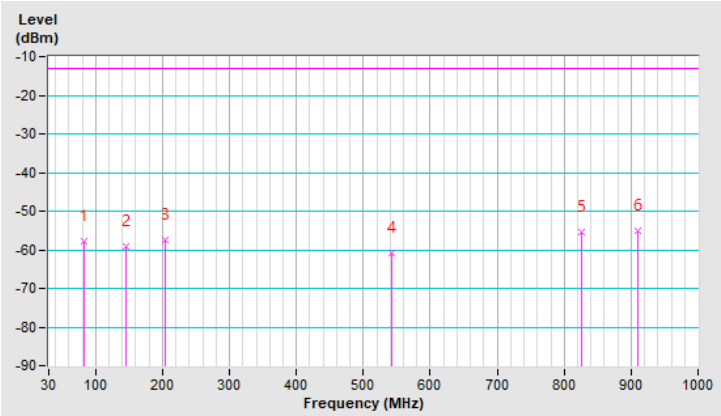
LTE Band 25, Channel Bandwidth 20MHz

Mode	TX channel 26365 (1882.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	24deg. C, 78%RH	Input Power	120Vac, 60Hz (System)
Tested By	Vincent Chen		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	82.38	-57.82	-13.00	-44.82	1.00 H	225	54.76	-112.58
2	145.43	-59.23	-13.00	-46.23	1.50 H	264	48.53	-107.76
3	203.63	-57.34	-13.00	-44.34	1.00 H	245	53.59	-110.93
4	543.13	-60.73	-13.00	-47.73	1.50 H	2	40.83	-101.56
5	826.37	-55.34	-13.00	-42.34	2.00 H	204	41.41	-96.75
6	910.76	-55.06	-13.00	-42.06	1.50 H	35	41.08	-96.14

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

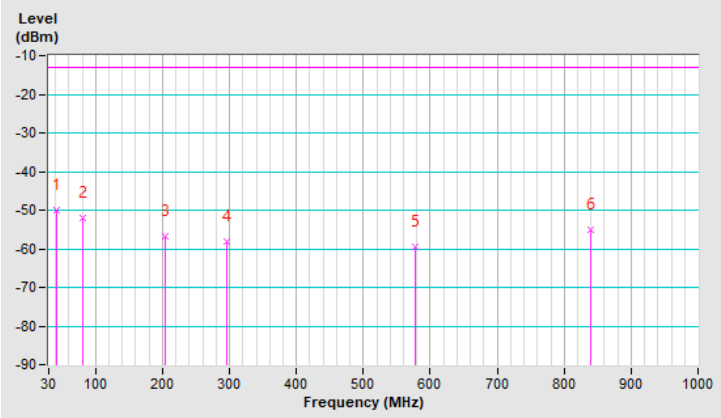


Mode	TX channel 26365 (1882.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	24deg. C, 78%RH	Input Power	120Vac, 60Hz (System)
Tested By	Vincent Chen		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	42.61	-50.12	-13.00	-37.12	1.00 V	118	57.49	-107.61
2	80.44	-52.01	-13.00	-39.01	1.50 V	163	60.19	-112.20
3	204.60	-56.89	-13.00	-43.89	2.00 V	350	54.06	-110.95
4	296.75	-58.27	-13.00	-45.27	1.50 V	139	48.84	-107.11
5	577.08	-59.58	-13.00	-46.58	1.00 V	148	41.54	-101.12
6	838.98	-55.10	-13.00	-42.10	1.00 V	18	41.64	-96.74

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.



Above 1GHz
GSM 1900

Mode	TX channel 512 (1850.2MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	19deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3700.40	-41.68	-13.00	-28.68	1.26 H	160	67.20	-108.88
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3700.40	-44.58	-13.00	-31.58	1.82 V	143	64.30	-108.88

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 661 (1880.0MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	19deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-41.61	-13.00	-28.61	1.12 H	142	67.38	-108.99
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-44.53	-13.00	-31.53	1.75 V	139	64.46	-108.99

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 810 (1909.8MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	19deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3819.60	-41.42	-13.00	-28.42	1.09 H	157	67.42	-108.84
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3819.60	-44.29	-13.00	-31.29	1.73 V	139	64.55	-108.84

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

EDGE 1900

Mode	TX channel 512 (1850.2MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	19deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3700.40	-41.88	-13.00	-28.88	1.16 H	155	67.00	-108.88
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3700.40	-44.60	-13.00	-31.60	1.75 V	156	64.28	-108.88

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 661 (1880.0MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	19deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-41.64	-13.00	-28.64	1.05 H	157	67.35	-108.99
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-44.57	-13.00	-31.57	1.65 V	142	64.42	-108.99

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 810 (1909.8MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	19deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3819.60	-41.43	-13.00	-28.43	1.08 H	152	67.41	-108.84
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3819.60	-44.32	-13.00	-31.32	1.62 V	142	64.52	-108.84

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

WCDMA Band 2

Mode	TX channel 9262 (1852.4MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	19deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3704.80	-44.15	-13.00	-31.15	2.80 H	277	64.73	-108.88
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3704.80	-47.12	-13.00	-34.12	1.20 V	122	61.76	-108.88

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 9400 (1880.0MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	19deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-44.13	-13.00	-31.13	3.14 H	296	64.86	-108.99
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-47.44	-13.00	-34.44	1.79 V	255	61.55	-108.99

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 9538 (1907.6MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	19deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3815.20	-43.94	-13.00	-30.94	2.95 H	98	64.92	-108.86
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3815.20	-47.40	-13.00	-34.40	1.74 V	152	61.46	-108.86

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

LTE Band 2, Channel Bandwidth 1.4MHz

Mode	TX channel 18607 (1850.7MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	19deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3701.40	-41.32	-13.00	-28.32	1.12 H	242	67.56	-108.88
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3701.40	-46.02	-13.00	-33.02	2.75 V	44	62.86	-108.88

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 18900 (1880.0MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	19deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-41.28	-13.00	-28.28	1.23 H	258	67.71	-108.99
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-45.97	-13.00	-32.97	2.85 V	48	63.02	-108.99

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 19193 (1909.3MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	19deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	**3818.60**	**-41.19**	**-13.00**	**-28.19**	**1.15 H**	**242**	**67.65**	**-108.84**
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3818.60	-45.87	-13.00	-32.87	2.62 V	75	62.97	-108.84

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

LTE Band 2, Channel Bandwidth 5MHz

Mode	TX channel 18625 (1852.5MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	19deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3705.00	-42.13	-13.00	-29.13	2.65 H	55	66.75	-108.88
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3705.00	-45.81	-13.00	-32.81	2.65 V	55	63.07	-108.88

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 18900 (1880.0MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	19deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-42.03	-13.00	-29.03	1.05 H	287	66.96	-108.99
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-45.74	-13.00	-32.74	2.75 V	62	63.25	-108.99

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 19175 (1907.5MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	19deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3815.00	-42.03	-13.00	-29.03	1.15 H	265	66.85	-108.88
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3815.00	-45.75	-13.00	-32.75	2.62 V	54	63.13	-108.88

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

LTE Band 2, Channel Bandwidth 20MHz

Mode	TX channel 18700 (1860.0MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	19deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3720.00	-42.08	-13.00	-29.08	1.02 H	315	66.85	-108.93
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3720.00	-45.91	-13.00	-32.91	2.42 V	87	63.02	-108.93

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 18900 (1880.0MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	19deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-41.95	-13.00	-28.95	1.00 H	348	67.04	-108.99
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3760.00	-45.62	-13.00	-32.62	2.73 V	52	63.37	-108.99

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 19100 (1900.0MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	19deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3800.00	-42.03	-13.00	-29.03	1.06 H	325	66.97	-109.00
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3800.00	-45.74	-13.00	-32.74	2.67 V	48	63.26	-109.00

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

LTE Band 25, Channel Bandwidth 1.4MHz

Mode	TX channel 26047 (1850.7MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	19deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3701.40	-43.65	-13.00	-30.65	1.15 H	23	65.23	-108.88
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3701.40	-47.36	-13.00	-34.36	2.87 V	64	61.52	-108.88

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 26365 (1882.5MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	19deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3765.00	-43.52	-13.00	-30.52	1.17 H	296	65.48	-109.00
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3765.00	-47.23	-13.00	-34.23	2.90 V	74	61.77	-109.00

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 26683 (1914.3MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	19deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3828.60	-43.37	-13.00	-30.37	1.32 H	66	65.39	-108.76
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3828.60	-47.11	-13.00	-34.11	2.74 V	77	61.65	-108.76

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

LTE Band 25, Channel Bandwidth 5MHz

Mode	TX channel 26065 (1852.5MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	19deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3705.00	-43.50	-13.00	-30.50	1.10 H	318	65.38	-108.88
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3705.00	-47.13	-13.00	-34.13	2.93 V	72	61.75	-108.88

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 26365 (1882.5MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	19deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3765.00	-43.48	-13.00	-30.48	1.23 H	332	65.52	-109.00
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3765.00	-47.07	-13.00	-34.07	2.85 V	68	61.93	-109.00

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 26665 (1912.5MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	19deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3825.00	-43.35	-13.00	-30.35	1.12 H	328	65.43	-108.78
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3825.00	-46.91	-13.00	-33.91	2.77 V	65	61.87	-108.78

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

LTE Band 25, Channel Bandwidth 20MHz

Mode	TX channel 26140 (1860.0MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	19deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3720.00	-43.51	-13.00	-30.51	1.16 H	288	65.42	-108.93
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3720.00	-47.06	-13.00	-34.06	2.93 V	40	61.87	-108.93

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 26365 (1882.5MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	19deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3765.00	-43.33	-13.00	-30.33	1.01 H	345	65.67	-109.00
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3765.00	-46.97	-13.00	-33.97	2.96 V	51	62.03	-109.00

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Mode	TX channel 26590 (1905.0MHz)	Frequency Range	1GHz ~ 20GHz
Environmental Conditions	19deg. C, 67%RH	Input Power	120Vac, 60Hz (System)
Tested By	Thomas Cheng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3810.00	-43.39	-13.00	-30.39	1.15 H	325	65.53	-108.92
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3810.00	-46.96	-13.00	-33.96	2.85 V	63	61.96	-108.92

Remarks:

1. EIRP(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
3. Margin value = EIRP – Limit value
4. The other EIRP 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.

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

Lin Kou EMC/RF Lab
Tel: 886-2-26052180
Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab
Tel: 886-3-6668565
Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab
Tel: 886-3-3183232
Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com
Web Site: http://ee.bureauveritas.com.tw

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

--- END ---