FCC Test Report

Report No.:	RF171002C21
FCC ID:	KA2WL6610APB1
Test Model:	DWL-6610AP
Received Date:	Oct. 02, 2017
Test Date:	Nov. 13, 2017 ~ Dec. 29, 2017
Issued Date:	Jan. 11, 2018
Applicant:	D-Link Corporation
Address:	17595 Mt. Herrmann, Fountain Valley, California, United States, 92708
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C)
Test Location (1):	No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.
FCC Registration / Designation Number:	788550 / TW0003

Testing Laboratory
2021

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Release Control Record

Issue No.	Description	Date Issued
RF171002C21	Original Release	Jan. 11, 2018

1 Certificate of Conformity

Product:	Unified AC Concurrent Dual-band PoE Access Point
Brand:	D-Link
Test Model:	DWL-6610AP
Sample Status:	Identical Prototype
Applicant:	D-Link Corporation
Test Date:	Nov. 13, 2017 ~ Dec. 29, 2017
Standards:	47 CFR FCC Part 15, Subpart E (Section 15.407) ANSI C63.10:2013

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

Prepared by : Vera Huang , **Date:** Jan. 11, 2018

Vera Huang / Specialist

Approved by : , **Date:** Jan. 11, 2018

Dylan Chiou / Project Engineer

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 -13.62 dB at 0.16173 MHz.
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 -1.0 dB at 5350.00 MHz and 5470.00 MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6 dB Bandwidth	N/A	Not Support U-NII-3 Band
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	No antenna connector is used.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expended Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150 kHz ~ 30 MHz	2.44 dB
Radiated Emissions up to 1 GHz	30 MHz ~ 200 MHz	2.93 dB
	200 MHz ~1000 MHz	2.95 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	2.26 dB
	18 GHz ~ 40 GHz	1.94 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Unified AC Concurrent Dual-band PoE Access Point
Brand	D-Link
Test Model	DWL-6610AP
Status of EUT	Identical Prototype
Power Supply Rating	12 Vdc (adapter)
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0 Mbps 802.11n: up to 300 Mbps 802.11ac: up to 867 Mbps
Operating Frequency	5260 ~ 5320 MHz, 5500 ~ 5700 MHz
Number of Channel	5260 ~ 5320 MHz: 4 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 1 for 802.11ac (VHT80) 5500 ~ 5700 MHz: 11 for 802.11a, 802.11n (HT20) 5 for 802.11n (HT40) 2 for 802.11ac (VHT80)
Output Power	**CDD Mode:** 218.564 mW for 5260 ~ 5320 MHz 231.468 mW for 5500 ~ 5700 MHz **Beamforming Mode:** 182.268 mW for 5260 ~ 5320 MHz 175.817 mW for 5500 ~ 5700 MHz
Antenna Type	PIFA antenna with 4 dBi gain (5260 ~ 5320 MHz) PIFA antenna with 4 dBi gain (5500 ~ 5700 MHz)
Antenna Connector	N/A
Accessory Device	Refer to Note as below
Data Cable Supplied	Refer to Note as below

Note:

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

Modulation Mode	CDD Mode	Beamforming Mode	Tx Function
802.11a	Support	Not Support	2TX
802.11n (HT20)	Support	Support	2TX
802.11n (HT40)	Support	Support	2TX
802.11ac (VHT80)	Support	Support	2TX

   * The modulation and bandwidth are similar for 802.11n mode for HT20 / HT40 and 802.11ac mode for VHT20 / VHT40, therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

2. The EUT contains following accessory devices.

Product	Brand	Model	Description
Adapter	GLOBAL YEOU DIANN	AMS115-1201500FU	I/P: 100-240 Vac, 50/60 Hz, 0.8 A O/P: 12 Vdc, 1.5 A

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 5260 ~ 5320 MHz

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

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

2 channels are provided for 802.11n (HT40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
54	5270	62	5310

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
58	5290

For 5500 ~ 5700 MHz

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

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

5 channels are provided for 802.11n (HT40):

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

2 channels are provided for 802.11ac (VHT80):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
106	5530	122	5610

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 1 GHz **RE<1G:** Radiated Emission below 1 GHz
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**.
2. "-" means no effect.

Radiated Emission Test (Above 1 GHz):

☒ 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	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5260-5320	802.11a	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-		802.11n (HT20)	52 to 64	52, 60, 64	OFDM	BPSK	MCS0
-		802.11n (HT40)	54 to 62	54, 62	OFDM	BPSK	MCS0
-		802.11ac (VHT80)	58	58	OFDM	BPSK	MCS0
-	5500-5700	802.11a	100 to 140	100, 116, 140	OFDM	BPSK	6.0
-		802.11n (HT20)	100 to 140	100, 116, 140	OFDM	BPSK	MCS0
-		802.11n (HT40)	102 to 134	102, 110, 134	OFDM	BPSK	MCS0
-		802.11ac (VHT80)	106 to 122	106, 122	OFDM	BPSK	MCS0

Radiated Emission Test (Below 1 GHz):

☒ 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	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5260-5320	802.11a	52 to 64	52	OFDM	BPSK	6.0
-	5500-5700	802.11a	100 to 140		OFDM	BPSK	6.0

Power Line Conducted Emission Test:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5260-5320	802.11a	52 to 64	52	OFDM	BPSK	6.0
-	5500-5700	802.11a	100 to 140		OFDM	BPSK	6.0

Antenna Port Conducted Measurement:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5260-5320	802.11a	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-		802.11n (HT20)	52 to 64	52, 60, 64	OFDM	BPSK	MCS0
-		802.11n (HT40)	54 to 62	54, 62	OFDM	BPSK	MCS0
-		802.11ac (VHT80)	58	58	OFDM	BPSK	MCS0
-	5500-5700	802.11a	100 to 140	100, 116, 140	OFDM	BPSK	6.0
-		802.11n (HT20)	100 to 140	100, 116, 140	OFDM	BPSK	MCS0
-		802.11n (HT40)	102 to 134	102, 110, 134	OFDM	BPSK	MCS0
-		802.11ac (VHT80)	106 to 122	106, 122	OFDM	BPSK	MCS0

Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested by
RE≥1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Luis Lee
RE<1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Luis Lee
PLC	25 deg. C, 65 % RH	120 Vac, 60 Hz	Jones Chang
APCM	25 deg. C, 65 % RH	120 Vac, 60 Hz	Carlos Chen

3.3 Duty Cycle of Test Signal

MODULATION TYPE: BPSK

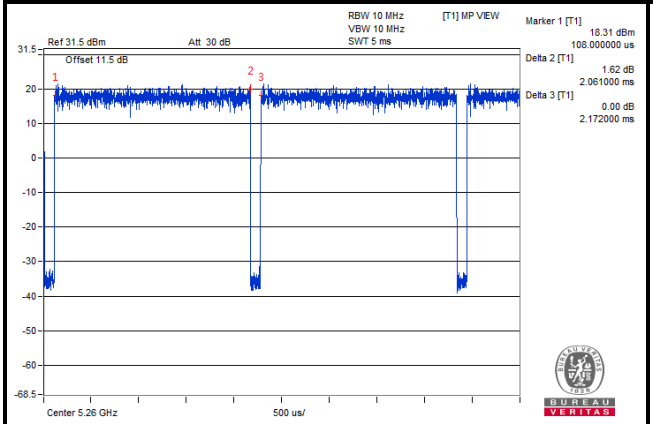
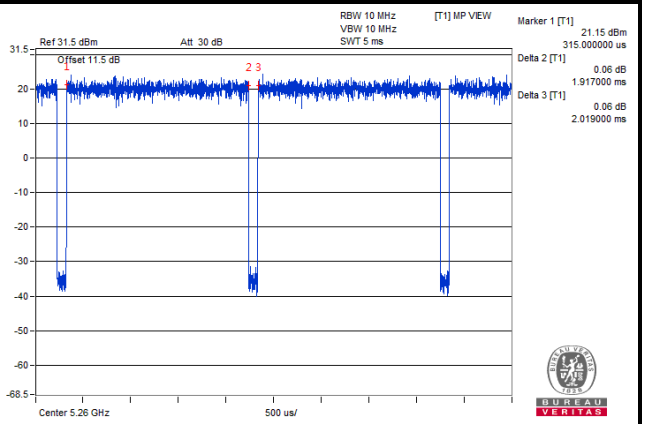
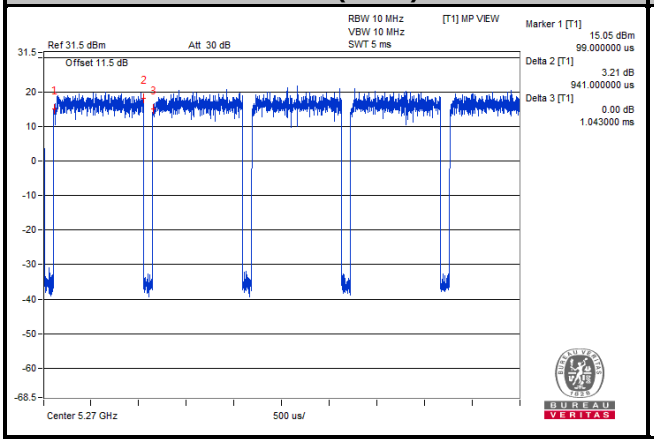
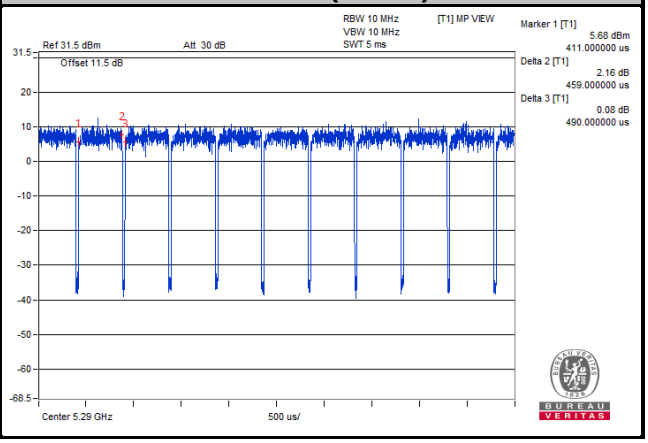
Duty cycle of test signal is < 98 %, duty factor is required.

802.11a: Duty cycle = 2.061/2.172 = 0.949, Duty factor = 10 * log(1/0.949) = 0.23

802.11n (HT20): Duty cycle = 1.917/2.019 = 0.949, Duty factor = 10 * log(1/0.949) = 0.23

802.11n (HT40): Duty cycle = 0.941/1.043 = 0.902, Duty factor = 10 * log(1/0.902) = 0.45

802.11ac (VHT80): Duty cycle = 0.459/0.490 = 0.937, Duty factor = 10 * log(1/0.937) = 0.28

802.11a	802.11n (HT20)
	
802.11n (HT40)	**802.11ac (VHT80)**
	

3.4 Description of Support Units

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

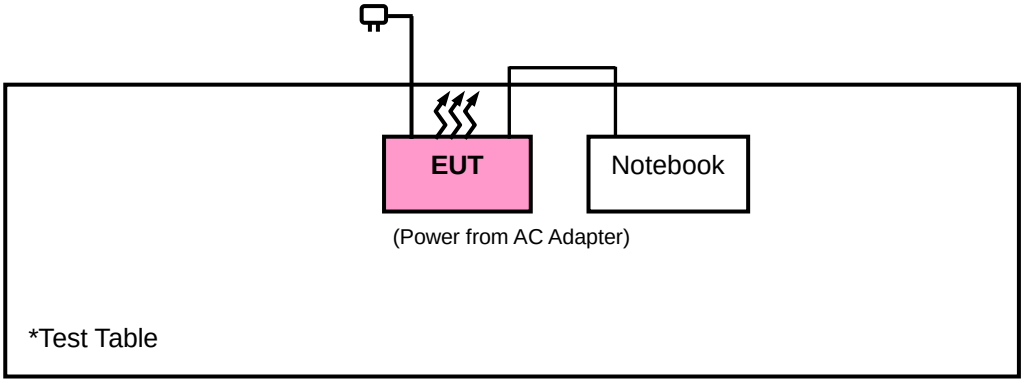
No.	Product	Brand	Model No.	Serial No.	FCC ID
1.	Notebook	DELL	E5430	2RL3YW1	N/A

No.	Signal Cable Description Of The Above Support Units
1.	N/A

Note:

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

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards

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

FCC Part 15, Subpart E (15.407)
789033 D02 General UNII Test Procedures New Rules v02r01
644545 D01 Guidance for IEEE 802 11ac v01r02
662911 D01 Multiple Transmitter Output v02r01
ANSI C63.10-2013

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

Note: The EUT has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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 1000 MHz, 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 20 dB under any condition of modulation.

4.1.2 Limits of Unwanted Emission Out of the Restricted Bands

Applicable To		Limit	
789033 D02 General UNII Test Procedures New Rules v02r01		Field Strength at 3 m	
		PK: 74 (dBμV/m)	AV: 54 (dBμV/m)
Frequency Band	**Applicable To**	**EIRP Limit**	**Equivalent Field Strength at 3 m**
5150~5250 MHz	15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	15.407(b)(4)(i)	PK:-27 (dBm/MHz) *1 PK:10 (dBm/MHz) *2 PK:15.6 (dBm/MHz) *3 PK:27 (dBm/MHz) *4	PK: 68.2 (dBμV/m) *1 PK:105.2 (dBμV/m) *2 PK: 110.8 (dBμV/m) *3 PK:122.2 (dBμV/m) *4
	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:

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

4.1.3 Test Instruments

Description & Manaufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Oct. 17, 2017	Oct. 16, 2018
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Aug. 18, 2017	Aug. 17, 2018
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Dec. 28, 2016	Dec. 27, 2017
			Dec. 11, 2017	Dec. 10, 2018
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-1170	Dec. 15, 2016	Dec. 14, 2017
			Dec. 13, 2017	Dec. 12, 2018
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Dec. 14, 2016	Dec. 13, 2017
			Dec. 01, 2017	Nov. 30, 2018
Loop Antenna EMCI	EM-6879	269	Aug. 11, 2017	Aug. 10, 2018
Preamplifier Agilent (Below 1GHz)	8447D	2944A10631	Aug. 08, 2017	Aug. 07, 2018
Preamplifier Agilent (Above 1GHz)	8449B	3008A01960	Aug. 08, 2017	Aug. 07, 2018
RF signal cable HUBER+SUHNER	SUCOFLEX 104	MY 13380+295012/04	Aug. 08, 2017	Aug. 07, 2018
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH4-03 (250724)	Aug. 08, 2017	Aug. 07, 2018
Software BV ADT	ADT_Radiated_V7.6.15.9.4	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	010303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021703	NA	NA
Turn Table BV ADT	TT100	TT93021703	NA	NA
Turn Table Controller BV ADT	SC100	SC93021703	NA	NA
26GHz ~ 40GHz Amplifier Agilent	8449B	3008A1960	Aug. 08, 2017	Aug. 07, 2018
High Speed Peak Power Meter	ML2495A	0824012	Aug. 18, 2017	Aug. 17, 2018
Power Sensor	MA2411B	0738171	Aug. 18, 2017	Aug. 17, 2018

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 4.
3. The FCC Designation Number is TW0003. The number will be varied with the Lab location and scope as attached.
4. The IC Site Registration No. is IC7450F-4.

4.1.4 Test Procedures

a. The EUT was placed on the top of a rotating table 0.8 meters (for below 1 GHz) / 1.5 meters (for above 1 GHz) 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 detected 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:

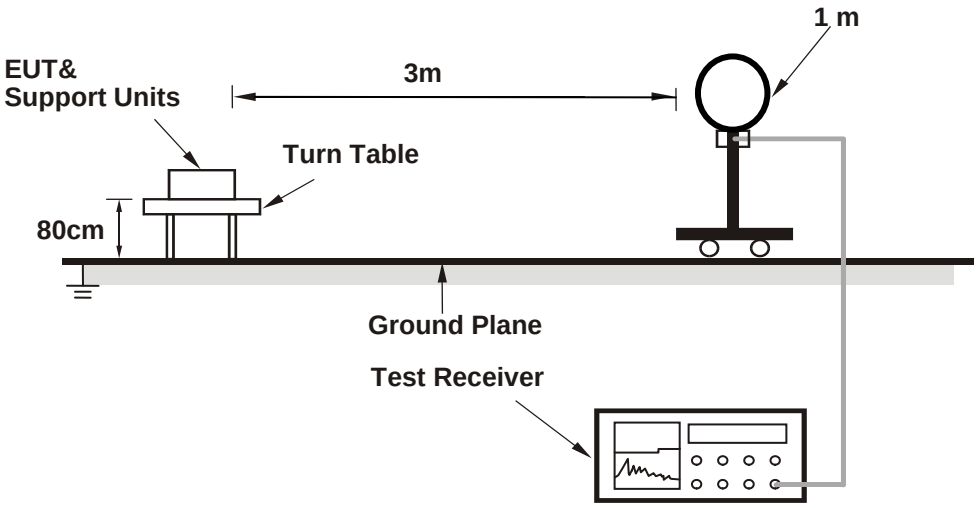
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz & 360 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 1/T for Average (Duty cycle < 98 %) detection at frequency above 1 GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz (Duty cycle ≥ 98 %) for Average detection (AV) at frequency above 1 GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

4.1.5 Deviation from Test Standard

No deviation.

4.1.6 Test Set Up

<Radiated emission below 30 MHz>



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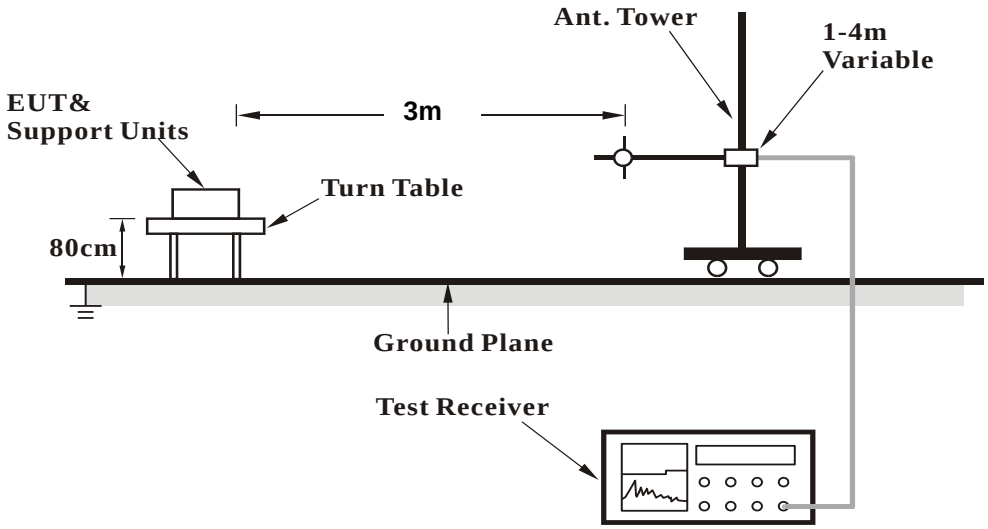
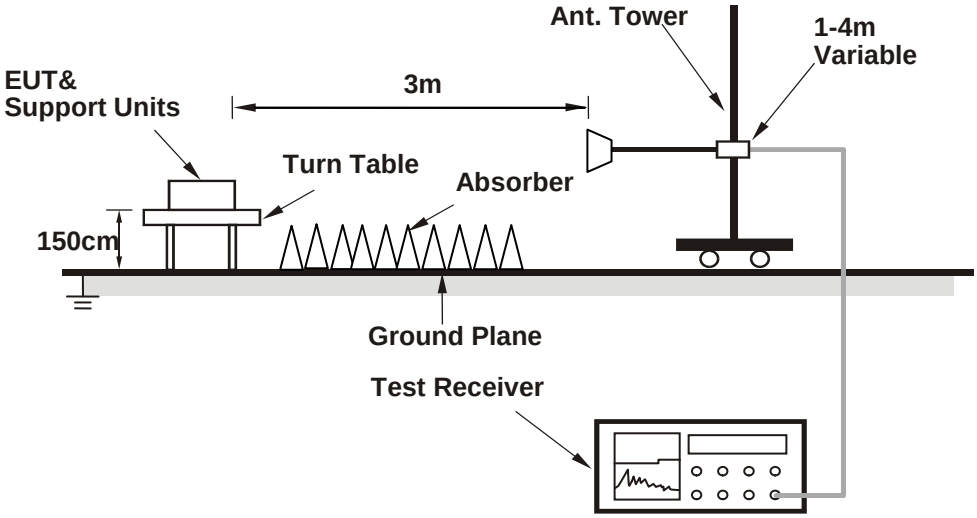


<Frequency Range above 1 GHz>



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

4.1.7 EUT Operating Conditions

a. Placed the EUT on a testing table.
b. Use the software to control the EUT under transmission condition continuously at specific channel frequency.

4.1.8 Test Results

Above 1 GHz Data：

CDD Mode

802.11a

CHANNEL	TX Channel 52	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	5150.00	59.8 PK	74.0	-14.2	3.28 H	297	52.4	7.4
2	5150.00	46.8 AV	54.0	-7.2	3.28 H	297	39.4	7.4
3	*5260.00	114.4 PK			3.22 H	300	72.9	41.5
4	*5260.00	105.0 AV			3.22 H	300	63.5	41.5
5	#10520.00	62.9 PK	74.0	-11.1	3.25 H	309	42.6	20.3
6	#10520.00	51.0 AV	54.0	-3.0	3.25 H	309	30.7	20.3
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	5150.00	58.4 PK	74.0	-15.6	3.28 V	345	51.0	7.4
2	5150.00	45.6 AV	54.0	-8.4	3.28 V	345	38.2	7.4
3	*5260.00	111.7 PK			3.14 V	353	70.2	41.5
4	*5260.00	102.1 AV			3.14 V	353	60.6	41.5
5	#10520.00	61.8 PK	74.0	-12.2	1.69 V	254	41.5	20.3
6	#10520.00	49.2 AV	54.0	-4.8	1.69 V	254	28.9	20.3

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 60	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	*5300.00	114.4 PK			3.53 H	298	72.8	41.6
2	*5300.00	104.3 AV			3.53 H	298	62.7	41.6
3	10600.00	64.1 PK	74.0	-9.9	2.41 H	225	43.3	20.8
4	10600.00	50.6 AV	54.0	-3.4	2.41 H	225	29.8	20.8
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	*5300.00	113.0 PK			4.00 V	19	71.4	41.6
2	*5300.00	103.3 AV			4.00 V	19	61.7	41.6
3	10600.00	62.6 PK	74.0	-11.4	1.92 V	233	41.8	20.8
4	10600.00	49.5 AV	54.0	-4.5	1.92 V	233	28.7	20.8

REMARKS:

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

CHANNEL	TX Channel 64	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	*5320.00	113.8 PK			3.23 H	291	72.2	41.6
2	*5320.00	104.2 AV			3.23 H	291	62.6	41.6
3	5350.00	68.8 PK	74.0	-5.2	3.30 H	299	60.8	8.0
4	5350.00	53.0 AV	54.0	-1.0	3.30 H	299	45.0	8.0
5	10640.00	64.1 PK	74.0	-9.9	2.67 H	251	43.3	20.8
6	10640.00	50.9 AV	54.0	-3.1	2.67 H	251	30.1	20.8
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	*5320.00	113.1 PK			3.98 V	21	71.5	41.6
2	*5320.00	103.2 AV			3.98 V	21	61.6	41.6
3	5350.00	65.1 PK	74.0	-8.9	3.57 V	17	57.1	8.0
4	5350.00	49.8 AV	54.0	-4.2	3.57 V	17	41.8	8.0
5	10640.00	63.3 PK	74.0	-10.7	1.75 V	254	42.5	20.8
6	10640.00	50.0 AV	54.0	-4.0	1.75 V	254	29.2	20.8

REMARKS:

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

CHANNEL	TX Channel 100	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	5460.00	64.1 PK	74.0	-9.9	2.59 H	311	55.9	8.2
2	5460.00	49.0 AV	54.0	-5.0	2.59 H	311	40.8	8.2
3	#5470.00	68.7 PK	74.0	-5.3	2.48 H	314	60.5	8.2
4	#5470.00	52.6 AV	54.0	-1.4	2.48 H	314	44.4	8.2
5	*5500.00	113.5 PK			2.51 H	316	71.5	42.0
6	*5500.00	103.1 AV			2.51 H	316	61.1	42.0
7	11000.00	64.7 PK	74.0	-9.3	2.67 H	223	43.3	21.4
8	11000.00	51.6 AV	54.0	-2.4	2.67 H	223	30.2	21.4
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	61.3 PK	74.0	-12.7	1.00 V	332	53.1	8.2
2	5460.00	48.2 AV	54.0	-5.8	1.00 V	332	40.0	8.2
3	#5470.00	64.6 PK	74.0	-9.4	1.00 V	334	56.4	8.2
4	#5470.00	51.3 AV	54.0	-2.7	1.00 V	334	43.1	8.2
5	*5500.00	109.7 PK			1.00 V	335	67.7	42.0
6	*5500.00	99.9 AV			1.00 V	335	57.9	42.0
7	11000.00	61.8 PK	74.0	-12.2	1.20 V	330	40.4	21.4
8	11000.00	49.7 AV	54.0	-4.3	1.20 V	330	28.3	21.4

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

CHANNEL	TX Channel 116	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	*5580.00	113.4 PK			2.69 H	315	71.2	42.2
2	*5580.00	103.6 AV			2.69 H	315	61.4	42.2
3	11160.00	64.8 PK	74.0	-9.2	2.94 H	213	43.3	21.5
4	11160.00	51.6 AV	54.0	-2.4	2.94 H	213	30.1	21.5
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	*5580.00	109.2 PK			1.01 V	331	67.0	42.2
2	*5580.00	99.8 AV			1.01 V	331	57.6	42.2
3	11160.00	63.1 PK	74.0	-10.9	1.10 V	220	41.6	21.5
4	11160.00	49.8 AV	54.0	-4.2	1.10 V	220	28.3	21.5

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 140	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	*5700.00	112.2 PK			3.31 H	305	69.7	42.5
2	*5700.00	102.4 AV			3.31 H	305	59.9	42.5
3	#5725.00	69.0 PK	74.0	-5.0	2.91 H	306	60.3	8.7
4	#5725.00	52.5 AV	54.0	-1.5	2.91 H	306	43.8	8.7
5	11400.00	64.3 PK	74.0	-9.7	2.31 H	255	42.8	21.5
6	11400.00	51.4 AV	54.0	-2.6	2.31 H	255	29.9	21.5
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	108.3 PK			1.00 V	350	65.8	42.5
2	*5700.00	98.8 AV			1.00 V	350	56.3	42.5
3	#5725.00	65.7 PK	74.0	-8.3	1.12 V	343	57.0	8.7
4	#5725.00	52.0 AV	54.0	-2.0	1.12 V	343	43.3	8.7
5	11400.00	64.0 PK	74.0	-10.0	1.30 V	255	42.5	21.5
6	11400.00	50.8 AV	54.0	-3.2	1.30 V	255	29.3	21.5

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.

802.11n (HT20)

CHANNEL	TX Channel 52	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	5150.00	60.5 PK	74.0	-13.5	3.36 H	314	53.1	7.4
2	5150.00	46.7 AV	54.0	-7.3	3.36 H	314	39.3	7.4
3	*5260.00	113.7 PK			3.25 H	302	72.2	41.5
4	*5260.00	103.7 AV			3.25 H	302	62.2	41.5
5	#10520.00	63.2 PK	74.0	-10.8	2.77 H	213	42.9	20.3
6	#10520.00	49.9 AV	54.0	-4.1	2.77 H	213	29.6	20.3
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	5150.00	58.6 PK	74.0	-15.4	3.87 V	24	51.2	7.4
2	5150.00	45.9 AV	54.0	-8.1	3.87 V	24	38.5	7.4
3	*5260.00	113.0 PK			3.99 V	31	71.5	41.5
4	*5260.00	103.2 AV			3.99 V	31	61.7	41.5
5	#10520.00	61.5 PK	74.0	-12.5	1.68 V	269	41.2	20.3
6	#10520.00	48.8 AV	54.0	-5.2	1.68 V	269	28.5	20.3

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 60	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	*5300.00	113.8 PK			2.55 H	313	72.2	41.6
2	*5300.00	103.8 AV			2.55 H	313	62.2	41.6
3	10600.00	64.0 PK	74.0	-10.0	2.72 H	321	43.2	20.8
4	10600.00	50.9 AV	54.0	-3.1	2.72 H	321	30.1	20.8
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	*5300.00	112.3 PK			3.79 V	28	70.7	41.6
2	*5300.00	102.6 AV			3.79 V	28	61.0	41.6
3	10600.00	62.6 PK	74.0	-11.4	1.86 V	274	41.8	20.8
4	10600.00	49.7 AV	54.0	-4.3	1.86 V	274	28.9	20.8

REMARKS:

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

CHANNEL	TX Channel 64	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	*5320.00	112.9 PK			2.81 H	306	71.3	41.6
2	*5320.00	103.2 AV			2.81 H	306	61.6	41.6
3	5350.00	71.8 PK	74.0	-2.2	2.96 H	310	63.8	8.0
4	5350.00	52.8 AV	54.0	-1.2	2.96 H	310	44.8	8.0
5	10640.00	64.0 PK	74.0	-10.0	2.39 H	287	43.2	20.8
6	10640.00	51.1 AV	54.0	-2.9	2.39 H	287	30.3	20.8
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	*5320.00	111.7 PK			3.88 V	27	70.1	41.6
2	*5320.00	101.7 AV			3.88 V	27	60.1	41.6
3	5350.00	69.5 PK	74.0	-4.5	4.00 V	32	61.5	8.0
4	5350.00	51.5 AV	54.0	-2.5	4.00 V	32	43.5	8.0
5	10640.00	62.9 PK	74.0	-11.1	2.44 V	187	42.1	20.8
6	10640.00	50.0 AV	54.0	-4.0	2.44 V	187	29.2	20.8

REMARKS:

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

CHANNEL	TX Channel 100	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	5460.00	63.3 PK	74.0	-10.7	3.05 H	318	55.1	8.2
2	5460.00	49.1 AV	54.0	-4.9	3.05 H	318	40.9	8.2
3	#5470.00	72.3 PK	74.0	-1.7	3.03 H	309	64.1	8.2
4	#5470.00	53.0 AV	54.0	-1.0	3.03 H	309	44.8	8.2
5	*5500.00	113.4 PK			3.13 H	310	71.4	42.0
6	*5500.00	103.2 AV			3.13 H	310	61.2	42.0
7	11000.00	64.2 PK	74.0	-9.8	2.19 H	228	42.8	21.4
8	11000.00	51.3 AV	54.0	-2.7	2.19 H	228	29.9	21.4
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	61.0 PK	74.0	-13.0	1.00 V	339	52.8	8.2
2	5460.00	47.6 AV	54.0	-6.4	1.00 V	339	39.4	8.2
3	#5470.00	70.6 PK	74.0	-3.4	1.00 V	345	62.4	8.2
4	#5470.00	52.2 AV	54.0	-1.8	1.00 V	345	44.0	8.2
5	*5500.00	110.7 PK			3.63 V	360	68.7	42.0
6	*5500.00	100.7 AV			3.63 V	360	58.7	42.0
7	11000.00	63.4 PK	74.0	-10.6	1.55 V	241	42.0	21.4
8	11000.00	49.9 AV	54.0	-4.1	1.55 V	241	28.5	21.4

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

CHANNEL	TX Channel 116	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	*5580.00	113.5 PK			3.10 H	307	71.3	42.2
2	*5580.00	103.5 AV			3.10 H	307	61.3	42.2
3	11160.00	64.6 PK	74.0	-9.4	2.36 H	297	43.1	21.5
4	11160.00	51.4 AV	54.0	-2.6	2.36 H	297	29.9	21.5
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	*5580.00	112.0 PK			3.71 V	10	69.8	42.2
2	*5580.00	102.2 AV			3.71 V	10	60.0	42.2
3	11160.00	63.3 PK	74.0	-10.7	3.60 V	138	41.8	21.5
4	11160.00	50.8 AV	54.0	-3.2	3.60 V	138	29.3	21.5

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 140	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	*5700.00	111.4 PK			3.19 H	308	68.9	42.5
2	*5700.00	101.3 AV			3.19 H	308	58.8	42.5
3	#5725.00	69.6 PK	74.0	-4.4	3.47 H	304	60.9	8.7
4	#5725.00	52.6 AV	54.0	-1.4	3.47 H	304	43.9	8.7
5	11400.00	64.0 PK	74.0	-10.0	2.54 H	289	42.5	21.5
6	11400.00	50.8 AV	54.0	-3.2	2.54 H	289	29.3	21.5
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	110.2 PK			3.66 V	12	67.7	42.5
2	*5700.00	100.2 AV			3.66 V	12	57.7	42.5
3	#5725.00	67.5 PK	74.0	-6.5	3.44 V	303	58.8	8.7
4	#5725.00	51.2 AV	54.0	-2.8	3.44 V	303	42.5	8.7
5	11400.00	63.1 PK	74.0	-10.9	3.60 V	255	41.6	21.5
6	11400.00	50.3 AV	54.0	-3.7	3.60 V	255	28.8	21.5

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.

802.11n (HT40)

CHANNEL	TX Channel 54	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	5150.00	59.6 PK	74.0	-14.4	2.83 H	312	52.2	7.4
2	5150.00	46.6 AV	54.0	-7.4	2.83 H	312	39.2	7.4
3	*5270.00	109.0 PK			2.86 H	307	67.5	41.5
4	*5270.00	99.7 AV			2.86 H	307	58.2	41.5
5	#10540.00	63.6 PK	74.0	-10.4	2.49 H	218	43.1	20.5
6	#10540.00	50.4 AV	54.0	-3.6	2.49 H	218	29.9	20.5
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	5150.00	58.7 PK	74.0	-15.3	3.89 V	40	51.3	7.4
2	5150.00	46.1 AV	54.0	-7.9	3.89 V	40	38.7	7.4
3	*5270.00	107.4 PK			3.87 V	18	65.9	41.5
4	*5270.00	98.6 AV			3.87 V	18	57.1	41.5
5	#10540.00	61.7 PK	74.0	-12.3	1.66 V	298	41.2	20.5
6	#10540.00	49.6 AV	54.0	-4.4	1.66 V	298	29.1	20.5

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 62	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	*5310.00	109.1 PK			2.87 H	316	67.5	41.6
2	*5310.00	97.4 AV			2.87 H	316	55.8	41.6
3	5350.00	71.9 PK	74.0	-2.1	2.94 H	312	63.9	8.0
4	5350.00	52.9 AV	54.0	-1.1	2.94 H	312	44.9	8.0
5	10620.00	63.5 PK	74.0	-10.5	2.44 H	285	42.7	20.8
6	10620.00	50.5 AV	54.0	-3.5	2.44 H	285	29.7	20.8
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	*5310.00	106.7 PK			4.00 V	22	65.1	41.6
2	*5310.00	96.5 AV			4.00 V	22	54.9	41.6
3	5350.00	67.2 PK	74.0	-6.8	4.00 V	29	59.2	8.0
4	5350.00	50.5 AV	54.0	-3.5	4.00 V	29	42.5	8.0
5	10620.00	61.9 PK	74.0	-12.1	1.94 V	247	41.1	20.8
6	10620.00	49.4 AV	54.0	-4.6	1.94 V	247	28.6	20.8

REMARKS:

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

CHANNEL	TX Channel 102	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	5460.00	61.8 PK	74.0	-12.2	3.35 H	301	53.6	8.2
2	5460.00	47.6 AV	54.0	-6.4	3.35 H	301	39.4	8.2
3	#5470.00	69.2 PK	74.0	-4.8	3.21 H	296	61.0	8.2
4	#5470.00	52.3 AV	54.0	-1.7	3.21 H	296	44.1	8.2
5	*5510.00	104.9 PK			3.18 H	308	62.9	42.0
6	*5510.00	94.8 AV			3.18 H	308	52.8	42.0
7	11020.00	64.0 PK	74.0	-10.0	2.88 H	249	42.7	21.3
8	11020.00	50.9 AV	54.0	-3.1	2.88 H	249	29.6	21.3
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	61.4 PK	74.0	-12.6	1.62 V	297	53.2	8.2
2	5460.00	47.4 AV	54.0	-6.6	1.62 V	297	39.2	8.2
3	#5470.00	66.2 PK	74.0	-7.8	1.09 V	341	58.0	8.2
4	#5470.00	48.4 AV	54.0	-5.6	1.09 V	341	40.2	8.2
5	*5510.00	102.7 PK			1.00 V	331	60.7	42.0
6	*5510.00	92.3 AV			1.00 V	331	50.3	42.0
7	11020.00	62.8 PK	74.0	-11.2	1.41 V	298	41.5	21.3
8	11020.00	50.2 AV	54.0	-3.8	1.41 V	298	28.9	21.3

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 110	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	*5550.00	109.0 PK			3.13 H	306	66.8	42.2
2	*5550.00	99.0 AV			3.13 H	306	56.8	42.2
3	11100.00	64.5 PK	74.0	-9.5	2.65 H	241	43.2	21.3
4	11100.00	51.1 AV	54.0	-2.9	2.65 H	241	29.8	21.3
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	*5550.00	106.8 PK			3.41 V	359	64.6	42.2
2	*5550.00	96.6 AV			3.41 V	359	54.4	42.2
3	11100.00	63.4 PK	74.0	-10.6	1.64 V	228	42.1	21.3
4	11100.00	49.9 AV	54.0	-4.1	1.64 V	228	28.6	21.3

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.

CHANNEL	TX Channel 134	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	*5670.00	109.2 PK			2.89 H	312	66.8	42.4
2	*5670.00	98.8 AV			2.89 H	312	56.4	42.4
3	#5725.00	65.1 PK	74.0	-8.9	3.02 H	311	56.4	8.7
4	#5725.00	52.5 AV	54.0	-1.5	3.02 H	311	43.8	8.7
5	11340.00	64.7 PK	74.0	-9.3	2.41 H	233	43.2	21.5
6	11340.00	51.4 AV	54.0	-2.6	2.41 H	233	29.9	21.5
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	*5670.00	106.9 PK			3.44 V	359	64.5	42.4
2	*5670.00	96.3 AV			3.44 V	359	53.9	42.4
3	#5725.00	62.3 PK	74.0	-11.7	3.19 V	352	53.6	8.7
4	#5725.00	50.5 AV	54.0	-3.5	3.19 V	352	41.8	8.7
5	11340.00	63.2 PK	74.0	-10.8	1.39 V	258	41.7	21.5
6	11340.00	50.6 AV	54.0	-3.4	1.39 V	258	29.1	21.5

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.

802.11ac (VHT80)

CHANNEL	TX Channel 58	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	5150.00	59.9 PK	74.0	-14.1	2.99 H	305	52.5	7.4
2	5150.00	46.8 AV	54.0	-7.2	2.99 H	305	39.4	7.4
3	*5290.00	103.7 PK			2.61 H	305	62.2	41.5
4	*5290.00	93.7 AV			2.61 H	305	52.2	41.5
5	5350.00	69.4 PK	74.0	-4.6	2.92 H	313	61.4	8.0
6	5350.00	52.7 AV	54.0	-1.3	2.92 H	313	44.7	8.0
7	#10580.00	63.4 PK	74.0	-10.6	2.47 H	277	42.8	20.6
8	#10580.00	50.5 AV	54.0	-3.5	2.47 H	277	29.9	20.6
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	5150.00	58.6 PK	74.0	-15.4	3.24 V	348	51.2	7.4
2	5150.00	46.3 AV	54.0	-7.7	3.24 V	348	38.9	7.4
3	*5290.00	101.7 PK			3.13 V	351	60.2	41.5
4	*5290.00	91.0 AV			3.13 V	351	49.5	41.5
5	5350.00	62.7 PK	74.0	-11.3	3.08 V	355	54.7	8.0
6	5350.00	48.6 AV	54.0	-5.4	3.08 V	355	40.6	8.0
7	#10580.00	62.1 PK	74.0	-11.9	1.87 V	211	41.5	20.6
8	#10580.00	49.4 AV	54.0	-4.6	1.87 V	211	28.8	20.6

REMARKS:

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

CHANNEL	TX Channel 106	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	5460.00	64.7 PK	74.0	-9.3	2.99 H	308	56.5	8.2
2	5460.00	49.8 AV	54.0	-4.2	2.99 H	308	41.6	8.2
3	#5470.00	68.0 PK	74.0	-6.0	2.91 H	303	59.8	8.2
4	#5470.00	52.3 AV	54.0	-1.7	2.91 H	303	44.1	8.2
5	*5530.00	102.4 PK			3.11 H	309	60.3	42.1
6	*5530.00	92.3 AV			3.11 H	309	50.2	42.1
7	#5725.00	59.9 PK	74.0	-14.1	2.88 H	297	51.2	8.7
8	#5725.00	47.9 AV	54.0	-6.1	2.88 H	297	39.2	8.7
9	11060.00	64.1 PK	74.0	-9.9	2.33 H	285	42.8	21.3
10	11060.00	51.0 AV	54.0	-3.0	2.33 H	285	29.7	21.3
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	62.0 PK	74.0	-12.0	3.27 V	354	53.8	8.2
2	5460.00	49.3 AV	54.0	-4.7	3.27 V	354	41.1	8.2
3	#5470.00	66.6 PK	74.0	-7.4	3.48 V	359	58.4	8.2
4	#5470.00	51.8 AV	54.0	-2.2	3.48 V	359	43.6	8.2
5	*5530.00	99.8 PK			3.45 V	3	57.7	42.1
6	*5530.00	89.8 AV			3.45 V	3	47.7	42.1
7	#5725.00	59.7 PK	74.0	-14.3	3.61 V	15	51.0	8.7
8	#5725.00	47.4 AV	54.0	-6.6	3.61 V	15	38.7	8.7
9	11060.00	62.8 PK	74.0	-11.2	2.88 V	157	41.5	21.3
10	11060.00	50.4 AV	54.0	-3.6	2.88 V	157	29.1	21.3

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 122	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	5460.00	60.3 PK	74.0	-13.7	3.19 H	300	52.1	8.2
2	5460.00	48.9 AV	54.0	-5.1	3.19 H	300	40.7	8.2
3	#5470.00	61.5 PK	74.0	-12.5	3.02 H	314	53.3	8.2
4	#5470.00	49.2 AV	54.0	-4.8	3.02 H	314	41.0	8.2
5	*5610.00	107.3 PK			3.04 H	311	65.0	42.3
6	*5610.00	97.2 AV			3.04 H	311	54.9	42.3
7	#5725.00	66.7 PK	74.0	-7.3	3.12 H	305	58.0	8.7
8	#5725.00	52.4 AV	54.0	-1.6	3.12 H	305	43.7	8.7
9	11220.00	64.9 PK	74.0	-9.1	2.48 H	221	43.2	21.7
10	11220.00	51.8 AV	54.0	-2.2	2.48 H	221	30.1	21.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	59.6 PK	74.0	-14.4	3.41 V	355	51.4	8.2
2	5460.00	47.1 AV	54.0	-6.9	3.41 V	355	38.9	8.2
3	#5470.00	62.9 PK	74.0	-11.1	3.32 V	354	54.7	8.2
4	#5470.00	48.8 AV	54.0	-5.2	3.32 V	354	40.6	8.2
5	*5610.00	105.1 PK			3.41 V	3	62.8	42.3
6	*5610.00	94.4 AV			3.41 V	3	52.1	42.3
7	#5725.00	64.0 PK	74.0	-10.0	3.57 V	14	55.3	8.7
8	#5725.00	50.7 AV	54.0	-3.3	3.57 V	14	42.0	8.7
9	11220.00	63.6 PK	74.0	-10.4	2.63 V	314	41.9	21.7
10	11220.00	50.4 AV	54.0	-3.6	2.63 V	314	28.7	21.7

REMARKS:

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

Beamforming Mode

802.11n (HT20)

CHANNEL	TX Channel 52	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	5150.00	63.4 PK	74.0	-10.6	2.55 H	338	56.0	7.4
2	5150.00	49.8 AV	54.0	-4.2	2.55 H	338	42.4	7.4
3	*5260.00	116.8 PK			2.63 H	316	75.3	41.5
4	*5260.00	107.6 AV			2.63 H	316	66.1	41.5
5	#10520.00	50.4 PK	74.0	-23.6	2.97 H	214	30.1	20.3
6	#10520.00	50.1 AV	54.0	-3.9	2.97 H	214	29.8	20.3
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	5150.00	62.2 PK	74.0	-11.8	2.57 V	340	54.8	7.4
2	5150.00	49.2 AV	54.0	-4.8	2.57 V	340	41.8	7.4
3	*5260.00	112.3 PK			2.70 V	355	70.8	41.5
4	*5260.00	102.4 AV			2.70 V	355	60.9	41.5
5	#10520.00	61.4 PK	74.0	-12.6	2.41 V	153	41.1	20.3
6	#10520.00	49.2 AV	54.0	-4.8	2.41 V	153	28.9	20.3

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 60	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	*5300.00	115.7 PK			2.58 H	324	74.1	41.6
2	*5300.00	106.7 AV			2.58 H	324	65.1	41.6
3	10600.00	63.9 PK	74.0	-10.1	2.87 H	211	43.1	20.8
4	10600.00	50.5 AV	54.0	-3.5	2.87 H	211	29.7	20.8
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	*5300.00	111.2 PK			1.15 V	340	69.6	41.6
2	*5300.00	101.5 AV			1.15 V	340	59.9	41.6
3	10600.00	62.3 PK	74.0	-11.7	2.56 V	182	41.5	20.8
4	10600.00	49.5 AV	54.0	-4.5	2.56 V	182	28.7	20.8

REMARKS:

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

CHANNEL	TX Channel 64	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	*5320.00	113.1 PK			2.58 H	314	71.5	41.6
2	*5320.00	103.1 AV			2.58 H	314	61.5	41.6
3	5350.00	67.2 PK	74.0	-6.8	2.55 H	316	59.2	8.0
4	5350.00	52.5 AV	54.0	-1.5	2.55 H	316	44.5	8.0
5	10640.00	63.6 PK	74.0	-10.4	2.41 H	117	42.8	20.8
6	10640.00	50.3 AV	54.0	-3.7	2.41 H	117	29.5	20.8
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	*5320.00	109.5 PK			2.38 V	6	67.9	41.6
2	*5320.00	99.3 AV			2.38 V	6	57.7	41.6
3	5350.00	60.1 PK	74.0	-13.9	2.55 V	357	52.1	8.0
4	5350.00	50.6 AV	54.0	-3.4	2.55 V	357	42.6	8.0
5	10640.00	62.7 PK	74.0	-11.3	2.37 V	188	41.9	20.8
6	10640.00	49.5 AV	54.0	-4.5	2.37 V	188	28.7	20.8

REMARKS:

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

CHANNEL	TX Channel 100	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	5460.00	66.0 PK	74.0	-8.0	2.23 H	305	62.4	3.6
2	5460.00	49.9 AV	54.0	-4.1	2.23 H	305	46.3	3.6
3	#5470.00	69.3 PK	74.0	-4.7	2.32 H	317	65.7	3.6
4	#5470.00	53.0 AV	54.0	-1.0	2.32 H	317	49.4	3.6
5	*5500.00	115.2 PK			2.32 H	312	73.2	42.0
6	*5500.00	105.8 AV			2.32 H	312	63.8	42.0
7	11000.00	64.8 PK	74.0	-9.2	2.05 H	68	48.1	16.7
8	11000.00	52.3 AV	54.0	-1.7	2.05 H	68	35.6	16.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	58.5 PK	74.0	-15.5	3.75 V	9	54.9	3.6
2	5460.00	47.8 AV	54.0	-6.2	3.75 V	9	44.2	3.6
3	#5470.00	66.8 PK	74.0	-7.2	3.71 V	19	63.2	3.6
4	#5470.00	52.5 AV	54.0	-1.5	3.71 V	19	48.9	3.6
5	*5500.00	111.1 PK			3.70 V	19	69.1	42.0
6	*5500.00	101.7 AV			3.70 V	19	59.7	42.0
7	11000.00	61.2 PK	74.0	-12.8	3.54 V	2	44.5	16.7
8	11000.00	50.2 AV	54.0	-3.8	3.54 V	2	33.5	16.7

REMARKS:

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

CHANNEL	TX Channel 116	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	*5580.00	114.0 PK			2.15 H	303	71.8	42.2
2	*5580.00	104.1 AV			2.15 H	303	61.9	42.2
3	11160.00	62.6 PK	74.0	-11.4	1.97 H	67	45.9	16.7
4	11160.00	52.8 AV	54.0	-1.2	1.97 H	67	36.1	16.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	111.6 PK			3.35 V	7	69.4	42.2
2	*5580.00	102.6 AV			3.35 V	7	60.4	42.2
3	11160.00	62.8 PK	74.0	-11.2	3.66 V	36	46.1	16.7
4	11160.00	51.6 AV	54.0	-2.4	3.66 V	36	34.9	16.7

REMARKS:

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

CHANNEL	TX Channel 140	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	*5700.00	111.7 PK			2.14 H	15	69.2	42.5
2	*5700.00	101.8 AV			2.14 H	15	59.3	42.5
3	#5725.00	72.0 PK	74.0	-2.0	2.07 H	358	67.9	4.1
4	#5725.00	52.5 AV	54.0	-1.5	2.07 H	358	48.4	4.1
5	11400.00	63.8 PK	74.0	-10.2	2.15 H	69	47.1	16.7
6	11400.00	52.4 AV	54.0	-1.6	2.15 H	69	35.7	16.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	110.8 PK			3.51 V	14	68.3	42.5
2	*5700.00	100.3 AV			3.51 V	14	57.8	42.5
3	#5725.00	63.2 PK	74.0	-10.8	3.71 V	13	59.1	4.1
4	#5725.00	48.4 AV	54.0	-5.6	3.71 V	13	44.3	4.1
5	11400.00	62.4 PK	74.0	-11.6	3.65 V	335	45.7	16.7
6	11400.00	50.6 AV	54.0	-3.4	3.65 V	335	33.9	16.7

REMARKS:

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

802.11n (HT40)

CHANNEL	TX Channel 54	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	5150.00	62.1 PK	74.0	-11.9	3.52 H	339	54.7	7.4
2	5150.00	50.1 AV	54.0	-3.9	3.52 H	339	42.7	7.4
3	*5270.00	110.8 PK			3.54 H	342	69.3	41.5
4	*5270.00	99.6 AV			3.54 H	342	58.1	41.5
5	#10540.00	63.7 PK	74.0	-10.3	2.56 H	221	43.2	20.5
6	#10540.00	50.3 AV	54.0	-3.7	2.56 H	221	29.8	20.5
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	5150.00	59.2 PK	74.0	-14.8	1.44 V	321	51.8	7.4
2	5150.00	46.3 AV	54.0	-7.7	1.44 V	321	38.9	7.4
3	*5270.00	106.0 PK			1.38 V	352	64.5	41.5
4	*5270.00	98.3 AV			1.38 V	352	56.8	41.5
5	#10540.00	62.1 PK	74.0	-11.9	1.89 V	266	41.6	20.5
6	#10540.00	49.4 AV	54.0	-4.6	1.89 V	266	28.9	20.5

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 62	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	*5310.00	106.3 PK			2.65 H	320	64.7	41.6
2	*5310.00	95.9 AV			2.65 H	320	54.3	41.6
3	5350.00	65.8 PK	74.0	-8.2	2.63 H	321	57.8	8.0
4	5350.00	52.4 AV	54.0	-1.6	2.63 H	321	44.4	8.0
5	10620.00	64.0 PK	74.0	-10.0	2.68 H	302	43.2	20.8
6	10620.00	50.9 AV	54.0	-3.1	2.68 H	302	30.1	20.8
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	*5310.00	104.8 PK			1.39 V	360	63.2	41.6
2	*5310.00	95.3 AV			1.39 V	360	53.7	41.6
3	5350.00	64.2 PK	74.0	-9.8	1.57 V	310	56.2	8.0
4	5350.00	50.1 AV	54.0	-3.9	1.57 V	310	42.1	8.0
5	10620.00	62.1 PK	74.0	-11.9	1.98 V	277	41.3	20.8
6	10620.00	50.2 AV	54.0	-3.8	1.98 V	277	29.4	20.8

REMARKS:

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

CHANNEL	TX Channel 102	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	5460.00	59.8 PK	74.0	-14.2	2.61 H	319	56.2	3.6
2	5460.00	47.8 AV	54.0	-6.2	2.61 H	319	44.2	3.6
3	#5470.00	70.3 PK	74.0	-3.7	2.59 H	322	66.7	3.6
4	#5470.00	52.9 AV	54.0	-1.1	2.59 H	322	49.3	3.6
5	*5510.00	106.2 PK			2.50 H	330	64.2	42.0
6	*5510.00	96.8 AV			2.50 H	330	54.8	42.0
7	11020.00	61.9 PK	74.0	-12.1	2.53 H	66	45.4	16.5
8	11020.00	50.7 AV	54.0	-3.3	2.53 H	66	34.2	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	5460.00	59.1 PK	74.0	-14.9	3.55 V	17	55.5	3.6
2	5460.00	46.8 AV	54.0	-7.2	3.55 V	17	43.2	3.6
3	#5470.00	63.1 PK	74.0	-10.9	3.48 V	10	59.5	3.6
4	#5470.00	49.5 AV	54.0	-4.5	3.48 V	10	45.9	3.6
5	*5510.00	105.1 PK			3.62 V	8	63.1	42.0
6	*5510.00	95.0 AV			3.62 V	8	53.0	42.0
7	11020.00	61.2 PK	74.0	-12.8	3.54 V	5	44.7	16.5
8	11020.00	49.9 AV	54.0	-4.1	3.54 V	5	33.4	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 110	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	*5550.00	110.2 PK			2.40 H	300	68.0	42.2
2	*5550.00	100.3 AV			2.40 H	300	58.1	42.2
3	11100.00	63.0 PK	74.0	-11.0	2.34 H	65	46.5	16.5
4	11100.00	52.0 AV	54.0	-2.0	2.34 H	65	35.5	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	*5550.00	109.4 PK			3.52 V	13	67.2	42.2
2	*5550.00	99.2 AV			3.52 V	13	57.0	42.2
3	11100.00	62.2 PK	74.0	-11.8	3.49 V	3	45.7	16.5
4	11100.00	49.9 AV	54.0	-4.1	3.49 V	3	33.4	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 134	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	*5670.00	112.3 PK			3.23 H	317	69.9	42.4
2	*5670.00	101.9 AV			3.23 H	317	59.5	42.4
3	#5725.00	65.9 PK	74.0	-8.1	3.12 H	321	61.8	4.1
4	#5725.00	52.9 AV	54.0	-1.1	3.12 H	321	48.8	4.1
5	11340.00	63.5 PK	74.0	-10.5	2.67 H	69	46.8	16.7
6	11340.00	52.2 AV	54.0	-1.8	2.67 H	69	35.5	16.7
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	108.6 PK			3.47 V	16	66.2	42.4
2	*5670.00	97.6 AV			3.47 V	16	55.2	42.4
3	#5725.00	61.5 PK	74.0	-12.5	3.24 V	11	57.4	4.1
4	#5725.00	50.6 AV	54.0	-3.4	3.24 V	11	46.5	4.1
5	11340.00	61.7 PK	74.0	-12.3	2.99 V	4	45.0	16.7
6	11340.00	50.0 AV	54.0	-4.0	2.99 V	4	33.3	16.7

REMARKS:

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

802.11ac (VHT80)

CHANNEL	TX Channel 58	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	5150.00	63.1 PK	74.0	-10.9	3.55 H	271	55.7	7.4
2	5150.00	49.6 AV	54.0	-4.4	3.55 H	271	42.2	7.4
3	*5290.00	106.9 PK			2.92 H	298	65.4	41.5
4	*5290.00	93.9 AV			2.92 H	298	52.4	41.5
5	5350.00	66.2 PK	74.0	-7.8	3.48 H	294	58.2	8.0
6	5350.00	52.6 AV	54.0	-1.4	3.48 H	294	44.6	8.0
7	#10580.00	66.2 PK	74.0	-7.8	2.47 H	225	45.6	20.6
8	#10580.00	52.9 AV	54.0	-1.1	2.47 H	225	32.3	20.6
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	5150.00	58.8 PK	74.0	-15.2	1.57 V	341	51.4	7.4
2	5150.00	48.1 AV	54.0	-5.9	1.57 V	341	40.7	7.4
3	*5290.00	104.9 PK			1.68 V	352	63.4	41.5
4	*5290.00	89.3 AV			1.68 V	352	47.8	41.5
5	5350.00	64.5 PK	74.0	-9.5	1.29 V	309	56.5	8.0
6	5350.00	50.8 AV	54.0	-3.2	1.29 V	309	42.8	8.0
7	#10580.00	62.4 PK	74.0	-11.6	3.11 V	187	41.8	20.6
8	#10580.00	50.7 AV	54.0	-3.3	3.11 V	187	30.1	20.6

REMARKS:

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

CHANNEL	TX Channel 106	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	5460.00	66.4 PK	74.0	-7.6	2.74 H	317	62.8	3.6
2	5460.00	50.1 AV	54.0	-3.9	2.74 H	317	46.5	3.6
3	#5470.00	69.8 PK	74.0	-4.2	2.88 H	325	66.2	3.6
4	#5470.00	52.8 AV	54.0	-1.2	2.88 H	325	49.2	3.6
5	*5530.00	105.6 PK			2.71 H	321	63.5	42.1
6	*5530.00	95.8 AV			2.71 H	321	53.7	42.1
7	#5725.00	58.5 PK	74.0	-15.5	3.01 H	331	54.4	4.1
8	#5725.00	45.9 AV	54.0	-8.1	3.01 H	331	41.8	4.1
9	11060.00	62.1 PK	74.0	-11.9	2.64 H	68	45.6	16.5
10	11060.00	51.2 AV	54.0	-2.8	2.64 H	68	34.7	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	5460.00	63.4 PK	74.0	-10.6	3.51 V	340	59.8	3.6
2	5460.00	49.4 AV	54.0	-4.6	3.51 V	340	45.8	3.6
3	#5470.00	65.1 PK	74.0	-8.9	3.56 V	358	61.5	3.6
4	#5470.00	51.3 AV	54.0	-2.7	3.56 V	358	47.7	3.6
5	*5530.00	102.2 PK			3.49 V	355	60.1	42.1
6	*5530.00	92.1 AV			3.49 V	355	50.0	42.1
7	#5725.00	56.9 PK	74.0	-17.1	3.66 V	9	52.8	4.1
8	#5725.00	45.2 AV	54.0	-8.8	3.66 V	9	41.1	4.1
9	11060.00	60.8 PK	74.0	-13.2	2.89 V	17	44.3	16.5
10	11060.00	49.5 AV	54.0	-4.5	2.89 V	17	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 122	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	5460.00	63.4 PK	74.0	-10.6	2.54 H	320	59.8	3.6
2	5460.00	48.5 AV	54.0	-5.5	2.54 H	320	44.9	3.6
3	#5470.00	64.7 PK	74.0	-9.3	2.60 H	331	61.1	3.6
4	#5470.00	50.4 AV	54.0	-3.6	2.60 H	331	46.8	3.6
5	*5610.00	110.0 PK			2.34 H	324	67.7	42.3
6	*5610.00	98.8 AV			2.34 H	324	56.5	42.3
7	#5725.00	59.9 PK	74.0	-14.1	2.85 H	301	55.8	4.1
8	#5725.00	46.1 AV	54.0	-7.9	2.85 H	301	42.0	4.1
9	11220.00	63.8 PK	74.0	-10.2	2.55 H	67	46.8	17.0
10	11220.00	52.8 AV	54.0	-1.2	2.55 H	67	35.8	17.0
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	5460.00	62.4 PK	74.0	-11.6	3.38 V	9	58.8	3.6
2	5460.00	48.6 AV	54.0	-5.4	3.38 V	9	45.0	3.6
3	#5470.00	64.0 PK	74.0	-10.0	3.49 V	18	60.4	3.6
4	#5470.00	49.3 AV	54.0	-4.7	3.49 V	18	45.7	3.6
5	*5610.00	106.2 PK			3.44 V	12	63.9	42.3
6	*5610.00	95.7 AV			3.44 V	12	53.4	42.3
7	#5725.00	58.7 PK	74.0	-15.3	3.33 V	350	54.6	4.1
8	#5725.00	45.3 AV	54.0	-8.7	3.33 V	350	41.2	4.1
9	11220.00	61.8 PK	74.0	-12.2	3.17 V	344	44.8	17.0
10	11220.00	50.6 AV	54.0	-3.4	3.17 V	344	33.6	17.0

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.

9 kHz ~ 30 MHz Data:

The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

30 MHz ~ 1 GHz Worst-Case Data:

802.11a

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	45.42	28.5 QP	40.0	-11.5	1.50 H	7	43.2	-14.7
2	97.81	33.4 QP	43.5	-10.1	2.00 H	63	52.1	-18.7
3	138.56	35.8 QP	43.5	-7.7	1.01 H	217	50.1	-14.3
4	202.60	31.9 QP	43.5	-11.6	1.01 H	134	48.1	-16.2
5	534.40	37.8 QP	46.0	-8.2	1.50 H	294	45.7	-7.9
6	730.38	38.4 QP	46.0	-7.6	1.50 H	94	41.8	-3.4
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	45.42	35.0 QP	40.0	-5.0	1.00 V	9	49.7	-14.7
2	99.75	25.3 QP	43.5	-18.2	2.00 V	167	43.8	-18.5
3	138.56	35.5 QP	43.5	-8.0	2.00 V	149	49.8	-14.3
4	534.40	39.0 QP	46.0	-7.0	1.00 V	270	46.9	-7.9
5	730.38	38.6 QP	46.0	-7.4	1.00 V	277	42.0	-3.4
6	936.07	36.4 QP	46.0	-9.6	2.00 V	161	36.2	0.2

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

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 0.50 MHz.

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date Of Calibration	Due Date Of Calibration
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Nov. 21, 2016	Nov. 20, 2017
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond1-01	Sep. 05, 2017	Sep. 04, 2018
LISN/AMN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Mar. 10, 2017	Mar. 09, 2018
LISN/AMN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 15, 2017	Aug. 14, 2018
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. Test date: 2017/11/16

4.2.3 Test Procedures

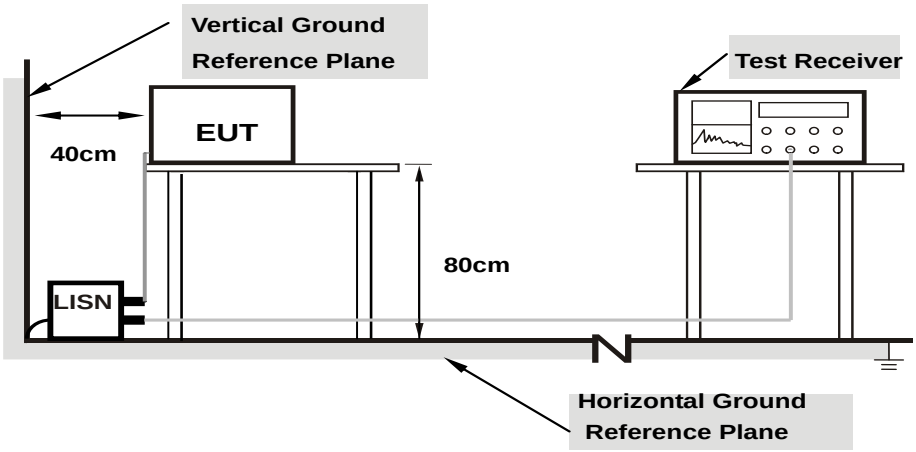
a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

Note: All modes of operation were investigated and the worst-case emissions are reported.

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



Note: 1.Support units were connected to second LISN.
2.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

a. Placed the EUT on a testing table.
b. Use the software to control the EUT under transmission condition continuously at specific channel frequency.

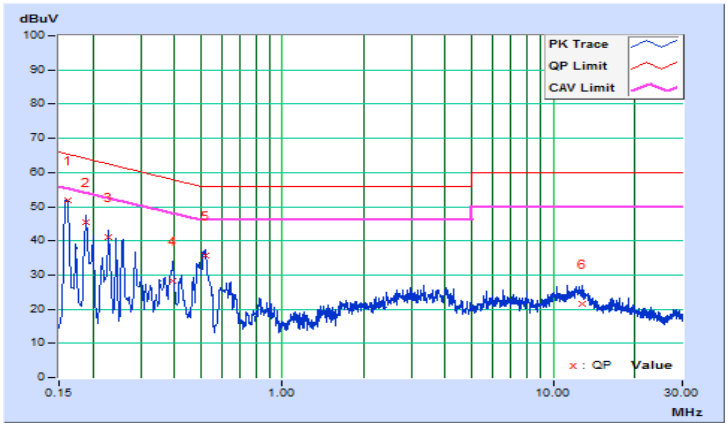
4.2.7 Test Results

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25℃, 75%RH
Tested by	Jones Chang	Test Date	2017/11/16
Test Mode	Mode 1		

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.16173**	**10.45**	**41.30**	**30.89**	**51.75**	**41.34**	**65.37**	**55.37**	**-13.62**	**-14.03**
2	0.18910	10.45	35.10	23.92	45.55	34.37	64.08	54.08	-18.53	-19.71
3	0.22820	10.46	30.63	20.91	41.09	31.37	62.51	52.51	-21.42	-21.14
4	0.39635	10.51	17.78	10.36	28.29	20.87	57.93	47.93	-29.64	-27.06
5	0.52145	10.51	25.34	20.86	35.85	31.37	56.00	46.00	-20.15	-14.63
6	12.78321	11.07	10.40	5.12	21.47	16.19	60.00	50.00	-38.53	-33.81

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

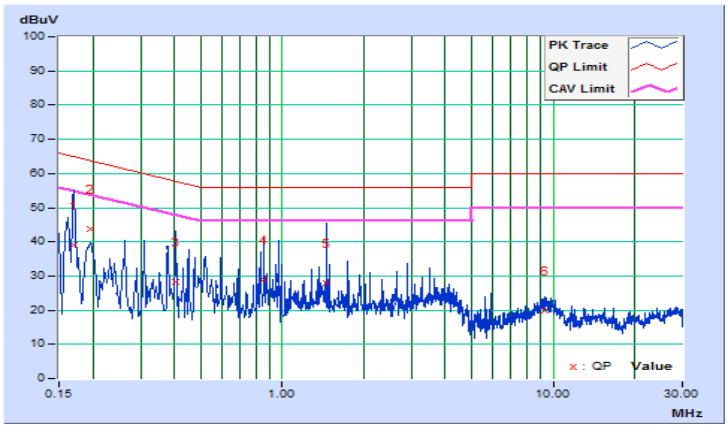


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25℃, 75%RH
Tested by	Jones Chang	Test Date	2017/11/16
Test Mode	Mode 1		

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16955	10.21	28.86	13.05	39.07	23.26	64.98	54.98	-25.91	-31.72
2	0.19665	10.22	33.58	23.99	43.80	34.21	63.75	53.75	-19.95	-19.54
3	0.40415	10.24	17.93	1.55	28.17	11.79	57.77	47.77	-29.60	-35.98
4	0.85380	10.26	18.72	4.15	28.98	14.41	56.00	46.00	-27.02	-31.59
5	1.45985	10.29	17.69	2.55	27.98	12.84	56.00	46.00	-28.02	-33.16
6	9.33459	10.64	9.30	4.28	19.94	14.92	60.00	50.00	-40.06	-35.08

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 Measurment

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 ≦ 125 mW (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	250 mW (24 dBm)
U-NII-2A	√		250 mW (24 dBm) or 11 dBm + 10 log B*
U-NII-2C	√		250 mW (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 $N_{ANT} \leq 4$;

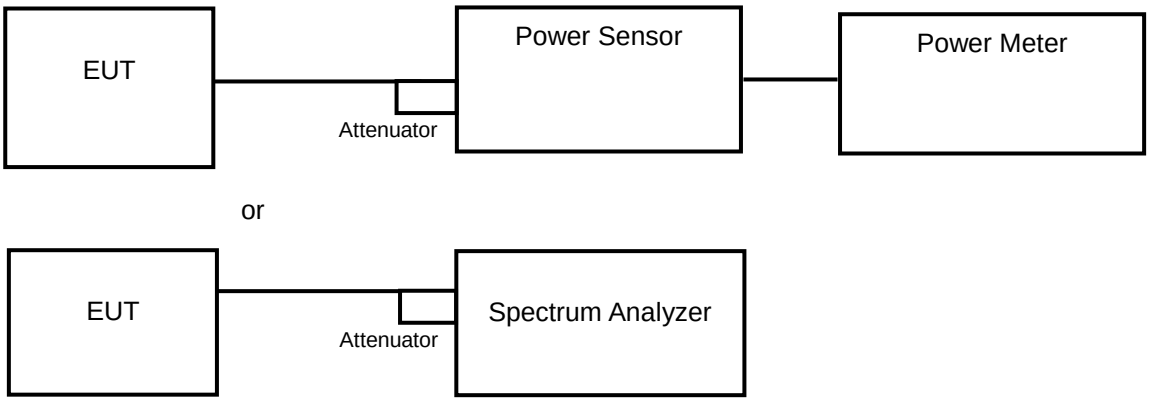
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};

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

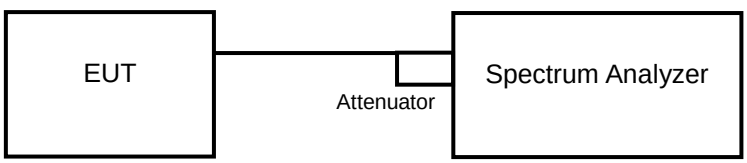
For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

4.3.2 Test Setup

<Power Output Measurement>



<26 dB Bandwidth>



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

Average Power Measurement

<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.

<802.11ac (VHT80)>

Method SA-1 is used to perform output power measurement, trigger and gating function of spectrum analyzer is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

26 dB 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 %.

4.3.5 Deviation fromTest Standard

No deviation.

4.3.6 EUT Operating Conditions

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

4.3.7 Test Result

Power Output:

CDD Mode

802.11a

Channel	Frequency (MHz)	Maximum Cunducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
52	5260	17.65	17.80	118.466	20.74	24	Pass
60	5300	18.18	18.48	136.235	21.34	24	Pass
64	5320	18.13	18.88	142.281	21.53	24	Pass
100	5500	17.71	18.55	130.634	21.16	24	Pass
116	5580	17.75	18.70	133.697	21.26	24	Pass
140	5700	18.48	18.92	148.452	21.72	24	Pass

Note:

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

Chain 0

1. 11 dBm + 10log (26.26) = 25.19 dBm > 24 dBm.
2. 11 dBm + 10log (26.04) = 25.16 dBm > 24 dBm.
3. 11 dBm + 10log (24.78) = 24.94 dBm > 24 dBm.
4. 11 dBm + 10log (29.00) = 25.62 dBm > 24 dBm.
5. 11 dBm + 10log (28.54) = 25.55 dBm > 24 dBm.
6. 11 dBm + 10log (21.84) = 24.39 dBm > 24 dBm.

Chain 1

1. 11 dBm + 10log (29.91) = 25.76 dBm > 24 dBm.
2. 11 dBm + 10log (29.78) = 25.74 dBm > 24 dBm.
3. 11 dBm + 10log (29.71) = 25.73 dBm > 24 dBm.
4. 11 dBm + 10log (37.15) = 26.70 dBm > 24 dBm.
5. 11 dBm + 10log (37.03) = 26.69 dBm > 24 dBm.
6. 11 dBm + 10log (21.77) = 24.38 dBm > 24 dBm.

802.11n (HT20)

Channel	Frequency (MHz)	Maximum Cunducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
52	5260	18.93	19.11	159.633	22.03	24	Pass
60	5300	18.91	19.32	163.311	22.13	24	Pass
64	5320	18.81	19.44	163.935	22.15	24	Pass
100	5500	18.15	18.95	143.837	21.58	24	Pass
116	5580	18.89	19.24	161.392	22.08	24	Pass
140	5700	18.44	18.80	145.681	21.63	24	Pass

Note:

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

Chain 0

1. 11 dBm + 10log (38.17) = 26.82 dBm > 24 dBm.
2. 11 dBm + 10log (42.22) = 27.26 dBm > 24 dBm.
3. 11 dBm + 10log (41.12) = 27.14 dBm > 24 dBm.
4. 11 dBm + 10log (41.52) = 27.18 dBm > 24 dBm.
5. 11 dBm + 10log (43.53) = 27.39 dBm > 24 dBm.
6. 11 dBm + 10log (22.46) = 24.51 dBm > 24 dBm.

Chain 1

1. 11 dBm + 10log (43.32) = 27.37 dBm > 24 dBm.
2. 11 dBm + 10log (43.29) = 27.36 dBm > 24 dBm.
3. 11 dBm + 10log (42.59) = 27.29 dBm > 24 dBm.
4. 11 dBm + 10log (43.07) = 27.34 dBm > 24 dBm.
5. 11 dBm + 10log (42.57) = 27.29 dBm > 24 dBm.
6. 11 dBm + 10log (22.18) = 24.46 dBm > 24 dBm.

802.11n (HT40)

Channel	Frequency (MHz)	Maximum Cunducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
54	5270	20.32	20.45	218.564	23.40	24	Pass
62	5310	17.02	17.68	108.964	20.37	24	Pass
102	5510	16.33	16.85	91.371	19.61	24	Pass
110	5550	20.18	20.62	219.577	23.42	24	Pass
134	5670	19.32	19.53	175.25	22.44	24	Pass

Note:

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

Chain 0

1. 11 dBm + 10log (68.46) = 29.35 dBm > 24 dBm.
2. 11 dBm + 10log (41.84) = 27.22 dBm > 24 dBm.
3. 11 dBm + 10log (41.58) = 27.19 dBm > 24 dBm.
4. 11 dBm + 10log (74.73) = 29.73 dBm > 24 dBm.
5. 11 dBm + 10log (73.19) = 29.64 dBm > 24 dBm.

Chain 1

1. 11 dBm + 10log (51.74) = 28.14 dBm > 24 dBm.
2. 11 dBm + 10log (41.48) = 27.18 dBm > 24 dBm.
3. 11 dBm + 10log (41.42) = 27.17 dBm > 24 dBm.
4. 11 dBm + 10log (68.72) = 29.37 dBm > 24 dBm.
5. 11 dBm + 10log (58.58) = 28.68 dBm > 24 dBm.

802.11ac (VHT80)

Channel	Frequency (MHz)	Maximum Cunducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
58	5290	16.62	17.04	96.502	19.85	24	Pass
106	5530	16.48	17.02	94.813	19.77	24	Pass
122	5610	20.43	20.83	231.468	23.64	24	Pass

Note:

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

Chain 0

1. 11 dBm + 10log (82.48) = 30.16 dBm > 24 dBm.
2. 11 dBm + 10log (82.34) = 30.16 dBm > 24 dBm.
3. 11 dBm + 10log (138.53) = 32.42 dBm > 24 dBm.

Chain 1

1. 11 dBm + 10log (81.85) = 30.13 dBm > 24 dBm.
2. 11 dBm + 10log (81.97) = 30.14 dBm > 24 dBm.
3. 11 dBm + 10log (134.69) = 32.29 dBm > 24 dBm.

Beamforming Mode

802.11n (HT20)

Channel	Frequency (MHz)	Maximum Cunducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
52	5260	18.56	19.21	155.147	21.91	22.99	Pass
60	5300	18.72	19.41	161.77	22.09	22.99	Pass
64	5320	17.99	18.29	130.404	21.15	22.99	Pass
100	5500	18.21	18.71	140.524	21.48	22.99	Pass
116	5580	18.52	19.48	159.837	22.04	22.99	Pass
140	5700	18.38	18.79	144.548	21.60	22.99	Pass

Note:

Directional gain = 4 dBi + 10log(2) = 7.01 dBi > 6 dBi , so the power limit shall be reduced to 24-(7.01-6) = 22.99 dBm.

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

Chain 0

1. 11 dBm + 10log (38.17) = 26.82 dBm > 24 dBm.
2. 11 dBm + 10log (42.22) = 27.26 dBm > 24 dBm.
3. 11 dBm + 10log (41.12) = 27.14 dBm > 24 dBm.
4. 11 dBm + 10log (41.52) = 27.18 dBm > 24 dBm.
5. 11 dBm + 10log (43.53) = 27.39 dBm > 24 dBm.
6. 11 dBm + 10log (22.46) = 24.51 dBm > 24 dBm.

Chain 1

1. 11 dBm + 10log (43.32) = 27.37 dBm > 24 dBm.
2. 11 dBm + 10log (43.29) = 27.36 dBm > 24 dBm.
3. 11 dBm + 10log (42.59) = 27.29 dBm > 24 dBm.
4. 11 dBm + 10log (43.07) = 27.34 dBm > 24 dBm.
5. 11 dBm + 10log (42.57) = 27.29 dBm > 24 dBm.
6. 11 dBm + 10log (22.18) = 24.46 dBm > 24 dBm.

802.11n (HT40)

Channel	Frequency (MHz)	Maximum Cunducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
54	5270	19.47	19.72	182.268	22.61	22.99	Pass
62	5310	16.01	16.42	83.755	19.23	22.99	Pass
102	5510	15.87	16.21	80.42	19.05	22.99	Pass
110	5550	19.22	19.65	175.817	22.45	22.99	Pass
134	5670	18.94	19.31	163.653	22.14	22.99	Pass

Note:

Directional gain = 4 dBi + 10log(2) = 7.01 dBi > 6 dBi , so the power limit shall be reduced to 24-(7.01-6) = 22.99 dBm.

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

Chain 0

1. 11 dBm + 10log (68.46) = 29.35 dBm > 24 dBm.
2. 11 dBm + 10log (41.84) = 27.22 dBm > 24 dBm.
3. 11 dBm + 10log (41.58) = 27.19 dBm > 24 dBm.
4. 11 dBm + 10log (74.73) = 29.73 dBm > 24 dBm.
5. 11 dBm + 10log (73.19) = 29.64 dBm > 24 dBm.

Chain 1

1. 11 dBm + 10log (51.74) = 28.14 dBm > 24 dBm.
2. 11 dBm + 10log (41.48) = 27.18 dBm > 24 dBm.
3. 11 dBm + 10log (41.42) = 27.17 dBm > 24 dBm.
4. 11 dBm + 10log (68.72) = 29.37 dBm > 24 dBm.
5. 11 dBm + 10log (58.58) = 28.68 dBm > 24 dBm.

802.11ac (VHT80)

Channel	Frequency (MHz)	Maximum Cunducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
58	5290	15.88	16.19	80.317	19.05	22.99	Pass
106	5530	15.32	15.88	72.767	18.62	22.99	Pass
122	5610	19.44	19.71	181.443	22.59	22.99	Pass

Note:

Directional gain = 4 dBi + 10log(2) = 7.01 dBi > 6 dBi , so the power limit shall be reduced to 24-(7.01-6) = 22.99 dBm.

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

Chain 0

1. 11 dBm + 10log (82.48) = 30.16 dBm > 24 dBm.
2. 11 dBm + 10log (82.34) = 30.16 dBm > 24 dBm.
3. 11 dBm + 10log (138.53) = 32.42 dBm > 24 dBm.

Chain 1

1. 11 dBm + 10log (81.85) = 30.13 dBm > 24 dBm.
2. 11 dBm + 10log (81.97) = 30.14 dBm > 24 dBm.
3. 11 dBm + 10log (134.69) = 32.29 dBm > 24 dBm.

26 dB Bandwidth:

802.11a

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	26.26	29.91
60	5300	26.04	29.78
64	5320	24.78	29.71
100	5500	29.00	37.15
116	5580	28.54	37.03
140	5700	21.84	21.77

802.11n (HT20)

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	38.17	43.32
60	5300	42.22	43.29
64	5320	41.12	42.59
100	5500	41.52	43.07
116	5580	43.53	42.57
140	5700	22.46	22.18

802.11n (HT40)

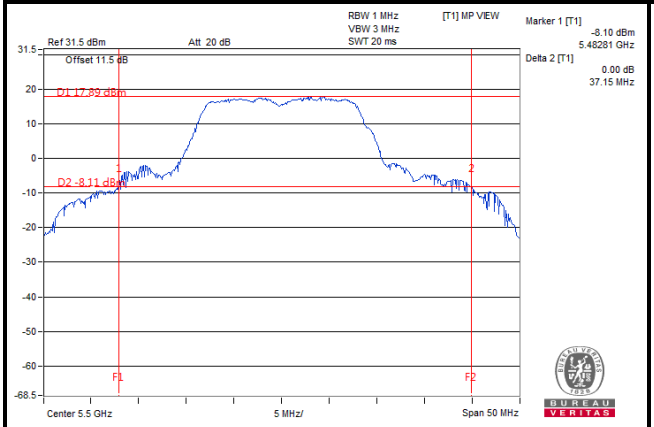
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	68.46	51.74
62	5310	41.84	41.48
102	5510	41.58	41.42
110	5550	74.73	68.72
134	5670	73.19	58.58

802.11ac (VHT80)

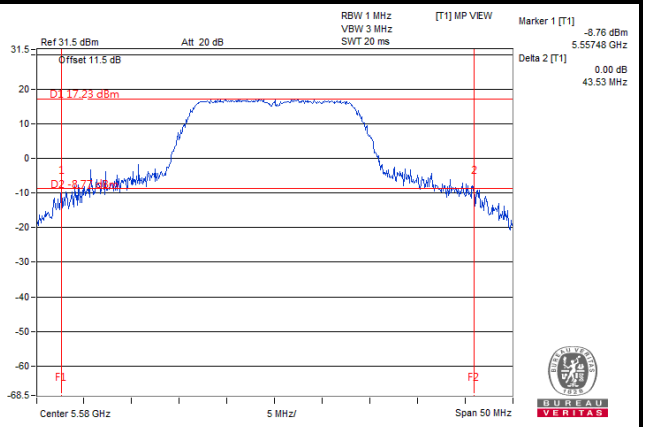
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	82.48	81.85
106	5530	82.34	81.97
122	5610	138.53	134.69

Spectrum Plot of Worst Value

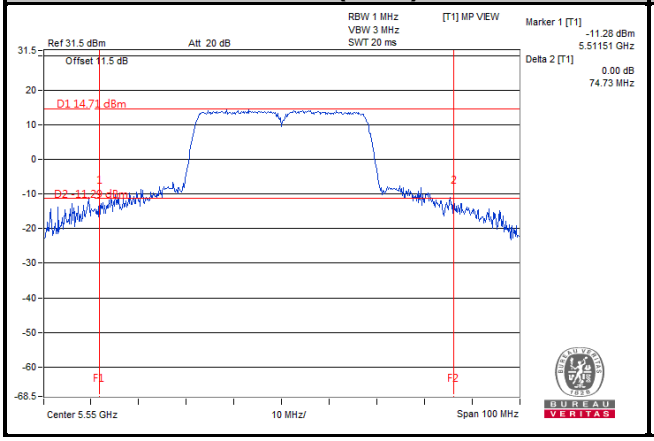
802.11a



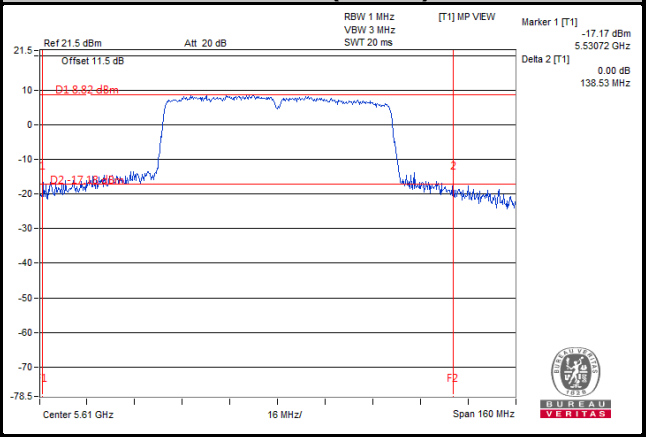
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



EUT Maximum Conducted Power

CDD Mode

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	142.281	21.53
5470~5725	148.452	21.72

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

802.11n (HT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	163.935	22.15
5470~5725	161.392	22.08

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

802.11n (HT40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	218.564	23.40
5470~5725	219.577	23.42

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

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	96.502	19.85
5470~5725	231.468	23.64

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

Beamforming Mode

802.11n (HT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	161.77	22.09
5470~5725	159.837	22.04

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

802.11n (HT40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	182.268	22.61
5470~5725	175.817	22.45

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

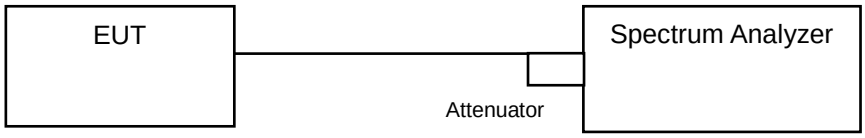
802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	80.317	19.05
5470~5725	181.443	22.59

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

4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with resolution bandwidth in the range of 1 % to 5 % of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth and set the detector to SAMPLE. 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.

4.4.4 Test Results

802.11a

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	17.45	17.35
60	5300	17.50	17.50
64	5320	17.45	17.54
100	5500	17.50	17.64
116	5580	17.50	17.54
140	5700	17.30	17.16

802.11n (HT20)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	18.46	18.26
60	5300	18.41	18.31
64	5320	18.50	18.26
100	5500	18.46	18.31
116	5580	18.50	18.41
140	5700	18.36	18.07

802.11n (HT40)

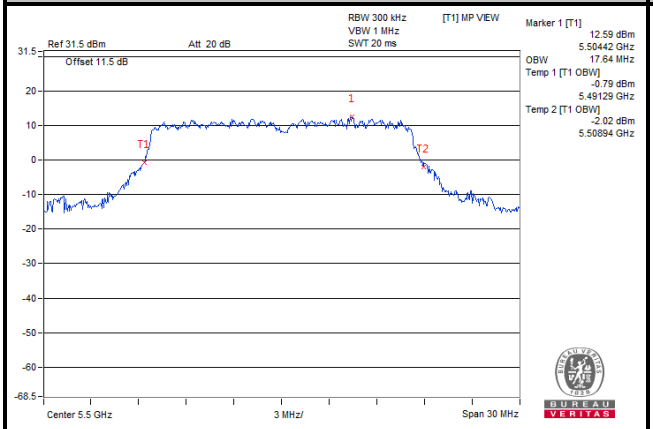
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	37.30	37.17
62	5310	37.05	36.92
102	5510	37.05	36.92
110	5550	37.43	37.43
134	5670	37.30	37.17

802.11ac (VHT80)

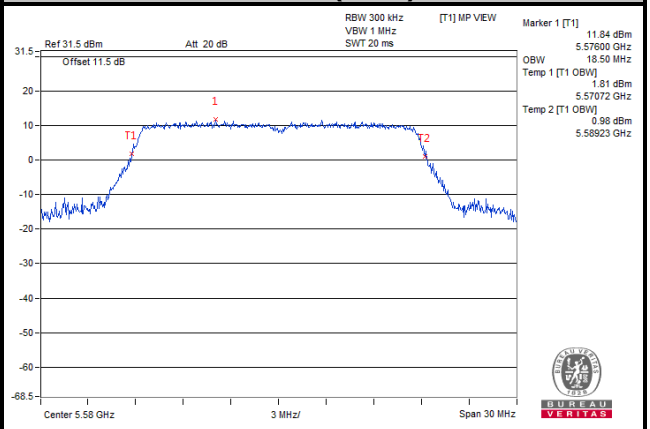
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	75.96	75.80
106	5530	75.80	75.80
122	5610	75.96	75.96

Spectrum Plot of Worst Value

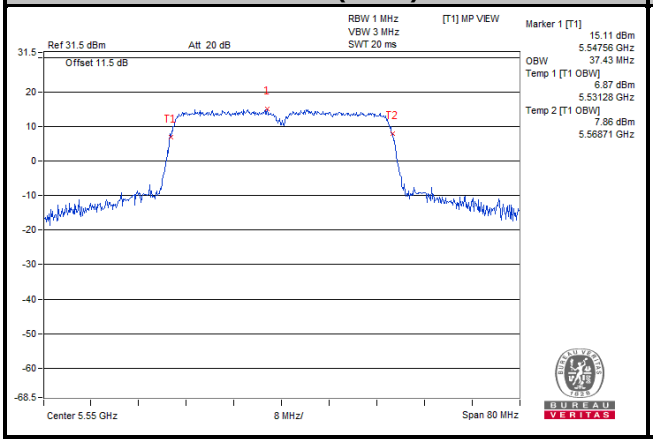
802.11a



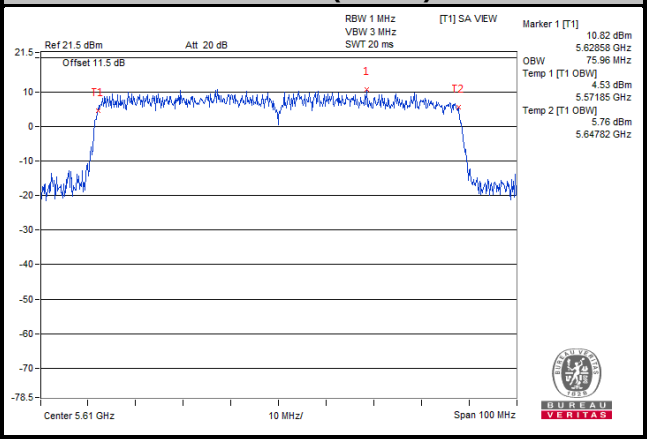
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

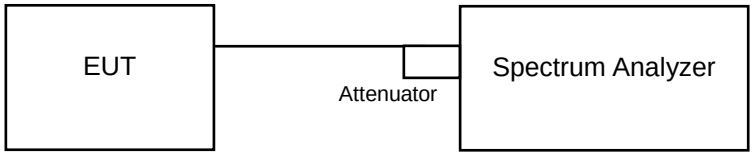


4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.5.4 Test Procedures

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

Using method SA-2

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

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

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

4.5.7 Test Results

802.11a

Channel	Frequency (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
52	5260	4.61	4.96	0.23	8.03	9.99	Pass
60	5300	5.22	5.64	0.23	8.67	9.99	Pass
64	5320	5.17	5.89	0.23	8.78	9.99	Pass
100	5500	4.74	5.57	0.23	8.41	9.99	Pass
116	5580	4.74	5.81	0.23	8.55	9.99	Pass
140	5700	5.43	6.10	0.23	9.02	9.99	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. **For U-NII-2A, U-NII-2C Band:**
   Directional gain = 4 dBi + 10log(2) = 7.01 dBi > 6 dBi , so the power density limit shall be reduced to 11-(7.01-6) = 9.99 dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

Channel	Frequency (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
52	5260	6.05	6.13	0.23	9.33	9.99	Pass
60	5300	6.24	6.53	0.23	9.63	9.99	Pass
64	5320	6.33	6.53	0.23	9.67	9.99	Pass
100	5500	6.30	6.49	0.23	9.63	9.99	Pass
116	5580	6.31	7.04	0.23	9.93	9.99	Pass
140	5700	4.54	5.28	0.23	8.16	9.99	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. **For U-NII-2A, U-NII-2C Band:**
   Directional gain = 4 dBi + 10log(2) = 7.01 dBi > 6 dBi , so the power density limit shall be reduced to 11-(7.01-6) = 9.99 dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

Channel	Frequency (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
54	5270	3.14	3.40	0.45	6.73	9.99	Pass
62	5310	0.78	1.39	0.45	4.55	9.99	Pass
102	5510	1.08	1.54	0.45	4.77	9.99	Pass
110	5550	4.88	4.84	0.45	8.32	9.99	Pass
134	5670	2.81	2.91	0.45	6.32	9.99	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. **For U-NII-2A, U-NII-2C Band:**
   Directional gain = 4 dBi + 10log(2) = 7.01 dBi > 6 dBi , so the power density limit shall be reduced to 11-(7.01-6) = 9.99 dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

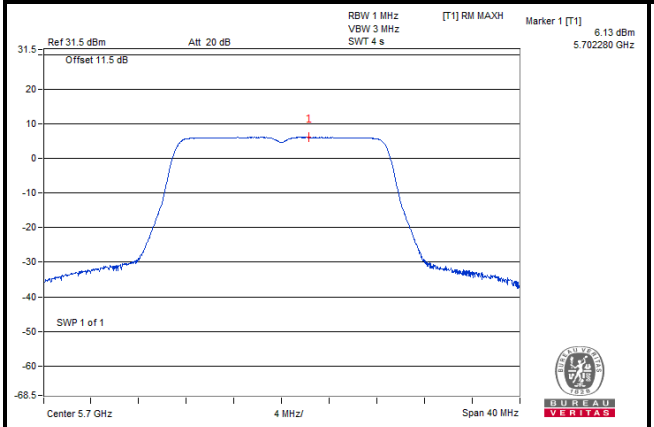
Channel	Frequency (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
58	5290	-2.54	-2.54	0.28	0.75	9.99	Pass
106	5530	-2.63	-2.15	0.28	0.91	9.99	Pass
122	5610	1.19	1.89	0.28	4.85	9.99	Pass

Note:

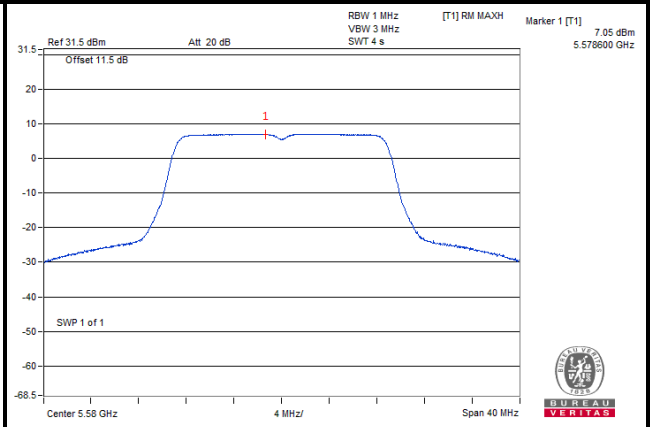
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. **For U-NII-2A, U-NII-2C Band:**
   Directional gain = 4 dBi + 10log(2) = 7.01 dBi > 6 dBi , so the power density limit shall be reduced to 11-(7.01-6) = 9.99 dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

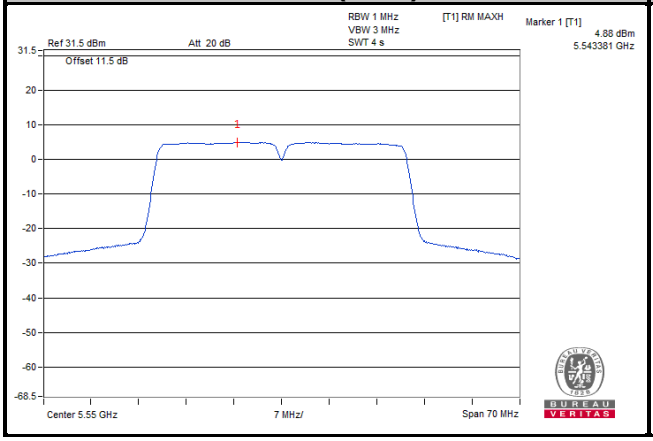
802.11a



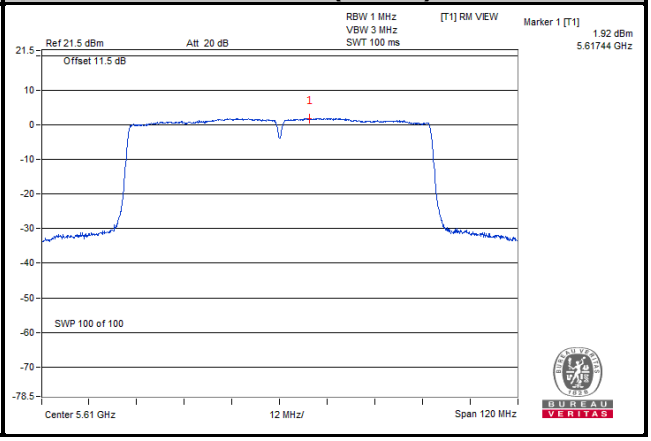
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

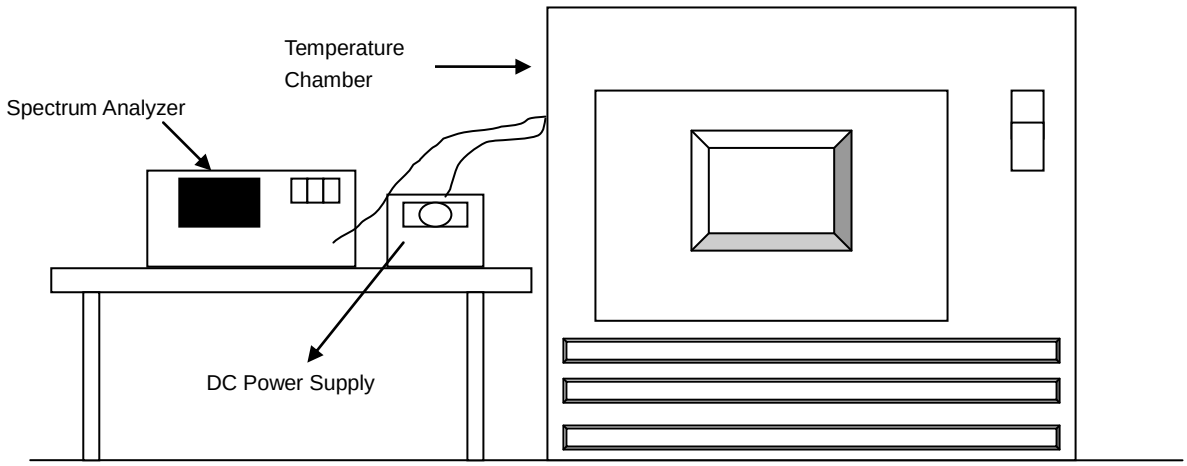


4.6 Frequency Stability

4.6.1 Limit of Frequency Stability Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.6.4 Test Procedure

a. To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
b. The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10 dB lower than the measured peak value.
c. The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5260 MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
50	120	5260.0126	2.40000	5260.0095	1.81000	5260.0129	2.45000	5260.0088	1.67000
40	120	5260.0152	2.89000	5260.0186	3.54000	5260.0151	2.87000	5260.0155	2.95000
30	120	5260.0259	4.92000	5260.0234	4.45000	5260.0219	4.16000	5260.023	4.37000
20	120	5259.9808	-3.65000	5259.9825	-3.33000	5259.9796	-3.88000	5259.9784	-4.11000
10	120	5259.9894	-2.02000	5259.9868	-2.51000	5259.9862	-2.62000	5259.9854	-2.78000
0	120	5260.0259	4.92000	5260.0212	4.03000	5260.0231	4.39000	5260.0218	4.14000
-10	120	5259.9977	-0.44000	5259.9981	-0.36000	5260.0006	0.11000	5259.9988	-0.23000
-20	120	5259.994	-1.14000	5259.9965	-0.67000	5259.9948	-0.99000	5259.9952	-0.91000
-30	120	5260.0232	4.41000	5260.0206	3.92000	5260.0198	3.76000	5260.0198	3.76000

Frequency Stability Versus Temp.									
Operating Frequency: 5260 MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
20	138	5259.9806	-3.69000	5259.9817	-3.48000	5259.9793	-3.94000	5259.9792	-3.95000
	120	5259.9808	-3.65000	5259.9825	-3.33000	5259.9796	-3.88000	5259.9784	-4.11000
	102	5259.9806	-3.69000	5259.9827	-3.29000	5259.9797	-3.86000	5259.9775	-4.28000

5 Pictures of Test Arrangements

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

Appendix – Information on the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

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

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

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