

FCC Test Report (Co-Located)

Report No.: RF180222C25-6

FCC ID: SLE-ELS61-US

Test Model: ELS61-US

Received Date: Mar. 12, 2018

Test Date: Apr. 20 ~ May 23, 2018

Issued Date: May 25, 2018

Applicant: MOXA Inc.

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

Lab Address: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan, R.O.C.

Test Location: No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)

**FCC Registration /
Designation Number:** 788550 / TW0003



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Release Control Record

Issue No.	Description	Date Issued
RF180222C25-6	Original release.	May 25, 2018

1 Certificate of Conformity

Product: LTE/WCDMA Module
Brand: MOXA
Test Model: ELS61-US
Sample Status: Engineering sample
Applicant: MOXA Inc.
Test Date: Apr. 20 ~ May 23, 2018
Standards: 47 CFR FCC Part 15, Subpart C (Section 15.247)
47 CFR FCC Part 15, Subpart E (Section 15.407)
FCC Part 22, Subpart H
FCC Part 24, Subpart E
FCC Part 27, Subpart L, H, F
ANSI C63.10:2013

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 : Suntee Liu, **Date:** May 25, 2018
Suntee Liu / Specialist

Approved by : Bruce Chen, **Date:** May 25, 2018
Bruce Chen / Project Engineer

2 Summary of Test Results

Applied Standard	47 CFR FCC Part 15, Subpart C (Section 15.247) 47 CFR FCC Part 15, Subpart E (Section 15.407) FCC Part 22, Subpart H FCC Part 24, Subpart E FCC Part 27, Subpart L, H, F		
FCC Clause	Test Item	Result	Remarks
15.205 / 15.209 / 15.247(d) 15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -0.2dB at 31.94, 130.80MHz.
2.1053 22.917	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -33.4dB at 31.94MHz.
2.1053 24.238	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -33.8dB at 31.94MHz.
2.1051 27.53(h)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -34.7dB at 30.00MHz.

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	30MHz ~ 200MHz	3.59 dB
	200MHz ~ 1000MHz	3.60 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	LTE/WCDMA Module	
Brand	MOXA	
Test Model	ELS61-US	
Sample Status	Engineering sample	
Power Supply Rating	3.3Vdc (host)	
Modulation Type	WLAN	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
	EDGE	8PSK
	WCDMA	BPSK, QPSK
	HSDPA	BPSK
	HSUPA	QPSK
	LTE	QPSK, 16QAM
Operating Frequency	WLAN	2412~2462MHz, 5180~5240MHz, 5260~5320MHz, 5500~5720MHz, 5745~5825MHz
	WCDMA Band 5	826.4~846.6MHz
	LTE Band 5 (Channel Bandwidth 1.4MHz)	824.7~848.3MHz
	LTE Band 5 (Channel Bandwidth 3MHz)	825.5~847.5MHz
	LTE Band 5 (Channel Bandwidth 5MHz)	826.5~846.5MHz
	LTE Band 5 (Channel Bandwidth 10MHz)	829.0~844.0MHz
	WCDMA Band 2	1852.4~1907.6MHz
	LTE Band 2 (Channel Bandwidth 1.4MHz)	1850.7~1909.3MHz
	LTE Band 2 (Channel Bandwidth 3MHz)	1851.5~1908.5MHz
	LTE Band 2 (Channel Bandwidth 5MHz)	1852.5~1907.5MHz
	LTE Band 2 (Channel Bandwidth 10MHz)	1855.0~1905.0MHz
	LTE Band 2 (Channel Bandwidth 15MHz)	1857.5~1902.5MHz
	LTE Band 2 (Channel Bandwidth 20MHz)	1860.0~1900.0MHz
	WCDMA Band 4	1712.4~1752.6MHz
	LTE Band 4 (Channel Bandwidth 1.4MHz)	1710.7~1754.3MHz
	LTE Band 4 (Channel Bandwidth 3MHz)	1711.5~1753.5MHz
	LTE Band 4 (Channel Bandwidth 5MHz)	1712.5~1752.5MHz
	LTE Band 4 (Channel Bandwidth 10MHz)	1715~1750MHz
	LTE Band 4 (Channel Bandwidth 15MHz)	1717.5~1747.5MHz
	LTE Band 4 (Channel Bandwidth 20MHz)	1720~1745MHz
LTE Band 12 (Channel Bandwidth 1.4MHz)	699.7~715.3MHz	
LTE Band 12 (Channel Bandwidth 3MHz)	700.5~714.5MHz	
LTE Band 12 (Channel Bandwidth 5MHz)	701.5~713.5MHz	
LTE Band 12 (Channel Bandwidth 10MHz)	704~711MHz	
Antenna Type	Refer to Note	
Antenna Connector	Refer to Note	

Accessory Device	NA
Cable Supplied	0.13m shielded power cable w/o core

Note:

1. This report is prepared for FCC class II permissive change to add host device.
2. The WLAN module (FCC ID: Z64-WL18DBMOD, Brand: Texas Instruments, Model: WL18MODGI) is collocated in the host device.
3. The host device's models are listed as below. Model UC-3121-T-US-LX is the representative for final test.

Model	Definition
UC-3nnn-v-w-x-y-zzzzzz and OnCell 31nn-LTE-n-x-w-zzzzzz	n = 0-9 (standards for different model issue) v = CT or blank (standards for coating issue) w = T or blank (standard for temperature issue) x = US, EU, AU, VZW or blank (standards for regional issue) y = CE, LX or blank (standards for OS issue) z = 0-9, A-Z, or blank (standards for marketing issue)

Brand	Product Name	Model	Difference
MOXA	UC-3100 Series wireless computer	UC-3101-T-US-LX	1 GHz CPU, 512MB RAM, 4 GB eMMC, 2 Ethernet ports, 1 serial port, 1 USB port, onboard LTE-US cat.1 module and Debian 9 (kernel 4.4) pre-installed, -30 to 70 °C operating temperature
		UC-3111-T-US-LX	1 GHz CPU, 512MB RAM, 4 GB eMMC, 2 Ethernet ports, 1 serial port, 1 USB port, 1 SD slot, onboard LTE-US cat.1 module and Debian 9 (kernel 4.4) pre-installed, -30 to 70 °C operating temperature
		UC-3121-T-US-LX	1 GHz CPU, 512MB RAM, 4 GB eMMC, 2 Ethernet ports, 1 serial port, 1 USB port, 1 CAN port, onboard LTE-US cat.1 module and Debian 9 (kernel 4.4) pre-installed, -30 to 70 °C operating temperature
	OnCell 3100 Series cellular gateway	OnCell 3120-LTE-1-US-T	Industrial LTE Cat 1 cellular gateway, B2/B4/B5/B12, 1 x RS232/422/485 serial port, 2 x 10/100BaseT(X) RJ45 ports, -30 to 70 °C
		OnCell 3120-LTE-1-US	Industrial LTE Cat 1 cellular gateway, B2/B4/B5/B12, 1 x RS232/422/485 serial port, 2 x 10/100BaseT(X) RJ45 ports, 0 to 55 °C

* OnCell 3120 and UC-3101: The only difference is UI interface.

4. The host device incorporates a MIMO function. Physically, the host device provides 2 completed transmitters and 2 receivers.

Band	Modulation Mode	TX Function
2.4GHz	802.11b	1TX
	802.11g	1TX
	802.11n (HT20)	2TX
	802.11n (HT40)	1TX
5GHz	802.11a	1TX
	802.11n (HT20)	1TX
	802.11n (HT40)	1TX

5. The host device uses following antennas.

WLAN			
Type	Dipole	Connecter	SMA
Brand	Mgear	Serial No	ANT-WDB-ARM-0202
Frequency	2.4~2.5GHz		4.9~5.825GHz
Gain (dBi)	1.8		1.8

WWAN				
Type	Dipole		Connecter	SMA
Brand	Joymax		Serial No	ANT-LTE-ASM-02
Band	B12	B5	B4	B2
Gain (dBi)	2	2	2	2

3.2 Description of Test Modes

WLAN 2412~2462MHz:

11 channels are provided for 802.11b, 802.11g and 802.11n (HT20):

Channel	Frequency	Channel	Frequency
1	2412MHz	7	2442MHz
2	2417MHz	8	2447MHz
3	2422MHz	9	2452MHz
4	2427MHz	10	2457MHz
5	2432MHz	11	2462MHz
6	2437MHz		

7 channels are provided for 802.11n (HT40):

Channel	Frequency	Channel	Frequency
3	2422MHz	7	2442MHz
4	2427MHz	8	2447MHz
5	2432MHz	9	2452MHz
6	2437MHz		

WLAN 5180~5240MHz

4 channels are provided for 802.11a, 802.11n (HT20):

Channel	Frequency	Channel	Frequency
36	5180 MHz	44	5220 MHz
40	5200 MHz	48	5240 MHz

2 channels are provided for 802.11n (HT40):

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

WLAN 5260~5320MHz

4 channels are provided for 802.11a, 802.11n (HT20):

Channel	Frequency	Channel	Frequency
52	5260 MHz	60	5300 MHz
56	5280 MHz	64	5320 MHz

2 channels are provided for 802.11n (HT40):

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

WLAN 5500~5700MHz

8 channels are provided for 802.11a, 802.11n (HT20):

Channel	Frequency	Channel	Frequency
100	5500 MHz	116	5580 MHz
104	5520 MHz	132	5660 MHz
108	5540 MHz	136	5680 MHz
112	5560 MHz	140	5700 MHz

3 channels are provided for 802.11n (HT40):

Channel	Frequency	Channel	Frequency
102	5510 MHz	134	5670 MHz
110	5550 MHz		

WLAN 5745~5825MHz

5 channels are provided for 802.11a, 802.11n (HT20):

Channel	Frequency	Channel	Frequency
149	5745 MHz	161	5805 MHz
153	5765 MHz	165	5825 MHz
157	5785 MHz		

2 channels are provided for 802.11n (HT40):

Channel	Frequency	Channel	Frequency
151	5755 MHz	159	5795 MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable to		Description
	RE \geq 1G	RE<1G	
-	√	√	-

Where RE \geq 1G: Radiated Emission above 1GHz & Bandedge Measurement RE<1G: Radiated Emission below 1GHz

Note:

- The EUT had been pre-tested on the positioned of X-plane & Z-plane. The worst cases were found when positioned on Z-plane for WLAN & X-plane for WWAN.

Radiated Emission Test (Above 1GHz):

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Tested Channel	Remark
1	802.11n (HT20)	6	-
	WCDMA Band 2	9400 (1880.0MHz)	-
2	802.11n (HT20)	6	-
	WCDMA Band 4	1413 (1732.6MHz)	-
3	802.11n (HT20)	6	-
	WCDMA Band 5	4182 (836.4MHz)	-
4	802.11n (HT20)	6	-
	LTE Band 4	19957 (1712.5MHz)	-
5	802.11a	116	-
	WCDMA Band 2	9400 (1880.0MHz)	-
6	802.11a	116	-
	WCDMA Band 4	1413 (1732.6MHz)	-
7	802.11a	116	-
	WCDMA Band 5	4182 (836.4MHz)	-
8	802.11a	116	-
	LTE Band 4	19957 (1712.5MHz)	-

Radiated Emission Test (Below 1GHz):

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Tested Channel	Remark
1	802.11n (HT20)	6	-
	WCDMA Band 2	9400 (1880.0MHz)	-
2	802.11n (HT20)	6	-
	WCDMA Band 4	1413 (1732.6MHz)	-
3	802.11n (HT20)	6	-
	WCDMA Band 5	4182 (836.4MHz)	-
4	802.11n (HT20)	6	-
	LTE Band 4	19957 (1712.5MHz)	-
5	802.11a	116	-
	WCDMA Band 2	9400 (1880.0MHz)	-
6	802.11a	116	-
	WCDMA Band 4	1413 (1732.6MHz)	-
7	802.11a	116	-
	WCDMA Band 5	4182 (836.4MHz)	-
8	802.11a	116	-
	LTE Band 4	19957 (1712.5MHz)	-

Test Condition:

Applicable to	Environmental Conditions	Input Power (system)	Tested by
RE \geq 1G	25 deg. C, 66% RH	120Vac, 60Hz	Greg Lin James Yang Han Wu
RE<1G	25 deg. C, 70% RH 25 deg. C, 66% RH	120Vac, 60Hz	Greg Lin James Yang

3.3 Description of Support Units

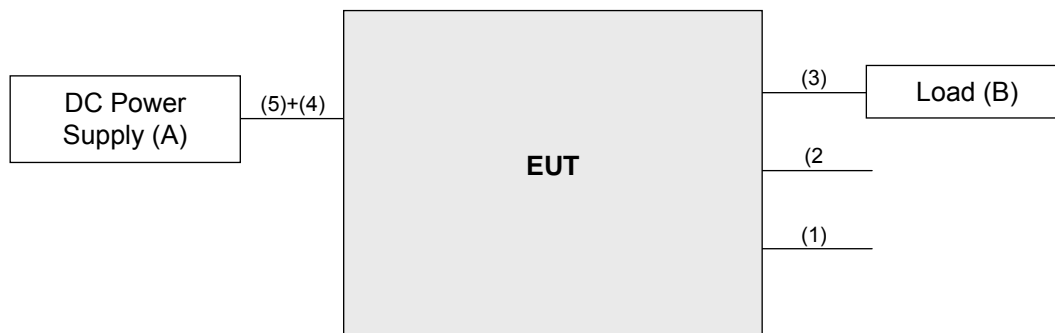
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	DC Power supply	acpower	ADC-48-20A	802001	NA	-
B.	Load	NA	NA	NA	NA	-

Note: All power cords of the above support units are non-shielded (1.8m).

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RS232	2	1	Y	0	-
2.	USB	1	1	Y	0	-
3.	RJ45, Cat5e	2	1	N	0	-
4.	Power	1	0.13	Y	0	Accessory
5.	DC	1	1	N	0	-

3.3.1 Configuration of System under Test



3.4 General Description of Applied Standards

The EUT is a RF Product. According to the specification of the EUT declared by the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C (15.247)

FCC Part 15, Subpart E (15.407)

FCC Part 22, Subpart H

FCC Part 24, Subpart E

FCC Part 27, Subpart L, H, F

ANSI C63.10-2013

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB below the highest level of the desired power.

FCC PART 15.209:

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

Limits of unwanted emission out of the restricted bands

Applicable To		Limit	
789033 D02 General UNII Test Procedure New Rules v02r01		Field Strength at 3m	
		PK: 74 (dBµV/m)	AV: 54 (dBµV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3m
5150~5250 MHz	15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2(dBµV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	<input checked="" type="checkbox"/> 15.407(b)(4)(i)	PK: -27 (dBm/MHz) ^{*1} PK: 10 (dBm/MHz) ^{*2} PK: 15.6 (dBm/MHz) ^{*3} PK: 27 (dBm/MHz) ^{*4}	PK: 68.2 (dBµV/m) ^{*1} PK: 105.2 (dBµV/m) ^{*2} PK: 110.8 (dBµV/m) ^{*3} PK: 122.2 (dBµV/m) ^{*4}
	<input type="checkbox"/> 15.407(b)(4)(ii)	Emission limits in section 15.247(d)	
^{*1} beyond 75 MHz or more above of the band edge.		^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.	
^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.		^{*4} from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.	

Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000 \sqrt{30 P}}{3} \mu\text{V/m, where P is the eirp (Watts).}$$

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver KEYSIGHT	N9038A	MY55420137	Apr. 11, 2018	Apr. 10, 2019
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Aug. 18, 2017	Aug. 17, 2018
BILOG Antenna SCHWARZBECK	VULB9168	9168-148	Dec. 11, 2017	Dec. 10, 2018
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-1169	Dec. 12, 2017	Dec. 11, 2018
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Dec. 01, 2017	Nov. 30, 2018
Loop Antenna EMCI	EM-6879	269	Aug. 11, 2017	Aug. 10, 2018
Preamplifier Agilent (Below 1GHz)	8447D	2944A10638	Aug. 08, 2017	Aug. 07, 2018
Preamplifier Agilent (Above 1GHz)	8449B	3008A01638	Feb. 22, 2018	Feb. 21, 2019
RF signal cable HUBER+SUHNER&EMCI	SUCOFLEX 104 & EMC104-SM-SM8000	CABLE-CH9-02 (248780+171006)	Jan. 15, 2018	Jan. 14, 2019
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-(250795/4)	Aug. 08, 2017	Aug. 07, 2018
RF signal cable Woken	8D-FB	Cable-CH9-01	Aug. 01, 2017	Jul. 31, 2018
Software BV ADT	ADT_Radiated_ V7.6.15.9.4	NA	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA	NA
Turn Table EMCO	2087-2.03	NA	NA	NA
Antenna Tower & Turn BV ADT	AT100	AT93021705	NA	NA
Turn Table BV ADT	TT100	TT93021705	NA	NA
Turn Table Controller BV ADT	SC100	SC93021705	NA	NA
Boresight Antenna Fixture 26GHz ~ 40GHz Amplifier Agilent	FBA-01	FBA-SIP01	NA	NA
High Speed Peak Power Meter	8449B	3008A1960	Aug. 08, 2017	Aug. 07, 2018
Power Sensor	ML2495A	0824012	Aug. 18, 2017	Aug. 17, 2018
WIT Standard Temperature And Humidity Chamber	MA2411B	0738171	Aug. 18, 2017	Aug. 17, 2018
JFW 20dB attenuation	TH-4S-C	W981030	Jun. 07, 2017	Jun. 06, 2018
	50HF-020-SMA	NA	NA	NA

- Note:
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 2. The test was performed in HwaYa Chamber 9.
 3. The FCC Designation Number is TW0003. The number will be varied with the Lab location and scope as attached.
 4. The IC Site Registration No. is IC 7450F-9.

4.1.3 Test Procedures

For Radiated emission below 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

For Radiated emission above 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. 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.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

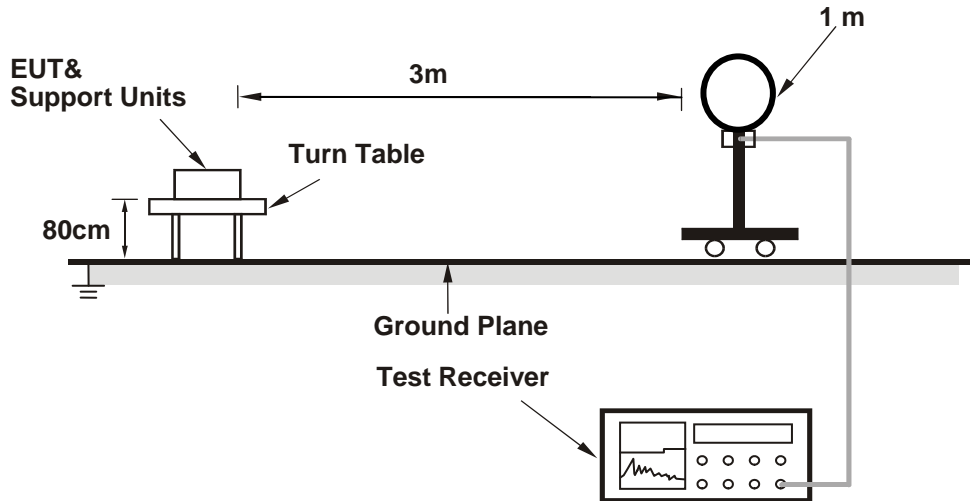
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98%) or 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

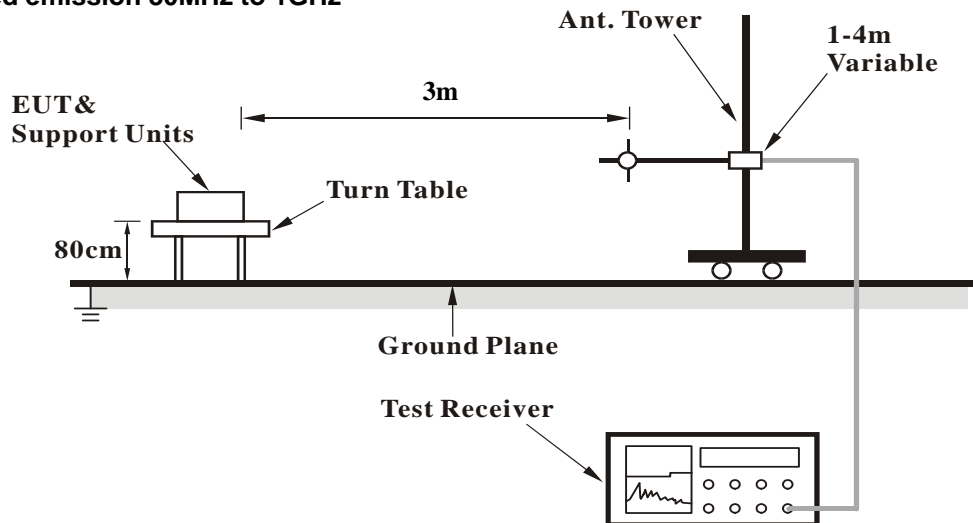
No deviation.

4.1.5 Test Setup

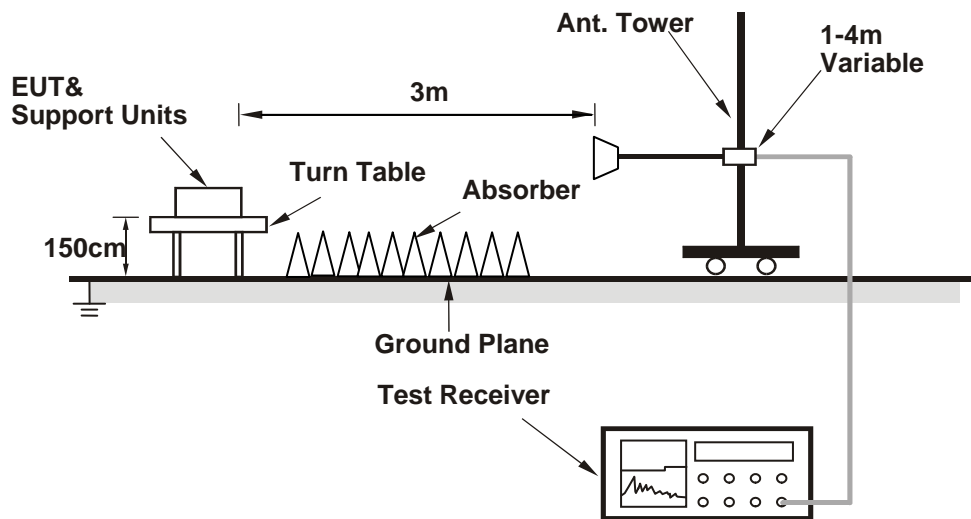
For Radiated emission below 30MHz



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).

4.1.6 EUT Operating Conditions

- a. Set the EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1GHz data:

Mode 1

802.11n (HT20), CH 6 +

WCDMA Band 2, CH 9400

Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)
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ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	97.8 PK			2.13 H	285	65.8	32.0
2	*2437.00	73.5 AV			2.13 H	285	41.5	32.0
3	4874.00	41.5 PK	74.0	-32.5	1.48 H	129	40.2	1.3
4	4874.00	30.0 AV	54.0	-24.0	1.48 H	129	28.7	1.3

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	108.4 PK			2.41 V	244	76.4	32.0
2	*2437.00	100.7 AV			2.41 V	244	68.7	32.0
3	4874.00	50.3 PK	74.0	-23.7	2.48 V	127	49.0	1.3
4	4874.00	46.1 AV	54.0	-7.9	2.48 V	127	44.8	1.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1880.00	-32.0	8.5	0.0	8.5	33.0	-24.5
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1880.00	-21.0	19.6	0.0	19.6	33.0	-13.4

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3760.00	-61.5	-53.0	1.3	-51.7	-13.0	-38.7
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3760.00	-62.0	-53.7	1.3	-52.4	-13.0	-39.4

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode 2

802.11n (HT20), CH 6 +

WCDMA Band 4, CH 1413

Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)
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ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	98.1 PK			2.09 H	287	66.1	32.0
2	*2437.00	73.8 AV			2.09 H	287	41.8	32.0
3	4874.00	41.2 PK	74.0	-32.8	1.50 H	131	39.9	1.3
4	4874.00	29.7 AV	54.0	-24.3	1.50 H	131	28.4	1.3

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	108.8 PK			2.43 V	239	76.8	32.0
2	*2437.00	100.3 AV			2.43 V	239	68.3	32.0
3	4874.00	50.6 PK	74.0	-23.4	2.46 V	125	49.3	1.3
4	4874.00	46.4 AV	54.0	-7.6	2.46 V	125	45.1	1.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.60	-22.7	15.7	0.6	16.3	30.0	-13.7
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.60	-12.1	26.3	0.6	26.9	30.0	-3.1

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3465.00	-60.9	-52.5	1.4	-51.1	-13.0	-38.1
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3465.00	-57.1	-49.3	1.4	-47.9	-13.0	-34.9

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode 3

802.11n (HT20), CH 6 +

WCDMA Band 5, CH 4182

Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)
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ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	98.9 PK			2.10 H	288	66.9	32.0
2	*2437.00	74.5 AV			2.10 H	288	42.5	32.0
3	4874.00	41.3 PK	74.0	-32.7	1.51 H	129	40.0	1.3
4	4874.00	29.5 AV	54.0	-24.5	1.51 H	129	28.2	1.3

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	108.7 PK			2.40 V	246	76.7	32.0
2	*2437.00	101.0 AV			2.40 V	246	69.0	32.0
3	4874.00	50.7 PK	74.0	-23.3	2.42 V	131	49.4	1.3
4	4874.00	46.5 AV	54.0	-7.5	2.42 V	131	45.2	1.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.40	-25.4	2.0	3.8	5.8	38.5	-32.7
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.40	-15.9	12.2	3.8	16.0	38.5	-22.5

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1672.80	-61.8	-54.1	0.8	-53.3	-13.0	-40.3
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1672.80	-60.6	-53.3	0.8	-52.5	-13.0	-39.5

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode 4

802.11n (HT20), CH 6 +

LTE Band 4, CH 19957

Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)
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ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	95.6 PK			1.98 H	267	63.6	32.0
2	*2437.00	74.2 AV			1.98 H	267	42.2	32.0
3	4874.00	42.6 PK	74.0	-31.4	1.56 H	137	41.3	1.3
4	4874.00	30.7 AV	54.0	-23.3	1.56 H	137	29.4	1.3

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	111.3 PK			2.57 V	324	79.3	32.0
2	*2437.00	101.1 AV			2.57 V	324	69.1	32.0
3	4874.00	59.2 PK	74.0	-14.8	2.57 V	156	57.9	1.3
4	4874.00	46.9 AV	54.0	-7.1	2.57 V	156	45.6	1.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1712.50	-20.3	17.8	0.7	18.5	30.0	-11.5
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1712.50	-9.9	28.0	0.7	28.7	30.0	-1.3

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	3425.00	-63.2	-54.6	1.3	-53.3	-13.0	-40.3
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	3425.00	-63.0	-54.9	1.3	-53.6	-13.0	-40.6

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode 5

802.11a, CH 116 +

WCDMA Band 2, CH 9400

Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)
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ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	100.4 PK			1.60 H	2	61.0	39.4
2	*5580.00	89.4 AV			1.60 H	2	50.0	39.4
3	11160.00	55.6 PK	74.0	-18.4	2.84 H	213	39.6	16.0
4	11160.00	42.0 AV	54.0	-12.0	2.84 H	213	26.0	16.0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	104.2 PK			1.11 V	349	64.8	39.4
2	*5580.00	92.7 AV			1.11 V	349	53.3	39.4
3	11160.00	54.2 PK	74.0	-19.8	1.84 V	146	38.2	16.0
4	11160.00	41.8 AV	54.0	-12.2	1.84 V	146	25.8	16.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1880.00	-31.7	8.8	0.0	8.8	33.0	-24.2
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1880.00 (PK)	-21.2	19.4	0.0	19.4	33.0	-13.6

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3760.00	-61.9	-53.4	1.3	-52.1	-13.0	-39.1
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3760.00	-61.4	-53.1	1.3	-51.8	-13.0	-38.8

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode 6

802.11a, CH 116 +

WCDMA Band 4, CH 1413

Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)
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ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	101.0 PK			1.59 H	8	61.6	39.4
2	*5580.00	90.0 AV			1.59 H	8	50.6	39.4
3	11160.00	55.7 PK	74.0	-18.3	2.88 H	213	39.7	16.0
4	11160.00	42.1 AV	54.0	-11.9	2.88 H	213	26.1	16.0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	104.6 PK			1.10 V	344	65.2	39.4
2	*5580.00	93.1 AV			1.10 V	344	53.7	39.4
3	11160.00	54.1 PK	74.0	-19.9	1.86 V	149	38.1	16.0
4	11160.00	41.7 AV	54.0	-12.3	1.86 V	149	25.7	16.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.60	-22.5	15.9	0.6	16.5	30.0	-13.5
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	1732.60	-12.4	26.0	0.6	26.6	30.0	-3.4

Note: EIRP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3465.00	-60.8	-52.4	1.4	-51.0	-13.0	-38.0
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	3465.00	-57.4	-49.6	1.4	-48.2	-13.0	-35.2

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode 7

802.11a, CH 116 +

WCDMA Band 5, CH 4182

Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)
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ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	100.8 PK			1.57 H	7	61.4	39.4
2	*5580.00	89.8 AV			1.57 H	7	50.4	39.4
3	11160.00	55.4 PK	74.0	-18.6	2.87 H	217	39.4	16.0
4	11160.00	41.8 AV	54.0	-12.2	2.87 H	217	25.8	16.0

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	104.8 PK			1.09 V	345	65.4	39.4
2	*5580.00	93.3 AV			1.09 V	345	53.9	39.4
3	11160.00	54.4 PK	74.0	-19.6	1.87 V	148	38.4	16.0
4	11160.00	42.0 AV	54.0	-12.0	1.87 V	148	26.0	16.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.40	-22.6	4.9	3.8	8.7	38.5	-29.8
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	836.40	-15.5	12.6	3.8	16.4	38.5	-22.1

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1672.80	-62.2	-54.6	0.8	-53.8	-13.0	-40.8
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1672.80	-60.1	-52.8	0.8	-52.0	-13.0	-39.0

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode 8

802.11a, CH 116 +

LTE Band 4, CH 19957

Frequency Range	1GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)
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ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	100.2 PK			1.56 H	11	60.3	39.9
2	*5580.00	89.3 AV			1.56 H	11	49.4	39.9
3	11160.00	55.8 PK	74.0	-18.2	1.75 H	204	39.2	16.6
4	11160.00	42.1 AV	54.0	-11.9	1.75 H	204	25.5	16.6

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	104.0 PK			1.15 V	347	64.1	39.9
2	*5580.00	92.4 AV			1.15 V	347	52.5	39.9
3	11160.00	55.4 PK	74.0	-18.6	1.84 V	246	38.8	16.6
4	11160.00	41.9 AV	54.0	-12.1	1.84 V	246	25.3	16.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1712.50	-20.6	17.5	0.7	18.2	30.0	-11.8
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1712.50	-10.2	27.7	0.7	28.4	30.0	-1.6

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	3425.00	-62.8	-54.2	1.3	-52.9	-13.0	-39.9
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	3425.00	-63.7	-55.6	1.3	-54.3	-13.0	-41.3

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Below 1GHz data:

Mode 1

802.11n (HT20), CH 6 +

WCDMA Band 2, CH 9400

Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)
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ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	30.00	28.9 QP	40.0	-11.1	1.25 H	55	44.0	-15.1
2	148.34	23.5 QP	43.5	-20.0	1.00 H	270	36.8	-13.3
3	249.22	29.0 QP	46.0	-17.0	1.50 H	102	43.3	-14.3
4	348.16	28.6 QP	46.0	-17.4	2.00 H	285	40.3	-11.7
5	652.74	32.3 QP	46.0	-13.7	1.00 H	21	38.8	-6.5
6	753.62	35.1 QP	46.0	-10.9	1.50 H	195	39.6	-4.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	31.94	39.6 QP	40.0	-0.4	1.25 V	201	54.5	-14.9
2	101.78	32.5 QP	43.5	-11.0	1.00 V	170	50.1	-17.6
3	192.96	27.4 QP	43.5	-16.1	2.00 V	228	43.4	-16.0
4	348.16	31.0 QP	46.0	-15.0	1.50 V	322	42.7	-11.7
5	753.62	32.6 QP	46.0	-13.4	1.50 V	25	37.1	-4.5
6	854.50	32.6 QP	46.0	-13.4	1.00 V	220	35.8	-3.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	31.94	-50.2	-28.5	-18.3	-46.8	-13.0	-33.8
2	212.36	-54.0	-60.4	-2.1	-62.5	-13.0	-49.5
3	348.16	-60.8	-68.0	3.9	-64.1	-13.0	-51.1
4	652.74	-61.8	-63.2	3.6	-59.6	-13.0	-46.6
5	753.62	-62.5	-62.4	3.9	-58.5	-13.0	-45.5
6	833.16	-66.4	-63.4	3.8	-59.6	-13.0	-46.6
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	31.94	-38.2	-30.4	-18.3	-48.7	-13.0	-35.7
2	192.96	-53.4	-52.3	-2.6	-54.9	-13.0	-41.9
3	280.26	-60.2	-55.4	-1.6	-57.0	-13.0	-44.0
4	646.92	-64.5	-62.6	3.7	-58.9	-13.0	-45.9
5	753.62	-66.8	-63.6	3.9	-59.7	-13.0	-46.7
6	957.32	-68.6	-63.1	3.8	-59.3	-13.0	-46.3

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode 2

802.11n (HT20), CH 6 +

WCDMA Band 4, CH 1413

Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)
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ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	30.00	25.9 QP	40.0	-14.1	1.25 H	200	41.0	-15.1
2	210.42	29.0 QP	43.5	-14.5	1.50 H	86	45.2	-16.2
3	299.66	28.0 QP	46.0	-18.0	1.00 H	239	40.3	-12.3
4	551.86	28.9 QP	46.0	-17.1	1.50 H	345	37.6	-8.7
5	652.74	32.5 QP	46.0	-13.5	1.00 H	317	39.0	-6.5
6	753.62	35.1 QP	46.0	-10.9	2.00 H	181	39.6	-4.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	31.94	39.7 QP	40.0	-0.3	1.50 V	167	54.6	-14.9
2	66.86	36.1 QP	40.0	-3.9	1.25 V	294	50.5	-14.4
3	101.78	39.8 QP	43.5	-3.7	1.00 V	294	57.4	-17.6
4	348.16	31.3 QP	46.0	-14.7	1.50 V	185	43.0	-11.7
5	771.08	35.8 QP	46.0	-10.2	1.00 V	292	40.3	-4.5
6	932.10	37.0 QP	46.0	-9.0	2.00 V	294	38.8	-1.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

Antenna Polarity & Test Distance: Horizontal at 3 M

No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	31.94	-53.4	-31.7	-18.3	-50.0	-13.0	-37.0
2	57.16	-57.6	-56.5	-4.7	-61.2	-13.0	-48.2
3	208.48	-57.3	-63.7	-2.0	-65.7	-13.0	-52.7
4	282.20	-61.7	-64.2	-1.7	-65.9	-13.0	-52.9
5	648.86	-63.6	-65.2	3.7	-61.5	-13.0	-48.5
6	753.62	-64.7	-64.6	3.9	-60.7	-13.0	-47.7

Antenna Polarity & Test Distance: Vertical at 3 M

No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	33.88	-31.5	-25.0	-17.1	-42.1	-13.0	-29.1
2	194.90	-52.6	-51.1	-2.6	-53.7	-13.0	-40.7
3	282.20	-59.8	-55.3	-1.7	-57.0	-13.0	-44.0
4	648.86	-65.7	-63.8	3.7	-60.1	-13.0	-47.1
5	753.62	-66.9	-63.7	3.9	-59.8	-13.0	-46.8
6	846.74	-68.6	-65.0	3.4	-61.6	-13.0	-48.6

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode 3

802.11n (HT20), CH 6 +

WCDMA Band 5, CH 4182

Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)
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ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	31.94	27.8 QP	40.0	-12.2	1.00 H	208	42.7	-14.9
2	249.22	28.5 QP	46.0	-17.5	1.50 H	100	42.8	-14.3
3	359.80	31.1 QP	46.0	-14.9	1.00 H	321	42.6	-11.5
4	547.98	28.9 QP	46.0	-17.1	1.25 H	269	37.6	-8.7
5	652.74	36.0 QP	46.0	-10.0	2.00 H	278	42.5	-6.5
6	747.80	36.6 QP	46.0	-9.4	1.25 H	187	41.3	-4.7

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	31.94	34.4 QP	40.0	-5.6	1.00 V	5	49.3	-14.9
2	59.10	39.7 QP	40.0	-0.3	2.00 V	244	53.3	-13.6
3	192.96	28.2 QP	43.5	-15.3	1.25 V	219	44.2	-16.0
4	348.16	31.1 QP	46.0	-14.9	1.50 V	184	42.8	-11.7
5	747.80	36.1 QP	46.0	-9.9	1.00 V	9	40.8	-4.7
6	854.50	32.9 QP	46.0	-13.1	1.25 V	215	36.1	-3.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

Antenna Polarity & Test Distance: Horizontal at 3 M

No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	31.94	-47.6	-28.1	-18.3	-46.4	-13.0	-33.4
2	55.22	-56.5	-55.9	-5.4	-61.3	-13.0	-48.3
3	210.42	-53.1	-61.8	-2.0	-63.8	-13.0	-50.8
4	652.74	-59.3	-62.9	3.6	-59.3	-13.0	-46.3
5	753.62	-61.2	-63.3	3.9	-59.4	-13.0	-46.4
6	953.44	-62.9	-60.4	3.8	-56.6	-13.0	-43.6

Antenna Polarity & Test Distance: Vertical at 3 M

No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	31.94	-37.6	-32.0	-18.3	-50.3	-13.0	-37.3
2	192.96	-52.2	-53.3	-2.6	-55.9	-13.0	-42.9
3	282.20	-57.9	-55.5	-1.7	-57.2	-13.0	-44.2
4	652.74	-61.8	-61.9	3.6	-58.3	-13.0	-45.3
5	747.80	-62.5	-61.5	3.7	-57.8	-13.0	-44.8
6	918.52	-62.5	-59.9	3.6	-56.3	-13.0	-43.3

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode 4

802.11n (HT20), CH 6 +

LTE Band 4, CH 19957

Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)
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ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	51.24	29.1 QP	40.0	-10.9	1.00 H	7	42.6	-13.5
2	136.62	22.6 QP	43.5	-20.9	1.00 H	272	36.8	-14.2
3	340.36	16.8 QP	46.0	-29.2	2.00 H	80	28.5	-11.7
4	551.87	22.3 QP	46.0	-23.7	2.00 H	7	31.0	-8.7
5	745.91	37.7 QP	46.0	-8.3	1.50 H	7	42.4	-4.7
6	939.95	31.7 QP	46.0	-14.3	1.00 H	283	33.4	-1.7

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	45.42	38.6 QP	40.0	-1.4	1.50 V	93	52.2	-13.6
2	130.80	43.3 QP	43.5	-0.2	2.00 V	62	58.1	-14.8
3	223.94	39.5 QP	46.0	-6.5	2.00 V	102	55.6	-16.1
4	319.02	20.2 QP	46.0	-25.8	1.00 V	269	32.1	-11.9
5	742.03	30.1 QP	46.0	-15.9	1.00 V	9	34.9	-4.8
6	938.01	36.9 QP	46.0	-9.1	1.00 V	18	38.6	-1.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	30.00	-39.8	-16.4	-19.4	-35.8	-13.0	-22.8
2	210.42	-54.7	-61.2	-2.0	-63.2	-13.0	-50.2
3	352.04	-61.2	-68.3	3.9	-64.4	-13.0	-51.4
4	646.92	-61.5	-63.1	3.7	-59.4	-13.0	-46.4
5	747.80	-63.6	-63.3	3.7	-59.6	-13.0	-46.6
6	846.74	-68.0	-64.9	3.4	-61.5	-13.0	-48.5
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	57.16	-45.9	-48.1	-4.7	-52.8	-13.0	-39.8
2	192.96	-53.7	-52.6	-2.6	-55.2	-13.0	-42.2
3	280.26	-60.1	-55.3	-1.6	-56.9	-13.0	-43.9
4	648.86	-66.6	-64.7	3.7	-61.0	-13.0	-48.0
5	747.80	-67.8	-64.6	3.7	-60.9	-13.0	-47.9
6	846.74	-68.4	-64.8	3.4	-61.4	-13.0	-48.4

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode 5

802.11a, CH 116 +

WCDMA Band 2, CH 9400

Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)
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ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	212.36	27.9 QP	43.5	-15.6	1.25 H	29	44.0	-16.1
2	249.22	28.6 QP	46.0	-17.4	2.00 H	97	42.9	-14.3
3	348.16	28.2 QP	46.0	-17.8	1.50 H	273	39.9	-11.7
4	551.86	29.4 QP	46.0	-16.6	1.25 H	294	38.1	-8.7
5	646.92	35.6 QP	46.0	-10.4	1.00 H	274	42.2	-6.6
6	753.62	37.8 QP	46.0	-8.2	1.50 H	187	42.3	-4.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	33.88	39.3 QP	40.0	-0.7	1.50 V	181	54.1	-14.8
2	55.22	31.0 QP	40.0	-9.0	1.00 V	14	44.5	-13.5
3	101.78	31.4 QP	43.5	-12.1	1.50 V	173	49.0	-17.6
4	348.16	30.1 QP	46.0	-15.9	1.25 V	315	41.8	-11.7
5	730.34	37.9 QP	46.0	-8.1	1.00 V	288	43.1	-5.2
6	906.88	31.8 QP	46.0	-14.2	1.25 V	41	34.3	-2.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	33.88	-51.2	-31.2	-17.1	-48.3	-13.0	-35.3
2	55.22	-56.8	-54.0	-5.4	-59.4	-13.0	-46.4
3	212.36	-53.9	-60.3	-2.1	-62.4	-13.0	-49.4
4	553.80	-63.7	-67.0	3.7	-63.3	-13.0	-50.3
5	652.74	-61.4	-62.8	3.6	-59.2	-13.0	-46.2
6	747.80	-62.3	-62.0	3.7	-58.3	-13.0	-45.3
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	33.88	-37.5	-31.0	-17.1	-48.1	-13.0	-35.1
2	70.74	-37.8	-43.6	-0.4	-44.0	-13.0	-31.0
3	192.96	-54.0	-52.9	-2.6	-55.5	-13.0	-42.5
4	280.26	-58.1	-53.3	-1.6	-54.9	-13.0	-41.9
5	648.86	-64.2	-62.3	3.7	-58.6	-13.0	-45.6
6	846.74	-67.8	-64.2	3.4	-60.8	-13.0	-47.8

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode 6

802.11a, CH 116 +

WCDMA Band 4, CH 1413

Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)
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ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	214.30	27.7 QP	43.5	-15.8	1.50 H	75	43.8	-16.1
2	249.22	28.8 QP	46.0	-17.2	2.00 H	109	43.1	-14.3
3	348.16	27.9 QP	46.0	-18.1	1.00 H	269	39.6	-11.7
4	547.98	29.6 QP	46.0	-16.4	1.25 H	278	38.3	-8.7
5	652.74	36.0 QP	46.0	-10.0	1.00 H	249	42.5	-6.5
6	732.28	37.8 QP	46.0	-8.2	1.25 H	355	43.0	-5.2

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	31.94	39.3 QP	40.0	-0.7	1.50 V	349	54.2	-14.9
2	101.78	31.0 QP	43.5	-12.5	1.25 V	177	48.6	-17.6
3	191.02	26.9 QP	43.5	-16.6	1.25 V	229	42.7	-15.8
4	348.16	30.0 QP	46.0	-16.0	1.00 V	178	41.7	-11.7
5	747.80	39.0 QP	46.0	-7.0	2.00 V	226	43.7	-4.7
6	885.54	36.1 QP	46.0	-9.9	1.00 V	10	38.9	-2.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

Antenna Polarity & Test Distance: Horizontal at 3 M

No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	30.00	-51.7	-28.3	-19.4	-47.7	-13.0	-34.7
2	57.16	-56.4	-55.3	-4.7	-60.0	-13.0	-47.0
3	208.48	-54.7	-61.1	-2.0	-63.1	-13.0	-50.1
4	547.98	-64.7	-68.1	3.8	-64.3	-13.0	-51.3
5	652.74	-62.1	-63.5	3.6	-59.9	-13.0	-46.9
6	747.80	-62.8	-62.5	3.7	-58.8	-13.0	-45.8

Antenna Polarity & Test Distance: Vertical at 3 M

No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1	31.94	-37.8	-30.0	-18.3	-48.3	-13.0	-35.3
2	57.16	-45.7	-47.9	-4.7	-52.6	-13.0	-39.6
3	194.90	-53.6	-52.1	-2.6	-54.7	-13.0	-41.7
4	278.32	-60.1	-55.2	-1.6	-56.8	-13.0	-43.8
5	652.74	-65.4	-63.4	3.6	-59.8	-13.0	-46.8
6	846.74	-67.5	-63.9	3.4	-60.5	-13.0	-47.5

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode 7

802.11a, CH 116 +

WCDMA Band 5, CH 4182

Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)
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ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	31.94	28.5 QP	40.0	-11.5	1.00 H	226	43.4	-14.9
2	208.48	28.4 QP	43.5	-15.1	1.25 H	19	44.6	-16.2
3	348.16	28.0 QP	46.0	-18.0	1.50 H	94	39.7	-11.7
4	652.74	36.1 QP	46.0	-9.9	2.00 H	251	42.6	-6.5
5	747.80	37.9 QP	46.0	-8.1	1.50 H	186	42.6	-4.7
6	963.14	32.6 QP	54.0	-21.4	1.25 H	188	34.1	-1.5

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	31.94	39.8 QP	40.0	-0.2	1.25 V	182	54.7	-14.9
2	101.78	32.0 QP	43.5	-11.5	2.00 V	185	49.6	-17.6
3	192.96	27.5 QP	43.5	-16.0	1.00 V	197	43.5	-16.0
4	348.16	29.7 QP	46.0	-16.3	1.50 V	184	41.4	-11.7
5	730.34	39.2 QP	46.0	-6.8	1.25 V	142	44.4	-5.2
6	846.74	31.6 QP	46.0	-14.4	1.00 V	213	34.8	-3.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

Antenna Polarity & Test Distance: Horizontal at 3 M

No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	33.88	-50.2	-32.4	-17.1	-49.5	-13.0	-36.5
2	57.16	-56.1	-57.2	-4.7	-61.9	-13.0	-48.9
3	212.36	-53.4	-61.9	-2.1	-64.0	-13.0	-51.0
4	753.62	-60.5	-62.5	3.9	-58.6	-13.0	-45.6
5	897.18	-63.0	-61.1	3.5	-57.6	-13.0	-44.6
6	1000.00	-62.6	-58.9	3.2	-55.7	-13.0	-42.7

Antenna Polarity & Test Distance: Vertical at 3 M

No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	31.94	-37.0	-31.3	-18.3	-49.6	-13.0	-36.6
2	57.16	-45.7	-50.0	-4.7	-54.7	-13.0	-41.7
3	192.96	-53.6	-54.7	-2.6	-57.3	-13.0	-44.3
4	280.26	-58.8	-56.2	-1.6	-57.8	-13.0	-44.8
5	802.12	-62.2	-61.6	4.0	-57.6	-13.0	-44.6
6	978.66	-62.5	-58.8	3.5	-55.3	-13.0	-42.3

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode 8

802.11a, CH 116 +

LTE Band 4, CH 19957

Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)
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ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	45.42	38.7 QP	40.0	-1.3	1.25 H	236	52.3	-13.6
2	235.58	18.8 QP	46.0	-27.2	1.50 H	193	33.9	-15.1
3	460.67	18.8 QP	46.0	-27.2	1.00 H	85	28.4	-9.6
4	563.51	21.3 QP	46.0	-24.7	1.00 H	229	29.7	-8.4
5	666.35	23.1 QP	46.0	-22.9	2.00 H	345	29.5	-6.4
6	934.13	37.5 QP	46.0	-8.5	1.00 H	288	39.3	-1.8

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	45.42	39.4 QP	40.0	-0.6	1.00 V	37	53.0	-13.6
2	105.58	21.4 QP	43.5	-22.1	2.00 V	12	38.6	-17.2
3	268.57	14.4 QP	46.0	-31.6	1.50 V	50	27.7	-13.3
4	480.07	20.0 QP	46.0	-26.0	1.00 V	279	29.4	-9.4
5	790.54	26.8 QP	46.0	-19.2	1.00 V	151	30.9	-4.1
6	939.95	36.3 QP	46.0	-9.7	1.25 V	94	38.0	-1.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	33.88	-50.7	-30.7	-17.1	-47.8	-13.0	-34.8
2	208.48	-54.2	-60.6	-2.0	-62.6	-13.0	-49.6
3	551.86	-64.9	-68.3	3.8	-64.5	-13.0	-51.5
4	646.92	-62.1	-63.7	3.7	-60.0	-13.0	-47.0
5	747.80	-62.9	-62.6	3.7	-58.9	-13.0	-45.9
6	837.04	-64.7	-61.7	3.8	-57.9	-13.0	-44.9
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	31.94	-37.7	-29.9	-18.3	-48.2	-13.0	-35.2
2	191.02	-53.7	-52.9	-2.7	-55.6	-13.0	-42.6
3	280.26	-59.7	-54.9	-1.6	-56.5	-13.0	-43.5
4	648.86	-66.2	-64.3	3.7	-60.6	-13.0	-47.6
5	747.80	-67.5	-64.3	3.7	-60.6	-13.0	-47.6
6	837.04	-64.3	-60.8	3.8	-57.0	-13.0	-44.0

Remarks:

1. Output Power (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

Appendix – Information on 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:

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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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