

Partial FCC Test Report

(PART 27)

Report No.: RFBBGM-WTW-P22050652-6

FCC ID: WIYSLM500QA

Test Model: SLM500

Received Date: May 20, 2022

Test Date: Jun. 03 ~ Aug. 02, 2022

Issued Date: Aug. 25, 2022

Applicant: CASTLES TECHNOLOGY CO., LTD.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lin Kou Laboratories

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Test Location (2): B2F., No.215, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City 231, Taiwan

FCC Registration / 788550 / TW0003

Designation Number: 427177 / TW0011



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Release Control Record

Issue No.	Description	Date Issued
RFBBGM-WTW-P22050652-6	Original Release	Aug. 25, 2022

1 Certificate of Conformity

Product: Smart module

Brand:  **CASTLES**
TECHNOLOGY

Test Model: SLM500

Sample Status: Identical Prototype

Applicant: CASTLES TECHNOLOGY CO., LTD.

Test Date: Jun. 03 ~ Aug. 02, 2022

Standards: FCC Part 27, Subpart C, H, F, L, M

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 : Lena Wang, **Date:** Aug. 25, 2022
Lena Wang / Specialist

Approved by : Jeremy Lin, **Date:** Aug. 25, 2022
Jeremy Lin / Project Engineer

2 Summary of Test Results

Applied Standard: FCC Part 27 & Part 2								
FCC Clause						Test Item	Result	Remarks
WCDMA B4 / LTE B4	LTE B12	LTE B13	LTE B17	LTE B7	LTE B66			
2.1046 27.50 (d)(4)	2.1046 27.50 (c)	2.1046 27.50 (b)	2.1046 27.50 (c)	2.1046 27.50 (h)(2)	2.1046 27.50 (d)(4)	Equivalent Isotropically Radiated Power / Equivalent Radiated Power	Pass	Meet the requirement of limit.
2.1047	2.1047	2.1047	2.1047	2.1047	2.1047	Modulation characteristics	N/A	Refer to Note
27.50 (d)(5)	----	----	----	----	27.50 (d)(5)	Peak To Average Ratio	N/A	Refer to Note
2.1055 27.54	2.1055 27.54	2.1055 27.54	2.1055 27.54	2.1055 27.54	2.1055 27.54	Frequency Stability	N/A	Refer to Note
2.1049	2.1049	2.1049	2.1049	2.1049	2.1049	Emission Bandwidth	N/A	Refer to Note
2.1051 27.53 (h)	2.1051 27.53 (g)	2.1051 27.53 (c)	2.1051 27.53 (g)	2.1051 27.53 (m)(4)(6)	2.1051 27.53 (h)	Out of Band Emission Measurements	N/A	Refer to Note
2.1051 27.53 (h)	2.1051 27.53 (g)	2.1051 27.53 (c)(f)	2.1051 27.53 (g)	2.1051 27.53 (m)(4)(6)	2.1051 27.53 (h)	Conducted Spurious Emissions	N/A	Refer to Note
2.1053 27.53 (h)	2.1053 27.53 (g)	2.1053 27.53 (c)(f)	2.1053 27.53 (g)	2.1053 27.53 (m)(4)(6)	2.1053 27.53 (h)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -17.41 dB at 1559.00 MHz.

Note:

1. This report is a partial report. Therefore, only test item of Equivalent Isotropically Radiated Power / Equivalent Radiated Power and Radiated Spurious Emissions tests were performed for this report. Other testing data please refer to SGS report no.: SZCR210300003005 & SZCR210300003006 & SZCR210300003007.
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) ($\pm$)
Radiated Emissions up to 1 GHz	9 kHz ~ 30 MHz	3.0400 dB
	30 MHz ~ 200 MHz	2.0153 dB
	200 MHz ~ 1000 MHz	2.0224 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	1.0121 dB
	18 GHz ~ 40 GHz	1.1508 dB

2.2 Test Site and Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent	N9038A	MY52260177	Sep. 01, 2021	Aug. 31, 2022
Spectrum Analyzer R&S	FSU43	101261	Apr. 11, 2022	Apr. 10, 2023
Horn Antenna ETS-Lindgren	3117	00143293	Nov. 14, 2021	Nov. 13, 2022
Bi_Log Antenna Schwarzbeck	VULB9168	9168-616	Oct. 27, 2021	Oct. 26, 2022
Horn Antenna Schwarzbeck	BBHA 9170	9170-480	Nov. 14, 2021	Nov. 13, 2022
Attenuator WOKEN	MDCS18N-10	MDCS18N-10-01	Apr. 05, 2022	Apr. 04, 2023
Loop Antenna EMCI	EM-6879	269	Sep. 16, 2021	Sep. 15, 2022
MXG Vector signal generator Agilent	N5182B	MY53050430	Nov. 25, 2021	Nov. 24, 2022
Preamplifier Agilent	310N	187226	Jun. 17, 2021	Jun. 16, 2022
			Jun. 14, 2022	Jun. 13, 2023
Preamplifier Agilent	83017A	MY39501357	Jun. 17, 2021	Jun. 16, 2022
			Jun. 14, 2022	Jun. 13, 2023
Pre-Amplifier EMCI	EMC 184045	980116	Oct. 05, 2021	Oct. 04, 2022
Power Meter Anritsu	ML2495A	1012010	Sep. 09, 2021	Sep. 08, 2022
Power Sensor Anritsu	MA2411B	1315050	Sep. 09, 2021	Sep. 08, 2022
RF Coaxial Cable ETS-Lindgren	EMC104-SM-SM-10000	Cable-CH1-01(RFC-SMS-100-SMS-120+RFC-SMS-100-SMS-4)	Jun. 17, 2021	Jun. 16, 2022
			Jun. 14, 2022	Jun. 13, 2023
RF Coaxial Cable ETS-Lindgren	RFC-SMS-100-SMS-24-IN	Cable-CH1-02(RFC-SMS-100-SMS-24)	Jun. 17, 2021	Jun. 16, 2022
			Jun. 14, 2022	Jun. 13, 2023
Fix tool for Boresight antenna tower BV	BAF-01	10	NA	NA
E3 Software AUDIX	E3	NA	NA	NA
Software BVADT	ADT_Radiated_V8.7.08	NA	NA	NA
Software BVADT	ADT_RF Test Software V6.6.5.4	NA	NA	NA
Antenna Tower MF	NA	NA	NA	NA
Turn Table MF	NA	NA	NA	NA
Controller Max-Full	MF-7802	NA	NA	NA
Radio Communication Analyzer Anritsu	MT8820C	6201525832	Jan. 25, 2022	Jan. 24, 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 HsinTien 966 chamber 6

3 General Information

3.1 General Description of EUT

Product	Smart module		
Brand			
Test Model	SLM500		
Status of EUT	Identical Prototype		
Power Supply Rating	5.0 Vdc (host equipment) 3.85 Vdc (Li-ion battery)		
Modulation Type	WCDMA	BPSK, QPSK	
	HSDPA	BPSK	
	HSUPA	QPSK	
	LTE	QPSK, 16QAM	
Frequency Range	WCDMA Band 4	1712.4 ~ 1752.6 MHz	
	LTE Band 4 (Channel Bandwidth: 1.4 MHz)	1710.7 ~ 1754.3 MHz	
	LTE Band 4 (Channel Bandwidth: 3 MHz)	1711.5 ~ 1753.5 MHz	
	LTE Band 4 (Channel Bandwidth: 5 MHz)	1712.5 ~ 1752.5 MHz	
	LTE Band 4 (Channel Bandwidth: 10 MHz)	1715.0 ~ 1750.0 MHz	
	LTE Band 4 (Channel Bandwidth: 15 MHz)	1717.5 ~ 1747.5 MHz	
	LTE Band 4 (Channel Bandwidth: 20 MHz)	1720.0 ~ 1745.0 MHz	
	LTE Band 7 (Channel Bandwidth: 5 MHz)	2502.5 ~ 2567.5 MHz	
	LTE Band 7 (Channel Bandwidth: 10 MHz)	2505 ~ 2565 MHz	
	LTE Band 7 (Channel Bandwidth: 15 MHz)	2507.5 ~ 2562.5 MHz	
	LTE Band 7 (Channel Bandwidth: 20 MHz)	2510 ~ 2560 MHz	
	LTE Band 12 (Channel Bandwidth: 1.4 MHz)	699.7 ~ 715.3 MHz	
	LTE Band 12 (Channel Bandwidth: 3 MHz)	700.5 ~ 714.5 MHz	
	LTE Band 12 (Channel Bandwidth: 5 MHz)	701.5 ~ 713.5 MHz	
	LTE Band 12 (Channel Bandwidth: 10 MHz)	704.0 ~ 711.0 MHz	
	LTE Band 13 (Channel Bandwidth: 5 MHz)	779.5 ~ 784.5 MHz	
	LTE Band 13 (Channel Bandwidth: 10 MHz)	782.0 MHz	
	LTE Band 17 (Channel Bandwidth: 5 MHz)	706.5 ~ 713.5 MHz	
	LTE Band 17 (Channel Bandwidth: 10 MHz)	709.0 ~ 711.0 MHz	
	LTE Band 66 (Channel Bandwidth: 1.4 MHz)	1710.7 ~ 1779.3 MHz	
	LTE Band 66 (Channel Bandwidth: 3 MHz)	1711.5 ~ 1778.5 MHz	
	LTE Band 66 (Channel Bandwidth: 5 MHz)	1712.5 ~ 1777.5 MHz	
	LTE Band 66 (Channel Bandwidth: 10 MHz)	1715.0 ~ 1775.0 MHz	
	LTE Band 66 (Channel Bandwidth: 15 MHz)	1717.5 ~ 1772.5 MHz	
	LTE Band 66 (Channel Bandwidth: 20 MHz)	1720.0 ~ 1770.0 MHz	
Max. ERP Power		QPSK	16QAM
	LTE Band 12 (Channel Bandwidth: 1.4 MHz)	23.388 mW (13.69dBm)	18.408 mW (12.65dBm)
	LTE Band 12 (Channel Bandwidth: 3 MHz)	23.550 mW (13.72dBm)	18.281 mW (12.62dBm)
	LTE Band 12 (Channel Bandwidth: 5 MHz)	23.442 mW (13.70dBm)	18.707 mW (12.72dBm)

	LTE Band 12 (Channel Bandwidth: 10 MHz)	23.768 mW (13.76dBm)	18.967 mW (12.78dBm)
	LTE Band 13 (Channel Bandwidth: 5 MHz)	69.663 mW (18.43dBm)	53.333 mW (17.27dBm)
	LTE Band 13 (Channel Bandwidth: 10 MHz)	70.958 mW (18.51dBm)	53.951 mW (17.32dBm)
	LTE Band 17 (Channel Bandwidth: 5 MHz)	23.878 mW (13.78dBm)	18.793 mW (12.74dBm)
	LTE Band 17 (Channel Bandwidth: 10 MHz)	23.659 mW (13.74dBm)	18.621 mW (12.70dBm)
Max. EIRP Power	WCDMA	195.434 mW (22.91dBm)	
	LTE Band 4 (Channel Bandwidth: 1.4 MHz)	162.555 mW (22.11dBm)	139.316 mW (21.44dBm)
	LTE Band 4 (Channel Bandwidth: 3 MHz)	163.682 mW (22.14dBm)	140.929 mW (21.49dBm)
	LTE Band 4 (Channel Bandwidth: 5 MHz)	164.059 mW (22.15dBm)	140.605 mW (21.48dBm)
	LTE Band 4 (Channel Bandwidth: 10 MHz)	165.577 mW (22.19dBm)	136.773 mW (21.36dBm)
	LTE Band 4 (Channel Bandwidth: 15 MHz)	166.725 mW (22.22dBm)	141.906 mW (21.52dBm)
	LTE Band 4 (Channel Bandwidth: 20 MHz)	169.044 mW (22.28dBm)	143.549 mW (21.57dBm)
	LTE Band 7 (Channel Bandwidth: 5 MHz)	107.152 mW (20.30dBm)	82.604 mW (19.17dBm)
	LTE Band 7 (Channel Bandwidth: 10 MHz)	104.232 mW (20.18dBm)	83.176 mW (19.20dBm)
	LTE Band 7 (Channel Bandwidth: 15 MHz)	107.152 mW (20.30dBm)	84.918 mW (19.29dBm)
	LTE Band 7 (Channel Bandwidth: 20 MHz)	108.143 mW (20.34dBm)	85.901 mW (19.34dBm)
	LTE Band 66 (Channel Bandwidth: 1.4 MHz)	176.198 mW (22.46dBm)	140.605 mW (21.48dBm)
	LTE Band 66 (Channel Bandwidth: 3 MHz)	175.388 mW (22.44dBm)	135.207 mW (21.31dBm)
	LTE Band 66 (Channel Bandwidth: 5 MHz)	178.238 mW (22.51dBm)	135.519 mW (21.32dBm)
	LTE Band 66 (Channel Bandwidth: 10 MHz)	179.473 mW (22.54dBm)	136.773 mW (21.36dBm)
	LTE Band 66 (Channel Bandwidth: 15 MHz)	180.717 mW (22.57dBm)	137.088 mW (21.37dBm)
	LTE Band 66 (Channel Bandwidth: 20 MHz)	182.390 mW (22.61dBm)	138.357 mW (21.41dBm)
Antenna Type	Refer to Note as below		

Antenna Gain	Refer to Note as below
Accessory Device	N/A
Data Cable Supplied	N/A

Note:

1. This report is prepared for FCC class II permissive change. This report is issued as a supplementary report of SGS report no.: SZCR210300003006, SZCR210300003007. The differences from the original report are adding an End-product (POS Terminal (Brand: Adyen, Model: AMS1)). Only Equivalent Isotropically Radiated Power / Equivalent Radiated Power and Radiated Spurious Emissions tests were verified and recorded in this report. Other testing data please refer to the original SGS report no.: SZCR210300003006, SZCR210300003007. And Modular has C2PC the Major change is mainly for GSM power retest. When testing, the modified sample is used for testing.
2. The EUT was installed in POS Terminal (Brand: Adyen, Model: AMS1).
3. The POS Terminal contains following accessory devices.

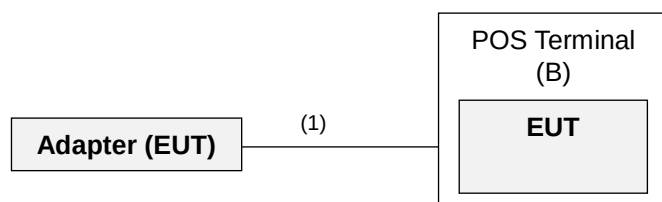
Product	Brand	Model	Description
Adapter	 CASTLES TECHNOLOGY	1A52-UB52A	I/P: 100-240 Vac, 50/60 Hz, 0.3 A O/P: 5 Vdc, 2 A
Battery	CASTLES TECHNOLOGY	S1AMS1	3.85 Vdc
USB Cable	CHANG YANG ELECTRONICS CO.,LTD	CY-AS-HK0059	0.95 m shielded cable w/o core

4. The antenna information of POS Terminal is listed as below.

Antenna Type	PIFA														
Band	GSM		WCDMA			LTE									
	850	1900	II	IV	V	2	4	5	7	12	13	17	25	26	66
Gain	-0.97	1.06	1.06	1.55	-0.97	1.06	1.55	-0.97	-0.17	-6.48	-1.96	-6.48	1.06	-0.38	1.55

5. Detail antenna specification please refer to antenna datasheet and/or antenna measurement report.
6. 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.
7. BT & WWAN & NFC (FCC ID: WIYAMS1001) technology can transmit at same time.
8. WLAN 2.4G & WWAN & NFC (FCC ID: WIYAMS1001) technology can transmit at same time.
9. WLAN 5G & WWAN & NFC (FCC ID: WIYAMS1001) technology can transmit at same time.

3.2 Configuration of System under Test



Remote site



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.

No.	Product	Brand	Model No.	Serial No.	FCC ID
A	Radio Communication Analyzer	Anritsu	MT8820C	6201525832	NA
B	POS Terminal	Adyen	AMS1	NA	NA

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

Note:

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

3.3 Test Mode Applicability and Tested Channel Detail

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

WCDMA

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Mode
-	EIRP	1312 to 1513	1312, 1413, 1513	WCDMA
-	Radiated Emission	1312 to 1513	1312	WCDMA

LTE Band 4

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	EIRP	19957 to 20393	19957, 20175, 20393	1.4 MHz	QPSK, 16QAM	1 RB / 0 RB Offset 1 RB / 2 RB Offset 1 RB / 5 RB Offset 3 RB / 0 RB Offset 3 RB / 1 RB Offset 3 RB / 3 RB Offset 6 RB / 0 RB Offset
		19965 to 20385	19965, 20175, 20385	3 MHz	QPSK, 16QAM	1 RB / 0 RB Offset 1 RB / 7 RB Offset 1 RB / 14 RB Offset 8 RB / 0 RB Offset 8 RB / 3 RB Offset 8 RB / 7 RB Offset 15 RB / 0 RB Offset
		19975 to 20375	19975, 20175, 20375	5 MHz	QPSK, 16QAM	1 RB / 0 RB Offset 1 RB / 12 RB Offset 1 RB / 24 RB Offset 12 RB / 0 RB Offset 12 RB / 6 RB Offset 12 RB / 13 RB Offset 25 RB / 0 RB Offset
		20000 to 20350	20000, 20175, 20350	10 MHz	QPSK, 16QAM	1 RB / 0 RB Offset 1 RB / 24 RB Offset 1 RB / 49 RB Offset 25 RB / 0 RB Offset 25 RB / 12 RB Offset 25 RB / 25 RB Offset 50 RB / 0 RB Offset
		20025 to 20325	20025, 20175, 20325	15 MHz	QPSK, 16QAM	1 RB / 0 RB Offset 1 RB / 37 RB Offset 1 RB / 74 RB Offset 36 RB / 0 RB Offset 36 RB / 19 RB Offset 36 RB / 39 RB Offset 75 RB / 0 RB Offset
		20050 to 20300	20050, 20175, 20300	20 MHz	QPSK, 16QAM	1 RB / 0 RB Offset 1 RB / 50 RB Offset 1 RB / 99 RB Offset 50 RB / 0 RB Offset 50 RB / 25 RB Offset 50 RB / 50 RB Offset 100 RB / 0 RB Offset

LTE Band 7

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	EIRP	20775 to 21425	20775, 21100, 21425	5 MHz	QPSK, 16QAM	1 RB / 0 RB Offset 1 RB / 12 RB Offset 1 RB / 24 RB Offset 12 RB / 0 RB Offset 12 RB / 6 RB Offset 12 RB / 13 RB Offset 25 RB / 0 RB Offset
		20800 to 21400	20800, 21100, 21400	10 MHz	QPSK, 16QAM	1 RB / 0 RB Offset 1 RB / 24 RB Offset 1 RB / 49 RB Offset 25 RB / 0 RB Offset 25 RB / 12 RB Offset 25 RB / 25 RB Offset 50 RB / 0 RB Offset
		20825 to 21375	20825, 21100, 21375	15 MHz	QPSK, 16QAM	1 RB / 0 RB Offset 1 RB / 37 RB Offset 1 RB / 74 RB Offset 36 RB / 0 RB Offset 36 RB / 19 RB Offset 36 RB / 39 RB Offset 75 RB / 0 RB Offset
		20850 to 21350	20850, 21100, 21350	20 MHz	QPSK, 16QAM	1 RB / 0 RB Offset 1 RB / 50 RB Offset 1 RB / 99 RB Offset 50 RB / 0 RB Offset 50 RB / 25 RB Offset 50 RB / 50 RB Offset 100 RB / 0 RB Offset

LTE Band 12

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	ERP	23017 to 23173	23017, 23095, 23173	1.4 MHz	QPSK, 16QAM	1 RB / 0 RB Offset 1 RB / 2 RB Offset 1 RB / 5 RB Offset 3 RB / 0 RB Offset 3 RB / 1 RB Offset 3 RB / 3 RB Offset 6 RB / 0 RB Offset
		23025 to 23165	23025, 23095, 23165	3 MHz	QPSK, 16QAM	1 RB / 0 RB Offset 1 RB / 7 RB Offset 1 RB / 14 RB Offset 8 RB / 0 RB Offset 8 RB / 3 RB Offset 8 RB / 7 RB Offset 15 RB / 0 RB Offset
		23035 to 23155	23035, 23095, 23155	5 MHz	QPSK, 16QAM	1 RB / 0 RB Offset 1 RB / 12 RB Offset 1 RB / 24 RB Offset 12 RB / 0 RB Offset 12 RB / 6 RB Offset 12 RB / 13 RB Offset 25 RB / 0 RB Offset
		23060 to 23130	23060, 23095, 23130	10 MHz	QPSK, 16QAM	1 RB / 0 RB Offset 1 RB / 24 RB Offset 1 RB / 49 RB Offset 25 RB / 0 RB Offset 25 RB / 12 RB Offset 25 RB / 25 RB Offset 50 RB / 0 RB Offset

LTE Band 13

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	ERP	23205 to 23255	23205, 23230, 23255	5 MHz	QPSK, 16QAM	1 RB / 0 RB Offset 1 RB / 12 RB Offset 1 RB / 24 RB Offset 12 RB / 0 RB Offset 12 RB / 6 RB Offset 12 RB / 13 RB Offset 25 RB / 0 RB Offset
		23230	23230	10 MHz	QPSK, 16QAM	1 RB / 0 RB Offset 1 RB / 24 RB Offset 1 RB / 49 RB Offset 25 RB / 0 RB Offset 25 RB / 12 RB Offset 25 RB / 25 RB Offset 50 RB / 0 RB Offset
-	Radiated Emission	23205 to 23255	23205	5 MHz	QPSK	1 RB / 13 RB Offset

Note: For radiated emissions, select the worst radiated emission channel for final testing.

LTE Band 17

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	ERP	23755 to 23825	23755, 23790, 23825	5 MHz	QPSK, 16QAM	1 RB / 0 RB Offset 1 RB / 12 RB Offset 1 RB / 24 RB Offset 12 RB / 0 RB Offset 12 RB / 6 RB Offset 12 RB / 13 RB Offset 25 RB / 0 RB Offset
		23780 to 23800	23780, 23790, 23800	10 MHz	QPSK, 16QAM	1 RB / 0 RB Offset 1 RB / 24 RB Offset 1 RB / 49 RB Offset 25 RB / 0 RB Offset 25 RB / 12 RB Offset 25 RB / 25 RB Offset 50 RB / 0 RB Offset

LTE Band 66

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
-	EIRP	131979 to 132665	131979, 132322, 132665	1.4 MHz	QPSK, 16QAM	1 RB / 0 RB Offset 1 RB / 2 RB Offset 1 RB / 5 RB Offset 3 RB / 0 RB Offset 3 RB / 1 RB Offset 3 RB / 3 RB Offset 6 RB / 0 RB Offset
		131987 to 132657	131987, 132322, 132657	3 MHz	QPSK, 16QAM	1 RB / 0 RB Offset 1 RB / 7 RB Offset 1 RB / 14 RB Offset 8 RB / 0 RB Offset 8 RB / 3 RB Offset 8 RB / 7 RB Offset 15 RB / 0 RB Offset
		131997 to 132647	131997, 132322, 132647	5 MHz	QPSK, 16QAM	1 RB / 0 RB Offset 1 RB / 12 RB Offset 1 RB / 24 RB Offset 12 RB / 0 RB Offset 12 RB / 6 RB Offset 12 RB / 13 RB Offset 25 RB / 0 RB Offset
		132022 to 132622	132022, 132322, 132622	10 MHz	QPSK, 16QAM	1 RB / 0 RB Offset 1 RB / 24 RB Offset 1 RB / 49 RB Offset 25 RB / 0 RB Offset 25 RB / 12 RB Offset 25 RB / 25 RB Offset 50 RB / 0 RB Offset
		132047 to 132597	132047, 132322, 132597	15 MHz	QPSK, 16QAM	1 RB / 0 RB Offset 1 RB / 37 RB Offset 1 RB / 74 RB Offset 36 RB / 0 RB Offset 36 RB / 19 RB Offset 36 RB / 39 RB Offset 75 RB / 0 RB Offset
		132072 to 132572	132072, 132322, 132572	20 MHz	QPSK, 16QAM	1 RB / 0 RB Offset 1 RB / 50 RB Offset 1 RB / 99 RB Offset 50 RB / 0 RB Offset 50 RB / 25 RB Offset 50 RB / 50 RB Offset 100 RB / 0 RB Offset

Test Condition:

Test Item	Environmental Conditions	Input Power	Tested By
ERP / EIRP	25 deg. C, 65 % RH	120 Vac, 60 Hz	Wayne Lin
Radiated Emission	25 deg. C, 60 % RH	120 Vac, 60 Hz	Charles Hsaio

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 27

ANSI 63.26-2015

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

References Test Guidance:

KDB 971168 D01 Power Meas License Digital Systems v03r01

ANSI/TIA/EIA-603-E 2016

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

4 Test Types and Results

4.1 Output Power Measurement

4.1.1 Limits of Output Power Measurement

For LTE Band 12, LTE Band 13, LTE Band 17:

Control and mobile stations in the 698-746 MHz, 746-757 MHz, 787-788 MHz and 805-806 MHz band are limited to 30 watts ERP.

Portable stations (hand-held devices) in the 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink, 746-757 MHz, 787-788 MHz and 805-806 MHz band are limited to 3 watts ERP.

For WCDMA Band 4, LTE Band 4, 66:

Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

For LTE Band 7:

Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

4.1.2 Test Procedures

Conducted Power Measurement:

- The EUT was set up for the maximum power with WCDMA and 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:

$$\text{EIRP} = P_{\text{Meas}} + G_T$$

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

where

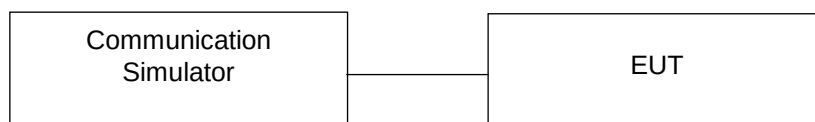
ERP or EIRP effective radiated power or equivalent isotropically radiated power, respectively
(expressed in the same units as P_{Meas} , e.g., dBm or dBW)

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 IV		
Channel	1312	1413	1513
Frequency (MHz)	1712.4	1732.6	1752.6
RMC 12.2K	21.29	21.36	21.23
HSDPA Subtest-1	20.41	20.49	20.31
HSDPA Subtest-2	20.38	20.46	20.33
HSDPA Subtest-3	19.88	19.95	19.86
HSDPA Subtest-4	19.84	19.88	19.82
DC-HSDPA Subtest-1	20.34	20.39	20.3
DC-HSDPA Subtest-2	20.29	20.36	20.27
DC-HSDPA Subtest-3	19.79	19.81	19.74
DC-HSDPA Subtest-4	19.71	19.72	19.7
HSUPA Subtest-1	20.26	20.33	20.22
HSUPA Subtest-2	18.42	18.49	18.39
HSUPA Subtest-3	19.35	19.39	19.31
HSUPA Subtest-4	18.4	18.45	18.37
HSUPA Subtest-5	20.23	20.29	20.19

LTE Band 4						
BW	MCS Index	Channel		19957	20175	20393
		Frequency (MHz)		1710.7	1732.5	1754.3
1.4M	QPSK	1	0	20.06	20.54	20.50
		1	2	19.98	20.56	20.41
		1	5	19.79	20.46	20.41
		3	0	19.00	19.60	19.48
		3	1	18.86	19.56	19.45
		3	3	18.88	19.43	19.38
		6	0	18.74	19.47	19.23
	16QAM	1	0	18.47	19.07	19.01
		1	2	19.25	19.89	19.88
		1	5	18.66	19.20	19.20
		3	0	18.08	18.60	18.45
		3	1	17.92	18.51	18.29
		3	3	17.84	18.36	18.28
		6	0	17.86	18.61	18.36
BW	MCS Index	Channel		19965	20175	20385
		Frequency (MHz)		1711.5	1732.5	1753.5
3M	QPSK	1	0	19.87	20.57	20.49
		1	7	19.93	20.57	20.52
		1	14	19.97	20.59	20.40
		8	0	18.92	19.61	19.42
		8	3	18.96	19.53	19.36
		8	7	18.84	19.42	19.37
		15	0	18.70	19.35	19.29
	16QAM	1	0	18.53	18.99	18.91
		1	7	19.26	19.94	19.75
		1	14	18.73	19.22	19.04
		8	0	18.07	18.69	18.52
		8	3	17.95	18.47	18.47
		8	7	17.77	18.40	18.34
		15	0	18.00	18.57	18.41

LTE Band 4						
BW	MCS Index	Channel		19975	20175	20375
		Frequency (MHz)		1712.5	1732.5	1752.5
5M	QPSK	1	0	19.95	20.60	20.37
		1	12	20.01	20.56	20.33
		1	24	19.83	20.48	20.43
		12	0	19.05	19.64	19.54
		12	6	18.92	19.65	19.50
		12	13	18.79	19.48	19.29
		25	0	18.76	19.40	19.20
	16QAM	1	0	18.42	18.99	18.98
		1	12	19.23	19.93	19.78
		1	24	18.71	19.32	19.10
		12	0	18.08	18.64	18.40
		12	6	17.88	18.50	18.40
		12	13	17.77	18.44	18.32
		25	0	17.96	18.60	18.43
BW	MCS Index	Channel		20000	20175	20350
		Frequency (MHz)		1715	1732.5	1750
10M	QPSK	1	0	19.95	20.61	20.49
		1	24	20.06	20.64	20.48
		1	49	19.88	20.52	20.39
		25	0	18.96	19.56	19.49
		25	12	18.84	19.50	19.48
		25	25	18.71	19.47	19.31
		50	0	18.68	19.39	19.25
	16QAM	1	0	18.49	19.17	19.05
		1	24	19.30	19.81	19.72
		1	49	18.61	19.22	19.21
		25	0	18.10	18.58	18.44
		25	12	17.81	18.41	18.43
		25	25	17.70	18.35	18.19
		50	0	17.93	18.49	18.52

LTE Band 4						
BW	MCS Index	Channel		20025	20175	20325
		Frequency (MHz)		1717.5	1732.5	1747.5
15M	QPSK	1	0	20.08	20.65	20.62
		1	37	20.08	20.67	20.57
		1	74	19.92	20.61	20.50
		36	0	19.11	19.65	19.59
		36	19	19.02	19.69	19.52
		36	39	18.92	19.46	19.45
		75	0	18.92	19.53	19.37
	16QAM	1	0	18.52	19.20	19.05
		1	37	19.31	19.97	19.84
		1	74	18.71	19.37	19.24
		36	0	18.05	18.70	18.53
		36	19	17.97	18.60	18.51
		36	39	17.89	18.50	18.42
		75	0	17.98	18.70	18.59
BW	MCS Index	Channel		20050	20175	20300
		Frequency (MHz)		1720	1732.5	1745
20M	QPSK	1	0	20.11	20.73	20.63
		1	50	20.09	20.71	20.61
		1	99	20.02	20.64	20.54
		50	0	19.11	19.73	19.63
		50	25	19.07	19.69	19.59
		50	50	18.94	19.56	19.46
		100	0	18.93	19.55	19.45
	16QAM	1	0	18.58	19.20	19.10
		1	50	19.40	20.02	19.92
		1	99	18.76	19.38	19.28
		50	0	18.11	18.71	18.63
		50	25	18.00	18.62	18.52
		50	50	17.90	18.52	18.42
		100	0	18.08	18.70	18.60

LTE Band 7						
BW	MCS Index	Channel		20775	21100	21425
		Frequency (MHz)		2502.5	2535	2567.5
5M	QPSK	1	0	20.47	20.25	19.13
		1	12	20.14	19.86	19.05
		1	24	19.64	19.86	19.02
		12	0	19.40	19.33	18.06
		12	6	19.29	19.26	18.04
		12	13	19.02	19.01	18.02
		25	0	19.24	19.12	18.06
	16QAM	1	0	19.31	19.34	18.10
		1	12	19.31	19.13	18.03
		1	24	19.30	19.14	18.02
		12	0	18.42	18.19	17.09
		12	6	18.15	18.01	17.14
		12	13	18.01	17.98	17.11
		25	0	18.17	18.07	17.06
BW	MCS Index	Channel		20800	21100	21400
		Frequency (MHz)		2505	2535	2565
10M	QPSK	1	0	20.35	20.25	19.08
		1	24	20.18	19.89	19.06
		1	49	19.64	19.77	19.02
		25	0	19.43	19.29	18.20
		25	12	19.31	19.23	18.13
		25	25	19.10	18.97	18.05
		50	0	19.38	19.18	18.02
	16QAM	1	0	19.37	19.23	18.07
		1	24	19.32	19.20	18.12
		1	49	19.21	19.23	18.06
		25	0	18.39	18.26	17.13
		25	12	18.24	18.13	17.11
		25	25	18.00	17.99	17.05
		50	0	18.21	18.16	17.02

LTE Band 7						
BW	MCS Index	Channel		20825	21100	21375
		Frequency (MHz)		2507.5	2535	2562.5
15M	QPSK	1	0	20.47	20.34	19.18
		1	37	20.15	20.07	19.06
		1	74	19.73	19.91	19.05
		36	0	19.52	19.35	18.21
		36	19	19.38	19.28	18.12
		36	39	19.17	19.06	18.02
		75	0	19.34	19.17	18.07
	16QAM	1	0	19.46	19.36	18.17
		1	37	19.38	19.22	18.07
		1	74	19.34	19.23	18.07
		36	0	18.41	18.29	17.21
		36	19	18.30	18.12	17.06
		36	39	18.11	18.00	17.05
		75	0	18.33	18.17	17.04
BW	MCS Index	Channel		20850	21100	21350
		Frequency (MHz)		2510	2535	2560
20M	QPSK	1	0	20.51	20.38	19.23
		1	50	20.20	20.07	19.15
		1	99	19.75	19.91	19.12
		50	0	19.57	19.44	18.29
		50	25	19.43	19.30	18.15
		50	50	19.25	19.12	17.97
		100	0	19.39	19.26	18.11
	16QAM	1	0	19.51	19.38	18.23
		1	50	19.44	19.31	18.16
		1	99	19.41	19.27	18.13
		50	0	18.50	18.37	17.22
		50	25	18.35	18.22	17.07
		50	50	18.12	18.09	17.02
		100	0	18.38	18.25	17.10

LTE Band 12						
BW	MCS Index	Channel		23017	23095	23173
		Frequency (MHz)		699.7	707.5	715.3
1.4M	QPSK	1	0	21.49	22.31	22.32
		1	2	21.39	22.28	22.11
		1	5	21.44	22.07	22.00
		3	0	20.44	21.06	21.23
		3	1	20.37	21.12	21.08
		3	3	20.34	21.00	21.09
		6	0	20.27	20.94	21.17
	16QAM	1	0	20.58	21.28	21.23
		1	2	20.17	20.99	21.01
		1	5	20.18	20.87	21.02
		3	0	19.38	19.98	20.00
		3	1	19.29	20.11	20.13
		3	3	19.27	19.90	20.02
		6	0	19.31	20.05	20.13
BW	MCS Index	Channel		23025	23095	23165
		Frequency (MHz)		700.5	707.5	714.5
3M	QPSK	1	0	21.42	22.28	22.35
		1	7	21.53	22.13	22.16
		1	14	21.34	22.12	22.07
		8	0	20.39	21.11	21.22
		8	3	20.43	21.13	21.11
		8	7	20.39	21.09	20.99
		15	0	20.32	21.15	21.09
	16QAM	1	0	20.55	21.24	21.25
		1	7	20.35	21.07	20.94
		1	14	20.19	20.81	20.82
		8	0	19.33	19.95	20.11
		8	3	19.34	19.98	20.11
		8	7	19.35	19.99	20.02
		15	0	19.33	20.18	20.08

LTE Band 12						
BW	MCS Index	Channel		23035	23095	23155
		Frequency (MHz)		701.5	707.5	713.5
5M	QPSK	1	0	21.61	22.32	22.33
		1	12	21.52	22.24	22.24
		1	24	21.36	22.13	22.15
		12	0	20.55	21.27	21.27
		12	6	20.47	21.11	21.22
		12	13	20.38	21.13	21.12
		25	0	20.42	21.13	21.16
	16QAM	1	0	20.67	21.35	21.35
		1	12	20.35	21.03	21.14
		1	24	20.22	20.97	20.93
		12	0	19.36	20.12	20.09
		12	6	19.37	20.05	20.07
		12	13	19.32	20.03	20.09
		25	0	19.51	20.14	20.18
BW	MCS Index	Channel		23060	23095	23130
		Frequency (MHz)		704	707.5	711
10M	QPSK	1	0	21.66	22.37	22.39
		1	24	21.59	22.23	22.32
		1	49	21.46	21.90	22.19
		25	0	20.56	21.27	21.29
		25	12	20.50	21.21	21.23
		25	25	20.45	21.14	21.18
		50	0	20.48	21.19	21.21
	16QAM	1	0	20.68	21.39	21.41
		1	24	20.41	21.12	21.14
		1	49	20.29	21.00	21.02
		25	0	19.46	20.17	20.19
		25	12	19.44	20.15	20.17
		25	25	19.42	20.13	20.15
		50	0	19.52	19.95	20.25

LTE Band 13						
BW	MCS Index	Channel		23205	23230	23255
		Frequency (MHz)		779.5	782	784.5
5M	QPSK	1	0	22.54	22.41	22.46
		1	12	22.39	22.29	22.35
		1	24	22.40	22.33	22.38
		12	0	21.44	21.37	21.44
		12	6	21.35	21.26	21.26
		12	13	21.33	21.23	21.27
		25	0	21.40	21.37	21.37
	16QAM	1	0	21.38	21.28	21.38
		1	12	21.24	21.20	21.24
		1	24	21.22	21.17	21.19
		12	0	20.43	20.24	20.34
		12	6	20.39	20.33	20.33
		12	13	20.33	20.30	20.30
		25	0	20.47	20.34	20.39
BW	MCS Index	Channel		23230		
		Frequency (MHz)		782		
10M	QPSK	1	0	22.62		
		1	24	22.48		
		1	49	22.42		
		25	0	21.51		
		25	12	21.41		
		25	25	21.38		
		50	0	21.47		
	16QAM	1	0	21.43		
		1	24	21.33		
		1	49	21.28		
		25	0	20.51		
		25	12	20.48		
		25	25	20.41		
		50	0	20.56		

LTE Band 17						
BW	MCS Index	Channel		23755	23790	23825
		Frequency (MHz)		706.5	710	713.5
5M	QPSK	1	0	22.37	22.25	22.26
		1	12	22.20	22.11	22.15
		1	24	22.17	22.06	22.12
		12	0	21.39	21.26	21.27
		12	6	21.33	21.24	21.30
		12	13	21.28	21.13	21.26
		25	0	21.40	21.17	21.26
	16QAM	1	0	21.33	21.20	21.17
		1	12	21.17	20.99	21.10
		1	24	21.10	20.92	21.00
		12	0	20.46	20.27	20.15
		12	6	20.39	20.21	20.25
		12	13	20.37	20.23	20.23
		25	0	20.24	20.14	20.21
BW	MCS Index	Channel		23780	23790	23800
		Frequency (MHz)		709	710	711
10M	QPSK	1	0	22.41	22.26	22.30
		1	24	22.27	22.16	22.20
		1	49	22.17	22.11	22.15
		25	0	21.47	21.32	21.32
		25	12	21.41	21.26	21.30
		25	25	21.37	21.22	21.26
		50	0	21.41	21.26	21.30
	16QAM	1	0	21.37	21.22	21.26
		1	24	21.23	21.08	21.12
		1	49	21.16	21.01	21.05
		25	0	20.47	20.32	20.20
		25	12	20.43	20.28	20.32
		25	25	20.39	20.24	20.28
		50	0	20.33	20.18	20.22

LTE Band 66						
BW	MCS Index	Channel		131979	132322	132665
		Frequency (MHz)		1710.7	1745	1779.3
1.4M	QPSK	1	0	20.16	20.49	20.88
		1	2	20.67	20.68	20.81
		1	5	20.64	20.59	20.69
		3	0	20.85	20.84	20.91
		3	1	20.75	20.90	20.89
		3	3	20.72	20.85	20.90
		6	0	19.73	19.66	19.84
	16QAM	1	0	19.72	19.65	19.63
		1	2	19.56	19.59	19.69
		1	5	19.34	19.36	19.46
		3	0	19.84	19.72	19.84
		3	1	19.77	19.73	19.90
		3	3	19.69	19.83	19.93
		6	0	18.76	18.74	18.76
BW	MCS Index	Channel		131987	132322	132657
		Frequency (MHz)		1711.5	1745	1778.5
3M	QPSK	1	0	20.14	20.47	20.89
		1	7	20.59	20.81	20.75
		1	14	20.64	20.53	20.72
		8	0	19.83	19.80	19.92
		8	3	19.67	19.69	19.83
		8	7	19.77	19.85	19.87
		15	0	19.64	19.78	19.80
	16QAM	1	0	19.68	19.74	19.76
		1	7	19.54	19.51	19.62
		1	14	19.34	19.37	19.47
		8	0	18.71	18.77	18.86
		8	3	18.77	18.70	18.83
		8	7	18.74	18.72	18.74
		15	0	18.69	18.75	18.66

LTE Band 66						
BW	MCS Index	Channel		131997	132322	132647
		Frequency (MHz)		1712.5	1745	1777.5
5M	QPSK	1	0	20.21	20.50	20.96
		1	12	20.72	20.78	20.84
		1	24	20.65	20.69	20.80
		12	0	19.82	19.85	19.92
		12	6	19.90	19.91	19.88
		12	13	19.85	19.86	19.85
		25	0	19.85	19.87	19.87
	16QAM	1	0	19.71	19.73	19.77
		1	12	19.60	19.65	19.70
		1	24	19.43	19.51	19.50
		12	0	18.89	18.91	18.95
		12	6	18.88	18.88	18.97
		12	13	18.77	18.82	18.88
		25	0	18.78	18.75	18.87
BW	MCS Index	Channel		132022	132322	132622
		Frequency (MHz)		1715	1745	1775
10M	QPSK	1	0	20.24	20.54	20.99
		1	24	20.73	20.72	20.81
		1	49	20.68	20.76	20.76
		25	0	19.83	19.87	19.93
		25	12	19.80	19.89	19.90
		25	25	19.77	19.82	19.92
		50	0	19.76	19.83	19.86
	16QAM	1	0	19.74	19.81	19.81
		1	24	19.65	19.67	19.68
		1	49	19.48	19.41	19.53
		25	0	18.93	18.96	18.91
		25	12	18.82	18.86	18.93
		25	25	18.77	18.82	18.85
		50	0	18.78	18.78	18.81

LTE Band 66						
BW	MCS Index	Channel		132047	132322	132597
		Frequency (MHz)		1717.5	1745	1772.5
15M	QPSK	1	0	20.23	20.53	21.02
		1	37	20.74	20.78	20.83
		1	74	20.67	20.78	20.83
		36	0	19.91	19.95	19.95
		36	19	19.84	19.89	19.90
		36	39	19.79	19.87	19.92
		75	0	19.82	19.82	19.83
	16QAM	1	0	19.78	19.80	19.82
		1	37	19.59	19.65	19.73
		1	74	19.43	19.46	19.54
		36	0	18.87	18.95	18.95
		36	19	18.82	18.85	18.89
		36	39	18.79	18.82	18.88
		75	0	18.80	18.74	18.87
BW	MCS Index	Channel		132072	132322	132575
		Frequency (MHz)		1720	1745	1770
20M	QPSK	1	0	20.29	20.54	21.06
		1	50	20.79	20.82	20.87
		1	99	20.75	20.78	20.83
		50	0	19.92	19.95	20.00
		50	25	19.90	19.93	19.98
		50	50	19.87	19.90	19.95
		100	0	19.87	19.88	19.93
	16QAM	1	0	19.78	19.81	19.86
		1	50	19.67	19.70	19.75
		1	99	19.48	19.51	19.56
		50	0	18.93	18.96	19.01
		50	25	18.89	18.92	18.97
		50	50	18.85	18.88	18.93
		100	0	18.80	18.83	18.88

EIRP Power(dBm)

Band	WCDMA IV		
Channel	1312	1413	1513
Frequency (MHz)	1712.4	1732.6	1752.6
RMC 12.2K	22.84	22.91	22.78
HSDPA Subtest-1	21.96	22.04	21.86
HSDPA Subtest-2	21.93	22.01	21.88
HSDPA Subtest-3	21.43	21.50	21.41
HSDPA Subtest-4	21.39	21.43	21.37
DC-HSDPA Subtest-1	21.89	21.94	21.85
DC-HSDPA Subtest-2	21.84	21.91	21.82
DC-HSDPA Subtest-3	21.34	21.36	21.29
DC-HSDPA Subtest-4	21.26	21.27	21.25
HSUPA Subtest-1	21.81	21.88	21.77
HSUPA Subtest-2	19.97	20.04	19.94
HSUPA Subtest-3	20.90	20.94	20.86
HSUPA Subtest-4	19.95	20.00	19.92
HSUPA Subtest-5	21.78	21.84	21.74

*EIRP = Conducted + antenna gain (1.55dBi)

LTE Band 4						
BW	MCS Index	Channel		19957	20175	20393
		Frequency (MHz)		1710.7	1732.5	1754.3
1.4M	QPSK	1	0	21.61	22.09	22.05
		1	2	21.53	22.11	21.96
		1	5	21.34	22.01	21.96
		3	0	20.55	21.15	21.03
		3	1	20.41	21.11	21.00
		3	3	20.43	20.98	20.93
		6	0	20.29	21.02	20.78
	16QAM	1	0	20.02	20.62	20.56
		1	2	20.80	21.44	21.43
		1	5	20.21	20.75	20.75
		3	0	19.63	20.15	20.00
		3	1	19.47	20.06	19.84
		3	3	19.39	19.91	19.83
		6	0	19.41	20.16	19.91
BW	MCS Index	Channel		19965	20175	20385
		Frequency (MHz)		1711.5	1732.5	1753.5
3M	QPSK	1	0	21.42	22.12	22.04
		1	7	21.48	22.12	22.07
		1	14	21.52	22.14	21.95
		8	0	20.47	21.16	20.97
		8	3	20.51	21.08	20.91
		8	7	20.39	20.97	20.92
		15	0	20.25	20.90	20.84
	16QAM	1	0	20.08	20.54	20.46
		1	7	20.81	21.49	21.30
		1	14	20.28	20.77	20.59
		8	0	19.62	20.24	20.07
		8	3	19.50	20.02	20.02
		8	7	19.32	19.95	19.89
		15	0	19.55	20.12	19.96

*EIRP = Conducted + antenna gain (1.55dBi)

LTE Band 4						
BW	MCS Index	Channel		19975	20175	20375
		Frequency (MHz)		1712.5	1732.5	1752.5
5M	QPSK	1	0	21.50	22.15	21.92
		1	12	21.56	22.11	21.88
		1	24	21.38	22.03	21.98
		12	0	20.60	21.19	21.09
		12	6	20.47	21.20	21.05
		12	13	20.34	21.03	20.84
		25	0	20.31	20.95	20.75
	16QAM	1	0	19.97	20.54	20.53
		1	12	20.78	21.48	21.33
		1	24	20.26	20.87	20.65
		12	0	19.63	20.19	19.95
		12	6	19.43	20.05	19.95
		12	13	19.32	19.99	19.87
		25	0	19.51	20.15	19.98
BW	MCS Index	Channel		20000	20175	20350
		Frequency (MHz)		1715	1732.5	1750
10M	QPSK	1	0	21.50	22.16	22.04
		1	24	21.61	22.19	22.03
		1	49	21.43	22.07	21.94
		25	0	20.51	21.11	21.04
		25	12	20.39	21.05	21.03
		25	25	20.26	21.02	20.86
		50	0	20.23	20.94	20.80
	16QAM	1	0	20.04	20.72	20.60
		1	24	20.85	21.36	21.27
		1	49	20.16	20.77	20.76
		25	0	19.65	20.13	19.99
		25	12	19.36	19.96	19.98
		25	25	19.25	19.90	19.74
		50	0	19.48	20.04	20.07

*EIRP = Conducted + antenna gain (1.55dBi)

LTE Band 4						
BW	MCS Index	Channel		20025	20175	20325
		Frequency (MHz)		1717.5	1732.5	1747.5
15M	QPSK	1	0	21.63	22.20	22.17
		1	37	21.63	22.22	22.12
		1	74	21.47	22.16	22.05
		36	0	20.66	21.20	21.14
		36	19	20.57	21.24	21.07
		36	39	20.47	21.01	21.00
		75	0	20.47	21.08	20.92
	16QAM	1	0	20.07	20.75	20.60
		1	37	20.86	21.52	21.39
		1	74	20.26	20.92	20.79
		36	0	19.60	20.25	20.08
		36	19	19.52	20.15	20.06
		36	39	19.44	20.05	19.97
		75	0	19.53	20.25	20.14
BW	MCS Index	Channel		20050	20175	20300
		Frequency (MHz)		1720	1732.5	1745
20M	QPSK	1	0	21.66	22.28	22.18
		1	50	21.64	22.26	22.16
		1	99	21.57	22.19	22.09
		50	0	20.66	21.28	21.18
		50	25	20.62	21.24	21.14
		50	50	20.49	21.11	21.01
		100	0	20.48	21.10	21.00
	16QAM	1	0	20.13	20.75	20.65
		1	50	20.95	21.57	21.47
		1	99	20.31	20.93	20.83
		50	0	19.66	20.26	20.18
		50	25	19.55	20.17	20.07
		50	50	19.45	20.07	19.97
		100	0	19.63	20.25	20.15

*EIRP = Conducted + antenna gain (1.55dBi)

LTE Band 7						
BW	MCS Index	Channel		20775	21100	21425
		Frequency (MHz)		2502.5	2535	2567.5
5M	QPSK	1	0	20.30	20.08	18.96
		1	12	19.97	19.69	18.88
		1	24	19.47	19.69	18.85
		12	0	19.23	19.16	17.89
		12	6	19.12	19.09	17.87
		12	13	18.85	18.84	17.85
		25	0	19.07	18.95	17.89
	16QAM	1	0	19.14	19.17	17.93
		1	12	19.14	18.96	17.86
		1	24	19.13	18.97	17.85
		12	0	18.25	18.02	16.92
		12	6	17.98	17.84	16.97
		12	13	17.84	17.81	16.94
		25	0	18.00	17.90	16.89
BW	MCS Index	Channel		20800	21100	21400
		Frequency (MHz)		2505	2535	2565
10M	QPSK	1	0	20.18	20.08	18.91
		1	24	20.01	19.72	18.89
		1	49	19.47	19.60	18.85
		25	0	19.26	19.12	18.03
		25	12	19.14	19.06	17.96
		25	25	18.93	18.80	17.88
		50	0	19.21	19.01	17.85
	16QAM	1	0	19.20	19.06	17.90
		1	24	19.15	19.03	17.95
		1	49	19.04	19.06	17.89
		25	0	18.22	18.09	16.96
		25	12	18.07	17.96	16.94
		25	25	17.83	17.82	16.88
		50	0	18.04	17.99	16.85

*EIRP = Conducted + antenna gain (-0.17dBi)

LTE Band 7						
BW	MCS Index	Channel		20825	21100	21375
		Frequency (MHz)		2507.5	2535	2562.5
15M	QPSK	1	0	20.30	20.17	19.01
		1	37	19.98	19.90	18.89
		1	74	19.56	19.74	18.88
		36	0	19.35	19.18	18.04
		36	19	19.21	19.11	17.95
		36	39	19.00	18.89	17.85
		75	0	19.17	19.00	17.90
	16QAM	1	0	19.29	19.19	18.00
		1	37	19.21	19.05	17.90
		1	74	19.17	19.06	17.90
		36	0	18.24	18.12	17.04
		36	19	18.13	17.95	16.89
		36	39	17.94	17.83	16.88
		75	0	18.16	18.00	16.87
BW	MCS Index	Channel		20850	21100	21350
		Frequency (MHz)		2510	2535	2560
20M	QPSK	1	0	20.34	20.21	19.06
		1	50	20.03	19.90	18.98
		1	99	19.58	19.74	18.95
		50	0	19.40	19.27	18.12
		50	25	19.26	19.13	17.98
		50	50	19.08	18.95	17.80
		100	0	19.22	19.09	17.94
	16QAM	1	0	19.34	19.21	18.06
		1	50	19.27	19.14	17.99
		1	99	19.24	19.10	17.96
		50	0	18.33	18.20	17.05
		50	25	18.18	18.05	16.90
		50	50	17.95	17.92	16.85
		100	0	18.21	18.08	16.93

*EIRP = Conducted + antenna gain (-0.17dBi)

LTE Band 66						
BW	MCS Index	Channel		131979	132322	132665
		Frequency (MHz)		1710.7	1745	1779.3
1.4M	QPSK	1	0	21.71	22.04	22.43
		1	2	22.22	22.23	22.36
		1	5	22.19	22.14	22.24
		3	0	22.40	22.39	22.46
		3	1	22.30	22.45	22.44
		3	3	22.27	22.40	22.45
		6	0	21.28	21.21	21.39
	16QAM	1	0	21.27	21.20	21.18
		1	2	21.11	21.14	21.24
		1	5	20.89	20.91	21.01
		3	0	21.39	21.27	21.39
		3	1	21.32	21.28	21.45
		3	3	21.24	21.38	21.48
		6	0	20.31	20.29	20.31
BW	MCS Index	Channel		131987	132322	132657
		Frequency (MHz)		1711.5	1745	1778.5
3M	QPSK	1	0	21.69	22.02	22.44
		1	7	22.14	22.36	22.30
		1	14	22.19	22.08	22.27
		8	0	21.38	21.35	21.47
		8	3	21.22	21.24	21.38
		8	7	21.32	21.40	21.42
		15	0	21.19	21.33	21.35
	16QAM	1	0	21.23	21.29	21.31
		1	7	21.09	21.06	21.17
		1	14	20.89	20.92	21.02
		8	0	20.26	20.32	20.41
		8	3	20.32	20.25	20.38
		8	7	20.29	20.27	20.29
		15	0	20.24	20.30	20.21

*EIRP = Conducted + antenna gain (1.55dBi)

LTE Band 66						
BW	MCS Index	Channel		131997	132322	132647
		Frequency (MHz)		1712.5	1745	1777.5
5M	QPSK	1	0	21.76	22.05	22.51
		1	12	22.27	22.33	22.39
		1	24	22.20	22.24	22.35
		12	0	21.37	21.40	21.47
		12	6	21.45	21.46	21.43
		12	13	21.40	21.41	21.40
		25	0	21.40	21.42	21.42
	16QAM	1	0	21.26	21.28	21.32
		1	12	21.15	21.20	21.25
		1	24	20.98	21.06	21.05
		12	0	20.44	20.46	20.50
		12	6	20.43	20.43	20.52
		12	13	20.32	20.37	20.43
		25	0	20.33	20.30	20.42
BW	MCS Index	Channel		132022	132322	132622
		Frequency (MHz)		1715	1745	1775
10M	QPSK	1	0	21.79	22.09	22.54
		1	24	22.28	22.27	22.36
		1	49	22.23	22.31	22.31
		25	0	21.38	21.42	21.48
		25	12	21.35	21.44	21.45
		25	25	21.32	21.37	21.47
		50	0	21.31	21.38	21.41
	16QAM	1	0	21.29	21.36	21.36
		1	24	21.20	21.22	21.23
		1	49	21.03	20.96	21.08
		25	0	20.48	20.51	20.46
		25	12	20.37	20.41	20.48
		25	25	20.32	20.37	20.40
		50	0	20.33	20.33	20.36

*EIRP = Conducted + antenna gain (1.55dBi)

LTE Band 66						
BW	MCS Index	Channel		132047	132322	132597
		Frequency (MHz)		1717.5	1745	1772.5
15M	QPSK	1	0	21.78	22.08	22.57
		1	37	22.29	22.33	22.38
		1	74	22.22	22.33	22.38
		36	0	21.46	21.50	21.50
		36	19	21.39	21.44	21.45
		36	39	21.34	21.42	21.47
		75	0	21.37	21.37	21.38
	16QAM	1	0	21.33	21.35	21.37
		1	37	21.14	21.20	21.28
		1	74	20.98	21.01	21.09
		36	0	20.42	20.50	20.50
		36	19	20.37	20.40	20.44
		36	39	20.34	20.37	20.43
		75	0	20.35	20.29	20.42
BW	MCS Index	Channel		132072	132322	132575
		Frequency (MHz)		1720	1745	1770
20M	QPSK	1	0	21.84	22.09	22.61
		1	50	22.34	22.37	22.42
		1	99	22.30	22.33	22.38
		50	0	21.47	21.50	21.55
		50	25	21.45	21.48	21.53
		50	50	21.42	21.45	21.50
		100	0	21.42	21.43	21.48
	16QAM	1	0	21.33	21.36	21.41
		1	50	21.22	21.25	21.30
		1	99	21.03	21.06	21.11
		50	0	20.48	20.51	20.56
		50	25	20.44	20.47	20.52
		50	50	20.40	20.43	20.48
		100	0	20.35	20.38	20.43

*EIRP = Conducted + antenna gain (1.55dBi)

ERP Power (dBm)

LTE Band 12						
BW	MCS Index	Channel		23017	23095	23173
		Frequency (MHz)		699.7	707.5	715.3
1.4M	QPSK	1	0	12.86	13.68	13.69
		1	2	12.76	13.65	13.48
		1	5	12.81	13.44	13.37
		3	0	11.81	12.43	12.60
		3	1	11.74	12.49	12.45
		3	3	11.71	12.37	12.46
		6	0	11.64	12.31	12.54
	16QAM	1	0	11.95	12.65	12.60
		1	2	11.54	12.36	12.38
		1	5	11.55	12.24	12.39
		3	0	10.75	11.35	11.37
		3	1	10.66	11.48	11.50
		3	3	10.64	11.27	11.39
		6	0	10.68	11.42	11.50
BW	MCS Index	Channel		23025	23095	23165
		Frequency (MHz)		700.5	707.5	714.5
3M	QPSK	1	0	12.79	13.65	13.72
		1	7	12.90	13.50	13.53
		1	14	12.71	13.49	13.44
		8	0	11.76	12.48	12.59
		8	3	11.80	12.50	12.48
		8	7	11.76	12.46	12.36
		15	0	11.69	12.52	12.46
	16QAM	1	0	11.92	12.61	12.62
		1	7	11.72	12.44	12.31
		1	14	11.56	12.18	12.19
		8	0	10.70	11.32	11.48
		8	3	10.71	11.35	11.48
		8	7	10.72	11.36	11.39
		15	0	10.70	11.55	11.45

*ERP = Conducted + antenna gain (-6.48dBi)-2.15

LTE Band 12						
BW	MCS Index	Channel		23035	23095	23155
		Frequency (MHz)		701.5	707.5	713.5
5M	QPSK	1	0	12.98	13.69	13.70
		1	12	12.89	13.61	13.61
		1	24	12.73	13.50	13.52
		12	0	11.92	12.64	12.64
		12	6	11.84	12.48	12.59
		12	13	11.75	12.50	12.49
		25	0	11.79	12.50	12.53
	16QAM	1	0	12.04	12.72	12.72
		1	12	11.72	12.40	12.51
		1	24	11.59	12.34	12.30
		12	0	10.73	11.49	11.46
		12	6	10.74	11.42	11.44
		12	13	10.69	11.40	11.46
		25	0	10.88	11.51	11.55
BW	MCS Index	Channel		23060	23095	23130
		Frequency (MHz)		704	707.5	711
10M	QPSK	1	0	13.03	13.74	13.76
		1	24	12.96	13.60	13.69
		1	49	12.83	13.27	13.56
		25	0	11.93	12.64	12.66
		25	12	11.87	12.58	12.60
		25	25	11.82	12.51	12.55
		50	0	11.85	12.56	12.58
	16QAM	1	0	12.05	12.76	12.78
		1	24	11.78	12.49	12.51
		1	49	11.66	12.37	12.39
		25	0	10.83	11.54	11.56
		25	12	10.81	11.52	11.54
		25	25	10.79	11.50	11.52
		50	0	10.89	11.32	11.62

*ERP = Conducted + antenna gain (-6.48dBi)-2.15

LTE Band 13						
BW	MCS Index	Channel		23205	23230	23255
		Frequency (MHz)		779.5	782	784.5
5M	QPSK	1	0	18.43	18.30	18.35
		1	12	18.28	18.18	18.24
		1	24	18.29	18.22	18.27
		12	0	17.33	17.26	17.33
		12	6	17.24	17.15	17.15
		12	13	17.22	17.12	17.16
		25	0	17.29	17.26	17.26
	16QAM	1	0	17.27	17.17	17.27
		1	12	17.13	17.09	17.13
		1	24	17.11	17.06	17.08
		12	0	16.32	16.13	16.23
		12	6	16.28	16.22	16.22
		12	13	16.22	16.19	16.19
		25	0	16.36	16.23	16.28
BW	MCS Index	Channel		23230		
		Frequency (MHz)		782		
10M	QPSK	1	0	18.51		
		1	24	18.37		
		1	49	18.31		
		25	0	17.40		
		25	12	17.30		
		25	25	17.27		
		50	0	17.36		
	16QAM	1	0	17.32		
		1	24	17.22		
		1	49	17.17		
		25	0	16.40		
		25	12	16.37		
		25	25	16.30		
		50	0	16.45		

*ERP = Conducted + antenna gain (-1.96dBi)-2.15

LTE Band 17						
BW	MCS Index	Channel		23755	23790	23825
		Frequency (MHz)		706.5	710	713.5
5M	QPSK	1	0	13.78	13.63	13.67
		1	12	13.64	13.53	13.57
		1	24	13.54	13.48	13.52
		12	0	12.84	12.69	12.69
		12	6	12.78	12.63	12.67
		12	13	12.74	12.59	12.63
		25	0	12.78	12.63	12.67
	16QAM	1	0	12.74	12.59	12.63
		1	12	12.60	12.45	12.49
		1	24	12.53	12.38	12.42
		12	0	11.84	11.69	11.57
		12	6	11.80	11.65	11.69
		12	13	11.76	11.61	11.65
		25	0	11.70	11.55	11.59
BW	MCS Index	Channel		23780	23790	23800
		Frequency (MHz)		709	710	711
10M	QPSK	1	0	13.74	13.62	13.63
		1	24	13.57	13.48	13.52
		1	49	13.54	13.43	13.49
		25	0	12.76	12.63	12.64
		25	12	12.70	12.61	12.67
		25	25	12.65	12.50	12.63
		50	0	12.77	12.54	12.63
	16QAM	1	0	12.70	12.57	12.54
		1	24	12.54	12.36	12.47
		1	49	12.47	12.29	12.37
		25	0	11.83	11.64	11.52
		25	12	11.76	11.58	11.62
		25	25	11.74	11.60	11.60
		50	0	11.61	11.51	11.58

*ERP = Conducted + antenna gain (-6.48dBi)-2.15

4.2 Radiated Emission Measurement

4.2.1 Limits of Radiated Emission Measurement

For WCDMA band 4:

According to FCC 27.53(h), for operations in the 1695-1710MHz, 1710-1755MHz, 1755-1780 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log (P)$ dB.

For LTE Band 13:

According to FCC 27.53(c)(2), for on any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB. The limit of emissions is equal to -13 dBm.

According to FCC 27.53(f), for operations in the 775-788 MHz, emissions in the band 1559-1610MHz shall be limited to -70 dBW/MHz (EIRP). The limit of emissions is equal to -40 dBm.

4.2.2 Test Procedure

- a. 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
 $EIRP (dBm) = E (dB\mu V/m) + 20\log(D) - 104.8$; where D is the measurement distance (in the far field region) in m.
 $ERP (dBm) = E (dB\mu V/m) + 20\log(D) - 104.8 - 2.15$; where D is the measurement distance (in the far field region) in m.

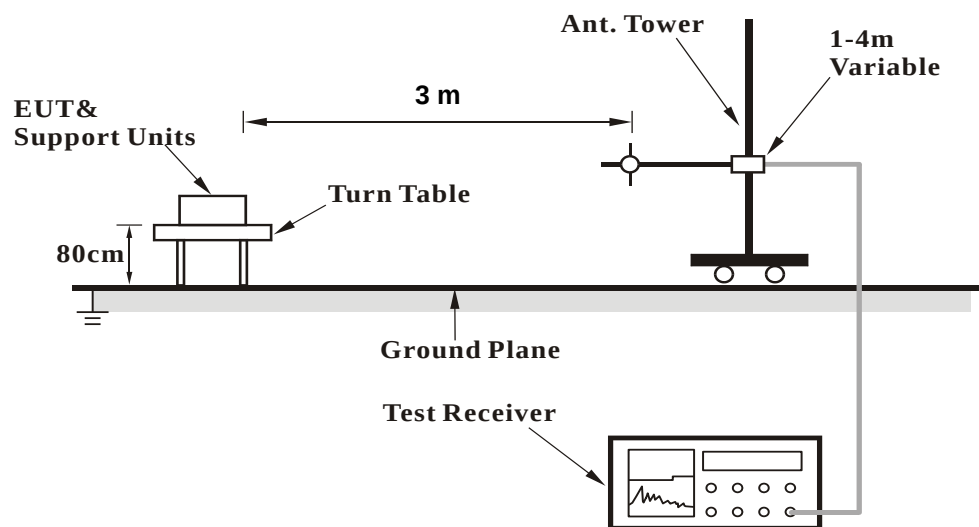
Note: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

4.2.3 Deviation from Test Standard

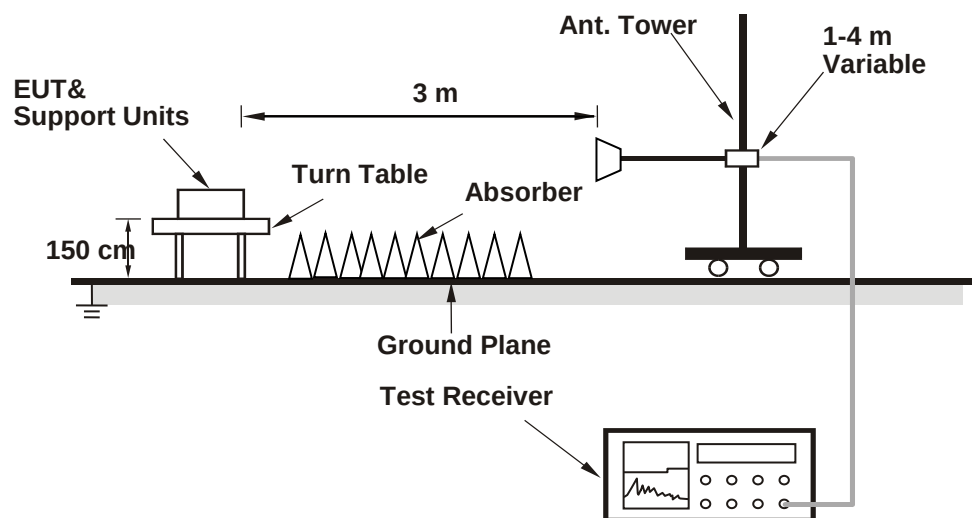
No deviation.

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

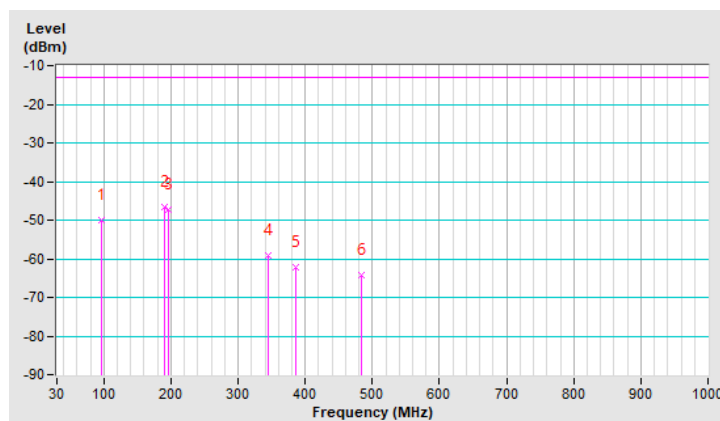
WCDMA Band 4

RF Mode	TX WCDMA Band IV	Channel	CH 1312 : 1712.4 MHz
Frequency Range	30MHz ~ 1GHz		

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	95.54	-50.08	-13.00	-37.08	1.15 H	241	68.35	-118.43
2	190.06	-46.51	-13.00	-33.51	1.15 H	212	69.27	-115.78
3	196.00	-47.23	-13.00	-34.23	1.17 H	1	68.96	-116.19
4	345.56	-59.00	-13.00	-46.00	1.15 H	249	52.38	-111.38
5	385.54	-62.09	-13.00	-49.09	1.35 H	345	48.18	-110.27
6	484.44	-64.15	-13.00	-51.15	1.15 H	186	43.99	-108.14

Remarks:

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

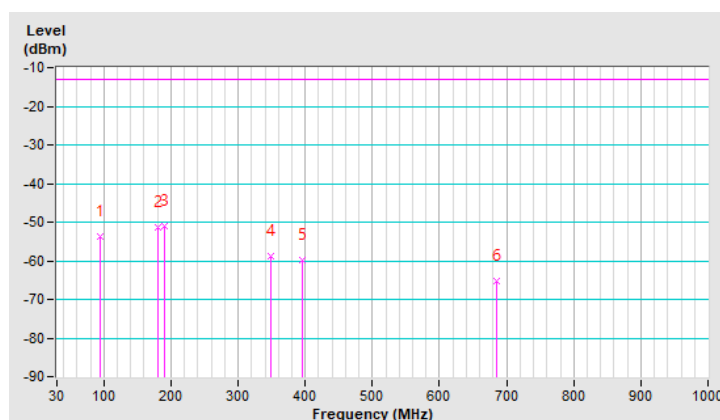


RF Mode	TX WCDMA Band IV	Channel	CH 1312 : 1712.4 MHz
Frequency Range	30MHz ~ 1GHz		

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	93.81	-53.76	-13.00	-40.76	1.42 V	229	64.68	-118.44
2	180.20	-51.48	-13.00	-38.48	1.21 V	118	63.07	-114.55
3	190.92	-51.16	-13.00	-38.16	1.64 V	120	64.65	-115.81
4	348.85	-58.97	-13.00	-45.97	1.16 V	141	52.33	-111.30
5	396.64	-59.90	-13.00	-46.90	1.81 V	133	50.17	-110.07
6	685.54	-65.12	-13.00	-52.12	1.15 V	196	39.55	-104.67

Remarks:

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



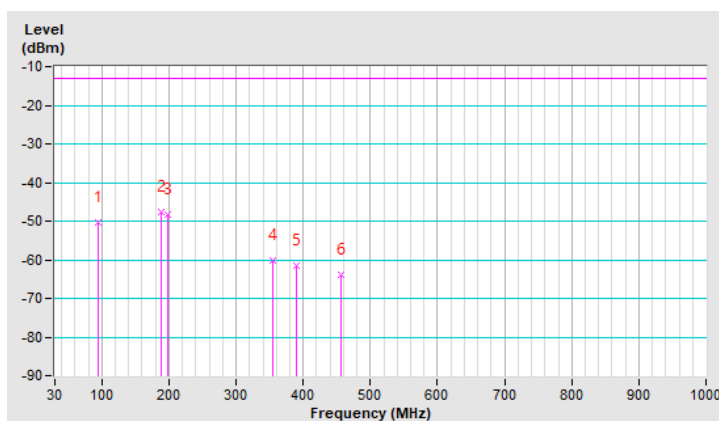
LTE Band 13, Channel Bandwidth: 5MHz

RF Mode	TX LTE Band XIII-5MHz	Channel	CH 23205 : 779.5 MHz
Frequency Range	30MHz ~ 1GHz		

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	94.54	-50.50	-13.00	-37.50	1.22 H	241	67.87	-118.37
2	188.52	-47.64	-13.00	-34.64	1.13 H	325	67.94	-115.58
3	198.85	-48.43	-13.00	-35.43	1.16 H	345	67.83	-116.26
4	354.54	-60.11	-13.00	-47.11	1.05 H	274	51.05	-111.16
5	388.97	-61.41	-13.00	-48.41	1.45 H	136	48.80	-110.21
6	455.54	-63.84	-13.00	-50.84	1.69 H	9	44.67	-108.51

Remarks:

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

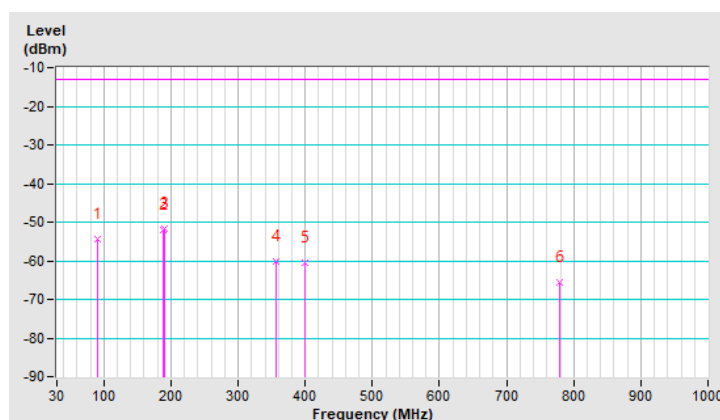


RF Mode	TX LTE Band XIII-5MHz	Channel	CH 23205 : 779.5 MHz
Frequency Range	30MHz ~ 1GHz		

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	90.54	-54.31	-13.00	-41.31	1.15 V	241	64.50	-118.81
2	188.54	-52.05	-13.00	-39.05	1.63 V	35	63.53	-115.58
3	190.64	-51.74	-13.00	-38.74	1.14 V	154	64.06	-115.80
4	355.88	-60.30	-13.00	-47.30	1.14 V	298	50.85	-111.15
5	400.14	-60.41	-13.00	-47.41	1.05 V	142	49.58	-109.99
6	778.80	-65.65	-13.00	-52.65	1.58 V	39	37.36	-103.01

Remarks:

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



Above 1GHz
WCDMA Band 4

RF Mode	TX WCDMA Band IV	Channel	CH 1312 : 1712.4 MHz
Frequency Range	1GMHz ~ 18GHz		

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	3424.80	-51.32	-13.00	-38.32	1.38 H	349	35.51	-86.83
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	3424.80	-51.43	-13.00	-38.43	1.33 V	178	35.40	-86.83

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 13, Channel Bandwidth: 5MHz

RF Mode	TX LTE Band XIII-5MHz	Channel	CH 23205 : 779.5 MHz
Frequency Range	1GMHz ~ 18GHz		

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	1559.00	-58.07	-40.00	-18.07	1.94 H	253	37.35	-95.42
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	1559.00	-57.41	-40.00	-17.41	1.24 V	83	38.01	-95.42

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 according to ISO/IEC 17025.

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

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