

FCC Test Report

Report No.: RF141015C26E-1

FCC ID: H8N-WLU5260

Test Model: WLU5260-D81

Received Date: Oct. 25, 2016

Test Date: Nov. 23 ~ Dec. 15, 2016

Issued Date: Dec. 16, 2016

Applicant: ASKEY COMPUTER CORP.

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Release Control Record

Issue No.	Description	Date Issued
RF141015C26E-1	Original release.	Dec. 16, 2016

1 Certificate of Conformity

Product: Wireless Module
Brand: Panasonic
Test Model: WLU5260-D81
Sample Status: Engineering sample
Applicant: ASKEY COMPUTER CORP.
Test Date: Nov. 23 ~ Dec. 15, 2016
Standard: 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 :  , **Date:** Dec. 16, 2016
Pettie Chen / Senior Specialist

Approved by :  , **Date:** Dec. 16, 2016
Ken Liu / Senior Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (SECTION 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -12.03dB at 0.63828MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement*	Pass	Meet the requirement of limit. Minimum passing margin is -0.7dB at 5350.00MHz, 5470.00MHz, 5725.00MHz, 10480.00MHz, 11490.00 MHz, 11570.00MHz, 11650.00MHz.
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(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	No antenna connector is used.

*For U-NII-3 band compliance with rule part 15.407(b)(i), the OOB test plots were recorded in Annex A.

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Expanded Uncertainty (k=2) (\pm)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.44 dB
Radiated Emissions up to 1 GHz	30MHz ~ 200MHz	3.86 dB
	200MHz ~ 1000MHz	3.87 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	Wireless Module
Brand	Panasonic
Test Model	WLU5260-D81
Status of EUT	Engineering sample
Power Supply Rating	5Vdc from host equipment
Modulation Type	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 300.0Mbps
Operating Frequency	5180 ~ 5240MHz, 5260 ~ 5320MHz, 5500 ~ 5700MHz, 5745 ~ 5825MHz
Number of Channel	5180 ~ 5240MHz: 4 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 5260 ~ 5320MHz: 4 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 5500 ~ 5700MHz: 8 for 802.11a, 802.11n (HT20) 3 for 802.11n (HT40) 5745 ~ 5825MHz: 5 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40)
Output Power	5180 ~ 5240MHz: 91.846mW 5260 ~ 5320MHz: 122.962mW 5500 ~ 5700MHz: 147.145mW 5745 ~ 5825MHz: 162.062mW
Antenna Type	Printed antenna with 4.54dBi gain
Antenna Connector	NA
Accessory Device	NA
Data Cable Supplied	NA

Note:

1. The EUT incorporates a MIMO function. Physically, the EUT provides 2 completed transmitters and 2 receivers.

Modulation Mode	TX Function
802.11a	2TX
802.11n (HT20)	2TX
802.11n (HT40)	2TX

2. 2.4GHz and 5GHz cannot transmit simultaneously
3. 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):

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

FOR 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

FOR 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		

FOR 5745 ~ 5825MHz:

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

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

2 channels are provided for 802.11n (HT40):

Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

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

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

NOTE:

1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-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
-	802.11a	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
-	802.11a	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
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	BPSK	7.2
-	802.11n (HT40)		151 to 159	151, 159	OFDM	BPSK	15.0

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	116	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
	802.11a	5745-5825	149 to 165		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	116	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
	802.11a	5745-5825	149 to 165		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
-	802.11a	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
-	802.11a	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
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	BPSK	7.2
-	802.11n (HT40)		151 to 159	151, 159	OFDM	BPSK	15.0

Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE \geq 1G	20deg. C, 69%RH	120Vac, 60Hz	Bayu Chen Bond Tseng
RE $<$ 1G	20deg. C, 69%RH	120Vac, 60Hz	Bayu Chen
PLC	24deg. C, 64%RH	120Vac, 60Hz	Match Tsui
APCM	24deg. C, 64%RH	120Vac, 60Hz	Match Tsui

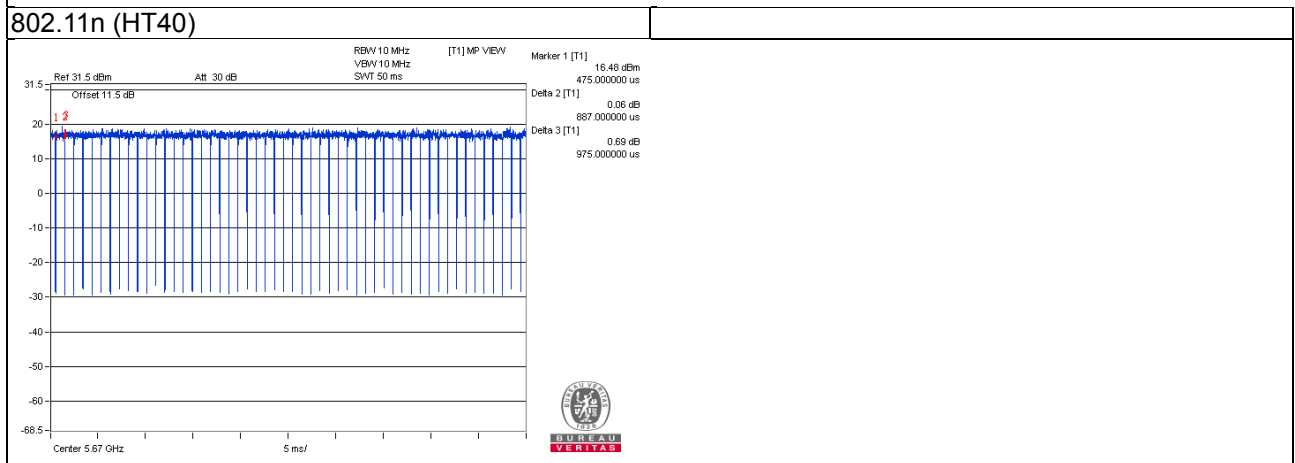
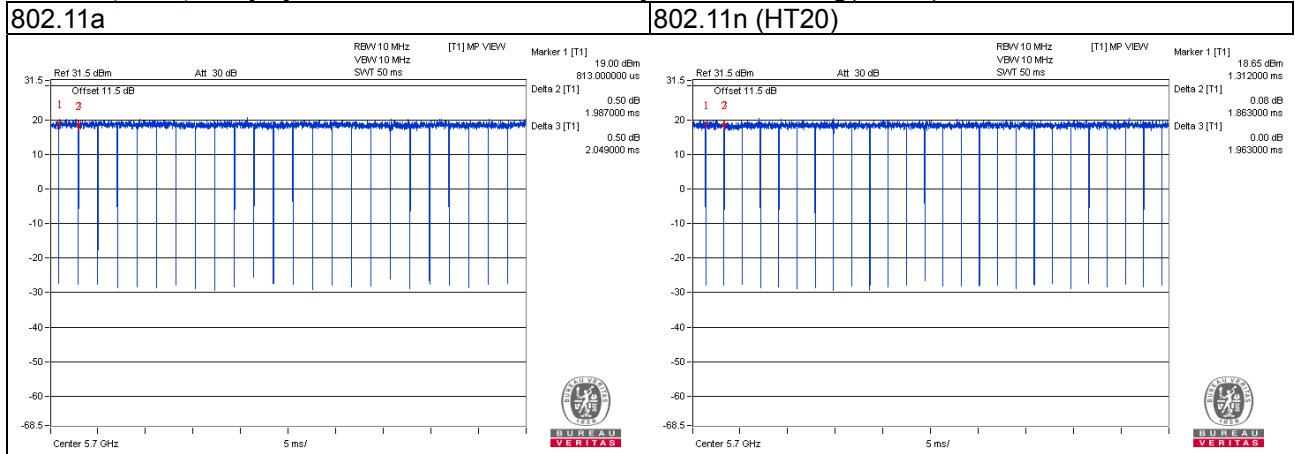
3.3 Duty Cycle of Test Signal

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

802.11a: Duty cycle = $1.98/2.04 = 0.971$, Duty factor = $10 * \log(1/0.971) = 0.13$

802.11n (HT20): Duty cycle = $1.86/1.96 = 0.949$, Duty factor = $10 * \log(1/0.949) = 0.23$

802.11n (HT40): Duty cycle = $0.887/0.975 = 0.91$, Duty factor = $10 * \log(1/0.91) = 0.41$



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.

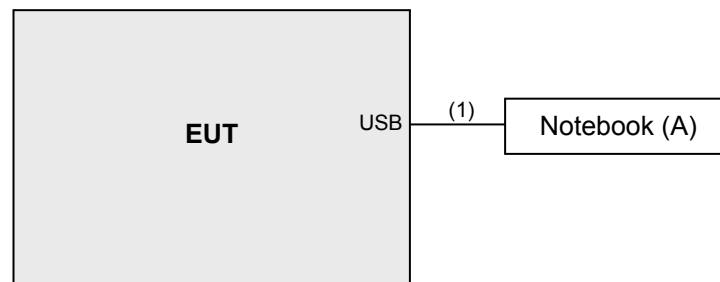
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	DELL	Latitude E6420	HPFC5Q1	FCC DoC Approved	-

Note:

1. 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.	USB cable	1	1.8	N	0	-

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standard

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)

KDB 789033 D02 General UNII Test Procedure New Rules v01r03

KDB 662911 D01 Multiple Transmitter Output v02r01

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.

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 v01r03		Field Strength at 3m	
		PK:74 (dBuV/m)	AV:54 (dBuV/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(dBuV/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 (dBuV/m) ^{*1} PK:105.2 (dBuV/m) ^{*2} PK: 110.8 (dBuV/m) ^{*3} PK:122.2 (dBuV/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:

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

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	Dec. 14, 2016	Dec. 13, 2017
Loop Antenna	EM-6879	269	Aug. 11, 2016	Aug. 10, 2017
Preamplifier Agilent	8449B	3008A01911	Aug. 09, 2016	Aug. 08, 2017
Preamplifier Agilent	8447D	2944A10638	Aug. 09, 2016	Aug. 08, 2017
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-02 (309222 +248780)	Aug. 09, 2016	Aug. 08, 2017
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-03 (274092)	Aug. 09, 2016	Aug. 08, 2017
RF signal cable Woken	8D-FB	Cable-CH9-01	Aug. 09, 2016	Aug. 08, 2017
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
High Speed Peak Power Meter	ML2495A	0824011	Jul. 09, 2016	Jul. 08, 2017
Power Sensor	MA2411B	0738171	Aug. 11, 2016	Aug. 10, 2017

- 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 3.
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 988962.
5. The IC Site Registration No. is IC 7450F-3.

4.1.3 Test Procedure

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. Both X and Y axes 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:

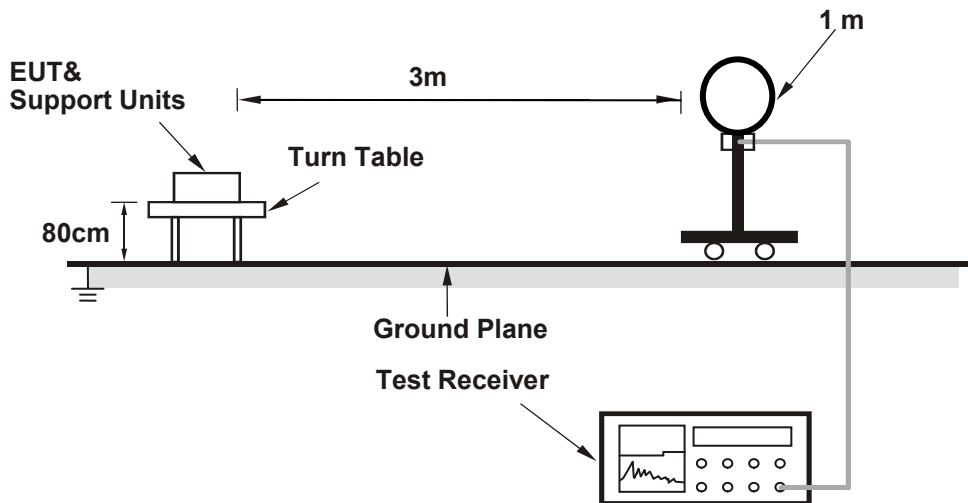
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
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

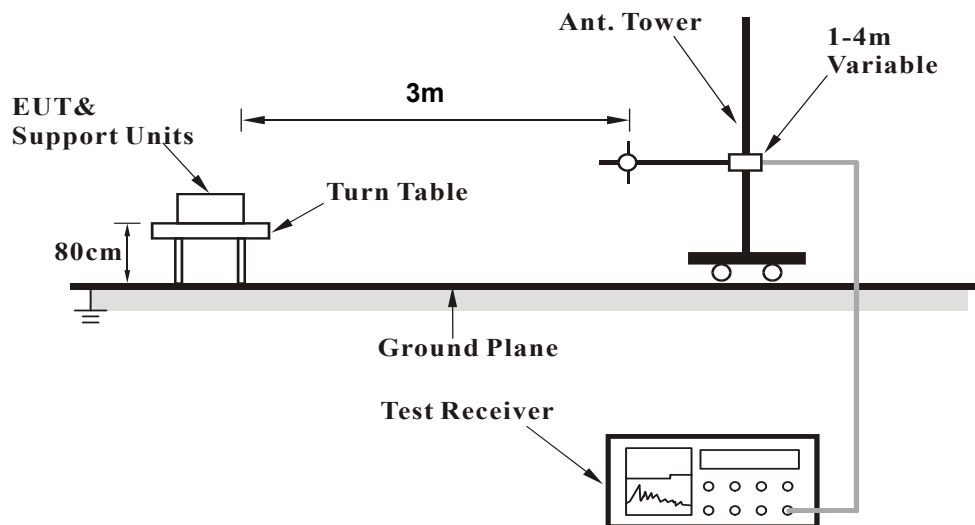
No deviation.

4.1.5 Test Setup

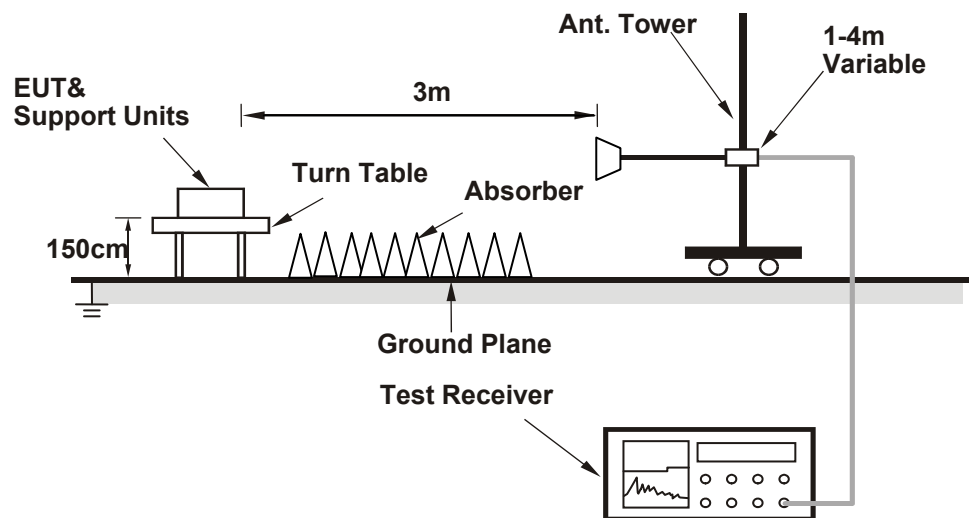
For Radiated emission below 30MHz



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

- Connected the EUT with the notebook and placed them on the testing table.
- Set the EUT under transmission condition continuously at specific channel frequency.
- The necessary accessories enable the system in full functions.

4.1.7 Test Results

ABOVE 1GHz WORST-CASE 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	67.6 PK	74.0	-6.4	1.25 H	296	63.0	4.6
2	5150.00	51.1 AV	54.0	-2.9	1.25 H	296	46.5	4.6
3	*5180.00	105.1 PK			1.34 H	291	62.3	42.8
4	*5180.00	95.8 AV			1.34 H	291	53.0	42.8
5	#10360.00	66.8 PK	74.0	-7.2	1.20 H	119	51.0	15.8
6	#10360.00	51.8 AV	54.0	-2.2	1.20 H	119	36.0	15.8

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	5150.00	73.0 PK	74.0	-1.0	1.32 V	150	68.4	4.6
2	5150.00	52.7 AV	54.0	-1.3	1.32 V	150	48.1	4.6
3	*5180.00	108.5 PK			1.12 V	146	65.7	42.8
4	*5180.00	99.0 AV			1.12 V	146	56.2	42.8
5	#10360.00	68.5 PK	74.0	-5.5	1.65 V	235	52.7	15.8
6	#10360.00	51.6 AV	54.0	-2.4	1.65 V	235	35.8	15.8

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)
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 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	61.4 PK	74.0	-12.6	1.09 H	298	56.8	4.6
2	5150.00	48.5 AV	54.0	-5.5	1.09 H	298	43.9	4.6
3	*5200.00	108.7 PK			1.11 H	280	65.9	42.8
4	*5200.00	99.4 AV			1.11 H	280	56.6	42.8
5	#10400.00	67.6 PK	74.0	-6.4	1.16 H	155	51.6	16.0
6	#10400.00	52.6 AV	54.0	-1.4	1.16 H	155	36.6	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	5150.00	70.9 PK	74.0	-3.1	1.57 V	143	66.3	4.6
2	5150.00	52.2 AV	54.0	-1.8	1.57 V	143	47.6	4.6
3	*5200.00	113.5 PK			1.30 V	130	70.7	42.8
4	*5200.00	102.9 AV			1.30 V	130	60.1	42.8
5	#10400.00	68.5 PK	74.0	-5.5	1.15 V	234	52.5	16.0
6	#10400.00	53.1 AV	54.0	-0.9	1.15 V	234	37.1	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)
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 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	*5240.00	108.7 PK			1.20 H	300	65.8	42.9
2	*5240.00	98.6 AV			1.20 H	300	55.7	42.9
3	5350.00	59.5 PK	74.0	-14.5	1.16 H	286	54.8	4.7
4	5350.00	47.3 AV	54.0	-6.7	1.16 H	286	42.6	4.7
5	#10480.00	65.7 PK	74.0	-8.3	1.25 H	169	49.7	16.0
6	#10480.00	51.1 AV	54.0	-2.9	1.25 H	169	35.1	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	*5240.00	112.2 PK			1.27 V	131	69.3	42.9
2	*5240.00	102.0 AV			1.27 V	131	59.1	42.9
3	5350.00	60.0 PK	74.0	-14.0	1.35 V	108	55.3	4.7
4	5350.00	47.4 AV	54.0	-6.6	1.35 V	108	42.7	4.7
5	#10480.00	68.3 PK	74.0	-5.7	1.20 V	234	52.3	16.0
6	#10480.00	53.3 AV	54.0	-0.7	1.20 V	234	37.3	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)
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	5150.00	56.7 PK	74.0	-17.3	1.57 H	56	52.1	4.6
2	5150.00	45.2 AV	54.0	-8.8	1.57 H	56	40.6	4.6
3	*5260.00	105.4 PK			1.32 H	12	62.5	42.9
4	*5260.00	95.6 AV			1.32 H	12	52.7	42.9
5	#10520.00	63.2 PK	74.0	-10.8	1.55 H	265	47.2	16.0
6	#10520.00	50.4 AV	54.0	-3.6	1.55 H	265	34.4	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	5150.00	58.1 PK	74.0	-15.9	1.33 V	66	53.5	4.6
2	5150.00	46.0 AV	54.0	-8.0	1.33 V	66	41.4	4.6
3	*5260.00	109.1 PK			2.38 V	233	66.2	42.9
4	*5260.00	99.8 AV			2.38 V	233	56.9	42.9
5	#10520.00	65.2 PK	74.0	-8.8	1.50 V	311	49.2	16.0
6	#10520.00	53.1 AV	54.0	-0.9	1.50 V	311	37.1	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.

CHANNEL	TX Channel 60	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	*5300.00	103.0 PK			2.35 H	156	60.1	42.9
2	*5300.00	92.6 AV			2.35 H	156	49.7	42.9
3	10600.00	64.9 PK	74.0	-9.1	2.04 H	301	48.6	16.3
4	10600.00	53.1 AV	54.0	-0.9	2.04 H	301	36.8	16.3

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	*5300.00	103.4 PK			1.19 V	15	60.5	42.9
2	*5300.00	92.8 AV			1.19 V	15	49.9	42.9
3	10600.00	63.6 PK	74.0	-10.4	2.68 V	191	47.3	16.3
4	10600.00	52.8 AV	54.0	-1.2	2.68 V	191	36.5	16.3

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.

CHANNEL	TX Channel 64	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	*5320.00	106.0 PK			1.72 H	265	63.1	42.9
2	*5320.00	95.8 AV			1.72 H	265	52.9	42.9
3	5350.00	69.0 PK	74.0	-5.0	1.66 H	181	64.3	4.7
4	5350.00	52.5 AV	54.0	-1.5	1.66 H	181	47.8	4.7
5	10640.00	63.3 PK	74.0	-10.7	1.41 H	112	46.9	16.4
6	10640.00	50.0 AV	54.0	-4.0	1.41 H	112	33.6	16.4

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	106.3 PK			1.31 V	349	63.4	42.9
2	*5320.00	96.5 AV			1.31 V	349	53.6	42.9
3	5350.00	69.1 PK	74.0	-4.9	2.10 V	258	64.4	4.7
4	5350.00	53.1 AV	54.0	-0.9	2.10 V	258	48.4	4.7
5	10640.00	62.9 PK	74.0	-11.1	3.22 V	176	46.5	16.4
6	10640.00	49.8 AV	54.0	-4.2	3.22 V	176	33.4	16.4

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.

CHANNEL	TX Channel 100	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	58.5 PK	74.0	-15.5	1.73 H	355	53.7	4.8
2	5460.00	46.1 AV	54.0	-7.9	1.73 H	355	41.3	4.8
3	#5470.00	71.2 PK	74.0	-2.8	1.88 H	357	66.3	4.9
4	#5470.00	48.5 AV	54.0	-5.5	1.88 H	357	43.6	4.9
5	*5500.00	109.1 PK			1.83 H	18	65.9	43.2
6	*5500.00	100.0 AV			1.83 H	18	56.8	43.2
7	11000.00	61.4 PK	74.0	-12.6	1.22 H	335	44.1	17.3
8	11000.00	48.5 AV	54.0	-5.5	1.22 H	335	31.2	17.3

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	5460.00	59.2 PK	74.0	-14.8	1.93 V	155	54.4	4.8
2	5460.00	46.7 AV	54.0	-7.3	1.93 V	155	41.9	4.8
3	#5470.00	73.1 PK	74.0	-0.9	1.89 V	141	68.2	4.9
4	#5470.00	50.0 AV	54.0	-4.0	1.89 V	141	45.1	4.9
5	*5500.00	109.4 PK			1.34 V	263	66.2	43.2
6	*5500.00	100.3 AV			1.34 V	263	57.1	43.2
7	11000.00	61.9 PK	74.0	-12.1	1.00 V	251	44.6	17.3
8	11000.00	49.2 AV	54.0	-4.8	1.00 V	251	31.9	17.3

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.

CHANNEL	TX Channel 116	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	*5580.00	110.8 PK			1.66 H	22	67.4	43.4
2	*5580.00	100.5 AV			1.66 H	22	57.1	43.4
3	11160.00	61.6 PK	74.0	-12.4	1.87 H	355	45.0	16.6
4	11160.00	48.3 AV	54.0	-5.7	1.87 H	355	31.7	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	111.2 PK			1.09 V	58	67.8	43.4
2	*5580.00	100.9 AV			1.09 V	58	57.5	43.4
3	11160.00	61.3 PK	74.0	-12.7	1.81 V	134	44.7	16.6
4	11160.00	48.0 AV	54.0	-6.0	1.81 V	134	31.4	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.

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	107.7 PK			1.39 H	246	64.2	43.5
2	*5700.00	96.3 AV			1.39 H	246	52.8	43.5
3	#5725.00	70.5 PK	74.0	-3.5	2.33 H	252	65.4	5.1
4	#5725.00	52.0 AV	54.0	-2.0	2.33 H	252	46.9	5.1
5	11400.00	60.6 PK	74.0	-13.4	1.22 H	21	44.1	16.5
6	11400.00	48.3 AV	54.0	-5.7	1.22 H	21	31.8	16.5

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	*5700.00	108.6 PK			1.29 V	308	65.1	43.5
2	*5700.00	98.2 AV			1.29 V	308	54.7	43.5
3	#5725.00	71.9 PK	74.0	-2.1	1.18 V	264	66.8	5.1
4	#5725.00	53.3 AV	54.0	-0.7	1.18 V	264	48.2	5.1
5	11400.00	61.2 PK	74.0	-12.8	1.41 V	31	44.7	16.5
6	11400.00	49.5 AV	54.0	-4.5	1.41 V	31	33.0	16.5

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
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	#5612.00	59.3 PK	68.2	-8.9	1.17 H	272	54.3	5.0
2	*5745.00	110.6 PK			1.17 H	272	67.0	43.6
3	*5745.00	100.9 AV			1.17 H	272	57.3	43.6
4	#5956.80	59.5 PK	68.2	-8.7	1.17 H	272	54.2	5.3
5	11490.00	66.1 PK	74.0	-7.9	1.08 H	183	50.0	16.1
6	11490.00	52.3 AV	54.0	-1.7	1.08 H	183	36.2	16.1

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	#5600.80	59.9 PK	68.2	-8.3	1.25 V	156	54.9	5.0
2	*5745.00	112.5 PK			1.25 V	156	68.9	43.6
3	*5745.00	102.2 AV			1.25 V	156	58.6	43.6
4	#5959.20	60.4 PK	68.2	-7.8	1.25 V	156	55.1	5.3
5	11490.00	67.3 PK	74.0	-6.7	1.15 V	154	51.2	16.1
6	11490.00	53.2 AV	54.0	-0.8	1.15 V	154	37.1	16.1

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 157	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	#5608.80	59.8 PK	68.2	-8.4	1.09 H	265	54.8	5.0
2	*5785.00	110.6 PK			1.09 H	265	67.0	43.6
3	*5785.00	100.2 AV			1.09 H	265	56.6	43.6
4	#5961.60	59.8 PK	68.2	-8.4	1.09 H	265	54.5	5.3
5	11570.00	66.0 PK	74.0	-8.0	1.10 H	174	49.9	16.1
6	11570.00	52.7 AV	54.0	-1.3	1.10 H	174	36.6	16.1

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	#5604.00	60.5 PK	68.2	-7.7	1.32 V	158	55.5	5.0
2	*5785.00	111.5 PK			1.32 V	158	67.9	43.6
3	*5785.00	101.1 AV			1.32 V	158	57.5	43.6
4	#5942.40	60.7 PK	68.2	-7.5	1.32 V	158	55.4	5.3
5	11570.00	67.5 PK	74.0	-6.5	1.30 V	155	51.4	16.1
6	11570.00	53.2 AV	54.0	-0.8	1.30 V	155	37.1	16.1

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 165	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	#5648.00	60.4 PK	68.2	-7.8	3.91 H	8	55.3	5.1
2	*5825.00	104.0 PK			3.91 H	8	60.4	43.6
3	*5825.00	93.8 AV			3.91 H	8	50.2	43.6
4	#5964.80	59.8 PK	68.2	-8.4	3.91 H	8	54.5	5.3
5	11650.00	64.6 PK	74.0	-9.4	2.39 H	147	48.3	16.3
6	11650.00	52.7 AV	54.0	-1.3	2.39 H	147	36.4	16.3

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	#5640.80	60.3 PK	68.2	-7.9	1.40 V	334	55.2	5.1
2	*5825.00	105.7 PK			1.40 V	334	62.1	43.6
3	*5825.00	96.3 AV			1.40 V	334	52.7	43.6
4	#5976.80	60.4 PK	68.2	-7.8	1.40 V	334	55.0	5.4
5	11650.00	65.1 PK	74.0	-8.9	1.40 V	219	48.8	16.3
6	11650.00	53.3 AV	54.0	-0.7	1.40 V	219	37.0	16.3

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)
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 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	66.5 PK	74.0	-7.5	2.38 H	158	61.9	4.6
2	5150.00	52.2 AV	54.0	-1.8	2.38 H	158	47.6	4.6
3	*5180.00	105.3 PK			1.44 H	163	62.5	42.8
4	*5180.00	95.5 AV			1.44 H	163	52.7	42.8
5	#10360.00	66.6 PK	74.0	-7.4	2.75 H	160	50.8	15.8
6	#10360.00	52.6 AV	54.0	-1.4	2.75 H	160	36.8	15.8

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	5150.00	68.3 PK	74.0	-5.7	1.27 V	16	63.7	4.6
2	5150.00	53.0 AV	54.0	-1.0	1.27 V	16	48.4	4.6
3	*5180.00	107.1 PK			1.30 V	211	64.3	42.8
4	*5180.00	97.5 AV			1.30 V	211	54.7	42.8
5	#10360.00	67.1 PK	74.0	-6.9	3.59 V	175	51.3	15.8
6	#10360.00	53.2 AV	54.0	-0.8	3.59 V	175	37.4	15.8

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)
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 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	*5200.00	107.5 PK			1.21 H	15	64.7	42.8
2	*5200.00	97.5 AV			1.21 H	15	54.7	42.8
3	#10400.00	63.8 PK	74.0	-10.2	1.01 H	279	47.8	16.0
4	#10400.00	51.0 AV	54.0	-3.0	1.01 H	279	35.0	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	*5200.00	111.8 PK			1.17 V	244	69.0	42.8
2	*5200.00	101.3 AV			1.17 V	244	58.5	42.8
3	#10400.00	65.0 PK	74.0	-9.0	2.90 V	339	49.0	16.0
4	#10400.00	53.2 AV	54.0	-0.8	2.90 V	339	37.2	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)
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 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	*5240.00	107.9 PK			1.30 H	7	65.0	42.9
2	*5240.00	98.7 AV			1.30 H	7	55.8	42.9
3	5350.00	59.3 PK	74.0	-14.7	1.53 H	22	54.6	4.7
4	5350.00	46.6 AV	54.0	-7.4	1.53 H	22	41.9	4.7
5	#10480.00	64.6 PK	74.0	-9.4	1.00 H	183	48.6	16.0
6	#10480.00	52.8 AV	54.0	-1.2	1.00 H	183	36.8	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	*5240.00	109.4 PK			1.72 V	131	66.5	42.9
2	*5240.00	100.6 AV			1.72 V	131	57.7	42.9
3	5350.00	60.2 PK	74.0	-13.8	1.53 V	55	55.5	4.7
4	5350.00	47.3 AV	54.0	-6.7	1.53 V	55	42.6	4.7
5	#10480.00	64.9 PK	74.0	-9.1	2.43 V	310	48.9	16.0
6	#10480.00	53.2 AV	54.0	-0.8	2.43 V	310	37.2	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)
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	5150.00	58.5 PK	74.0	-15.5	1.35 H	357	53.9	4.6
2	5150.00	45.7 AV	54.0	-8.3	1.35 H	357	41.1	4.6
3	*5260.00	104.8 PK			1.19 H	17	61.9	42.9
4	*5260.00	94.8 AV			1.19 H	17	51.9	42.9
5	#10520.00	61.4 PK	74.0	-12.6	1.33 H	268	45.4	16.0
6	#10520.00	49.5 AV	54.0	-4.5	1.33 H	268	33.5	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	5150.00	59.0 PK	74.0	-15.0	1.38 V	259	54.4	4.6
2	5150.00	47.1 AV	54.0	-6.9	1.38 V	259	42.5	4.6
3	*5260.00	107.5 PK			1.00 V	269	64.6	42.9
4	*5260.00	97.4 AV			1.00 V	269	54.5	42.9
5	#10520.00	64.6 PK	74.0	-9.4	2.96 V	327	48.6	16.0
6	#10520.00	53.1 AV	54.0	-0.9	2.96 V	327	37.1	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.

CHANNEL	TX Channel 60	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	*5300.00	109.5 PK			1.46 H	200	66.6	42.9
2	*5300.00	99.1 AV			1.46 H	200	56.2	42.9
3	10600.00	65.3 PK	74.0	-8.7	3.80 H	297	49.0	16.3
4	10600.00	52.3 AV	54.0	-1.7	3.80 H	297	36.0	16.3

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	*5300.00	110.4 PK			1.85 V	222	67.5	42.9
2	*5300.00	100.4 AV			1.85 V	222	57.5	42.9
3	10600.00	64.4 PK	74.0	-9.6	2.64 V	256	48.1	16.3
4	10600.00	51.3 AV	54.0	-2.7	2.64 V	256	35.0	16.3

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.

CHANNEL	TX Channel 64	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	*5320.00	106.1 PK			1.22 H	198	63.2	42.9
2	*5320.00	96.5 AV			1.22 H	198	53.6	42.9
3	5350.00	71.2 PK	74.0	-2.8	1.13 H	198	66.5	4.7
4	5350.00	53.3 AV	54.0	-0.7	1.13 H	198	48.6	4.7
5	10640.00	63.9 PK	74.0	-10.1	1.40 H	301	47.5	16.4
6	10640.00	50.6 AV	54.0	-3.4	1.40 H	301	34.2	16.4

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	106.1 PK			1.04 V	127	63.2	42.9
2	*5320.00	97.6 AV			1.04 V	127	54.7	42.9
3	5350.00	70.7 PK	74.0	-3.3	1.00 V	128	66.0	4.7
4	5350.00	52.9 AV	54.0	-1.1	1.00 V	128	48.2	4.7
5	10640.00	65.2 PK	74.0	-8.8	1.01 V	205	48.8	16.4
6	10640.00	51.5 AV	54.0	-2.5	1.01 V	205	35.1	16.4

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.

CHANNEL	TX Channel 100	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	57.1 PK	74.0	-16.9	1.81 H	166	52.3	4.8
2	5460.00	45.5 AV	54.0	-8.5	1.81 H	166	40.7	4.8
3	#5470.00	69.1 PK	74.0	-4.9	1.77 H	186	64.2	4.9
4	#5470.00	51.2 AV	54.0	-2.8	1.77 H	186	46.3	4.9
5	*5500.00	107.9 PK			1.89 H	243	64.7	43.2
6	*5500.00	97.0 AV			1.89 H	243	53.8	43.2
7	11000.00	61.0 PK	74.0	-13.0	2.91 H	223	43.7	17.3
8	11000.00	49.2 AV	54.0	-4.8	2.91 H	223	31.9	17.3

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	5460.00	59.5 PK	74.0	-14.5	1.73 V	20	54.7	4.8
2	5460.00	46.9 AV	54.0	-7.1	1.73 V	20	42.1	4.8
3	#5470.00	71.3 PK	74.0	-2.7	1.60 V	138	66.4	4.9
4	#5470.00	53.1 AV	54.0	-0.9	1.60 V	138	48.2	4.9
5	*5500.00	109.7 PK			1.82 V	243	66.5	43.2
6	*5500.00	100.0 AV			1.82 V	243	56.8	43.2
7	11000.00	61.9 PK	74.0	-12.1	2.64 V	289	44.6	17.3
8	11000.00	51.0 AV	54.0	-3.0	2.64 V	289	33.7	17.3

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.

CHANNEL	TX Channel 116	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	*5580.00	111.3 PK			1.33 H	279	67.9	43.4
2	*5580.00	102.7 AV			1.33 H	279	59.3	43.4
3	11160.00	62.1 PK	74.0	-11.9	1.51 H	267	45.5	16.6
4	11160.00	48.8 AV	54.0	-5.2	1.51 H	267	32.2	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	114.7 PK			1.25 V	265	71.3	43.4
2	*5580.00	105.2 AV			1.25 V	265	61.8	43.4
3	11160.00	64.3 PK	74.0	-9.7	1.45 V	299	47.7	16.6
4	11160.00	51.0 AV	54.0	-3.0	1.45 V	299	34.4	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.

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	107.2 PK			1.87 H	233	63.7	43.5
2	*5700.00	96.7 AV			1.87 H	233	53.2	43.5
3	#5725.00	67.8 PK	74.0	-6.2	1.89 H	263	62.7	5.1
4	#5725.00	51.6 AV	54.0	-2.4	1.89 H	263	46.5	5.1
5	11400.00	60.1 PK	74.0	-13.9	3.31 H	247	43.6	16.5
6	11400.00	47.8 AV	54.0	-6.2	3.31 H	247	31.3	16.5

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	*5700.00	108.9 PK			1.38 V	241	65.4	43.5
2	*5700.00	99.0 AV			1.38 V	241	55.5	43.5
3	#5725.00	69.8 PK	74.0	-4.2	1.60 V	243	64.7	5.1
4	#5725.00	53.3 AV	54.0	-0.7	1.60 V	243	48.2	5.1
5	11400.00	60.8 PK	74.0	-13.2	3.66 V	327	44.3	16.5
6	11400.00	48.5 AV	54.0	-5.5	3.66 V	327	32.0	16.5

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
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 149	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	#5636.80	59.9 PK	68.2	-8.3	1.19 H	279	54.8	5.1
2	*5745.00	110.0 PK			1.19 H	279	66.4	43.6
3	*5745.00	100.0 AV			1.19 H	279	56.4	43.6
4	#5957.60	59.5 PK	68.2	-8.7	1.19 H	279	54.2	5.3
5	11490.00	65.4 PK	74.0	-8.6	1.07 H	181	49.3	16.1
6	11490.00	52.5 AV	54.0	-1.5	1.07 H	181	36.4	16.1

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	#5604.80	59.3 PK	68.2	-8.9	1.13 V	159	54.3	5.0
2	*5745.00	111.5 PK			1.13 V	159	67.9	43.6
3	*5745.00	101.2 AV			1.13 V	159	57.6	43.6
4	#5936.00	60.1 PK	68.2	-8.1	1.13 V	159	54.8	5.3
5	11490.00	66.7 PK	74.0	-7.3	1.32 V	156	50.6	16.1
6	11490.00	53.3 AV	54.0	-0.7	1.32 V	156	37.2	16.1

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 157	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	#5618.40	59.7 PK	68.2	-8.5	1.13 H	286	54.6	5.1
2	*5785.00	108.6 PK			1.13 H	286	65.0	43.6
3	*5785.00	98.5 AV			1.13 H	286	54.9	43.6
4	#5954.40	60.3 PK	68.2	-7.9	1.13 H	286	55.0	5.3
5	11570.00	65.0 PK	74.0	-9.0	1.11 H	177	48.9	16.1
6	11570.00	51.2 AV	54.0	-2.8	1.11 H	177	35.1	16.1

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	#5601.60	59.5 PK	68.2	-8.7	1.18 V	159	54.5	5.0
2	*5785.00	110.9 PK			1.18 V	159	67.3	43.6
3	*5785.00	100.6 AV			1.18 V	159	57.0	43.6
4	#5930.40	59.0 PK	68.2	-9.2	1.18 V	159	53.7	5.3
5	11570.00	67.1 PK	74.0	-6.9	1.11 V	155	51.0	16.1
6	11570.00	53.3 AV	54.0	-0.7	1.11 V	155	37.2	16.1

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 165	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	#5602.40	61.1 PK	68.2	-7.1	3.92 H	213	56.1	5.0
2	*5825.00	106.4 PK			3.92 H	213	62.8	43.6
3	*5825.00	96.3 AV			3.92 H	213	52.7	43.6
4	#5948.00	60.4 PK	68.2	-7.8	3.92 H	213	55.1	5.3
5	11650.00	64.9 PK	74.0	-9.1	2.98 H	118	48.6	16.3
6	11650.00	52.3 AV	54.0	-1.7	2.98 H	118	36.0	16.3

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	#5612.80	60.9 PK	68.2	-7.3	2.66 V	85	55.9	5.0
2	*5825.00	106.6 PK			2.66 V	85	63.0	43.6
3	*5825.00	97.1 AV			2.66 V	85	53.5	43.6
4	#5979.20	60.3 PK	68.2	-7.9	2.66 V	85	54.9	5.4
5	11650.00	66.1 PK	74.0	-7.9	1.99 V	219	49.8	16.3
6	11650.00	53.2 AV	54.0	-0.8	1.99 V	219	36.9	16.3

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)
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 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	67.8 PK	74.0	-6.2	1.54 H	191	63.2	4.6
2	5150.00	52.4 AV	54.0	-1.6	1.54 H	191	47.8	4.6
3	*5190.00	103.1 PK			1.63 H	200	60.3	42.8
4	*5190.00	92.8 AV			1.63 H	200	50.0	42.8
5	#10380.00	62.6 PK	74.0	-11.4	1.00 H	216	46.6	16.0
6	#10380.00	48.3 AV	54.0	-5.7	1.00 H	216	32.3	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	5150.00	70.0 PK	74.0	-4.0	2.63 V	229	65.4	4.6
2	5150.00	53.2 AV	54.0	-0.8	2.63 V	229	48.6	4.6
3	*5190.00	103.9 PK			3.52 V	224	61.1	42.8
4	*5190.00	94.2 AV			3.52 V	224	51.4	42.8
5	#10380.00	62.3 PK	74.0	-11.7	1.35 V	312	46.3	16.0
6	#10380.00	48.3 AV	54.0	-5.7	1.35 V	312	32.3	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)
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	5150.00	65.9 PK	74.0	-8.1	1.08 H	238	61.3	4.6
2	5150.00	52.0 AV	54.0	-2.0	1.08 H	238	47.4	4.6
3	*5230.00	106.1 PK			1.12 H	257	63.3	42.8
4	*5230.00	95.8 AV			1.12 H	257	53.0	42.8
5	5350.00	60.6 PK	74.0	-13.4	1.14 H	249	55.9	4.7
6	5350.00	46.9 AV	54.0	-7.1	1.14 H	249	42.2	4.7
7	#10460.00	65.6 PK	74.0	-8.4	1.08 H	77	49.7	15.9
8	#10460.00	51.1 AV	54.0	-2.9	1.08 H	77	35.2	15.9

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	68.5 PK	74.0	-5.5	1.14 V	128	63.9	4.6
2	5150.00	53.2 AV	54.0	-0.8	1.14 V	128	48.6	4.6
3	*5230.00	109.6 PK			1.43 V	132	66.8	42.8
4	*5230.00	99.2 AV			1.43 V	132	56.4	42.8
5	5350.00	60.9 PK	74.0	-13.1	1.30 V	117	56.2	4.7
6	5350.00	47.1 AV	54.0	-6.9	1.30 V	117	42.4	4.7
7	#10460.00	66.2 PK	74.0	-7.8	1.46 V	231	50.3	15.9
8	#10460.00	52.0 AV	54.0	-2.0	1.46 V	231	36.1	15.9

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 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	57.8 PK	74.0	-16.2	1.38 H	225	53.2	4.6
2	5150.00	45.5 AV	54.0	-8.5	1.38 H	225	40.9	4.6
3	*5270.00	104.1 PK			1.30 H	15	61.2	42.9
4	*5270.00	94.4 AV			1.30 H	15	51.5	42.9
5	5350.00	67.0 PK	74.0	-7.0	1.56 H	20	62.3	4.7
6	5350.00	51.2 AV	54.0	-2.8	1.56 H	20	46.5	4.7
7	#10540.00	61.8 PK	74.0	-12.2	3.32 H	335	45.6	16.2
8	#10540.00	48.8 AV	54.0	-5.2	3.32 H	335	32.6	16.2

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	5150.00	59.2 PK	74.0	-14.8	1.28 V	247	54.6	4.6
2	5150.00	47.5 AV	54.0	-6.5	1.28 V	247	42.9	4.6
3	*5270.00	106.2 PK			1.47 V	138	63.3	42.9
4	*5270.00	96.8 AV			1.47 V	138	53.9	42.9
5	5350.00	68.7 PK	74.0	-5.3	1.59 V	245	64.0	4.7
6	5350.00	53.1 AV	54.0	-0.9	1.59 V	245	48.4	4.7
7	#10540.00	64.7 PK	74.0	-9.3	3.04 V	335	48.5	16.2
8	#10540.00	52.1 AV	54.0	-1.9	3.04 V	335	35.9	16.2

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
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.



CHANNEL	TX Channel 62	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	*5310.00	104.4 PK			3.93 H	202	61.5	42.9
2	*5310.00	94.3 AV			3.93 H	202	51.4	42.9
3	5350.00	70.8 PK	74.0	-3.2	3.55 H	354	66.1	4.7
4	5350.00	53.2 AV	54.0	-0.8	3.55 H	354	48.5	4.7
5	10620.00	62.1 PK	74.0	-11.9	1.42 H	326	45.6	16.5
6	10620.00	47.8 AV	54.0	-6.2	1.42 H	326	31.3	16.5

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	*5310.00	104.1 PK			1.77 V	139	61.2	42.9
2	*5310.00	93.8 AV			1.77 V	139	50.9	42.9
3	5350.00	67.3 PK	74.0	-6.7	3.53 V	6	62.6	4.7
4	5350.00	52.3 AV	54.0	-1.7	3.53 V	6	47.6	4.7
5	10620.00	61.7 PK	74.0	-12.3	1.38 V	17	45.2	16.5
6	10620.00	47.6 AV	54.0	-6.4	1.38 V	17	31.1	16.5

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
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 102	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	61.2 PK	74.0	-12.8	3.79 H	163	56.4	4.8
2	5460.00	49.3 AV	54.0	-4.7	3.79 H	163	44.5	4.8
3	#5470.00	71.6 PK	74.0	-2.4	3.77 H	182	66.7	4.9
4	#5470.00	53.1 AV	54.0	-0.9	3.77 H	182	48.2	4.9
5	*5510.00	101.3 PK			3.71 H	197	58.1	43.2
6	*5510.00	91.5 AV			3.71 H	197	48.3	43.2
7	11020.00	61.7 PK	74.0	-12.3	1.93 H	287	44.5	17.2
8	11020.00	49.1 AV	54.0	-4.9	1.93 H	287	31.9	17.2

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	5460.00	60.6 PK	74.0	-13.4	1.28 V	37	55.8	4.8
2	5460.00	48.2 AV	54.0	-5.8	1.28 V	37	43.4	4.8
3	#5470.00	71.4 PK	74.0	-2.6	1.07 V	28	66.5	4.9
4	#5470.00	53.3 AV	54.0	-0.7	1.07 V	28	48.4	4.9
5	*5510.00	101.7 PK			1.59 V	312	58.5	43.2
6	*5510.00	91.7 AV			1.59 V	312	48.5	43.2
7	11020.00	61.9 PK	74.0	-12.1	1.83 V	47	44.7	17.2
8	11020.00	49.7 AV	54.0	-4.3	1.83 V	47	32.5	17.2

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
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	TX Channel 110	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	64.9 PK	74.0	-9.1	1.89 H	112	60.1	4.8
2	5460.00	46.4 AV	54.0	-7.6	1.89 H	112	41.6	4.8
3	#5470.00	68.8 PK	74.0	-5.2	1.59 H	248	63.9	4.9
4	#5470.00	51.2 AV	54.0	-2.8	1.59 H	248	46.3	4.9
5	*5550.00	107.8 PK			1.28 H	229	64.5	43.3
6	*5550.00	98.4 AV			1.28 H	229	55.1	43.3
7	11100.00	59.5 PK	74.0	-14.5	1.55 H	239	43.1	16.4
8	11100.00	47.2 AV	54.0	-6.8	1.55 H	239	30.8	16.4

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	67.2 PK	74.0	-6.8	1.53 V	140	62.4	4.8
2	5460.00	49.4 AV	54.0	-4.6	1.53 V	140	44.6	4.8
3	#5470.00	70.9 PK	74.0	-3.1	1.53 V	318	66.0	4.9
4	#5470.00	53.0 AV	54.0	-1.0	1.53 V	318	48.1	4.9
5	*5550.00	109.9 PK			1.66 V	240	66.6	43.3
6	*5550.00	100.3 AV			1.66 V	240	57.0	43.3
7	11100.00	60.1 PK	74.0	-13.9	3.28 V	311	43.7	16.4
8	11100.00	48.0 AV	54.0	-6.0	3.28 V	311	31.6	16.4

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.

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	105.3 PK			1.88 H	243	61.8	43.5
2	*5670.00	95.7 AV			1.88 H	243	52.2	43.5
3	#5725.00	67.4 PK	74.0	-6.6	1.93 H	299	62.3	5.1
4	#5725.00	50.8 AV	54.0	-3.2	1.93 H	299	45.7	5.1
5	11340.00	61.4 PK	74.0	-12.6	1.57 H	185	44.3	17.1
6	11340.00	48.9 AV	54.0	-5.1	1.57 H	185	31.8	17.1

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	106.7 PK			1.39 V	320	63.2	43.5
2	*5670.00	98.3 AV			1.39 V	320	54.8	43.5
3	#5725.00	69.5 PK	74.0	-4.5	2.58 V	141	64.4	5.1
4	#5725.00	53.3 AV	54.0	-0.7	2.58 V	141	48.2	5.1
5	11340.00	62.3 PK	74.0	-11.7	2.59 V	144	45.2	17.1
6	11340.00	50.1 AV	54.0	-3.9	2.59 V	144	33.0	17.1

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.

CHANNEL	TX Channel 151	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	#5648.00	61.5 PK	68.2	-6.7	4.00 H	186	56.4	5.1
2	*5755.00	107.3 PK			4.00 H	186	63.7	43.6
3	*5755.00	97.1 AV			4.00 H	186	53.5	43.6
4	#5954.40	60.2 PK	68.2	-8.0	4.00 H	186	54.9	5.3
5	11510.00	63.4 PK	74.0	-10.6	1.95 H	262	47.5	15.9
6	11510.00	50.3 AV	54.0	-3.7	1.95 H	262	34.4	15.9

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	#5607.20	61.8 PK	68.2	-6.4	1.13 V	269	56.8	5.0
2	*5755.00	109.4 PK			1.13 V	269	65.8	43.6
3	*5755.00	98.6 AV			1.13 V	269	55.0	43.6
4	#5942.40	60.3 PK	68.2	-7.9	1.13 V	269	55.0	5.3
5	11510.00	62.4 PK	74.0	-11.6	1.28 V	223	46.5	15.9
6	11510.00	50.1 AV	54.0	-3.9	1.28 V	223	34.2	15.9

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 159	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	#5617.60	59.9 PK	68.2	-8.3	3.31 H	198	54.9	5.0
2	*5795.00	105.5 PK			3.31 H	198	61.9	43.6
3	*5795.00	95.6 AV			3.31 H	198	52.0	43.6
4	#5935.20	60.1 PK	68.2	-8.1	3.31 H	198	54.8	5.3
5	11590.00	61.6 PK	74.0	-12.4	2.24 H	242	45.5	16.1
6	11590.00	48.8 AV	54.0	-5.2	2.24 H	242	32.7	16.1

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	#5619.20	60.3 PK	68.2	-7.9	1.85 V	299	55.2	5.1
2	*5795.00	108.9 PK			1.85 V	299	65.3	43.6
3	*5795.00	98.8 AV			1.85 V	299	55.2	43.6
4	#5959.20	60.3 PK	68.2	-7.9	1.85 V	299	55.0	5.3
5	11590.00	62.0 PK	74.0	-12.0	1.57 V	173	45.9	16.1
6	11590.00	49.3 AV	54.0	-4.7	1.57 V	173	33.2	16.1

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 Worst-Case Data: 802.11a

CHANNEL	TX Channel 116	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 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	31.94	29.7 QP	40.0	-10.3	1.50 H	33	45.6	-15.9
2	125.06	30.5 QP	43.5	-13.0	1.50 H	315	46.1	-15.6
3	165.80	32.0 QP	43.5	-11.5	1.24 H	318	45.4	-13.4
4	245.34	38.4 QP	46.0	-7.6	1.00 H	173	51.9	-13.5
5	482.02	29.8 QP	46.0	-16.2	1.50 H	241	36.8	-7.0
6	664.38	33.4 QP	46.0	-12.6	1.99 H	227	36.0	-2.6

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	33.22	32.2 QP	40.0	-7.8	1.24 V	321	47.8	-15.6
2	111.48	33.6 QP	43.5	-9.9	1.00 V	286	50.4	-16.8
3	206.54	36.4 QP	43.5	-7.1	1.00 V	7	52.4	-16.0
4	245.34	34.8 QP	46.0	-11.2	1.49 V	198	48.3	-13.5
5	431.58	29.1 QP	46.0	-16.9	1.00 V	131	37.1	-8.0
6	885.54	39.3 QP	46.0	-6.7	1.24 V	120	36.7	2.6

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)
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	ESCS30	100289	Dec. 23, 2015	Dec. 22, 2016
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond2-01	Dec. 26, 2015	Dec. 25, 2016
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Jan. 11, 2016	Jan. 10, 2017
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Jul. 26, 2016	Jul. 25, 2017
Software ADT	BV ADT_Cond_ 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 Procedure

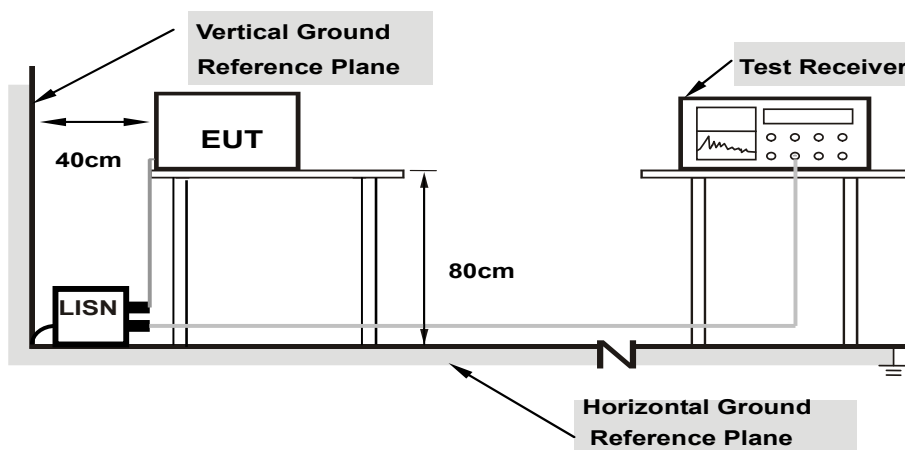
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance 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:**
- Support units were connected to second LISN.
 - Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

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.

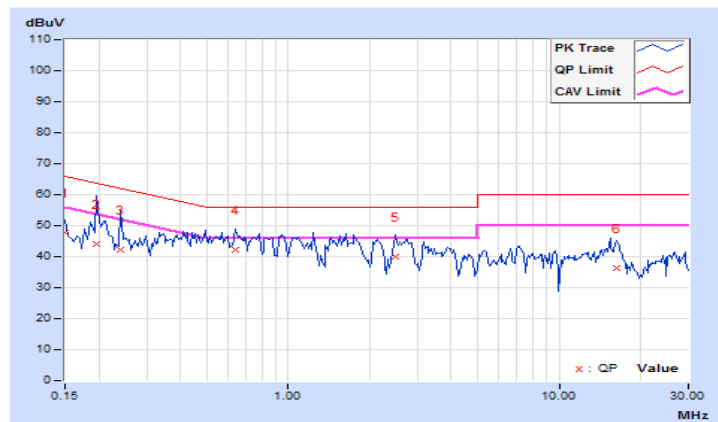
4.2.7 Test Results

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	0.15000	10.18	37.55	26.32	47.73	36.50	66.00
2	0.19687	10.21	33.89	24.33	44.10	34.54	63.74	53.74	-19.64	-19.20
3	0.23984	10.22	31.84	20.42	42.06	30.64	62.10	52.10	-20.04	-21.46
4	0.63828	10.27	31.89	23.70	42.16	33.97	56.00	46.00	-13.84	-12.03
5	2.48438	10.39	29.69	22.08	40.08	32.47	56.00	46.00	-15.92	-13.53
6	16.37500	10.61	25.56	15.97	36.17	26.58	60.00	50.00	-23.83	-23.42

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.

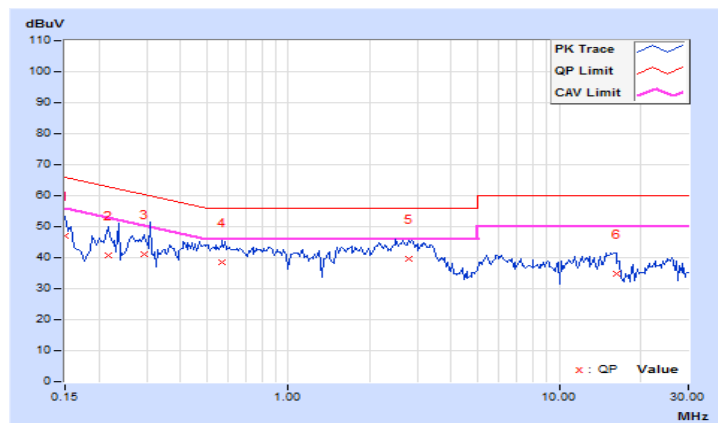


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.19	37.02	27.49	47.21	37.68	66.00	56.00	-18.79	-18.32
2	0.21641	10.21	30.41	23.06	40.62	33.27	62.96	52.96	-22.34	-19.69
3	0.29453	10.25	30.97	21.36	41.22	31.61	60.40	50.40	-19.18	-18.79
4	0.57188	10.30	28.22	17.60	38.52	27.90	56.00	46.00	-17.48	-18.10
5	2.78516	10.46	29.14	22.43	39.60	32.89	56.00	46.00	-16.40	-13.11
6	16.20703	10.76	23.95	15.46	34.71	26.22	60.00	50.00	-25.29	-23.78

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 \leq 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

Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

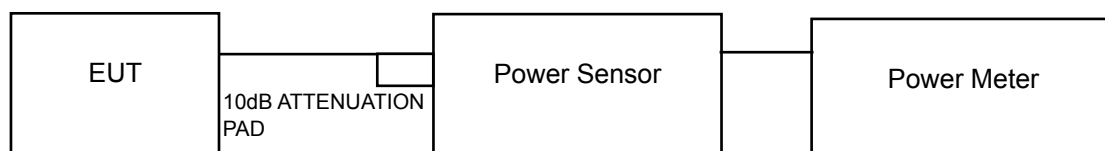
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

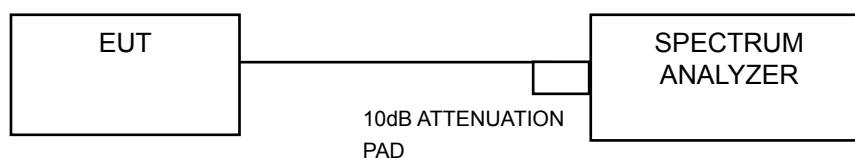
For power measurements on all other devices: Array Gain = $10 \log(N_{ANT}/N_{SS})$ dB.

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 26dB Bandwidth

- 1) Set RBW = approximately 1% of the emission bandwidth.
- 2) Set the VBW > RBW.
- 3) Detector = Peak.
- 4) Trace mode = max hold.
- 5) Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

For Occupied Bandwidth

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 300 kHz RBW and 1MHz VBW. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 % of the total mean power of a given emission.

4.3.5 Deviation from Test 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 (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	14.17	14.11	51.885	17.15	24.00	Pass
40	5200	15.75	16.38	81.035	19.09	24.00	Pass
48	5240	16.57	16.67	91.846	19.63	24.00	Pass
52	5260	14.51	14.30	55.164	17.42	24.00	Pass
60	5300	17.93	17.81	122.482	20.88	24.00	Pass
64	5320	16.09	16.10	81.382	19.11	24.00	Pass
100	5500	13.83	14.78	54.216	17.34	24.00	Pass
116	5580	17.93	18.71	136.389	21.35	24.00	Pass
140	5700	15.24	14.51	61.669	17.90	24.00	Pass
149	5745	17.25	16.78	100.731	20.03	30.00	Pass
157	5785	16.94	17.64	107.507	20.31	30.00	Pass
165	5825	16.20	16.90	90.665	19.57	30.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log (31.72) = 26.01 > 24\text{dBm}$
2. $11\text{dBm} + 10\log (42.12) = 27.24 > 24\text{dBm}$
3. $11\text{dBm} + 10\log (38.65) = 26.87 > 24\text{dBm}$
4. $11\text{dBm} + 10\log (23.97) = 24.80 > 24\text{dBm}$
5. $11\text{dBm} + 10\log (41.36) = 27.17 > 24\text{dBm}$
6. $11\text{dBm} + 10\log (33.09) = 26.20 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log (28.06) = 25.48 > 24\text{dBm}$
2. $11\text{dBm} + 10\log (43.03) = 27.34 > 24\text{dBm}$
3. $11\text{dBm} + 10\log (38.33) = 26.84 > 24\text{dBm}$
4. $11\text{dBm} + 10\log (29.43) = 25.69 > 24\text{dBm}$
5. $11\text{dBm} + 10\log (43.72) = 27.41 > 24\text{dBm}$
6. $11\text{dBm} + 10\log (28.67) = 25.57 > 24\text{dBm}$



802.11n (HT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	16.90	16.10	89.716	19.53	24.00	Pass
40	5200	16.32	16.81	90.828	19.58	24.00	Pass
48	5240	14.99	14.83	61.959	17.92	24.00	Pass
52	5260	14.83	14.60	59.249	17.73	24.00	Pass
60	5300	17.80	17.52	116.750	20.67	24.00	Pass
64	5320	18.03	17.74	122.962	20.90	24.00	Pass
100	5500	13.84	14.58	52.918	17.24	24.00	Pass
116	5580	18.33	18.98	147.145	21.68	24.00	Pass
140	5700	15.18	14.42	60.630	17.83	24.00	Pass
149	5745	16.80	16.46	92.122	19.64	30.00	Pass
157	5785	16.06	16.60	86.074	19.35	30.00	Pass
165	5825	16.30	16.83	90.853	19.58	30.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log (31.01) = 25.92 > 24\text{dBm}$
2. $11\text{dBm} + 10\log (44.60) = 27.49 > 24\text{dBm}$
3. $11\text{dBm} + 10\log (42.15) = 27.25 > 24\text{dBm}$
4. $11\text{dBm} + 10\log (26.32) = 25.20 > 24\text{dBm}$
5. $11\text{dBm} + 10\log (41.16) = 27.14 > 24\text{dBm}$
6. $11\text{dBm} + 10\log (34.12) = 26.33 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log (32.63) = 26.14 > 24\text{dBm}$
2. $11\text{dBm} + 10\log (44.91) = 27.52 > 24\text{dBm}$
3. $11\text{dBm} + 10\log (44.61) = 27.49 > 24\text{dBm}$
4. $11\text{dBm} + 10\log (31.41) = 25.97 > 24\text{dBm}$
5. $11\text{dBm} + 10\log (43.38) = 27.37 > 24\text{dBm}$
6. $11\text{dBm} + 10\log (30.55) = 25.85 > 24\text{dBm}$

802.11n (HT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	10.45	9.68	20.382	13.09	24.00	Pass
46	5230	16.50	16.37	88.019	19.45	24.00	Pass
54	5270	16.74	16.46	91.465	19.61	24.00	Pass
62	5310	9.64	9.72	18.580	12.69	24.00	Pass
102	5510	11.83	12.98	35.102	15.45	24.00	Pass
110	5550	16.62	17.48	101.896	20.08	24.00	Pass
134	5670	16.36	15.83	81.533	19.11	24.00	Pass
151	5755	18.97	19.20	162.062	22.10	30.00	Pass
159	5795	19.22	18.44	153.383	21.86	30.00	Pass

Note:

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

Chain 0

1. $11\text{dBm} + 10\log (80.97) = 30.08 > 24\text{dBm}$
2. $11\text{dBm} + 10\log (49.50) = 27.95 > 24\text{dBm}$
3. $11\text{dBm} + 10\log (49.73) = 27.97 > 24\text{dBm}$
4. $11\text{dBm} + 10\log (85.64) = 30.33 > 24\text{dBm}$
5. $11\text{dBm} + 10\log (82.74) = 30.18 > 24\text{dBm}$

Chain 1

1. $11\text{dBm} + 10\log (80.30) = 30.05 > 24\text{dBm}$
2. $11\text{dBm} + 10\log (50.00) = 27.99 > 24\text{dBm}$
3. $11\text{dBm} + 10\log (58.12) = 28.64 > 24\text{dBm}$
4. $11\text{dBm} + 10\log (82.49) = 30.16 > 24\text{dBm}$
5. $11\text{dBm} + 10\log (77.51) = 29.89 > 24\text{dBm}$

26dB Bandwidth:

802.11a

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	29.50	28.35
40	5200	37.00	34.81
48	5240	36.69	36.74
52	5260	31.72	28.06
60	5300	42.12	43.03
64	5320	38.65	38.33
100	5500	23.97	29.43
116	5580	41.36	43.72
140	5700	33.09	28.67

802.11n (HT20)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	42.01	43.24
40	5200	40.76	35.88
48	5240	32.60	31.06
52	5260	31.01	32.63
60	5300	44.60	44.91
64	5320	42.15	44.61
100	5500	26.32	31.41
116	5580	41.16	43.38
140	5700	34.12	30.55

802.11n (HT40)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	60.81	51.29
46	5230	86.54	75.73
54	5270	80.97	80.30
62	5310	49.50	50.00
102	5510	49.73	58.12
110	5550	85.64	82.49
134	5670	82.74	77.51

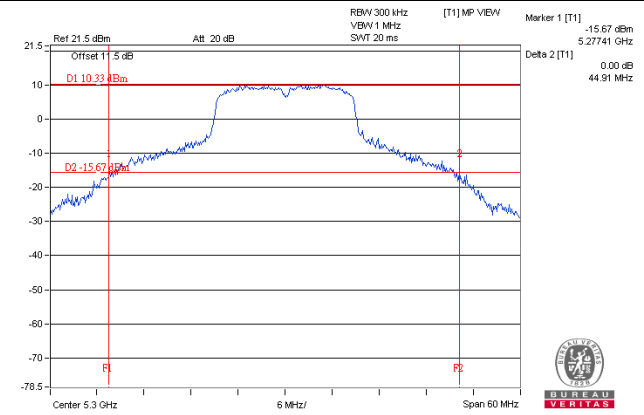
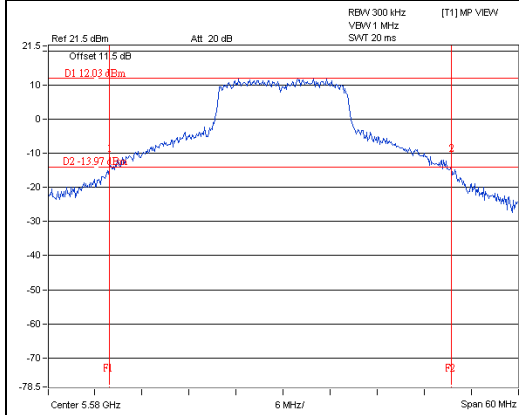


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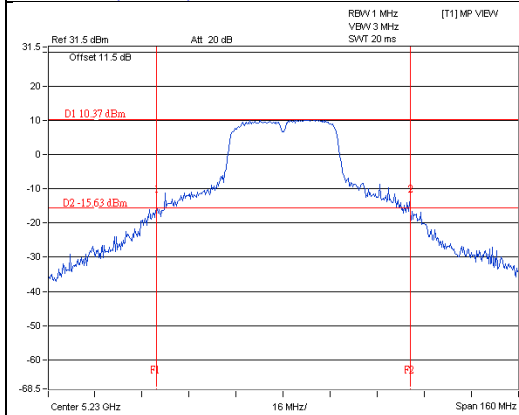
SPECTRUM PLOT OF WORST VALUE

802.11a

802.11n (HT20)



802.11n (HT40)



Occupied Bandwidth:

802.11a

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.16	17.04
40	5200	18.00	17.64
48	5240	19.44	18.24
52	5260	17.28	17.04
60	5300	25.44	25.32
64	5320	20.52	20.16
100	5500	17.04	17.04
116	5580	25.56	27.36
140	5700	17.28	17.04
149	5745	21.13	17.91
157	5785	23.52	19.68
165	5825	26.16	22.44

802.11n (HT20)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	21.24	21.24
40	5200	19.80	18.72
48	5240	18.36	18.12
52	5260	18.36	18.12
60	5300	27.48	25.80
64	5320	26.40	26.64
100	5500	18.00	18.24
116	5580	22.56	25.68
140	5700	18.48	18.12
149	5745	20.40	18.60
157	5785	21.00	19.68
165	5825	24.96	20.04

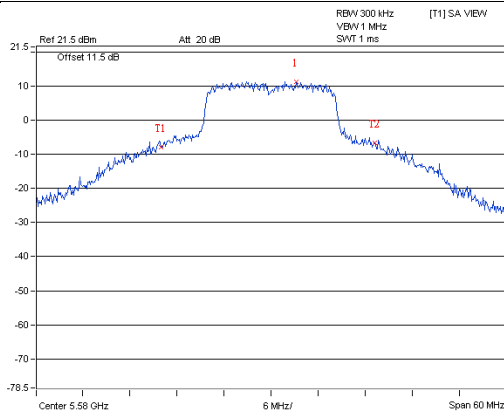


802.11n (HT40)

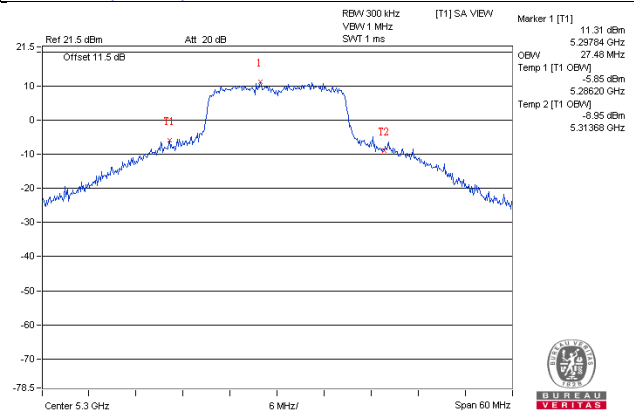
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.96	36.96
46	5230	37.80	37.44
54	5270	37.80	37.44
62	5310	37.08	36.96
102	5510	37.08	36.96
110	5550	37.68	37.80
134	5670	37.68	37.20
151	5755	43.20	39.24
159	5795	42.48	39.84

SPECTRUM PLOT OF WORST VALUE

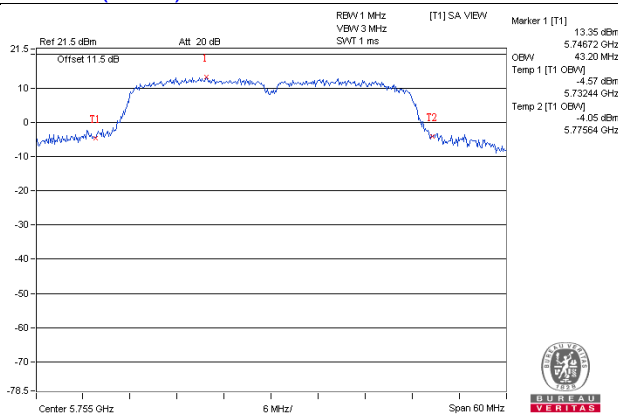
802.11a



802.11n (HT20)



802.11n (HT40)

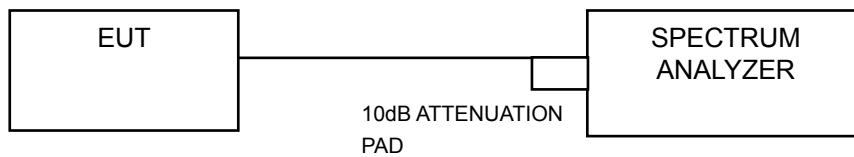


4.4 Peak Power Spectral Density Measurement

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 Procedure

For U-NII-1 band:

Using method SA-2, Duty cycle <98%

- a. Set span to encompass the entire emission bandwidth (EBW) of the signal.
- b. Set RBW = 1 MHz, Set VBW \geq 3 MHz, Detector = RMS
- c. Sweep time = auto, trigger set to "free run".
- d. Trace average at least 100 traces in power averaging mode.
- e. Record the max value and add $10 \log (1/\text{duty cycle})$

For U-NII-3 band:

Duty cycle <98%

- a. Set span to encompass the entire emission bandwidth (EBW) of the signal.
- b. Set RBW = 300 kHz, Set VBW \geq 1 MHz, Detector = RMS
- c. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
- d. Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where $\text{BWCF} = 10\log(500 \text{ kHz}/300\text{kHz})$
- e. Sweep time = auto, trigger set to "free run".
- f. Trace average at least 100 traces in power averaging mode.
- g. Record the max value and add $10 \log (1/\text{duty cycle})$

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Condition

Same as Item 4.3.6.

4.4.7 Test Results

For U-NII-1, U-NII-2A, U-NII-2C Band

802.11a

Chan.	Freq. (MHz)	PSD (dBm/MHz)		Duty factor	Total PSD with duty factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	0.76	0.89	0.13	3.96	9.45	Pass
40	5200	2.38	2.53	0.13	5.59	9.45	Pass
48	5240	3.14	3.30	0.13	6.36	9.45	Pass
52	5260	1.22	0.88	0.13	4.19	9.45	Pass
60	5300	6.02	5.67	0.13	8.99	9.45	Pass
64	5320	4.19	3.98	0.13	7.22	9.45	Pass
100	5500	-0.34	1.30	0.13	3.70	9.45	Pass
116	5580	5.55	5.73	0.13	8.78	9.45	Pass
140	5700	1.94	1.46	0.13	4.84	9.45	Pass

Note:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $4.54 + 10 \log(2) = 7.55 \text{dBi} > 6 \text{dBi}$, so the limit shall be reduced to $11 - (7.55 - 6) = 9.45 \text{dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

Chan.	Freq. (MHz)	PSD (dBm/MHz)		Duty factor	Total PSD with duty factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	4.32	3.99	0.23	7.40	9.45	Pass
40	5200	2.88	2.57	0.23	5.97	9.45	Pass
48	5240	1.06	0.94	0.23	4.24	9.45	Pass
52	5260	1.33	0.95	0.23	4.38	9.45	Pass
60	5300	6.40	5.37	0.23	9.15	9.45	Pass
64	5320	5.89	5.70	0.23	9.03	9.45	Pass
100	5500	-0.51	0.89	0.23	3.48	9.45	Pass
116	5580	4.40	5.51	0.23	8.23	9.45	Pass
140	5700	1.72	1.22	0.23	4.71	9.45	Pass

Note:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $4.54 + 10 \log(2) = 7.55 \text{dBi} > 6 \text{dBi}$, so the limit shall be reduced to $11 - (7.55 - 6) = 9.45 \text{dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

Chan.	Freq. (MHz)	PSD (dBm/MHz)		Duty factor	Total PSD with duty factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
38	5190	-4.49	-4.43	0.41	-1.04	9.45	Pass
46	5230	0.16	-0.47	0.41	3.28	9.45	Pass
54	5270	0.29	-0.03	0.41	3.55	9.45	Pass
62	5310	-5.00	-4.93	0.41	-1.54	9.45	Pass
102	5510	-5.43	-4.14	0.41	-1.32	9.45	Pass
110	5550	-0.25	0.44	0.41	3.53	9.45	Pass
134	5670	-0.23	-0.92	0.41	2.86	9.45	Pass

Note:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $4.54 + 10 \log(2) = 7.55 \text{dBi} > 6 \text{dBi}$, so the limit shall be reduced to $11 - (7.55 - 6) = 9.45 \text{dBm}$.
3. Refer to section 3.3 for duty cycle spectrum plot.

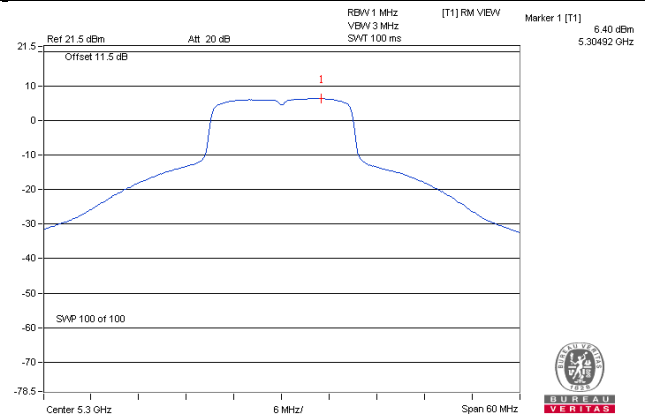
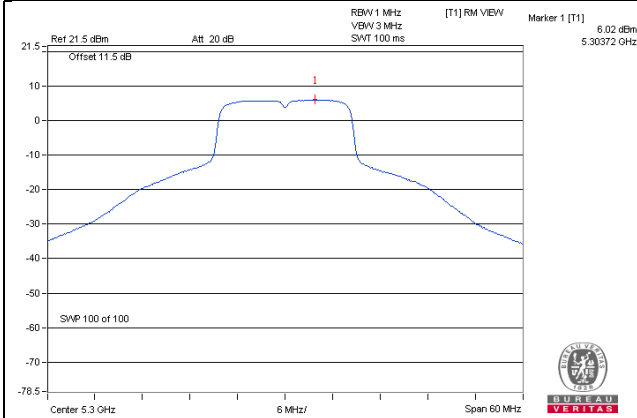


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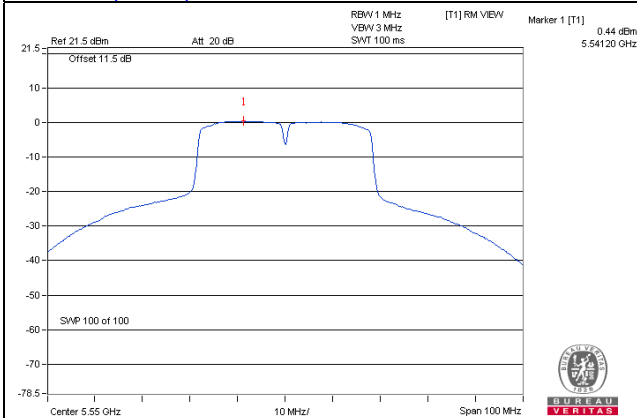
SPECTRUM PLOT OF WORST VALUE

802.11a / Chain 0 / CH 60

802.11n(HT20) / Chain 0 / Ch 60



802.11n (HT40) / Chain 0 / CH 110



For U-NII-3 Band

802.11a

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	149	5745	-4.08	-1.86	3.01	0.13	1.28	28.45	Pass
	157	5785	-4.31	-2.09	3.01	0.13	1.05	28.45	Pass
	165	5825	-3.88	-1.66	3.01	0.13	1.48	28.45	Pass
1	149	5745	-5.03	-2.81	3.01	0.13	0.33	28.45	Pass
	157	5785	-3.58	-1.36	3.01	0.13	1.78	28.45	Pass
	165	5825	-2.90	-0.68	3.01	0.13	2.46	28.45	Pass

Note:

1. Directional gain = $4.54 + 10 \log(2) = 7.55 \text{dBi} > 6 \text{dBi}$, so the power density limit shall be reduced to $30 - (7.55 - 6) = 28.45 \text{dBm}$.

2. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	149	5745	-4.44	-2.22	3.01	0.23	1.02	28.45	Pass
	157	5785	-5.02	-2.80	3.01	0.23	0.44	28.45	Pass
	165	5825	-4.20	-1.98	3.01	0.23	1.26	28.45	Pass
1	149	5745	-5.16	-2.94	3.01	0.23	0.30	28.45	Pass
	157	5785	-4.94	-2.72	3.01	0.23	0.52	28.45	Pass
	165	5825	-4.05	-1.83	3.01	0.23	1.41	28.45	Pass

Note:

1. Directional gain = $4.54 + 10 \log(2) = 7.55 \text{dBi} > 6 \text{dBi}$, so the power density limit shall be reduced to $30 - (7.55 - 6) = 28.45 \text{dBm}$.

2. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=2) dB	Duty factor	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	151	5755	-5.83	-3.61	3.01	0.41	-0.19	28.45	Pass
	159	5795	-6.53	-4.31	3.01	0.41	-0.89	28.45	Pass
1	151	5755	-5.90	-3.68	3.01	0.41	-0.26	28.45	Pass
	159	5795	-5.54	-3.32	3.01	0.41	0.10	28.45	Pass

Note:

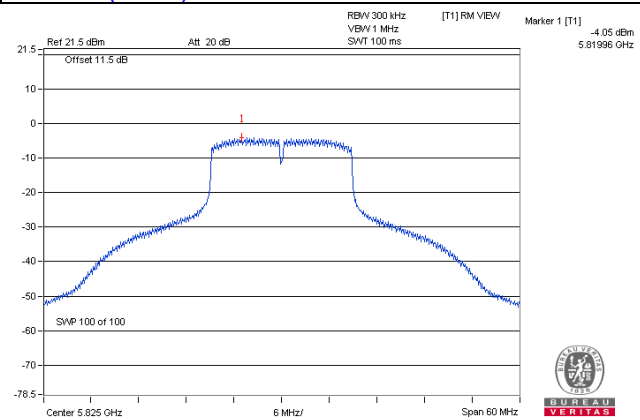
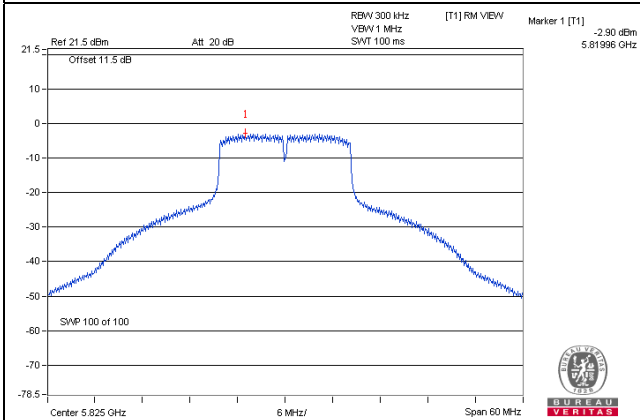
1. Directional gain = $4.54 + 10 \log(2) = 7.55 \text{dBi} > 6 \text{dBi}$, so the power density limit shall be reduced to $30 - (7.55 - 6) = 28.45 \text{dBm}$.

2. Refer to section 3.3 for duty cycle spectrum plot.

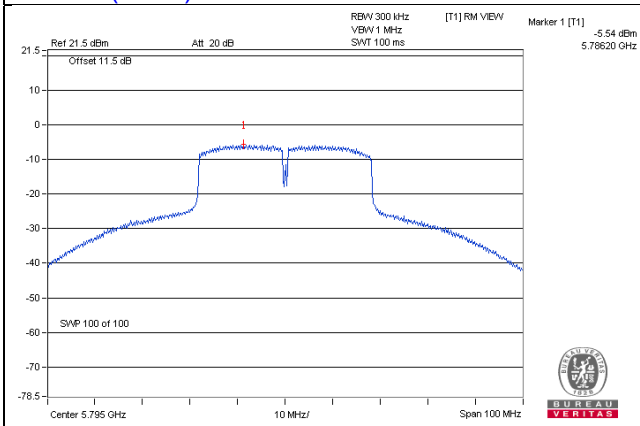
SPECTRUM PLOT OF WORST VALUE

802.11a

802.11n (HT20)



802.11n (HT40)

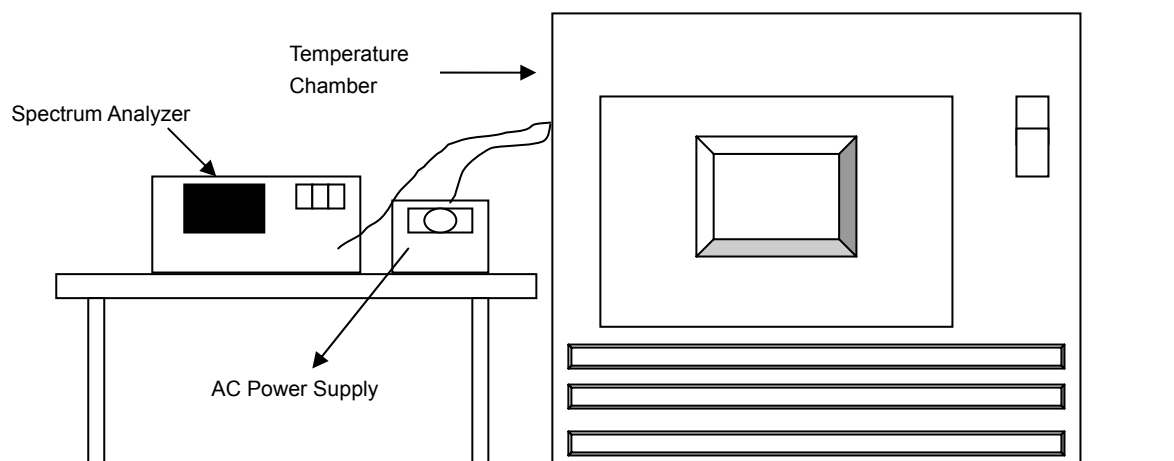


4.5 Frequency Stability

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

802.11a

FREQUENCY STABILITY VERSUS TEMP.									
OPERATING FREQUENCY: 5180MHz									
TEMP. (°C)	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	5179.9953	-0.00009	5179.9947	-0.00010	5179.9943	-0.00011	5179.9949	-0.00010
40	120	5180.0096	0.00019	5180.0123	0.00024	5180.0096	0.00019	5180.0117	0.00023
30	120	5179.9874	-0.00024	5179.9881	-0.00023	5179.9862	-0.00027	5179.9872	-0.00025
20	120	5179.9832	-0.00032	5179.9796	-0.00039	5179.9810	-0.00037	5179.9810	-0.00037
10	120	5180.0098	0.00019	5180.0093	0.00018	5180.0115	0.00022	5180.0113	0.00022
0	120	5179.9884	-0.00022	5179.9880	-0.00023	5179.9865	-0.00026	5179.9889	-0.00021
-10	120	5180.0201	0.00039	5180.0191	0.00037	5180.0191	0.00037	5180.0184	0.00036
-20	120	5179.9955	-0.00009	5179.9915	-0.00016	5179.9924	-0.00015	5179.9939	-0.00012
-30	120	5180.0147	0.00028	5180.0148	0.00029	5180.0152	0.00029	5180.0157	0.00030

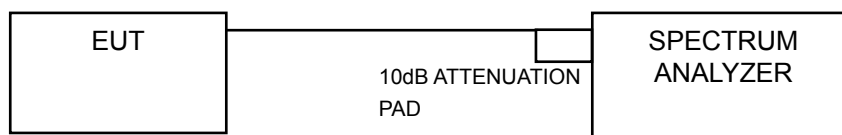
FREQUENCY STABILITY VERSUS VOLTAGE									
OPERATING FREQUENCY: 5180MHz									
TEMP. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
20	138	5179.9823	-0.00034	5179.9788	-0.00041	5179.9814	-0.00036	5179.9816	-0.00036
	120	5179.9832	-0.00032	5179.9796	-0.00039	5179.9810	-0.00037	5179.9810	-0.00037
	102	5179.9827	-0.00033	5179.9803	-0.00038	5179.9808	-0.00037	5179.9812	-0.00036

4.6 6dB Bandwidth Measurement

4.6.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

- Set resolution bandwidth (RBW) = 100kHz
- Set the video bandwidth (VBW) $\geq 3 \times$ RBW, Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	16.34	16.34	0.5	Pass
157	5785	16.33	16.37	0.5	Pass
165	5825	16.36	16.36	0.5	Pass

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
149	5745	16.32	16.67	0.5	Pass
157	5785	16.34	16.57	0.5	Pass
165	5825	16.34	17.00	0.5	Pass

802.11n (HT40)

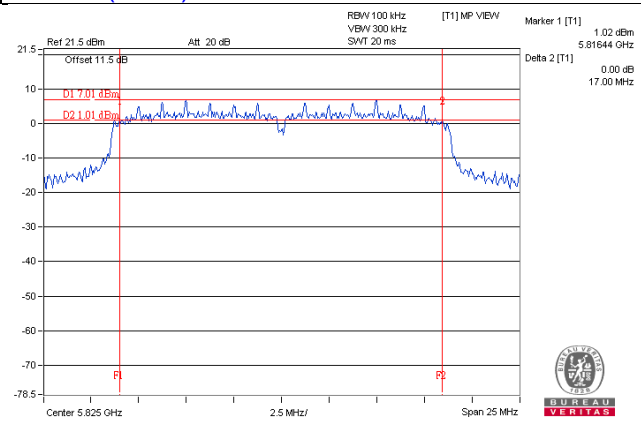
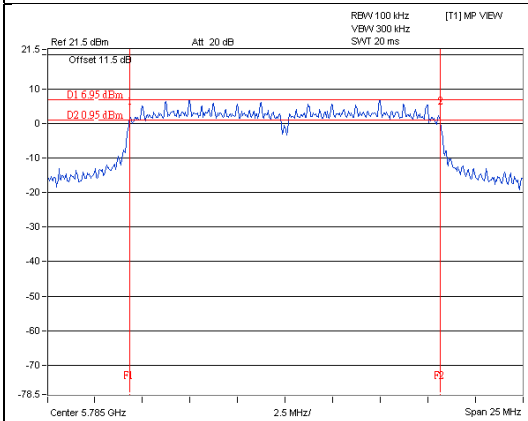
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
151	5755	35.56	35.23	0.5	Pass
159	5795	36.14	35.19	0.5	Pass



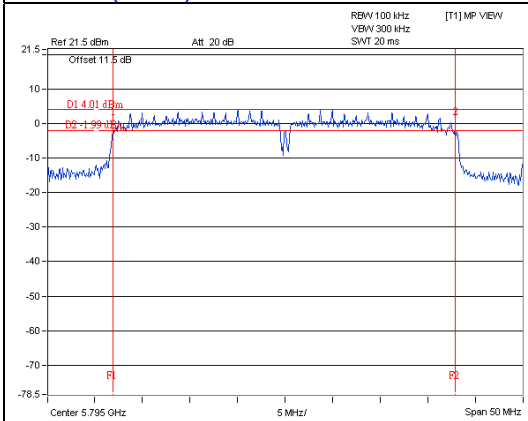
SPECTRUM PLOT OF WORST VALUE

802.11a

802.11n (HT20)



802.11n (HT40)



5 Pictures of Test Arrangements

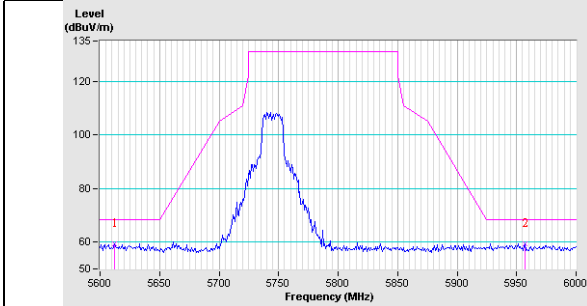
Please refer to the attached file (Test Setup Photo).

Annex A- Radiated Out of Band Emission (OOBE) Measurement (For U-NII-3 band)

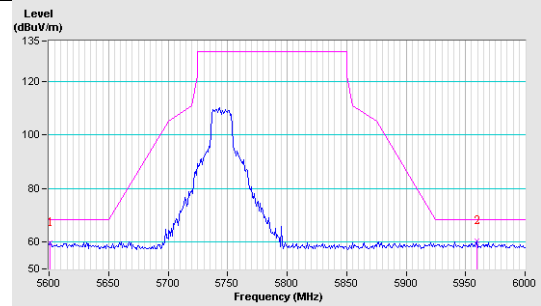
802.11a

CH149

Horizontal

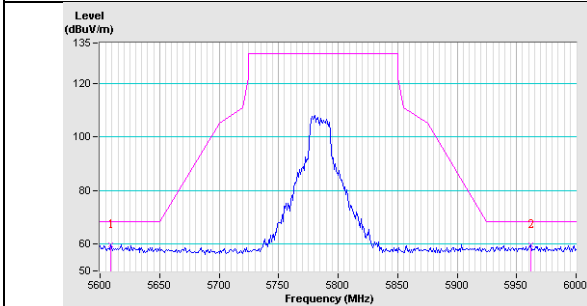


Vertical

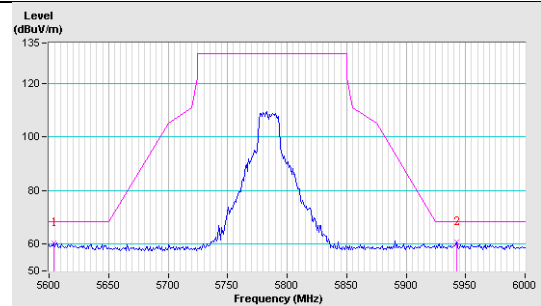


CH157

Horizontal

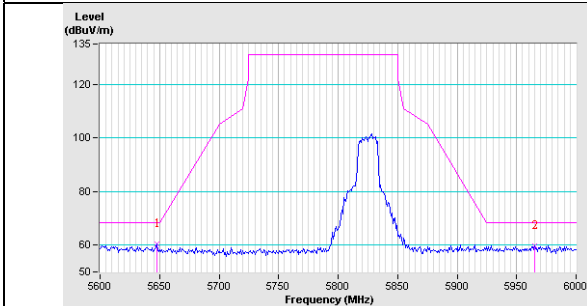


Vertical

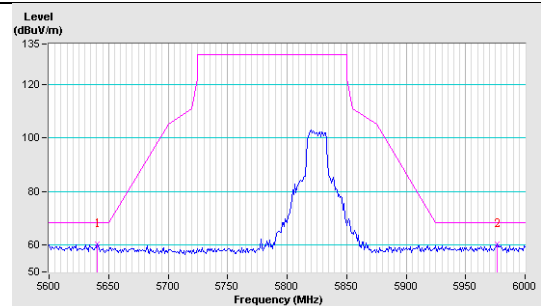


CH165

Horizontal



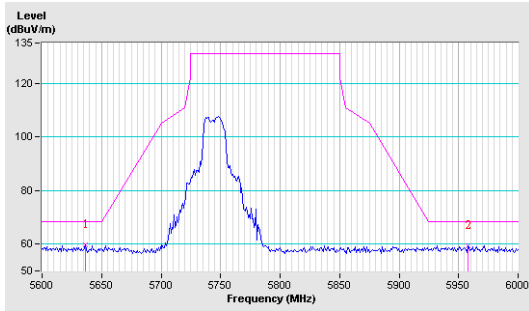
Vertical



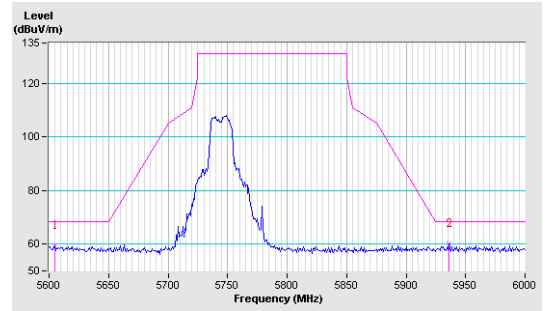
802.11n (HT20)

CH149

Horizontal

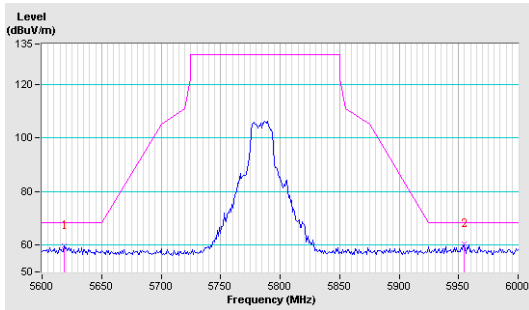


Vertical

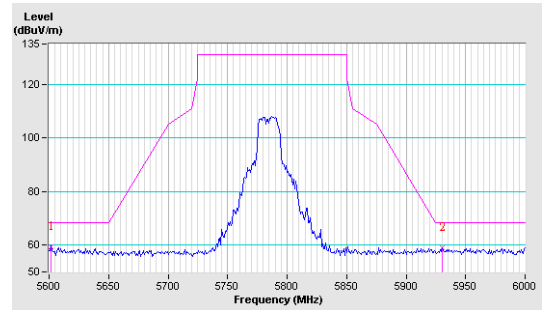


CH157

Horizontal

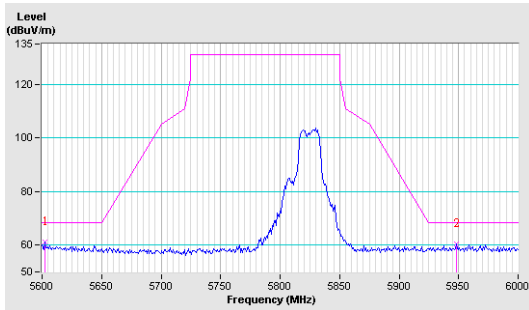


Vertical

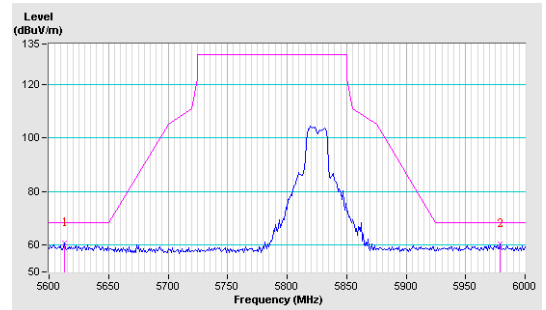


CH165

Horizontal



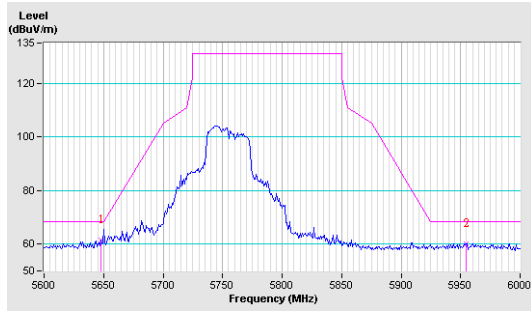
Vertical



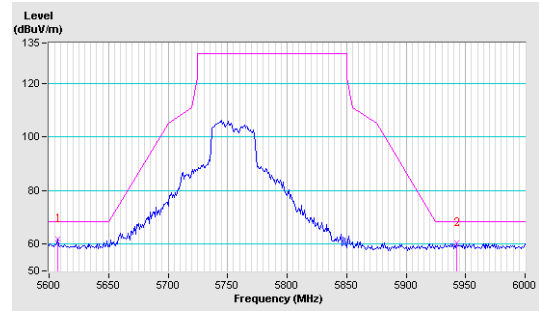
802.11n (HT40)

CH151

Horizontal

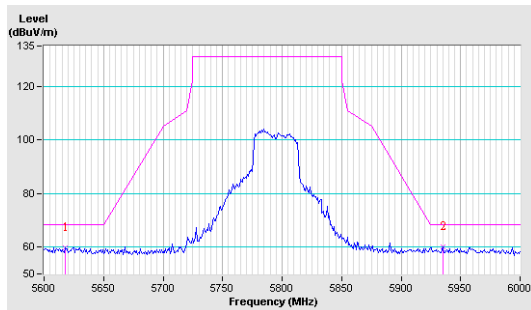


Vertical

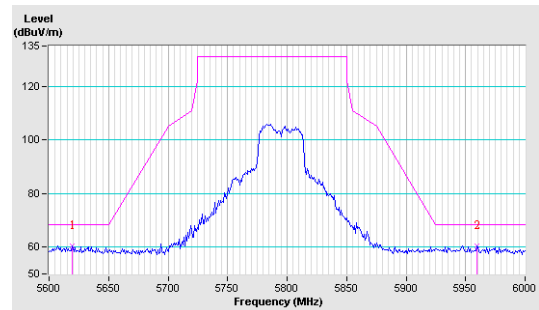


CH159

Horizontal



Vertical



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:

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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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