

FCC Test Report

Report No.: RF160307C24-1

FCC ID: VQK-F04H

Test Model: F-04H

Received Date: Mar. 07, 2016

Test Date: May 06 ~ May 23, 2016

Issued Date: May 26, 2016

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Release Control Record

Issue No.	Description	Date Issued
RF160307C24-1	Original release	May 26, 2016

1 Certificate of Conformity

Product: Tablet PC

Brand: FUJITSU

Test Model: F-04H

Sample Status: Engineering sample

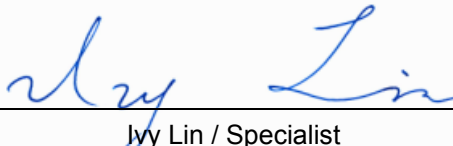
Applicant: FUJITSU LIMITED.

Test Date: May 06 ~ May 23, 2016

Standards: 47 CFR FCC Part 15, Subpart E (Section 15.407)
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 EMC characteristics under the conditions specified in this report.


Prepared by :


Ivy Lin / Specialist

Date:

May 26, 2016

Approved by :


Ken Liu / Senior Manager

Date:

May 26, 2016

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.207 15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -16.19dB at 0.19728MHz
15.407(b) (1/2/3/4/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -3.8dB at 11000.00MHz
15.407(a)(1/2 /3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
15.407(a)(1/2 /3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	No antenna connector is used.

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	Expended Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.44 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.82 dB
	30MHz ~ 200MHz	3.63 dB
	200MHz ~ 1000MHz	3.64 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	Tablet PC
Brand	FUJITSU
Test Model	F-04H
Sample Status	Engineering sample
Power Supply Rating	3.8Vdc (Battery) 5Vdc (Adapter)
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 150Mbps 802.11ac: up to 433.3Mbps
Operating Frequency	5180 ~ 5240MHz, 5260 ~ 5320MHz, 5500 ~ 5700MHz
Number of Channel	5180MHz ~ 5240MHz 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5260MHz ~ 5320MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5500MHz ~ 5700MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 11 802.11n (HT40), 802.11ac (VHT40): 5 802.11ac (VHT80): 2
Output Power	5180MHz ~ 5240MHz: 13.900mW 5260MHz ~ 5320MHz: 13.183mW 5500MHz ~ 5700MHz: 12.274mW
Antenna Type	$\lambda/4$ Monopole antenna with -5.1dBi gain
Antenna Connector	NA
Accessory Device	Refer to Note as below
Data Cable Supplied	NA

Note:

1. The EUT provides 1 completed transmitter and 1 receiver.

Modulation Mode	TX Function
802.11a	1TX
802.11n (HT20)	1TX
802.11n (HT40)	1TX
802.11ac (VHT80)	1TX

* The modulation and bandwidth are similar for 802.11n mode for 20MHz / 40MHz and 802.11ac mode for 20MHz / 40MHz, therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

2. The EUT contains the following accessories.

Product	Brand	Model	Description
Battery	FUJITSU CONNECTED TECHNOLOGIES Ltd.	NA	3.8Vdc, 6000mAh, 22.8Wh (Built-in battery)
Stand (bundled)	FUJITSU CONNECTED TECHNOLOGIES Ltd.	JBC3348-010010	Doesn't have Charging function.

3. The following adapter is support unit only.

Product	Brand	Model	Description
Adapter	NTT docomo	AC Adapter 04	Input: 100-240Vac, 50-60Hz, 0.22A Output: 5.0Vdc, 1.8A Power line: 1.05m cable with two cores attached on adapter

4. SW version is R026.1e.
5. HW version is V2.1.0.
6. IMEI Code: 356399070027368 and 356399070026097.
7. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 Description of Test Modes

For 5180 ~ 5240MHz

4 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

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

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
42	5210MHz

For 5260 ~ 5320MHz

4 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

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

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
58	5290MHz

For 5500 ~ 5700MHz

11 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

Channel	Frequency	Channel	Frequency
100	5500 MHz	124	5620 MHz
104	5520 MHz	128	5640 MHz
108	5540 MHz	132	5660 MHz
112	5560 MHz	136	5680 MHz
116	5580 MHz	140	5700 MHz
120	5600 MHz		

5 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

Channel	Frequency	Channel	Frequency
102	5510 MHz	126	5630 MHz
110	5550 MHz	134	5670 MHz
118	5590 MHz		

2 channels are provided for 802.11ac (VHT80):

Channel	Frequency	Channel	Frequency
106	5530MHz	122	5610 MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE \geq 1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

Where **RE \geq 1G**: Radiated Emission above 1GHz & Bandedge Measurement
RE<1G: Radiated Emission below 1GHz
PLC: Power Line Conducted Emission
APCM: Antenna Port Conducted Measurement

Note: The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Y-plane**.

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	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6.0
-	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	BPSK	7.2
-	802.11n (HT40)		38 to 46	38, 46	OFDM	BPSK	15.0
-	802.11ac (VHT80)		42	42	OFDM	BPSK	32.5
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	BPSK	7.2
-	802.11n (HT40)		54 to 62	54, 62	OFDM	BPSK	15.0
-	802.11ac (VHT80)		58	58	OFDM	BPSK	32.5
-	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6.0
-	802.11n (HT20)		100 to 140	100, 116, 140	OFDM	BPSK	7.2
-	802.11n (HT40)		102 to 134	102, 110, 134	OFDM	BPSK	15.0
-	802.11ac (VHT80)		106 to 122	106	OFDM	BPSK	32.5

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	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	5180-5240	36 to 48	36	OFDM	BPSK	6.0
-	802.11a	5260-5320	52 to 64		OFDM	BPSK	6.0
-	802.11a	5500-5700	100 to 140		OFDM	BPSK	6.0

Power Line Conducted Emission Test:

- ☒ 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	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	5180-5240	36 to 48	36	OFDM	BPSK	6.0
-	802.11a	5260-5320	52 to 64		OFDM	BPSK	6.0
-	802.11a	5500-5700	100 to 140		OFDM	BPSK	6.0

Antenna Port Conducted Measurement:

- ☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
- ☒ 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	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6.0
-	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	BPSK	7.2
-	802.11n (HT40)		38 to 46	38, 46	OFDM	BPSK	15.0
-	802.11ac (VHT80)		42	42	OFDM	BPSK	32.5
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	BPSK	7.2
-	802.11n (HT40)		54 to 62	54, 62	OFDM	BPSK	15.0
-	802.11ac (VHT80)		58	58	OFDM	BPSK	32.5
-	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6.0
-	802.11n (HT20)		100 to 140	100, 116, 140	OFDM	BPSK	7.2
-	802.11n (HT40)		102 to 134	102, 110, 134	OFDM	BPSK	15.0
-	802.11ac (VHT80)		106 to 122	106	OFDM	BPSK	32.5

Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE _≥ 1G	20deg. C, 69%RH, 25deg. C, 65%RH	120Vac, 60Hz	Bayu Chen, Tank Wu
RE _{<} 1G	20deg. C, 69%RH	120Vac, 60Hz	Bayu Chen
PLC	20deg. C, 69%RH	120Vac, 60Hz	Bayu Chen
APCM	25deg. C, 60%RH	120Vac, 60Hz	Ted Chang

3.3 Duty Cycle of Test Signal

Duty cycle of test signal is < 98 %, duty factor shall be considered.

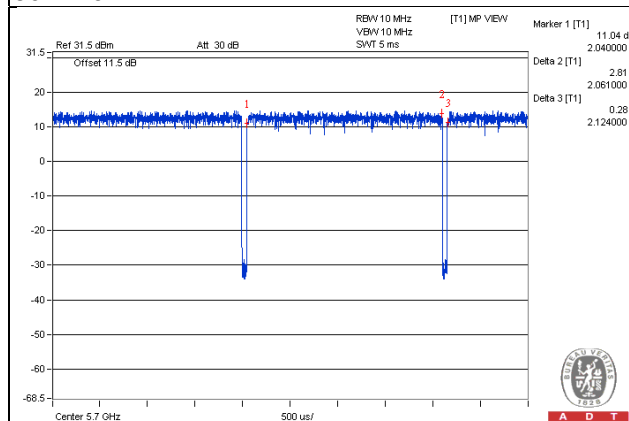
802.11a: Duty cycle = $2.061/2.124 = 0.970$, Duty factor = $10 * \log(1/0.970) = 0.13$

802.11n (HT20): Duty cycle = $1.930/1.987 = 0.971$, Duty factor = $10 * \log(1/0.971) = 0.13$

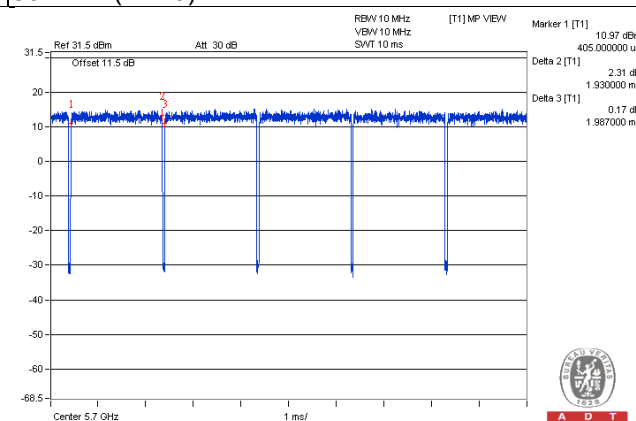
802.11n (HT40): Duty cycle = $0.950/1.005 = 0.945$, Duty factor = $10 * \log(1/0.945) = 0.24$

802.11ac (VHT80): Duty cycle = $0.463/0.525 = 0.882$, Duty factor = $10 * \log(1/0.882) = 0.55$

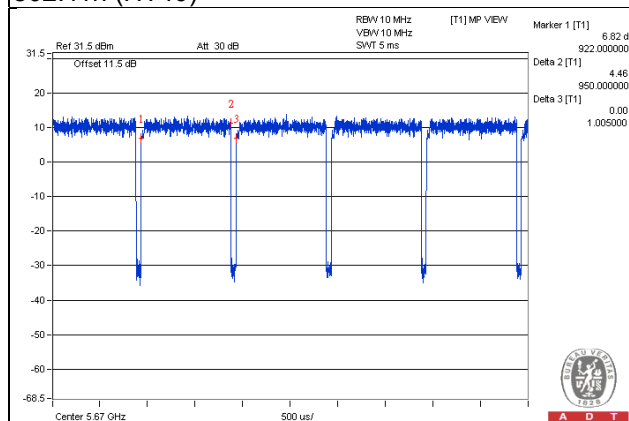
802.11a



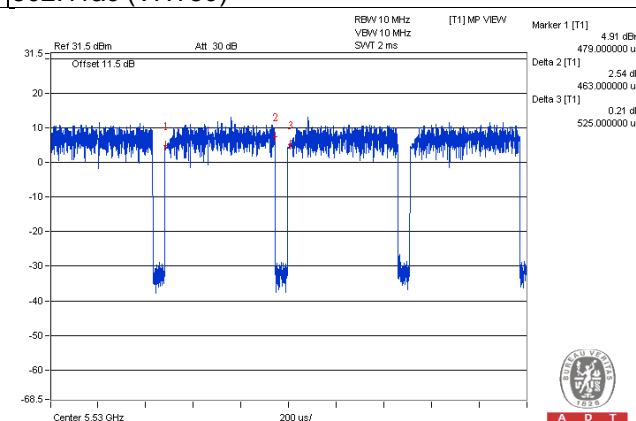
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



3.4 Description of Support Units

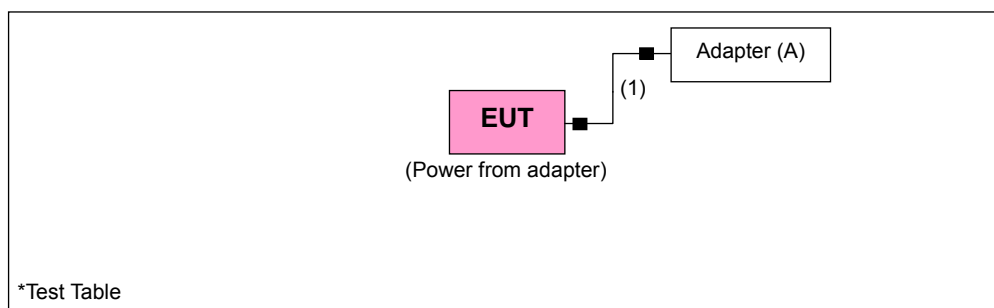
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Adapter	NTT docomo	AC Adapter 04	NA	NA	Provided by the client

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	Power cable	1	1.05	Y	2	Provided by the client Attached on adapter

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

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards

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

FCC Part 15, Subpart E (15.407)

789033 D02 General UNII Test Procedure New Rules v01r02

ANSI C63.10-2013

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

Note: The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

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.

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 Procedures New Rules v01r02	FIELD STRENGTH AT 3m	
	PK:74 (dBuV/m)	AV:54 (dBuV/m)
APPLICABLE TO	EIRP LIMIT	EQUIVALENT FIELD STRENGTH AT 3m
15.407(b)(1)	PK:-27 (dBm/MHz)	PK:68.2(dBuV/m)
15.407(b)(2)		
15.407(b)(3)		
15.407(b)(4)	PK:-27 (dBm/MHz) ^{*1} PK:-17 (dBm/MHz) ^{*2}	PK: 68.2(dBuV/m) ^{*1} PK:78.2 (dBuV/m) ^{*2}

Note: ^{*1} beyond 10MHz of the band edge ^{*2} within 10 MHz of band edge

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

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCS30	100289	Dec. 23, 2015	Dec. 22, 2016
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Apr. 19, 2016	Apr. 18, 2017
BILOG Antenna SCHWARZBECK	VULB9168	9168-148	Jan. 18, 2016	Jan. 17, 2017
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-1169	Jan. 08, 2016	Jan. 07, 2017
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Jan. 18, 2016	Jan. 17, 2017
Preamplifier Agilent	8449B	3008A01911	Aug. 09, 2015	Aug. 08, 2016
Preamplifier Agilent	8447D	2944A10638	Aug. 09, 2015	Aug. 08, 2016
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-02(309222 +248780)	Aug. 09, 2015	Aug. 08, 2016
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-03(274092)	Aug. 09, 2015	Aug. 08, 2016
RF signal cable Woken	8D-FB	Cable-CH9-01	Aug. 11, 2015	Aug. 10, 2016
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
26GHz ~ 40GHz Amplifier	EM26400	815221	Oct. 18, 2015	Oct. 17, 2016
High Speed Peak Power Meter	ML2495A	0824011	Jul. 09, 2015	Jul. 08, 2016
Power Sensor	MA2411B	0738171	Jul. 09, 2015	Jul. 08, 2016
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 08, 2015	Jun. 07, 2016

- 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 horn antenna and preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 215374.
5. The IC Site Registration No. is IC 7450F-9.

4.1.3 Test Procedures

- a. The EUT was placed on the top of a rotating table 0.8 meters (for below 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:

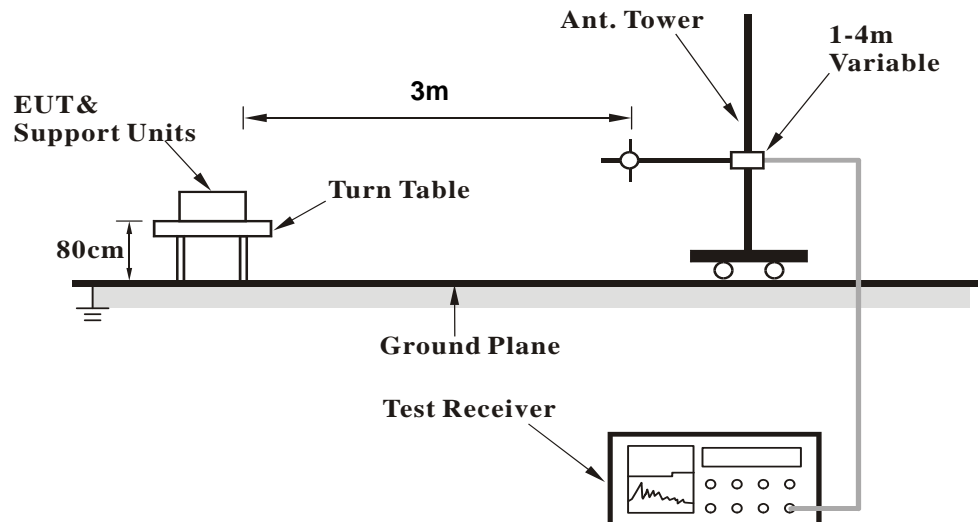
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor ($10 \log(1/\text{duty cycle})$).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

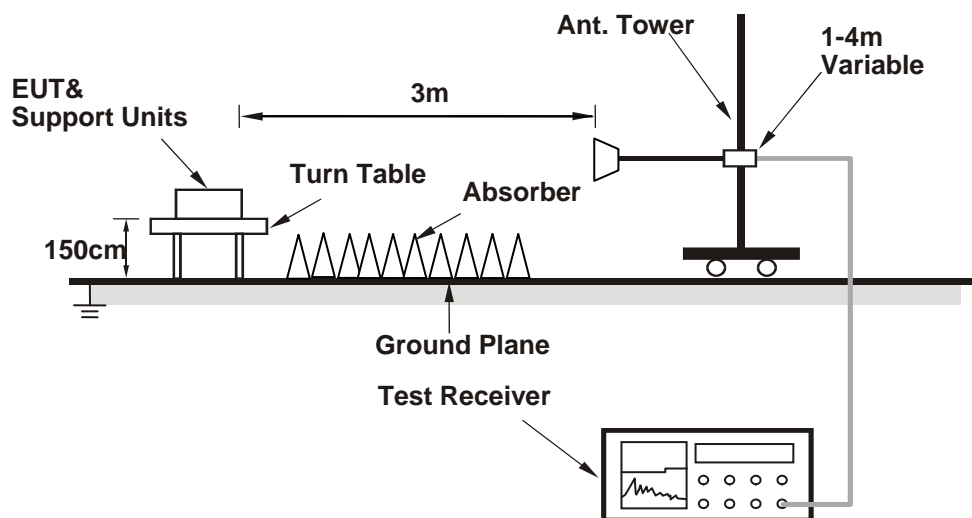
No deviation.

4.1.5 Test Set Up

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



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

4.1.6 EUT Operating Conditions

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

4.1.7 Test Results

Above 1GHz Data

802.11a

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	5150.00	59.2 PK	74.0	-14.8	2.12 H	345	54.60	4.60
2	5150.00	46.9 AV	54.0	-7.1	2.12 H	345	42.30	4.60
3	*5180.00	94.5 PK			2.12 H	345	52.30	42.20
4	*5180.00	83.8 AV			2.12 H	345	41.60	42.20
5	#10360.00	60.0 PK	74.0	-14.0	2.37 H	351	44.20	15.80
6	#10360.00	46.5 AV	54.0	-7.5	2.37 H	351	30.70	15.80
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	5150.00	59.7 PK	74.0	-14.3	2.10 V	79	55.10	4.60
2	5150.00	47.1 AV	54.0	-6.9	2.10 V	79	42.50	4.60
3	*5180.00	99.2 PK			2.10 V	80	57.00	42.20
4	*5180.00	89.3 AV			2.10 V	80	47.10	42.20
5	#10360.00	58.7 PK	74.0	-15.3	2.27 V	350	42.90	15.80
6	#10360.00	46.5 AV	54.0	-7.5	2.27 V	350	30.70	15.80

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)
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.

CHANNEL	TX Channel 40	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	Average (AV)

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	*5200.00	93.9 PK			1.90 H	333	51.70	42.20
2	*5200.00	84.0 AV			1.90 H	333	41.80	42.20
3	#10400.00	59.7 PK	74.0	-14.3	2.42 H	343	43.80	15.90
4	#10400.00	46.8 AV	54.0	-7.2	2.42 H	343	30.90	15.90
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	*5200.00	99.8 PK			2.26 V	79	57.60	42.20
2	*5200.00	89.8 AV			2.26 V	79	47.60	42.20
3	#10400.00	60.0 PK	74.0	-14.0	2.53 V	354	44.10	15.90
4	#10400.00	46.4 AV	54.0	-7.6	2.53 V	354	30.50	15.90

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)
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.

CHANNEL	TX Channel 48	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	Average (AV)

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	*5240.00	89.9 PK			2.26 H	303	47.60	42.30
2	*5240.00	79.8 AV			2.26 H	303	37.50	42.30
3	5350.00	59.1 PK	74.0	-14.9	2.26 H	303	54.30	4.80
4	5350.00	46.2 AV	54.0	-7.8	2.26 H	303	41.40	4.80
5	#10480.00	59.7 PK	74.0	-14.3	2.33 H	356	43.50	16.20
6	#10480.00	46.6 AV	54.0	-7.4	2.33 H	356	30.40	16.20
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	*5240.00	98.6 PK			2.36 V	83	56.30	42.30
2	*5240.00	89.1 AV			2.36 V	83	46.80	42.30
3	5350.00	59.0 PK	74.0	-15.0	2.36 V	82	54.20	4.80
4	5350.00	45.9 AV	54.0	-8.1	2.36 V	82	41.10	4.80
5	#10480.00	59.9 PK	74.0	-14.1	2.45 V	360	43.70	16.20
6	#10480.00	47.1 AV	54.0	-6.9	2.45 V	360	30.90	16.20

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)
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.

CHANNEL	TX Channel 52	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	Average (AV)

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	5150.00	59.0 PK	74.0	-15.0	1.94 H	179	54.40	4.60
2	5150.00	45.8 AV	54.0	-8.2	1.94 H	179	41.20	4.60
3	*5260.00	93.6 PK			1.94 H	179	51.30	42.30
4	*5260.00	83.8 AV			1.94 H	179	41.50	42.30
5	#10520.00	59.9 PK	74.0	-14.1	2.35 H	348	43.80	16.10
6	#10520.00	47.0 AV	54.0	-7.0	2.35 H	348	30.90	16.10
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	5150.00	59.1 PK	74.0	-14.9	1.24 V	293	54.50	4.60
2	5150.00	45.8 AV	54.0	-8.2	1.24 V	293	41.20	4.60
3	*5260.00	106.4 PK			1.24 V	293	64.10	42.30
4	*5260.00	97.3 AV			1.24 V	293	55.00	42.30
5	#10520.00	60.3 PK	74.0	-13.7	2.29 V	354	44.20	16.10
6	#10520.00	47.5 AV	54.0	-6.5	2.29 V	354	31.40	16.10

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)
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.

CHANNEL	TX Channel 60	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	Average (AV)

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	*5300.00	93.2 PK			1.81 H	186	50.80	42.40
2	*5300.00	83.2 AV			1.81 H	186	40.80	42.40
3	10600.00	60.7 PK	74.0	-13.3	2.46 H	360	44.50	16.20
4	10600.00	47.4 AV	54.0	-6.6	2.46 H	360	31.20	16.20
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	*5300.00	96.5 PK			1.31 V	346	54.10	42.40
2	*5300.00	86.9 AV			1.31 V	346	44.50	42.40
3	10600.00	61.3 PK	74.0	-12.7	2.45 V	360	45.10	16.20
4	10600.00	47.9 AV	54.0	-6.1	2.45 V	360	31.70	16.20

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 64	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	Average (AV)

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	*5320.00	92.2 PK			1.68 H	158	49.80	42.40
2	*5320.00	82.3 AV			1.68 H	158	39.90	42.40
3	5350.00	59.2 PK	74.0	-14.8	1.68 H	158	54.40	4.80
4	5350.00	46.1 AV	54.0	-7.9	1.68 H	158	41.30	4.80
5	10640.00	60.4 PK	74.0	-13.6	2.39 H	342	44.20	16.20
6	10640.00	47.8 AV	54.0	-6.2	2.39 H	342	31.60	16.20
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	*5320.00	96.3 PK			1.00 V	330	53.90	42.40
2	*5320.00	86.4 AV			1.00 V	330	44.00	42.40
3	5350.00	59.2 PK	74.0	-14.8	1.00 V	330	54.40	4.80
4	5350.00	46.3 AV	54.0	-7.7	1.00 V	330	41.50	4.80
5	10640.00	61.5 PK	74.0	-12.5	2.51 V	357	45.30	16.20
6	10640.00	48.7 AV	54.0	-5.3	2.51 V	357	32.50	16.20

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * " : Fundamental frequency.

CHANNEL	TX Channel 100	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	Average (AV)

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	5460.00	59.6 PK	74.0	-14.4	3.54 H	135	54.80	4.80
2	5460.00	46.2 AV	54.0	-7.8	3.54 H	135	41.40	4.80
3	#5470.00	59.5 PK	74.0	-14.5	3.54 H	135	54.70	4.80
4	#5470.00	46.1 AV	54.0	-7.9	3.54 H	135	41.30	4.80
5	*5500.00	92.1 PK			3.54 H	135	49.60	42.50
6	*5500.00	82.4 AV			3.54 H	135	39.90	42.50
7	11000.00	62.2 PK	74.0	-11.8	2.50 H	352	44.60	17.60
8	11000.00	49.0 AV	54.0	-5.0	2.50 H	352	31.40	17.60
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	5460.00	58.6 PK	74.0	-15.4	1.00 V	338	53.80	4.80
2	5460.00	46.4 AV	54.0	-7.6	1.00 V	338	41.60	4.80
3	#5470.00	58.9 PK	74.0	-15.1	1.00 V	338	54.10	4.80
4	#5470.00	46.1 AV	54.0	-7.9	1.00 V	338	41.30	4.80
5	*5500.00	96.6 PK			1.00 V	338	54.10	42.50
6	*5500.00	86.9 AV			1.00 V	338	44.40	42.50
7	11000.00	62.9 PK	74.0	-11.1	2.49 V	356	45.30	17.60
8	11000.00	50.2 AV	54.0	-3.8	2.49 V	356	32.60	17.60

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)
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.

CHANNEL	TX Channel 116	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	Average (AV)

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	93.2 PK			4.00 H	127	50.60	42.60
2	*5580.00	83.1 AV			4.00 H	127	40.50	42.60
3	11160.00	60.1 PK	74.0	-13.9	1.50 H	30	43.80	16.30
4	11160.00	46.5 AV	54.0	-7.5	1.50 H	30	30.20	16.30
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	97.7 PK			1.04 V	309	55.10	42.60
2	*5580.00	87.2 AV			1.04 V	309	44.60	42.60
3	11160.00	60.5 PK	74.0	-13.5	2.53 V	348	44.20	16.30
4	11160.00	46.6 AV	54.0	-7.4	2.53 V	348	30.30	16.30

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 140	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	*5700.00	91.7 PK			3.91 H	133	49.00	42.70
2	*5700.00	81.5 AV			3.91 H	133	38.80	42.70
3	#5725.00	59.2 PK	74.0	-14.8	3.91 H	133	54.20	5.00
4	#5725.00	45.5 AV	54.0	-8.5	3.91 H	133	40.50	5.00
5	11400.00	61.2 PK	74.0	-12.8	1.65 H	34	44.30	16.90
6	11400.00	47.2 AV	54.0	-6.8	1.65 H	34	30.30	16.90
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	*5700.00	94.8 PK			2.55 V	272	52.10	42.70
2	*5700.00	84.4 AV			2.55 V	272	41.70	42.70
3	#5725.00	59.4 PK	74.0	-14.6	2.55 V	272	54.40	5.00
4	#5725.00	45.6 AV	54.0	-8.4	2.55 V	272	40.60	5.00
5	11400.00	61.3 PK	74.0	-12.7	2.40 V	356	44.40	16.90
6	11400.00	47.4 AV	54.0	-6.6	2.40 V	356	30.50	16.90

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)
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.

802.11n (HT20)

CHANNEL	TX Channel 36	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	Average (AV)

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	5150.00	59.0 PK	74.0	-15.0	2.87 H	267	54.40	4.60
2	5150.00	46.0 AV	54.0	-8.0	2.87 H	267	41.40	4.60
3	*5180.00	93.0 PK			2.87 H	7	50.80	42.20
4	*5180.00	82.8 AV			2.87 H	7	40.60	42.20
5	#10360.00	59.5 PK	74.0	-14.5	2.50 H	310	43.70	15.80
6	#10360.00	47.2 AV	54.0	-6.8	2.50 H	310	31.40	15.80
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	5150.00	58.7 PK	74.0	-15.3	2.02 V	81	54.10	4.60
2	5150.00	46.0 AV	54.0	-8.0	2.02 V	81	41.40	4.60
3	*5180.00	98.7 PK			2.02 V	81	56.50	42.20
4	*5180.00	88.6 AV			2.02 V	81	46.40	42.20
5	#10360.00	60.6 PK	74.0	-13.4	2.56 V	313	44.80	15.80
6	#10360.00	48.2 AV	54.0	-5.8	2.56 V	313	32.40	15.80

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)
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.

CHANNEL	TX Channel 40	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	Average (AV)

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	*5200.00	93.0 PK			2.95 H	8	50.80	42.20
2	*5200.00	83.5 AV			2.95 H	8	41.30	42.20
3	#10360.00	59.3 PK	74.0	-14.7	2.53 H	322	43.50	15.80
4	#10360.00	47.4 AV	54.0	-6.6	2.53 H	322	31.60	15.80
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	*5200.00	97.2 PK			1.89 V	91	55.00	42.20
2	*5200.00	87.3 AV			1.89 V	91	45.10	42.20
3	#10400.00	60.9 PK	74.0	-13.1	2.47 V	325	45.00	15.90
4	#10400.00	48.4 AV	54.0	-5.6	2.47 V	325	32.50	15.90

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)
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.

CHANNEL	TX Channel 48	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	Average (AV)

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	4613.00	58.5 PK	74.0	-15.5	2.19 H	354	55.00	3.50
2	4613.00	45.7 AV	54.0	-8.3	2.19 H	354	42.20	3.50
3	*5240.00	96.1 PK			2.19 H	354	53.80	42.30
4	*5240.00	86.0 AV			2.19 H	354	43.70	42.30
5	#10480.00	60.0 PK	74.0	-14.0	2.41 H	336	43.80	16.20
6	#10480.00	47.9 AV	54.0	-6.1	2.41 H	336	31.70	16.20
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	4613.00	59.3 PK	74.0	-14.7	1.92 V	86	55.80	3.50
2	4613.00	46.3 AV	54.0	-7.7	1.92 V	86	42.80	3.50
3	*5240.00	99.5 PK			1.92 V	86	57.20	42.30
4	*5240.00	90.3 AV			1.92 V	86	48.00	42.30
5	#10480.00	61.1 PK	74.0	-12.9	2.51 V	293	44.90	16.20
6	#10480.00	48.4 AV	54.0	-5.6	2.51 V	293	32.20	16.20

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)
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.

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	4600.00	58.5 PK	74.0	-15.5	1.90 H	158	55.00	3.50
2	4600.00	45.8 AV	54.0	-8.2	1.90 H	158	42.30	3.50
3	*5260.00	90.9 PK			1.90 H	158	48.60	42.30
4	*5260.00	80.6 AV			1.90 H	158	38.30	42.30
5	#10520.00	61.5 PK	74.0	-12.5	1.00 H	220	45.40	16.10
6	#10520.00	48.4 AV	54.0	-5.6	1.00 H	220	32.30	16.10
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	4600.00	58.7 PK	74.0	-15.3	1.03 V	257	55.20	3.50
2	4600.00	45.9 AV	54.0	-8.1	1.03 V	257	42.40	3.50
3	*5260.00	94.4 PK			1.03 V	257	52.10	42.30
4	*5260.00	84.3 AV			1.03 V	257	42.00	42.30
5	#10260.00	60.4 PK	74.0	-13.6	1.60 V	73	45.00	15.40
6	#10260.00	47.4 AV	54.0	-6.6	1.60 V	73	32.00	15.40

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)
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.

CHANNEL	TX Channel 60	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	Average (AV)

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	*5300.00	92.9 PK			1.86 H	162	50.50	42.40
2	*5300.00	83.2 AV			1.86 H	162	40.80	42.40
3	10600.00	61.5 PK	74.0	-12.5	1.06 H	234	45.30	16.20
4	10600.00	48.6 AV	54.0	-5.4	1.06 H	234	32.40	16.20
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	*5300.00	95.7 PK			1.00 V	302	53.30	42.40
2	*5300.00	86.0 AV			1.00 V	302	43.60	42.40
3	10600.00	61.3 PK	74.0	-12.7	1.53 V	68	45.10	16.20
4	10600.00	48.4 AV	54.0	-5.6	1.53 V	68	32.20	16.20

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 64	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	Average (AV)

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	*5320.00	94.4 PK			1.73 H	154	52.00	42.40
2	*5320.00	83.9 AV			1.73 H	154	41.50	42.40
3	5350.00	59.6 PK	74.0	-14.4	1.73 H	154	54.80	4.80
4	5350.00	46.2 AV	54.0	-7.8	1.73 H	154	41.40	4.80
5	10640.00	61.7 PK	74.0	-12.3	1.00 H	226	45.50	16.20
6	10640.00	48.6 AV	54.0	-5.4	1.00 H	226	32.40	16.20
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	*5320.00	97.1 PK			1.02 V	303	54.70	42.40
2	*5320.00	86.7 AV			1.02 V	303	44.30	42.40
3	5350.00	59.9 PK	74.0	-14.1	1.02 V	303	55.10	4.80
4	5350.00	46.4 AV	54.0	-7.6	1.02 V	303	41.60	4.80
5	10640.00	61.2 PK	74.0	-12.8	1.47 V	55	45.00	16.20
6	10640.00	48.2 AV	54.0	-5.8	1.47 V	55	32.00	16.20

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 100	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	Average (AV)

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	5460.00	59.2 PK	74.0	-14.8	1.72 H	124	54.40	4.80
2	5460.00	46.3 AV	54.0	-7.7	1.72 H	124	41.50	4.80
3	#5470.00	59.7 PK	74.0	-14.3	1.72 H	124	54.90	4.80
4	#5470.00	46.5 AV	54.0	-7.5	1.72 H	124	41.70	4.80
5	*5500.00	93.0 PK			1.72 H	124	50.50	42.50
6	*5500.00	81.9 AV			1.72 H	124	39.40	42.50
7	11000.00	62.8 PK	74.0	-11.2	1.00 H	261	45.20	17.60
8	11000.00	49.6 AV	54.0	-4.4	1.00 H	261	32.00	17.60
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	5460.00	59.7 PK	74.0	-14.3	1.01 V	299	54.90	4.80
2	5460.00	46.4 AV	54.0	-7.6	1.01 V	299	41.60	4.80
3	#5470.00	59.9 PK	74.0	-14.1	1.01 V	299	55.10	4.80
4	#5470.00	46.4 AV	54.0	-7.6	1.01 V	299	41.60	4.80
5	*5500.00	98.1 PK			1.01 V	299	55.60	42.50
6	*5500.00	88.2 AV			1.01 V	299	45.70	42.50
7	11000.00	62.5 PK	74.0	-11.5	1.55 V	69	44.90	17.60
8	11000.00	49.4 AV	54.0	-4.6	1.55 V	69	31.80	17.60

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)
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.

CHANNEL	TX Channel 116	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	Average (AV)

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	91.8 PK			1.80 H	129	49.20	42.60
2	*5580.00	81.6 AV			1.80 H	129	39.00	42.60
3	11160.00	61.6 PK	74.0	-12.4	1.05 H	251	45.30	16.30
4	11160.00	48.3 AV	54.0	-5.7	1.05 H	251	32.00	16.30
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	96.6 PK			1.00 V	317	54.00	42.60
2	*5580.00	86.8 AV			1.00 V	317	44.20	42.60
3	11160.00	61.1 PK	74.0	-12.9	1.60 V	73	44.80	16.30
4	11160.00	47.9 AV	54.0	-6.1	1.60 V	73	31.60	16.30

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 140	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	*5700.00	88.7 PK			1.76 H	133	46.00	42.70
2	*5700.00	77.4 AV			1.76 H	133	34.70	42.70
3	#5725.00	59.0 PK	74.0	-15.0	1.76 H	133	54.00	5.00
4	#5725.00	45.7 AV	54.0	-8.3	1.76 H	133	40.70	5.00
5	11400.00	62.1 PK	74.0	-11.9	1.00 H	263	45.20	16.90
6	11400.00	49.0 AV	54.0	-5.0	1.00 H	263	32.10	16.90
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	*5700.00	93.2 PK			1.01 V	289	50.50	42.70
2	*5700.00	82.2 AV			1.01 V	289	39.50	42.70
3	#5725.00	59.3 PK	74.0	-14.7	1.01 V	289	54.30	5.00
4	#5725.00	45.8 AV	54.0	-8.2	1.01 V	289	40.80	5.00
5	11400.00	61.6 PK	74.0	-12.4	1.55 V	86	44.70	16.90
6	11400.00	48.8 AV	54.0	-5.2	1.55 V	86	31.90	16.90

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)
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.

802.11n (HT40)

CHANNEL	TX Channel 38	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	Average (AV)

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	4600.00	58.4 PK	74.0	-15.6	1.78 H	181	54.90	3.50
2	4600.00	46.6 AV	54.0	-7.4	1.78 H	181	43.10	3.50
3	*5190.00	93.8 PK			1.78 H	181	51.60	42.20
4	*5190.00	83.8 AV			1.78 H	181	41.60	42.20
5	#10380.00	61.4 PK	74.0	-12.6	1.07 H	215	45.50	15.90
6	#10380.00	48.3 AV	54.0	-5.7	1.07 H	215	32.40	15.90
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	4600.00	58.8 PK	74.0	-15.2	2.56 V	272	55.30	3.50
2	4600.00	46.7 AV	54.0	-7.3	2.56 V	272	43.20	3.50
3	*5190.00	96.3 PK			2.56 V	272	54.10	42.20
4	*5190.00	86.1 AV			2.56 V	272	43.90	42.20
5	#10380.00	60.9 PK	74.0	-13.1	1.58 V	69	45.00	15.90
6	#10380.00	48.0 AV	54.0	-6.0	1.58 V	69	32.10	15.90

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)
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.

CHANNEL	TX Channel 46	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	4600.00	58.8 PK	74.0	-15.2	1.65 H	192	55.30	3.50
2	4600.00	46.5 AV	54.0	-7.5	1.65 H	192	43.00	3.50
3	*5230.00	93.1 PK			1.65 H	192	50.80	42.30
4	*5230.00	83.3 AV			1.65 H	192	41.00	42.30
5	#10460.00	61.5 PK	74.0	-12.5	1.00 H	198	45.60	15.90
6	#10460.00	48.1 AV	54.0	-5.9	1.00 H	198	32.20	15.90
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	4600.00	59.2 PK	74.0	-14.8	2.53 V	270	55.70	3.50
2	4600.00	46.8 AV	54.0	-7.2	2.53 V	270	43.30	3.50
3	*5230.00	95.9 PK			2.53 V	270	53.60	42.30
4	*5230.00	86.0 AV			2.53 V	270	43.70	42.30
5	#10460.00	61.0 PK	74.0	-13.0	1.62 V	73	45.10	15.90
6	#10460.00	47.9 AV	54.0	-6.1	1.62 V	73	32.00	15.90

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)
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.

CHANNEL	TX Channel 54	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	Average (AV)

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	5150.00	59.8 PK	74.0	-14.2	1.87 H	158	55.20	4.60
2	5150.00	46.9 AV	54.0	-7.1	1.87 H	158	42.30	4.60
3	*5270.00	90.1 PK			1.87 H	158	47.70	42.40
4	*5270.00	80.5 AV			1.87 H	158	38.10	42.40
5	#10540.00	61.4 PK	74.0	-12.6	1.00 H	237	45.20	16.20
6	#10540.00	48.4 AV	54.0	-5.6	1.00 H	237	32.20	16.20
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	5150.00	59.8 PK	74.0	-14.2	1.02 V	297	55.20	4.60
2	5150.00	47.0 AV	54.0	-7.0	1.02 V	297	42.40	4.60
3	*5270.00	94.6 PK			1.02 V	297	52.20	42.40
4	*5270.00	84.6 AV			1.02 V	297	42.20	42.40
5	#10540.00	61.0 PK	74.0	-13.0	1.50 V	53	44.80	16.20
6	#10540.00	48.1 AV	54.0	-5.9	1.50 V	53	31.90	16.20

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)
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.

CHANNEL	TX Channel 62	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	Average (AV)

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	*5310.00	91.6 PK			1.92 H	168	49.20	42.40
2	*5310.00	81.4 AV			1.92 H	168	39.00	42.40
3	5350.00	60.3 PK	74.0	-13.7	1.92 H	168	55.50	4.80
4	5350.00	46.2 AV	54.0	-7.8	1.92 H	168	41.40	4.80
5	10620.00	61.8 PK	74.0	-12.2	1.03 H	263	45.40	16.40
6	10620.00	48.7 AV	54.0	-5.3	1.03 H	263	32.30	16.40
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	*5310.00	94.4 PK			1.00 V	303	52.00	42.40
2	*5310.00	85.2 AV			1.00 V	303	42.80	42.40
3	5350.00	60.5 PK	74.0	-13.5	1.00 V	303	55.70	4.80
4	5350.00	46.5 AV	54.0	-7.5	1.00 V	303	41.70	4.80
5	10620.00	61.3 PK	74.0	-12.7	1.43 V	66	44.90	16.40
6	10620.00	48.5 AV	54.0	-5.5	1.43 V	66	32.10	16.40

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * " : Fundamental frequency.

CHANNEL	TX Channel 102	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	Average (AV)

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	5460.00	59.2 PK	74.0	-14.8	1.87 H	122	54.40	4.80
2	5460.00	47.1 AV	54.0	-6.9	1.87 H	122	42.30	4.80
3	#5470.00	59.7 PK	74.0	-14.3	1.87 H	122	54.90	4.80
4	#5470.00	47.2 AV	54.0	-6.8	1.87 H	122	42.40	4.80
5	*5510.00	89.3 PK			1.87 H	122	46.80	42.50
6	*5510.00	80.0 AV			1.87 H	122	37.50	42.50
7	11020.00	62.7 PK	74.0	-11.3	1.11 H	239	45.30	17.40
8	11020.00	49.7 AV	54.0	-4.3	1.11 H	239	32.30	17.40
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	5460.00	59.8 PK	74.0	-14.2	1.00 V	297	55.00	4.80
2	5460.00	47.2 AV	54.0	-6.8	1.00 V	297	42.40	4.80
3	#5470.00	60.3 PK	74.0	-13.7	1.00 V	297	55.50	4.80
4	#5470.00	47.3 AV	54.0	-6.7	1.00 V	297	42.50	4.80
5	*5510.00	95.0 PK			1.00 V	297	52.50	42.50
6	*5510.00	86.0 AV			1.00 V	297	43.50	42.50
7	11020.00	62.4 PK	74.0	-11.6	1.43 V	88	45.00	17.40
8	11020.00	49.5 AV	54.0	-4.5	1.43 V	88	32.10	17.40

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)
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.

CHANNEL	TX Channel 110	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz	FUNCTION	Average (AV)

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	*5550.00	91.5 PK			1.92 H	123	49.00	42.50
2	*5550.00	80.8 AV			1.92 H	123	38.30	42.50
3	11100.00	61.4 PK	74.0	-12.6	1.09 H	245	45.20	16.20
4	11100.00	48.2 AV	54.0	-5.8	1.09 H	245	32.00	16.20
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	*5550.00	96.6 PK			1.01 V	306	54.10	42.50
2	*5550.00	85.8 AV			1.01 V	306	43.30	42.50
3	11100.00	61.1 PK	74.0	-12.9	1.58 V	93	44.90	16.20
4	11100.00	48.0 AV	54.0	-6.0	1.58 V	93	31.80	16.20

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 134	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	*5670.00	87.7 PK			1.82 H	135	45.00	42.70
2	*5670.00	79.8 AV			1.82 H	135	37.10	42.70
3	#5725.00	58.6 PK	74.0	-15.4	1.82 H	135	53.60	5.00
4	#5725.00	46.3 AV	54.0	-7.7	1.82 H	135	41.30	5.00
5	11340.00	62.4 PK	74.0	-11.6	1.06 H	251	45.20	17.20
6	11340.00	49.2 AV	54.0	-4.8	1.06 H	251	32.00	17.20
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	*5670.00	90.9 PK			1.00 V	302	48.20	42.70
2	*5670.00	82.4 AV			1.00 V	302	39.70	42.70
3	#5725.00	58.9 PK	74.0	-15.1	1.00 V	302	53.90	5.00
4	#5725.00	46.5 AV	54.0	-7.5	1.00 V	302	41.50	5.00
5	11340.00	62.0 PK	74.0	-12.0	1.62 V	88	44.80	17.20
6	11340.00	48.9 AV	54.0	-5.1	1.62 V	88	31.70	17.20

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)
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.

802.11ac (VHT80)

CHANNEL	TX Channel 42	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	4600.00	58.3 PK	74.0	-15.7	2.43 H	194	54.80	3.50
2	4600.00	46.5 AV	54.0	-7.5	2.43 H	194	43.00	3.50
3	*5210.00	90.5 PK			2.43 H	194	48.20	42.30
4	*5210.00	80.5 AV			2.43 H	194	38.20	42.30
5	#10420.00	61.6 PK	74.0	-12.4	1.00 H	223	45.60	16.00
6	#10420.00	48.4 AV	54.0	-5.6	1.00 H	223	32.40	16.00
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	4600.00	59.1 PK	74.0	-14.9	2.64 V	279	55.60	3.50
2	4600.00	46.6 AV	54.0	-7.4	2.64 V	279	43.10	3.50
3	*5210.00	93.6 PK			2.64 V	279	51.30	42.30
4	*5210.00	83.1 AV			2.64 V	279	40.80	42.30
5	#10420.00	61.3 PK	74.0	-12.7	1.48 V	66	45.30	16.00
6	#10420.00	48.2 AV	54.0	-5.8	1.48 V	66	32.20	16.00

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)
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.

CHANNEL	TX Channel 58	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	*5290.00	88.1 PK			2.04 H	157	45.70	42.40
2	*5290.00	77.8 AV			2.04 H	157	35.40	42.40
3	5350.00	59.7 PK	74.0	-14.3	2.04 H	157	54.90	4.80
4	5350.00	47.3 AV	54.0	-6.7	2.04 H	157	42.50	4.80
5	#10580.00	61.5 PK	74.0	-12.5	1.05 H	245	45.30	16.20
6	#10580.00	48.4 AV	54.0	-5.6	1.05 H	245	32.20	16.20
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	*5290.00	91.7 PK			1.02 V	275	49.30	42.40
2	*5290.00	82.4 AV			1.02 V	275	40.00	42.40
3	5350.00	60.7 PK	74.0	-13.3	1.02 V	275	55.90	4.80
4	5350.00	46.5 AV	54.0	-7.5	1.02 V	275	41.70	4.80
5	#10580.00	61.2 PK	74.0	-12.8	1.43 V	62	45.00	16.20
6	#10580.00	48.3 AV	54.0	-5.7	1.43 V	62	32.10	16.20

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)
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.

CHANNEL	TX Channel 106	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 40GHz		Average (AV)

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	5460.00	59.7 PK	74.0	-14.3	1.72 H	125	54.90	4.80
2	5460.00	47.3 AV	54.0	-6.7	1.72 H	125	42.50	4.80
3	#5470.00	59.8 PK	74.0	-14.2	1.72 H	125	55.00	4.80
4	#5470.00	47.4 AV	54.0	-6.6	1.72 H	125	42.60	4.80
5	*5530.00	86.8 PK			1.72 H	125	44.30	42.50
6	*5530.00	76.5 AV			1.72 H	125	34.00	42.50
7	11060.00	62.2 PK	74.0	-11.8	1.00 H	251	45.50	16.70
8	11060.00	49.0 AV	54.0	-5.0	1.00 H	251	32.30	16.70
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	5460.00	59.8 PK	74.0	-14.2	1.00 V	306	55.00	4.80
2	5460.00	47.4 AV	54.0	-6.6	1.00 V	306	42.60	4.80
3	#5470.00	60.1 PK	74.0	-13.9	1.00 V	306	55.30	4.80
4	#5470.00	47.8 AV	54.0	-6.2	1.00 V	306	43.00	4.80
5	*5530.00	91.7 PK			1.00 V	306	49.20	42.50
6	*5530.00	82.5 AV			1.00 V	306	40.00	42.50
7	11060.00	61.5 PK	74.0	-12.5	1.51 V	74	44.80	16.70
8	11060.00	48.5 AV	54.0	-5.5	1.51 V	74	31.80	16.70

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)
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.

Below 1GHz Data: 802.11a

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

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	33.5 QP	40.0	-6.5	1.99 H	0	49.10	-15.60
2	99.84	21.4 QP	43.5	-22.1	1.99 H	248	40.30	-18.90
3	165.80	30.5 QP	43.5	-13.0	1.99 H	146	44.60	-14.10
4	239.52	28.5 QP	46.0	-17.5	1.49 H	132	43.30	-14.80
5	431.58	30.8 QP	46.0	-15.2	1.99 H	174	40.40	-9.60
6	639.16	31.3 QP	46.0	-14.7	1.49 H	187	36.90	-5.60
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	30.00	33.8 QP	40.0	-6.2	1.01 V	176	49.40	-15.60
2	61.04	29.9 QP	40.0	-10.1	2.00 V	10	44.90	-15.00
3	165.80	39.0 QP	43.5	-4.5	1.01 V	198	53.10	-14.10
4	239.52	33.2 QP	46.0	-12.8	1.01 V	208	48.00	-14.80
5	431.58	30.5 QP	46.0	-15.5	1.51 V	135	40.10	-9.60
6	918.52	37.9 QP	46.0	-8.1	2.00 V	145	38.60	-0.70

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Nov. 16, 2015	Nov. 15, 2016
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond1-01	Dec. 26, 2015	Dec. 25, 2016
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Feb. 26, 2016	Feb. 25, 2017
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Jul. 24, 2015	Jul. 23, 2016
Software ADT	BV ADT_Conc_ V7.3.7.3	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 Shielded Room 1.

3. The VCCI Site Registration No. is C-2040.

4.2.3 Test Procedures

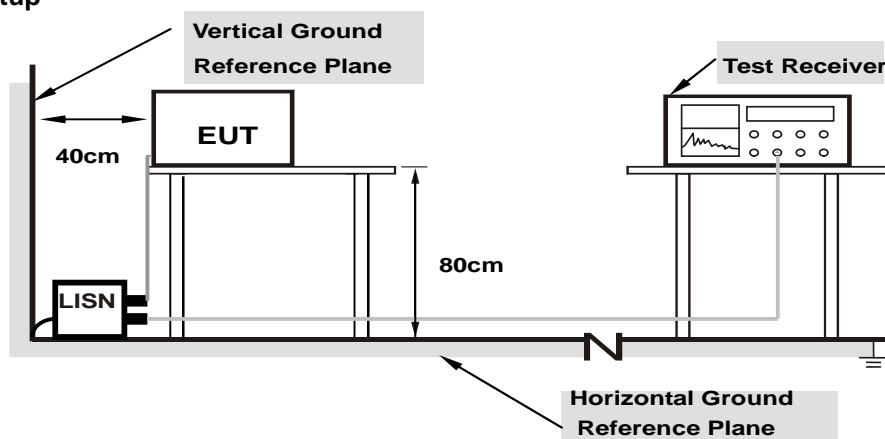
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

Note: The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



Note: 1.Support units were connected to second LISN.

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

4.2.6 EUT Operating Conditions

Same as 4.1.6.

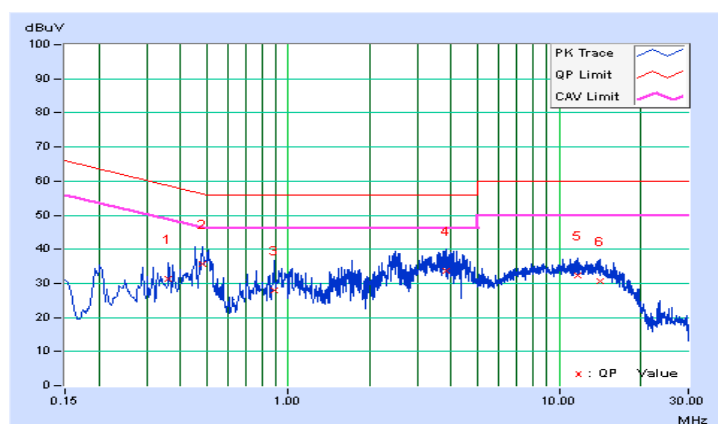
4.2.7 Test Results

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.36200	10.10	21.19	11.01	31.29	21.11	58.68	48.68	-27.39	-27.57
2	0.48190	10.13	25.54	17.18	35.67	27.31	56.31	46.31	-20.64	-19.00
3	0.89000	10.19	17.71	10.69	27.90	20.88	56.00	46.00	-28.10	-25.12
4	3.83000	10.40	23.42	12.54	33.82	22.94	56.00	46.00	-22.18	-23.06
5	11.79000	10.83	21.36	16.08	32.19	26.91	60.00	50.00	-27.81	-23.09
6	14.26200	10.97	19.76	14.08	30.73	25.05	60.00	50.00	-29.27	-24.95

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

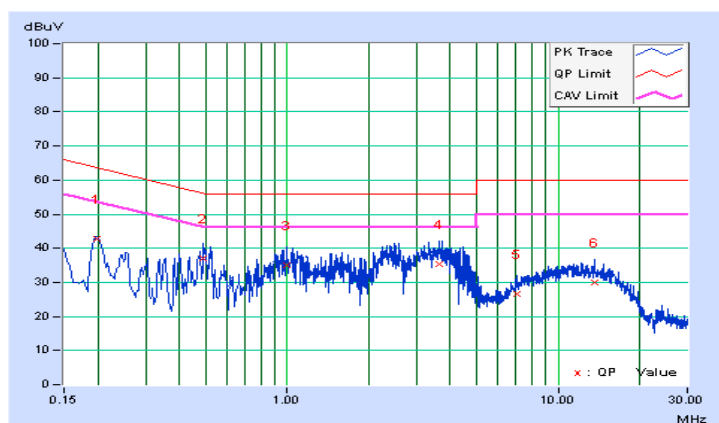


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.19728	10.04	32.79	27.50	42.83	37.54	63.72	53.72	-20.90	-16.19
2	0.49000	10.14	27.05	17.20	37.19	27.34	56.17	46.17	-18.98	-18.83
3	0.99400	10.21	24.91	15.59	35.12	25.80	56.00	46.00	-20.88	-20.20
4	3.63800	10.40	24.92	13.48	35.32	23.88	56.00	46.00	-20.68	-22.12
5	7.06200	10.62	15.93	10.41	26.55	21.03	60.00	50.00	-33.45	-28.97
6	13.63800	11.03	18.96	13.65	29.99	24.68	60.00	50.00	-30.01	-25.32

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.



4.3 Transmit Power Measurement

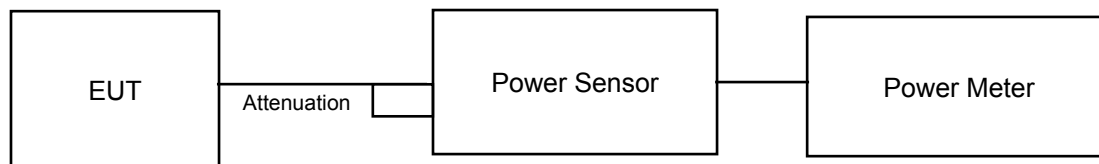
4.3.1 Limits of Transmit Power Measurement

Operation Band	EUT Category		LIMIT
U-NII-1		Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
		Fixed point-to-point Access Point	1 Watt (30 dBm)
		Indoor Access Point	1 Watt (30 dBm)
	√	Mobile and Portable client device	250mW (24 dBm)
U-NII-2A	√		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-2C	√		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-3			1 Watt (30 dBm)

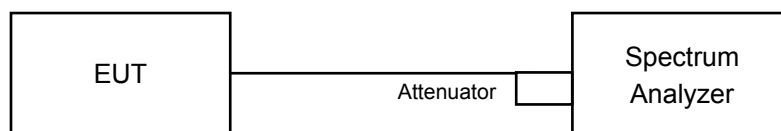
*B is the 26 dB emission bandwidth in megahertz

4.3.2 Test Setup

For Power Output Measurement



For 26dB and Occupied Bandwidth



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

For Average Power Measurement

For 802.11a, 802.11n (HT20), 802.11n (HT40)

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

For 802.11ac (VHT80)

- a. Set span to encompass the entire 26 dB EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
- b. Set sweep trigger to "free run".
- c. Set RBW = 1 MHz.
- d. 4Set VBW \geq 3 MHz
- e. Number of points in sweep \geq 2 Span / RBW.
- f. Sweep time \leq (number of points in sweep) * T
- g. Using emission bandwidth to determine the frequency span for integration the channel bandwidth.
- h. Detector = RMS.
- i. Trace mode = max hold.
- j. Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.

4.3.5 Deviation fromTest Standard

No deviation.

4.3.6 EUT Operating Conditions

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 Test Result

Power Output:

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	12.764	11.06	24	Pass
40	5200	12.618	11.01	24	Pass
48	5240	12.331	10.91	24	Pass
52	5260	12.794	11.07	23.90	Pass
60	5300	11.722	10.69	23.85	Pass
64	5320	11.967	10.78	23.83	Pass
100	5500	11.402	10.57	23.84	Pass
116	5580	11.220	10.50	23.84	Pass
140	5700	10.304	10.13	23.83	Pass

Note:

For U-NII-2A, U-NII-2C Band:

1. $11\text{dBm} + 10\log (19.49) = 23.90 < 24\text{dBm}$
2. $11\text{dBm} + 10\log (19.29) = 23.85 < 24\text{dBm}$
3. $11\text{dBm} + 10\log (19.20) = 23.83 < 24\text{dBm}$
4. $11\text{dBm} + 10\log (19.21) = 23.84 < 24\text{dBm}$
5. $11\text{dBm} + 10\log (19.22) = 23.84 < 24\text{dBm}$
6. $11\text{dBm} + 10\log (19.18) = 23.83 < 24\text{dBm}$

802.11n (HT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	12.134	10.84	24	Pass
40	5200	11.858	10.74	24	Pass
48	5240	11.614	10.65	24	Pass
52	5260	11.298	10.53	24	Pass
60	5300	10.789	10.33	24	Pass
64	5320	11.402	10.57	24	Pass
100	5500	10.789	10.33	24	Pass
116	5580	10.093	10.04	24	Pass
140	5700	9.594	9.82	24	Pass

Note:

For U-NII-2A, U-NII-2C Band:

1. $11\text{dBm} + 10\log (20.32) = 24.08 > 24\text{dBm}$
2. $11\text{dBm} + 10\log (20.62) = 24.14 > 24\text{dBm}$
3. $11\text{dBm} + 10\log (20.42) = 24.10 > 24\text{dBm}$
4. $11\text{dBm} + 10\log (20.46) = 24.11 > 24\text{dBm}$
5. $11\text{dBm} + 10\log (20.37) = 24.09 > 24\text{dBm}$
6. $11\text{dBm} + 10\log (20.50) = 24.12 > 24\text{dBm}$

802.11n (HT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
38	5190	13.900	11.43	24	Pass
46	5230	13.709	11.37	24	Pass
54	5270	13.122	11.18	24	Pass
62	5310	13.183	11.20	24	Pass
102	5510	12.274	10.89	24	Pass
110	5550	12.023	10.80	24	Pass
134	5670	11.220	10.50	24	Pass

Note:

For U-NII-2A, U-NII-2C Band:

1. $11\text{dBm} + 10\log (41.97) = 27.23 > 24\text{dBm}$
2. $11\text{dBm} + 10\log (41.82) = 27.21 > 24\text{dBm}$
3. $11\text{dBm} + 10\log (41.88) = 27.22 > 24\text{dBm}$
4. $11\text{dBm} + 10\log (41.91) = 27.22 > 24\text{dBm}$
5. $11\text{dBm} + 10\log (41.83) = 27.21 > 24\text{dBm}$

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
42	5210	12.912	11.11	24	Pass
58	5290	12.503	10.97	24	Pass
106	5530	11.402	10.57	24	Pass

Note:

For U-NII-2A, U-NII-2C Band:

1. $11\text{dBm} + 10\log (83.90) = 30.24 > 24\text{dBm}$
2. $11\text{dBm} + 10\log (83.56) = 30.22 > 24\text{dBm}$

26dB Bandwidth:

802.11a

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	Pass / Fail
36	5180	19.09	Pass
40	5200	19.18	Pass
48	5240	19.14	Pass
52	5260	19.49	Pass
60	5300	19.29	Pass
64	5320	19.20	Pass
100	5500	19.21	Pass
116	5580	19.22	Pass
140	5700	19.18	Pass

802.11n (HT20)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	Pass / Fail
36	5180	20.50	Pass
40	5200	20.59	Pass
48	5240	20.40	Pass
52	5260	20.32	Pass
60	5300	20.62	Pass
64	5320	20.42	Pass
100	5500	20.46	Pass
116	5580	20.37	Pass
140	5700	20.50	Pass

802.11n (HT40)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	Pass / Fail
38	5190	42.02	Pass
46	5230	42.10	Pass
54	5270	41.97	Pass
62	5310	41.82	Pass
102	5510	41.88	Pass
110	5550	41.91	Pass
134	5670	41.83	Pass

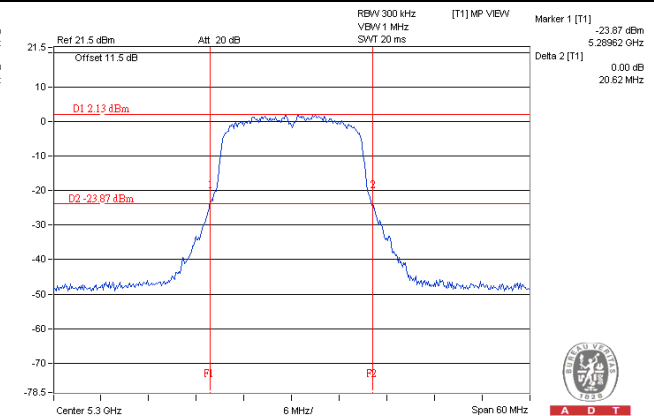
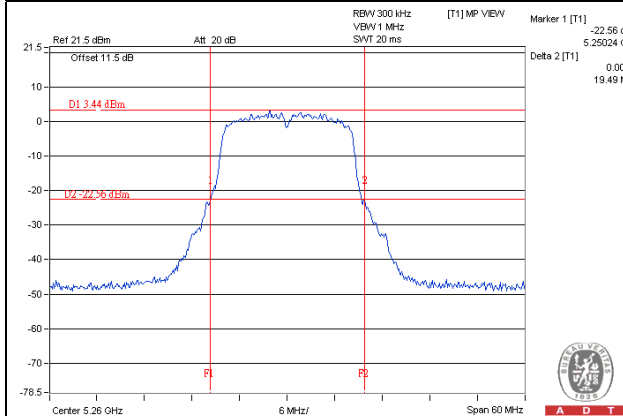
802.11ac (VHT80)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	Pass / Fail
42	5210	83.49	Pass
58	5290	83.90	Pass
106	5530	83.56	Pass

Spectrum Plot of Worst Value

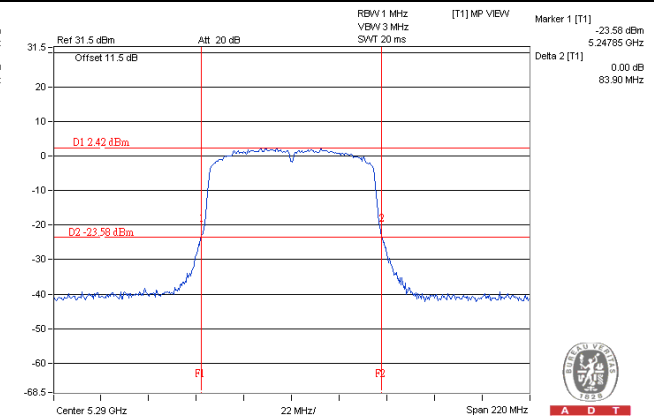
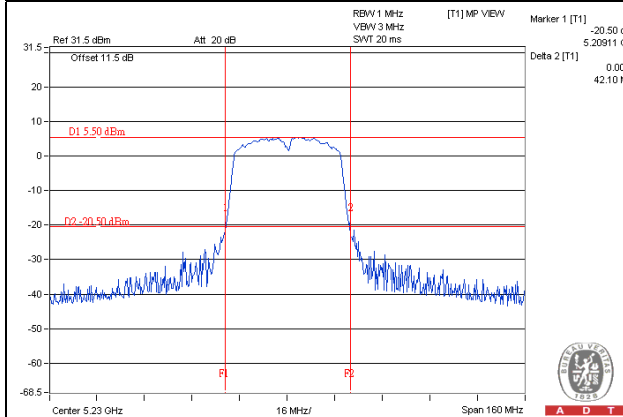
802.11a

802.11n (HT20)



802.11n (HT40)

802.11ac (VHT80)



Occupied Bandwidth:

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
36	5180	16.32
40	5200	16.32
48	5240	16.32
52	5260	16.32
60	5300	16.32
64	5320	16.32
100	5500	16.32
116	5580	16.32
140	5700	16.32

802.11n (HT20)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
36	5180	17.52
40	5200	17.52
48	5240	17.40
52	5260	17.40
60	5300	17.40
64	5320	17.40
100	5500	17.40
116	5580	17.40
140	5700	17.40

802.11n (HT40)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
38	5190	36.00
46	5230	36.00
54	5270	36.00
62	5310	36.00
102	5510	36.00
110	5550	36.00
134	5670	35.88

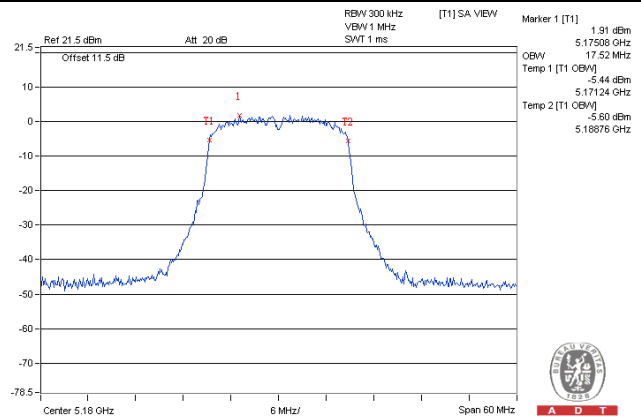
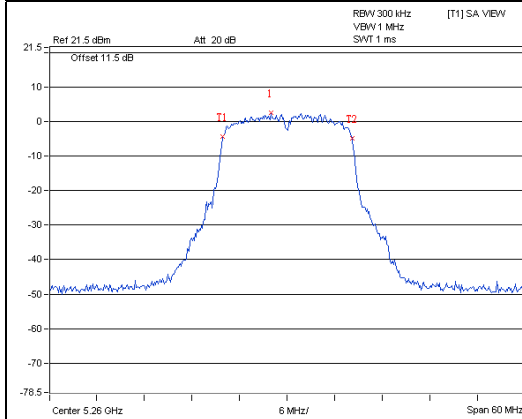
802.11ac (VHT80)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
42	5210	75.12
58	5290	75.12
106	5530	75.12

Spectrum Plot of Worst Value

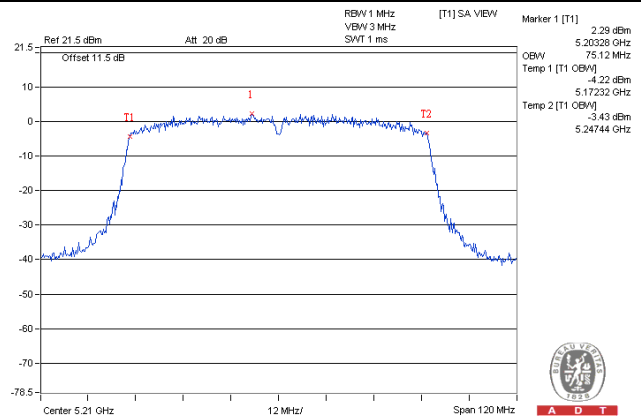
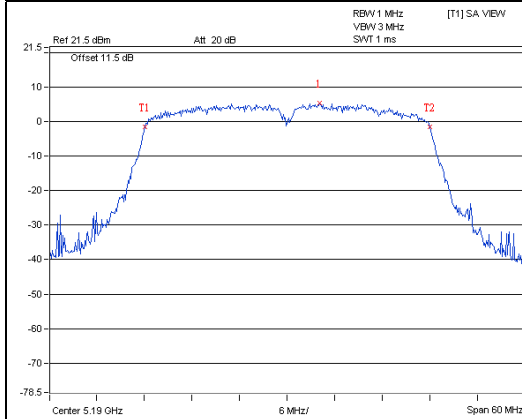
802.11a

802.11n (HT20)



802.11n (HT40)

802.11ac (VHT80)



EUT MAXIMUM CONDUCTED POWER

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	12.794	11.07
5470~5725	11.402	10.57

Note: Manufacturer provides Transmit Power Control description to meet this requirement.

802.11n (HT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	11.402	10.57
5470~5725	10.789	10.33

Note: Manufacturer provides Transmit Power Control description to meet this requirement.

802.11n (HT40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	13.183	11.20
5470~5725	12.274	10.89

Note: Manufacturer provides Transmit Power Control description to meet this requirement.

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	12.503	10.97
5470~5725	11.402	10.57

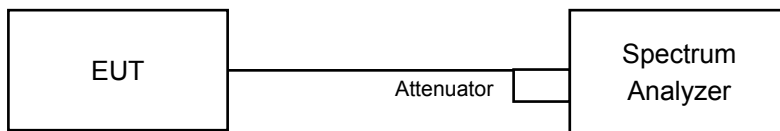
Note: Manufacturer provides Transmit Power Control description to meet this requirement.

4.4 Peak Power Spectral Density Measurement

4.4.1 Limits of Peak Power Spectral Density Measurement

Operation Band	EUT Category		LIMIT
U-NII-1		Outdoor Access Point	17dBm/ MHz
		Fixed point-to-point Access Point	
		Indoor Access Point	
	√	Mobile and Portable client device	11dBm/ MHz
U-NII-2A	√		11dBm/ MHz
U-NII-2C	√		11dBm/ MHz
U-NII-3			30dBm/ 500kHz

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.4 Test Procedures

Using method SA-1

Duty cycle >98%

- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 1 MHz, Set VBW ≥ 3 MHz, Detector = RMS
- Sweep time = auto, trigger set to “free run”.
- Trace average at least 100 traces in power averaging mode.
- Record the max value

Using method SA-2

Duty cycle <98%

- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 1 MHz, Set VBW ≥ 3 MHz, Detector = RMS
- Sweep time = auto, trigger set to “free run”.
- Trace average at least 100 traces in power averaging mode.
- Record the max value and add 10 log (1/duty cycle)

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Conditions

Same as Item 4.3.6.

4.4.7 Test Results

802.11a

Chan.	Freq. (MHz)	Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
36	5180	-1.51	0.13	-1.38	11.00	Pass
40	5200	-1.68	0.13	-1.55	11.00	Pass
48	5240	-1.84	0.13	-1.71	11.00	Pass
52	5260	-1.86	0.13	-1.73	11.00	Pass
60	5300	-1.97	0.13	-1.84	11.00	Pass
64	5320	-2.02	0.13	-1.89	11.00	Pass
100	5500	-2.14	0.13	-2.01	11.00	Pass
116	5580	-2.44	0.13	-2.31	11.00	Pass
140	5700	-2.81	0.13	-2.68	11.00	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

Chan.	Freq. (MHz)	Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
36	5180	-2.02	0.13	-1.89	11.00	Pass
40	5200	-2.16	0.13	-2.03	11.00	Pass
48	5240	-2.27	0.13	-2.14	11.00	Pass
52	5260	-2.35	0.13	-2.22	11.00	Pass
60	5300	-2.44	0.13	-2.31	11.00	Pass
64	5320	-2.51	0.13	-2.38	11.00	Pass
100	5500	-2.59	0.13	-2.46	11.00	Pass
116	5580	-2.85	0.13	-2.72	11.00	Pass
140	5700	-3.21	0.13	-3.08	11.00	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

Chan.	Freq. (MHz)	Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
38	5190	-4.76	0.24	-4.51	11.00	Pass
46	5230	-4.91	0.24	-4.66	11.00	Pass
54	5270	-4.99	0.24	-4.74	11.00	Pass
62	5310	-5.11	0.24	-4.87	11.00	Pass
102	5510	-5.29	0.24	-5.04	11.00	Pass
110	5550	-5.38	0.24	-5.13	11.00	Pass
134	5670	-5.78	0.24	-5.53	11.00	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

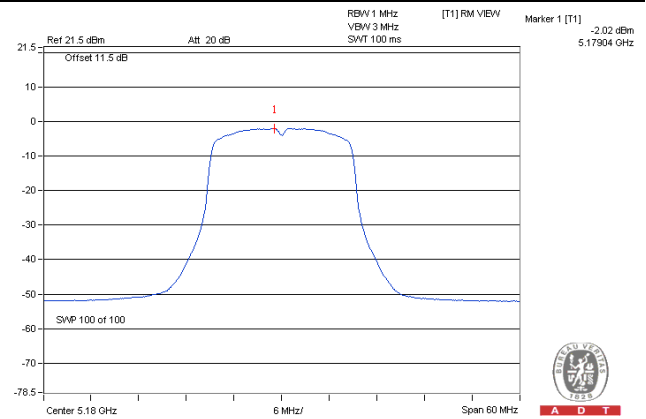
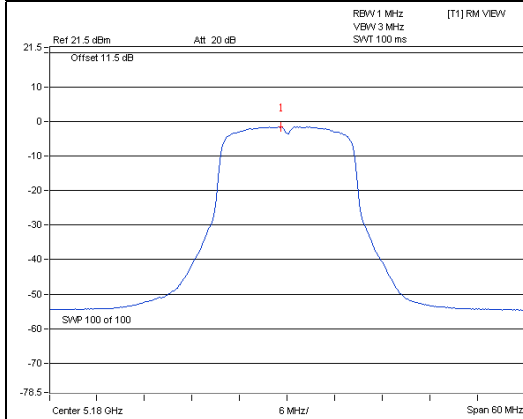
Chan.	Freq. (MHz)	Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
42	5210	-8.43	0.55	-7.89	11.00	Pass
58	5290	-8.64	0.55	-8.09	11.00	Pass
106	5530	-8.86	0.55	-8.32	11.00	Pass

Note: Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

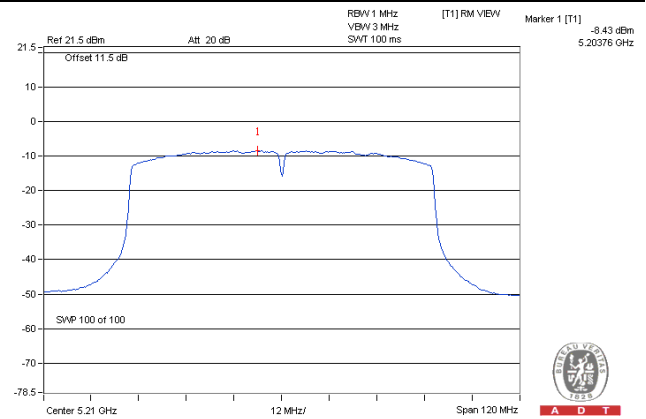
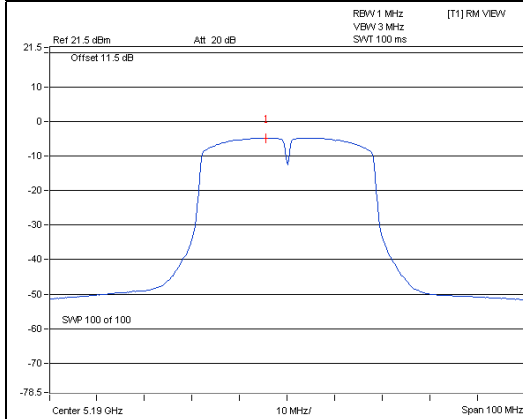
802.11a

802.11n (HT20)



802.11n (HT40)

802.11ac (VHT80)

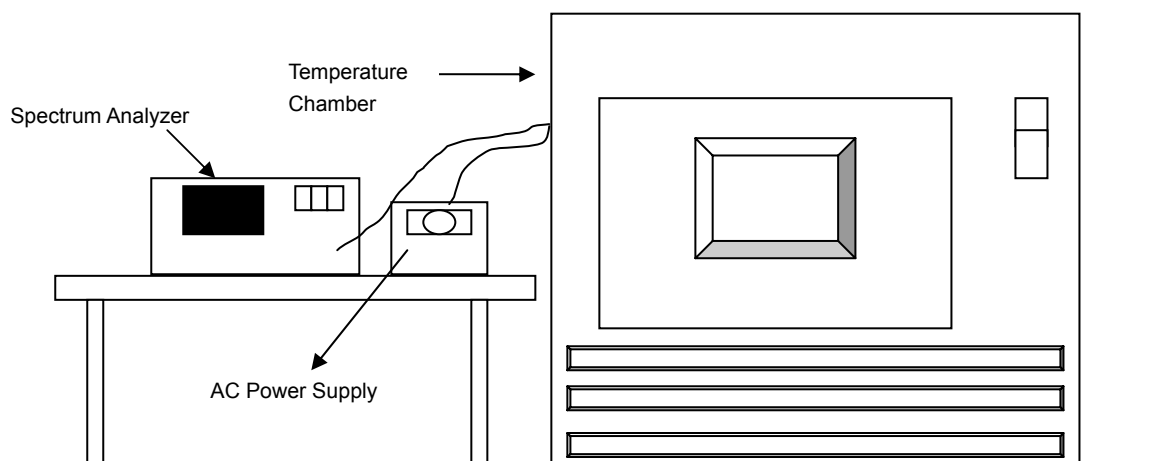


4.5 Frequency Stability

4.5.1 Limits of Frequency Stability Measurement

The frequency of the carrier signal shall be maintained within band of operation

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedure

- The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
- Turn the EUT on and couple its output to a spectrum analyzer.
- Turn the EUT off and set the chamber to the highest temperature specified.
- Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
- Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
- The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

Set the EUT transmit at un-modulation mode to test frequency stability.

4.5.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5240MHz									
Temp. ()	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
50	120	5239.9958	-0.00008	5239.9965	-0.00007	5239.9943	-0.00011	5239.996	-0.00008
40	120	5240.0027	0.00005	5240.004	0.00008	5240.0046	0.00009	5240.0061	0.00012
30	120	5240.0011	0.00002	5240.004	0.00008	5240.0007	0.00001	5240.0023	0.00004
20	120	5239.9847	-0.00029	5239.984	-0.00031	5239.9849	-0.00029	5239.9845	-0.00030
10	120	5240.0143	0.00027	5240.0125	0.00024	5240.0097	0.00019	5240.0112	0.00021
0	120	5240.0037	0.00007	5240.008	0.00015	5240.006	0.00011	5240.0065	0.00012
-10	120	5240.0266	0.00051	5240.0247	0.00047	5240.0265	0.00051	5240.0248	0.00047
-20	120	5240.0204	0.00039	5240.0203	0.00039	5240.0209	0.00040	5240.0218	0.00042
-30	120	5239.9856	-0.00027	5239.9886	-0.00022	5239.9867	-0.00025	5239.9865	-0.00026

Frequency Stability Versus Voltage									
Operating Frequency: 5240MHz									
Temp. ()	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
20	138	5239.9838	-0.00031	5239.9845	-0.00030	5239.9849	-0.00029	5239.9853	-0.00028
	120	5239.9847	-0.00029	5239.984	-0.00031	5239.9849	-0.00029	5239.9845	-0.00030
	102	5239.985	-0.00029	5239.983	-0.00032	5239.985	-0.00029	5239.9837	-0.00031

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 accredited and approved according to ISO/IEC 17025.

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

Linko EMC/RF Lab

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab

Tel: 886-3-6668565

Fax: 886-3-6668323

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Tel: 886-3-3183232

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Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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

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