FCC Test Report

Report No.:	RF170222C39A
FCC ID:	ACQ-DSR830
Test Model:	DSR830
Received Date:	Feb. 22, 2017
Test Date:	Mar. 15 ~ Jun. 16, 2017
Issued Date:	Jun. 22, 2017
Applicant:	ARRIS Group, Inc.
Address:	101 Tournament Drive, Horsham, Pennsylvania, United States, 19044
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C.)
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)

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Release Control Record

Issue No.	Description	Date Issued
RF170222C39A	Original release.	Jun. 22, 2017

1 Certificate of Conformity

Product:	Satellite Set-Top Box
Brand:	ARRIS Group, Inc.
Test Model:	DSR830
Sample Status:	Engineering sample
Applicant:	ARRIS Group, Inc.
Test Date:	Mar. 15 ~ Jun. 16, 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 EMC characteristics under the conditions specified in this report.

Prepared by : Celine Chou , **Date:** Jun. 22, 2017

Celine Chou / Specialist

Approved by : Ken Liu , **Date:** Jun. 22, 2017

Ken Liu / Senior Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -10.73dB at 0.46813MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -0.5dB at 5725.00MHz and 5350.00MHz.
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)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is UFL not a standard connector.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.94 dB
Radiated Emissions up to 1 GHz	30MHz ~ 200MHz	3.86 dB
	200MHz ~1000MHz	3.87 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Satellite Set-Top Box
Brand	ARRIS Group, Inc.
Test Model	DSR830
Sample Status	Engineering sample
Power Supply Rating	12Vdc from adapter
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 300Mbps 802.11ac: up to 866.7Mbps
Operating Frequency	5260~5320MHz, 5500~5720MHz
Number of Channel	5260~5320MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11n (HT40): 2 802.11ac (VHT80): 1 5500~5720MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 12 802.11n (HT40), 802.11n (HT40): 6 802.11ac (VHT80): 3
Output Power	CDD Mode, 1TX: 5260~5320MHz: 93.756mW 5500~5720MHz: 99.312mW CDD Mode, 2TX: 5260~5320MHz: 108.403mW 5500~5720MHz: 113.856mW Beamforming Mode, 2TX: 5260~5320MHz: 63.320mW 5500~5720MHz: 70.495mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	Adapter, Remote Controller
Cable Supplied	2.0m shielded HDMI cable without core

Note:

1. This report is prepared for FCC class II permissive change. The difference compared with the original report (BV ADT report no.: RF170222C39-1) is adding 5.26GHz to 5.32GHz and 5.50GHz to 5.72GHz by software.

2. The EUT incorporates a MIMO function. Physically, the EUT provides 2 completed transmitters and 2 receivers. The EUT supports diversity parameter. Antenna 1 is the 5GHz max. gain for final test.

Modulation Mode	TX Function	Beamforming
802.11a	1TX, 2TX	Not Support
802.11n (HT20)	1TX, 2TX	Support
802.11n (HT40)	1TX, 2TX	Support
802.11ac (VHT20)	1TX, 2TX	Support
802.11ac (VHT40)	1TX, 2TX	Support
802.11ac (VHT80)	1TX, 2TX	Support

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

* For 802.11n and 802.11ac, CDD mode and Beamforming mode are presented in power output test item. For other test items, CDD mode is the worst case for final tests after pretesting.

3. The EUT uses following antennas.

Ant. Type	Stamped Metal				
Connecter Type	UFL				
Single Antenna Gain (dBi)					
Item	2.4G	5G Band 1	5G Band 2	5G Band 3	5G Band 4
Ant. 0	2.76	3.53	3.53	3.11	3.11
Ant. 1	2.97	4.79	5.08	4.79	4.79

* For 1TX: The 5GHz max. gain (antenna 1) is chosen for final tests since it has the maximum gain among all antennas.

4. The EUT uses following adapter.

Brand	LITEON
Model	PB-1300-3AR3
Input Power	100-120Vac, 60Hz, 1A
Output Power	12Vdc, 2.5A
Power Line	1.8m cable without core attached on adapter

5. 2.4GHz and 5GHz technologies can not transmit at same time.

3.2 Description of Test Modes

5260~5320MHz:

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

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

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

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
58	5290MHz

5500~5720MHz:

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

Channel	Frequency	Channel	Frequency
100	5500 MHz	124	5620 MHz
104	5520 MHz	128	5640 MHz
108	5540 MHz	132	5660 MHz
112	5560 MHz	136	5680 MHz
116	5580 MHz	140	5700 MHz
120	5600 MHz	144	5720 MHz

6 channels are provided for 802.11n (HT40), 802.11n (HT40):

Channel	Frequency	Channel	Frequency
102	5510 MHz	126	5630 MHz
110	5550 MHz	134	5670 MHz
118	5590 MHz	142	5710 MHz

3 channels are provided for 802.11ac (VHT80):

Channel	Frequency	Channel	Frequency
106	5530 MHz	122	5610 MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable to				Description
	RE≥1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

Where RE≥1G: Radiated Emission above 1GHz & Bandedge Measurement; RE<1G: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission; APCM: Antenna Port Conducted Measurement

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

Radiated Emission Test (Above 1GHz):

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

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	TX Function
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0	1TX / 2TX
	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	6.5 / 7.2	1TX / 2TX
	802.11n (HT40)		54 to 62	54, 62	OFDM	13.5 / 15.0	1TX / 2TX
	802.11ac (VHT80)		58	58	OFDM	29.3 / 65.0	1TX / 2TX
-	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0	1TX / 2TX
	802.11n (HT20)		100 to 144	100, 116, 140, 144	OFDM	6.5 / 7.2	1TX / 2TX
	802.11n (HT40)		102 to 142	102, 110, 134, 142	OFDM	13.5 / 15.0	1TX / 2TX
	802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	29.3 / 65.0	1TX / 2TX

Radiated Emission Test (Below 1GHz):

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

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	TX Function
-	802.11a	5260-5320	52 to 64	52	OFDM	6.0	2TX
-	802.11a	5500-5720	100 to 144		OFDM	6.0	2TX

Power Line Conducted Emission Test:

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

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	TX Function
-	802.11a	5260-5320	52 to 64	52	OFDM	6.0	2TX
-	802.11a	5500-5720	100 to 144		OFDM	6.0	2TX

Antenna Port Conducted Measurement:

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)	TX Function
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0	1TX / 2TX
	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	6.5 / 7.2	1TX / 2TX
	802.11n (HT40)		54 to 62	54, 62	OFDM	13.5 / 15.0	1TX / 2TX
	802.11ac (VHT80)		58	58	OFDM	29.3 / 65.0	1TX / 2TX
-	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0	1TX / 2TX
	802.11n (HT20)		100 to 144	100, 116, 140, 144	OFDM	6.5 / 7.2	1TX / 2TX
	802.11n (HT40)		102 to 142	102, 110, 134, 142	OFDM	13.5 / 15.0	1TX / 2TX
	802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	29.3 / 65.0	1TX / 2TX

Test Condition:

Applicable to	Environmental Conditions	Input Power	Tested by
RE≥1G	20 deg. C, 66% RH	120Vac, 60Hz	James Yang
RE<1G	20 deg. C, 66% RH	120Vac, 60Hz	James Yang
PLC	25 deg. C, 75% RH	120Vac, 60Hz	Bond Tseng
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Frank Liu

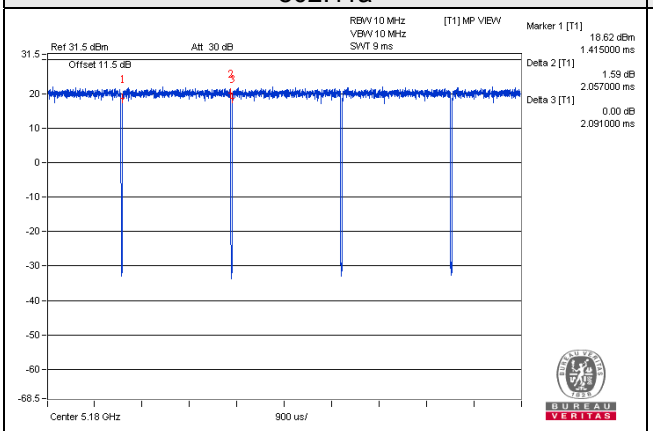
3.3 Duty Cycle of Test Signal

1TX

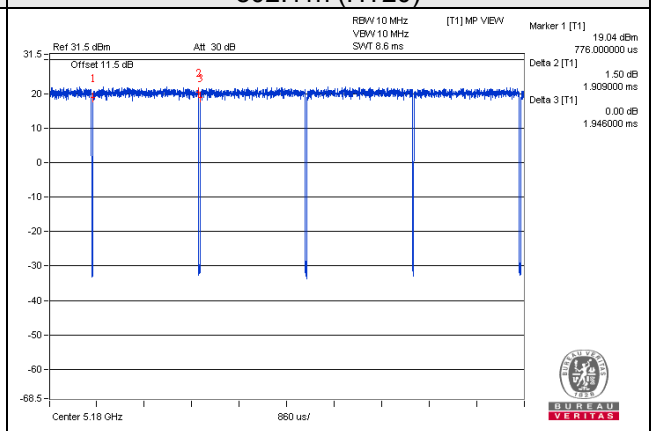
802.11a, 802.11n (HT20): Duty cycle of test signal is ≥ 98%, duty factor is not required.
802.11n (HT40), 802.11ac (VHT80): Duty cycle of test signal is < 98%, duty factor is required.

802.11a: Duty cycle = 2.057/2.091 = 0.984
802.11n (HT20): Duty cycle = 1.909/1.946 = 0.981
802.11n (HT40): Duty cycle = 0.941/0.980 = 0.960, Duty factor = 10 * log(1/0.960) = 0.18
802.11ac (VHT80): Duty cycle = 0.460/0.490 = 0.939, Duty factor = 10 * log(1/0.939) = 0.27

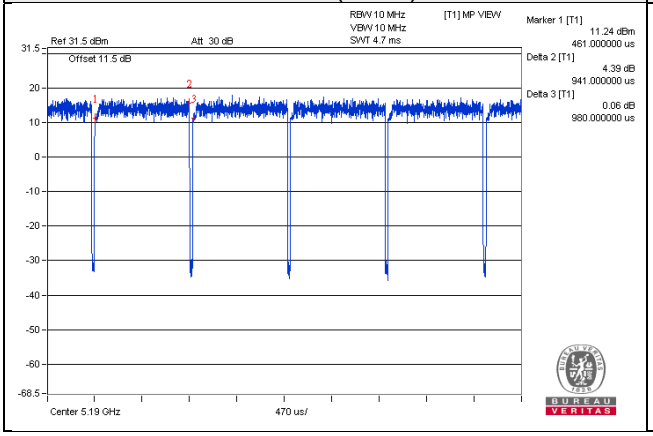
802.11a



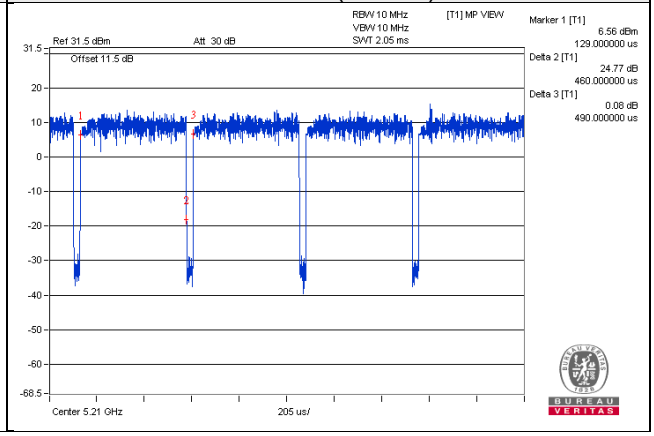
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

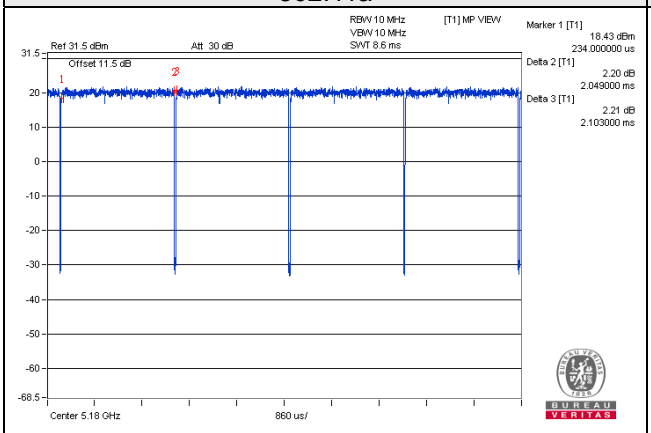


2TX

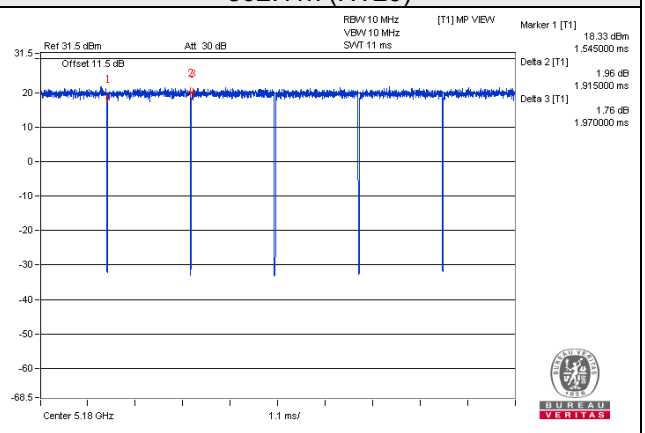
Duty cycle of test signal is < 98%, duty factor is required.

802.11a: Duty cycle = 2.049/2.103 = 0.974, Duty factor = 10 * log(1/0.974) = 0.11
802.11n (HT20): Duty cycle = 1.915/1.970 = 0.972, Duty factor = 10 * log(1/0.972) = 0.12
802.11n (HT40): Duty cycle = 0.944/0.975 = 0.968, Duty factor = 10 * log(1/0.968) = 0.14
802.11ac (VHT80): Duty cycle = 0.458/0.489 = 0.937, Duty factor = 10 * log(1/0.937) = 0.28

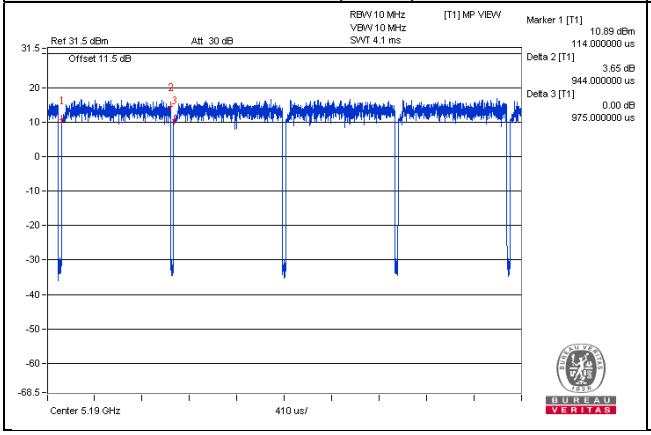
802.11a



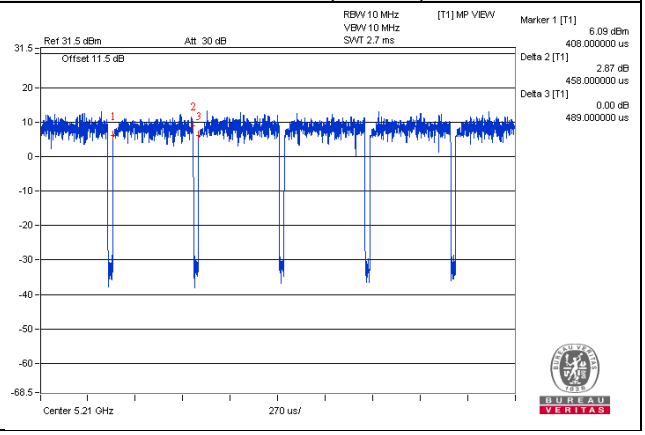
802.11n (HT20)



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.

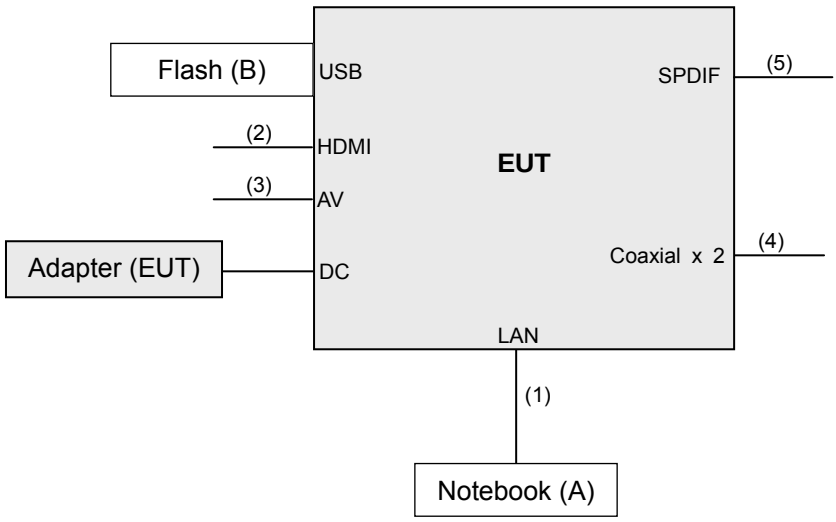
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	DELL	E5410	1HC2XM1	FCC DoC Approved	-
B.	USB Flash	HP	v250W	01	NA	-

Note:

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

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ45, Cat5e	1	3	N	0	-
2.	HDMI	1	2	Y	0	Accessory of EUT
3.	AV	1	1.8	Y	0	-
4.	Coaxial	2	3	Y	0	-
5.	SPDIF	1	1	N	0	-

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)
KDB 789033 D02 General UNII Test Procedure New Rules v01r04
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.

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

NOTE:

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

Limits of unwanted emission out of the restricted bands

<table>
<tr><td colspan="3">Applicable To</td><td colspan="2">Limit</td></tr>
<tr><td colspan="3" rowspan="2">789033 D02 General UNII Test Procedure New Rules v01r03</td><td colspan="2">Field Strength at 3m</td></tr>
<tr><td>PK: 74 (dBµV/m)</td><td>AV: 54 (dBµV/m)</td></tr>
<tr><td>Frequency Band</td><td colspan="2">Applicable To</td><td>EIRP Limit</td><td>Equivalent Field Strength at 3m</td></tr>
<tr><td>5150~5250 MHz</td><td colspan="2">15.407(b)(1)</td><td rowspan="3">PK: -27 (dBm/MHz)</td><td rowspan="3">PK: 68.2(dBµV/m)</td></tr>
<tr><td>5250~5350 MHz</td><td colspan="2">15.407(b)(2)</td></tr>
<tr><td>5470~5725 MHz</td><td colspan="2">15.407(b)(3)</td></tr>
<tr><td rowspan="2">5725~5850 MHz</td><td>☒</td><td>15.407(b)(4)(i)</td><td>PK:-27 (dBm/MHz) *1
PK:10 (dBm/MHz) *2
PK:15.6 (dBm/MHz) *3
PK:27 (dBm/MHz) *4</td><td>PK: 68.2(dBµV/m) *1
PK:105.2 (dBµV/m) *2
PK: 110.8(dBµV/m) *3
PK:122.2 (dBµV/m) *4</td></tr>
<tr><td>☐</td><td>15.407(b)(4)(ii)</td><td colspan="2">Emission limits in section 15.247(d)</td></tr>
<tr><td colspan="5">*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.</td></tr>
</table>

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).

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Oct. 24, 2016	Oct. 23, 2017
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Aug. 16, 2016	Aug. 15, 2017
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Dec. 28, 2016	Dec. 27, 2017
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-1170	Dec. 15, 2016	Dec. 14, 2017
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Dec. 14, 2016	Dec. 13, 2017
Loop Antenna	EM-6879	269	Aug. 11, 2016	Aug. 10, 2017
Preamplifier Agilent	8449B	3008A01960	Aug. 09, 2016	Aug. 08, 2017
Preamplifier Agilent	8447D	2944A10631	Aug. 09, 2016	Aug. 08, 2017
RF signal cable HUBER+SUHNER	SUCOFLEX 104	MY 13380+295012/04	Aug. 09, 2016	Aug. 08, 2017
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH4-03 (250724)	Aug. 09, 2016	Aug. 08, 2017
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	EM26400	815221	Oct. 17, 2016	Oct. 16, 2017
High Speed Peak Power Meter	ML2495A	0824012	Aug. 11, 2016	Aug. 10, 2017
Power Sensor	MA2411B	0738171	Aug. 11, 2016	Aug. 10, 2017
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 08, 2016	Jun. 07, 2017
			Jun. 08, 2017	Jun. 07, 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 horn antenna and preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 460141.
5. The IC Site Registration No. is IC7450F-4.

4.1.3 Test Procedures

For Radiated emission below 30MHz

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. Both X and Y axes of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

Note:

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

For Radiated emission above 30MHz

a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

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

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

3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz.

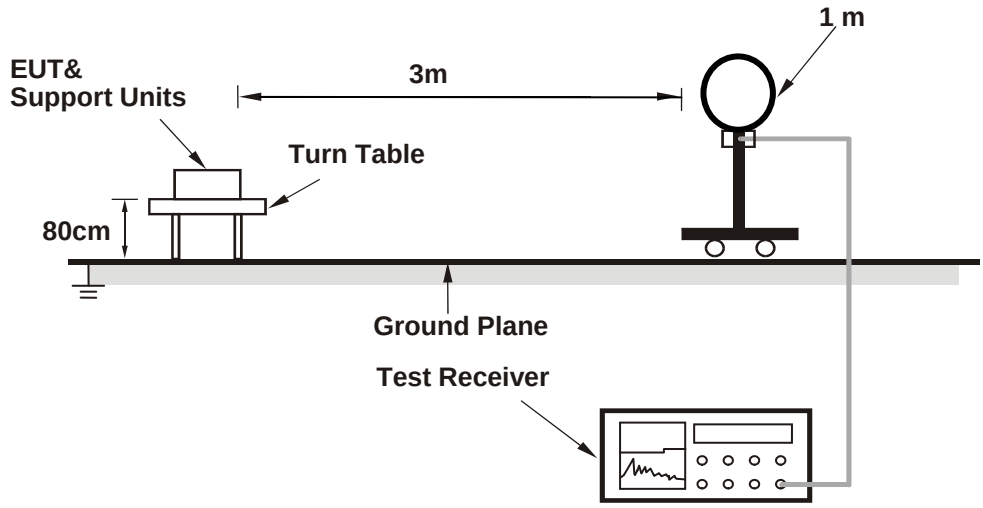
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

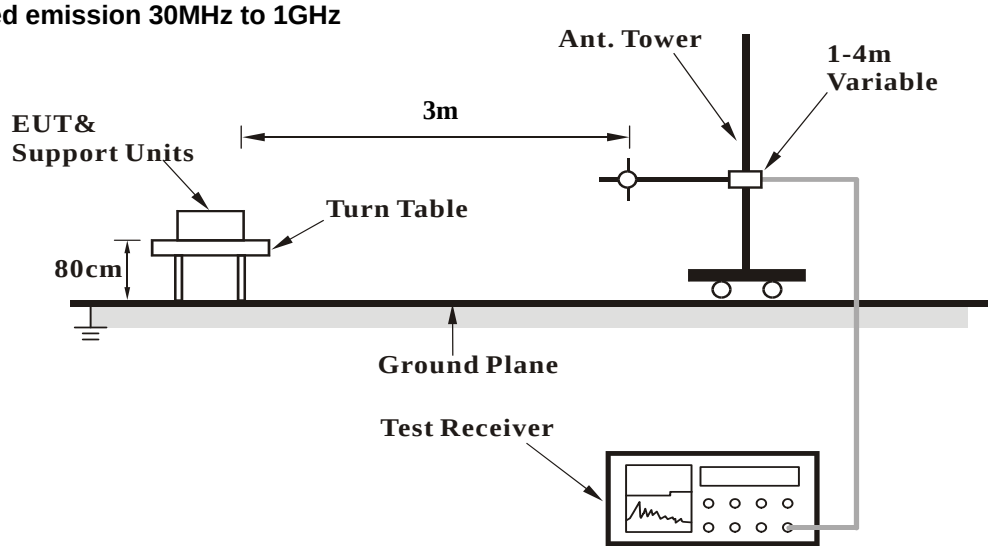
No deviation.

4.1.5 Test Setup

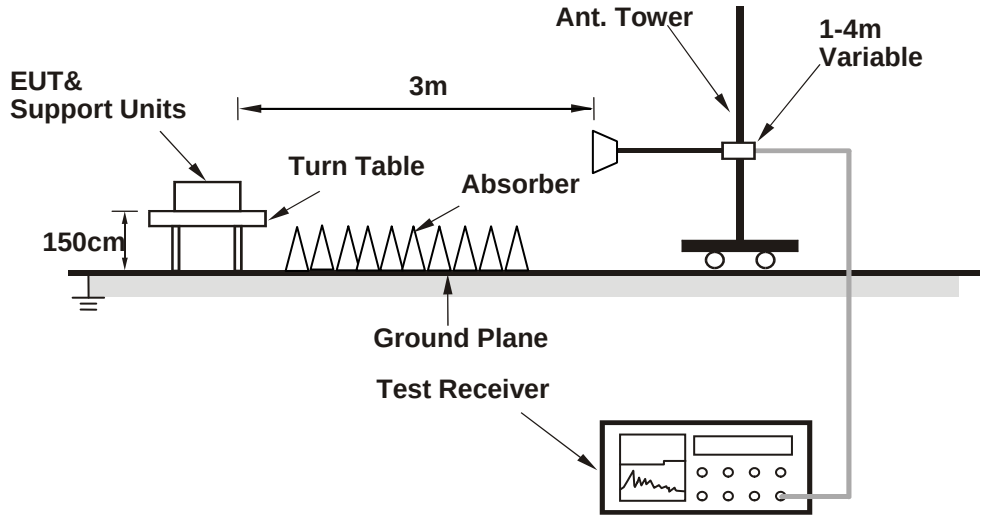
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Conditions

a. Placed the EUT on the testing table.
b. Prepared a notebook to act as a communication partner and placed it outside of testing area.
c. The communication partner connected with EUT via a RJ45 cable and ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
d. The communication partner sent data to EUT by command "PING".
e. The necessary accessories enable the system in full functions.

4.1.7 Test Results

Above 1GHz data:

1TX

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	55.9 PK	74.0	-18.1	1.35 H	342	55.1	0.8
2	5150.00	42.2 AV	54.0	-11.8	1.35 H	342	41.4	0.8
3	*5260.00	111.8 PK			1.31 H	337	73.0	38.8
4	*5260.00	101.5 AV			1.31 H	337	62.7	38.8
5	#10520.00	58.8 PK	74.0	-15.2	2.28 H	256	45.1	13.7
6	#10520.00	45.4 AV	54.0	-8.6	2.28 H	256	31.7	13.7
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	5150.00	45.4 PK	74.0	-28.6	2.97 V	88	44.6	0.8
2	5150.00	42.4 AV	54.0	-11.6	2.97 V	88	41.6	0.8
3	*5260.00	109.3 PK			3.01 V	83	70.5	38.8
4	*5260.00	99.0 AV			3.01 V	83	60.2	38.8
5	#10520.00	59.4 PK	74.0	-14.6	1.74 V	309	45.7	13.7
6	#10520.00	45.5 AV	54.0	-8.5	1.74 V	309	31.8	13.7

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 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	110.4 PK			1.05 H	338	71.5	38.9
2	*5300.00	100.1 AV			1.05 H	338	61.2	38.9
3	10600.00	59.1 PK	74.0	-14.9	2.76 H	247	45.3	13.8
4	10600.00	45.9 AV	54.0	-8.1	2.76 H	247	32.1	13.8
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	109.0 PK			2.99 V	83	70.1	38.9
2	*5300.00	99.0 AV			2.99 V	83	60.1	38.9
3	10600.00	59.2 PK	74.0	-14.8	1.62 V	183	45.4	13.8
4	10600.00	45.8 AV	54.0	-8.2	1.62 V	183	32.0	13.8

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

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	108.4 PK			1.20 H	338	69.4	39.0
2	*5320.00	98.4 AV			1.20 H	338	59.4	39.0
3	5350.00	69.1 PK	74.0	-4.9	1.18 H	336	68.0	1.1
4	5350.00	53.3 AV	54.0	-0.7	1.18 H	336	52.2	1.1
5	10640.00	59.1 PK	74.0	-14.9	2.97 H	193	45.2	13.9
6	10640.00	45.7 AV	54.0	-8.3	2.97 H	193	31.8	13.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	105.3 PK			3.01 V	142	66.3	39.0
2	*5320.00	95.4 AV			3.01 V	142	56.4	39.0
3	5350.00	65.8 PK	74.0	-8.2	2.98 V	152	64.7	1.1
4	5350.00	49.6 AV	54.0	-4.4	2.98 V	152	48.5	1.1
5	10640.00	59.4 PK	74.0	-14.6	2.73 V	244	45.5	13.9
6	10640.00	45.3 AV	54.0	-8.7	2.73 V	244	31.4	13.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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 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	60.7 PK	74.0	-13.3	1.12 H	82	59.5	1.2
2	5460.00	47.6 AV	54.0	-6.4	1.12 H	82	46.4	1.2
3	#5470.00	68.5 PK	74.0	-5.5	1.09 H	79	67.3	1.2
4	#5470.00	53.2 AV	54.0	-0.8	1.09 H	79	52.0	1.2
5	*5500.00	109.7 PK			1.09 H	80	70.4	39.3
6	*5500.00	99.2 AV			1.09 H	80	59.9	39.3
7	11000.00	59.7 PK	74.0	-14.3	2.84 H	237	44.4	15.3
8	11000.00	46.7 AV	54.0	-7.3	2.84 H	237	31.4	15.3
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	60.1 PK	74.0	-13.9	2.72 V	88	58.9	1.2
2	5460.00	47.2 AV	54.0	-6.8	2.72 V	88	46.0	1.2
3	#5470.00	67.6 PK	74.0	-6.4	2.70 V	90	66.4	1.2
4	#5470.00	51.8 AV	54.0	-2.2	2.70 V	90	50.6	1.2
5	*5500.00	109.0 PK			2.81 V	85	69.7	39.3
6	*5500.00	98.8 AV			2.81 V	85	59.5	39.3
7	11000.00	60.5 PK	74.0	-13.5	3.51 V	77	45.2	15.3
8	11000.00	46.5 AV	54.0	-7.5	3.51 V	77	31.2	15.3

Remarks:

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

CHANNEL	TX Channel 116	DETECTOR FUNCTION	Peak (PK) 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	110.3 PK			1.11 H	97	70.8	39.5
2	*5580.00	100.3 AV			1.11 H	97	60.8	39.5
3	11160.00	59.5 PK	74.0	-14.5	1.38 H	241	44.6	14.9
4	11160.00	46.6 AV	54.0	-7.4	1.38 H	241	31.7	14.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	109.4 PK			3.12 V	86	69.9	39.5
2	*5580.00	99.2 AV			3.12 V	86	59.7	39.5
3	11160.00	59.6 PK	74.0	-14.4	1.48 V	267	44.7	14.9
4	11160.00	46.4 AV	54.0	-7.6	1.48 V	267	31.5	14.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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 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	107.9 PK			1.27 H	85	68.1	39.8
2	*5700.00	97.9 AV			1.27 H	85	58.1	39.8
3	#5725.00	69.8 PK	74.0	-4.2	1.39 H	89	67.8	2.0
4	#5725.00	53.4 AV	54.0	-0.6	1.39 H	89	51.4	2.0
5	11400.00	60.3 PK	74.0	-13.7	2.40 H	327	45.8	14.5
6	11400.00	46.8 AV	54.0	-7.2	2.40 H	327	32.3	14.5
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	106.2 PK			3.02 V	84	66.4	39.8
2	*5700.00	96.5 AV			3.02 V	84	56.7	39.8
3	#5725.00	65.8 PK	74.0	-8.2	3.03 V	145	63.8	2.0
4	#5725.00	48.5 AV	54.0	-5.5	3.03 V	145	46.5	2.0
5	11400.00	60.3 PK	74.0	-13.7	3.28 V	243	45.8	14.5
6	11400.00	46.5 AV	54.0	-7.5	3.28 V	243	32.0	14.5

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 144	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	#5470.00	57.3 PK	74.0	-16.7	1.83 H	351	51.6	5.7
2	#5470.00	44.1 AV	54.0	-9.9	1.83 H	351	38.4	5.7
3	*5720.00	110.6 PK			1.17 H	95	70.6	40.0
4	*5720.00	100.4 AV			1.17 H	95	60.4	40.0
5	#5850.00	57.5 PK	74.0	-16.5	2.47 H	350	51.0	6.5
6	#5850.00	44.6 AV	54.0	-9.4	2.47 H	350	38.1	6.5
7	11440.00	60.1 PK	74.0	-13.9	1.65 H	182	40.8	19.3
8	11440.00	46.2 AV	54.0	-7.8	1.65 H	182	26.9	19.3
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	#5470.00	57.6 PK	74.0	-16.4	3.15 V	98	51.9	5.7
2	#5470.00	44.4 AV	54.0	-9.6	3.15 V	98	38.7	5.7
3	*5720.00	109.0 PK			3.10 V	88	69.0	40.0
4	*5720.00	99.3 AV			3.10 V	88	59.3	40.0
5	#5850.00	57.8 PK	74.0	-16.2	2.97 V	74	51.3	6.5
6	#5850.00	44.9 AV	54.0	-9.1	2.97 V	74	38.4	6.5
7	11440.00	60.1 PK	74.0	-13.9	1.83 V	262	40.8	19.3
8	11440.00	45.8 AV	54.0	-8.2	1.83 V	262	26.5	19.3

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.

802.11n (HT20)

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	55.9 PK	74.0	-18.1	1.54 H	333	55.1	0.8
2	5150.00	42.8 AV	54.0	-11.2	1.54 H	333	42.0	0.8
3	*5260.00	111.3 PK			1.50 H	335	72.5	38.8
4	*5260.00	100.8 AV			1.50 H	335	62.0	38.8
5	#10520.00	59.1 PK	74.0	-14.9	2.77 H	247	45.4	13.7
6	#10520.00	45.5 AV	54.0	-8.5	2.77 H	247	31.8	13.7
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	5150.00	55.5 PK	74.0	-18.5	2.90 V	107	54.7	0.8
2	5150.00	42.3 AV	54.0	-11.7	2.90 V	107	41.5	0.8
3	*5260.00	108.3 PK			2.84 V	103	69.5	38.8
4	*5260.00	97.7 AV			2.84 V	103	58.9	38.8
5	#10540.00	58.6 PK	74.0	-15.4	2.06 V	276	44.9	13.7
6	#10540.00	45.5 AV	54.0	-8.5	2.06 V	276	31.8	13.7

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 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	111.0 PK			1.51 H	336	72.1	38.9
2	*5300.00	100.2 AV			1.51 H	336	61.3	38.9
3	10600.00	59.4 PK	74.0	-14.6	2.96 H	152	45.6	13.8
4	10600.00	46.2 AV	54.0	-7.8	2.96 H	152	32.4	13.8
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	109.5 PK			2.82 V	88	70.6	38.9
2	*5300.00	98.5 AV			2.82 V	88	59.6	38.9
3	10600.00	59.3 PK	74.0	-14.7	2.11 V	107	45.5	13.8
4	10600.00	46.2 AV	54.0	-7.8	2.11 V	107	32.4	13.8

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

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	110.0 PK			3.14 H	334	71.0	39.0
2	*5320.00	98.9 AV			3.14 H	334	59.9	39.0
3	5350.00	68.7 PK	74.0	-5.3	2.09 H	339	67.6	1.1
4	5350.00	53.3 AV	54.0	-0.7	2.09 H	339	52.2	1.1
5	10640.00	58.7 PK	74.0	-15.3	2.29 H	207	44.8	13.9
6	10640.00	45.8 AV	54.0	-8.2	2.29 H	207	31.9	13.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	107.8 PK			2.95 V	82	68.8	39.0
2	*5320.00	97.2 AV			2.95 V	82	58.2	39.0
3	5350.00	67.5 PK	74.0	-6.5	2.80 V	86	66.4	1.1
4	5350.00	51.5 AV	54.0	-2.5	2.80 V	86	50.4	1.1
5	10640.00	59.3 PK	74.0	-14.7	2.27 V	297	45.4	13.9
6	10640.00	45.7 AV	54.0	-8.3	2.27 V	297	31.8	13.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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 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	60.9 PK	74.0	-13.1	1.45 H	99	59.7	1.2
2	5460.00	47.4 AV	54.0	-6.6	1.45 H	99	46.2	1.2
3	#5470.00	69.4 PK	74.0	-4.6	1.44 H	97	68.2	1.2
4	#5470.00	53.1 AV	54.0	-0.9	1.44 H	97	51.9	1.2
5	*5500.00	109.2 PK			1.45 H	91	69.9	39.3
6	*5500.00	98.2 AV			1.45 H	91	58.9	39.3
7	11000.00	60.2 PK	74.0	-13.8	1.63 H	228	44.9	15.3
8	11000.00	46.7 AV	54.0	-7.3	1.63 H	228	31.4	15.3
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	60.8 PK	74.0	-13.2	2.80 V	91	59.6	1.2
2	5460.00	46.1 AV	54.0	-7.9	2.80 V	91	44.9	1.2
3	#5470.00	67.1 PK	74.0	-6.9	2.82 V	88	65.9	1.2
4	#5470.00	49.4 AV	54.0	-4.6	2.82 V	88	48.2	1.2
5	*5500.00	108.5 PK			2.81 V	87	69.2	39.3
6	*5500.00	97.3 AV			2.81 V	87	58.0	39.3
7	11000.00	60.1 PK	74.0	-13.9	2.37 V	166	44.8	15.3
8	11000.00	46.7 AV	54.0	-7.3	2.37 V	166	31.4	15.3

Remarks:

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

CHANNEL	TX Channel 116	DETECTOR FUNCTION	Peak (PK) 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	111.4 PK			1.22 H	94	71.9	39.5
2	*5580.00	100.4 AV			1.22 H	94	60.9	39.5
3	11160.00	59.4 PK	74.0	-14.6	1.79 H	268	44.5	14.9
4	11160.00	46.7 AV	54.0	-7.3	1.79 H	268	31.8	14.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	109.7 PK			2.72 V	84	70.2	39.5
2	*5580.00	98.4 AV			2.72 V	84	58.9	39.5
3	11160.00	59.2 PK	74.0	-14.8	1.78 V	249	44.3	14.9
4	11160.00	46.3 AV	54.0	-7.7	1.78 V	249	31.4	14.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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 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	108.9 PK			1.23 H	81	69.1	39.8
2	*5700.00	98.0 AV			1.23 H	81	58.2	39.8
3	#5725.00	69.4 PK	74.0	-4.6	1.23 H	81	67.4	2.0
4	**#5725.00**	**53.5 AV**	**54.0**	**-0.5**	**1.23 H**	**81**	**51.5**	**2.0**
5	11400.00	60.3 PK	74.0	-13.7	2.51 H	342	45.8	14.5
6	11400.00	46.8 AV	54.0	-7.2	2.51 H	342	32.3	14.5
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	106.8 PK			2.77 V	86	67.0	39.8
2	*5700.00	96.0 AV			2.77 V	86	56.2	39.8
3	#5725.00	67.9 PK	74.0	-6.1	2.75 V	87	65.9	2.0
4	#5725.00	50.4 AV	54.0	-3.6	2.75 V	87	48.4	2.0
5	11400.00	60.2 PK	74.0	-13.8	2.98 V	305	45.7	14.5
6	11400.00	46.9 AV	54.0	-7.1	2.98 V	305	32.4	14.5

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 144	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	#5470.00	58.1 PK	74.0	-15.9	2.84 H	352	52.4	5.7
2	#5470.00	44.6 AV	54.0	-9.4	2.84 H	352	38.9	5.7
3	*5720.00	110.8 PK			1.15 H	99	70.8	40.0
4	*5720.00	100.4 AV			1.15 H	99	60.4	40.0
5	#5850.00	58.1 PK	74.0	-15.9	3.17 H	336	51.6	6.5
6	#5850.00	44.6 AV	54.0	-9.4	3.17 H	336	38.1	6.5
7	11440.00	60.7 PK	74.0	-13.3	1.25 H	197	41.4	19.3
8	11440.00	46.5 AV	54.0	-7.5	1.25 H	197	27.2	19.3
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	#5470.00	57.5 PK	74.0	-16.5	2.89 V	104	51.8	5.7
2	#5470.00	44.3 AV	54.0	-9.7	2.89 V	104	38.6	5.7
3	*5720.00	109.2 PK			3.15 V	82	69.2	40.0
4	*5720.00	98.9 AV			3.15 V	82	58.9	40.0
5	#5850.00	57.9 PK	74.0	-16.1	3.08 V	87	51.4	6.5
6	#5850.00	45.0 AV	54.0	-9.0	3.08 V	87	38.5	6.5
7	11440.00	60.7 PK	74.0	-13.3	2.27 V	232	41.4	19.3
8	11440.00	46.5 AV	54.0	-7.5	2.27 V	232	27.2	19.3

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.

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	*5270.00	109.4 PK			2.74 H	334	70.5	38.9
2	*5270.00	98.5 AV			2.74 H	334	59.6	38.9
3	5350.00	66.9 PK	74.0	-7.1	2.10 H	339	65.8	1.1
4	5350.00	53.3 AV	54.0	-0.7	2.10 H	339	52.2	1.1
5	#10540.00	59.0 PK	74.0	-15.0	1.52 H	93	45.3	13.7
6	#10540.00	46.3 AV	54.0	-7.7	1.52 H	93	32.6	13.7
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	*5270.00	106.0 PK			2.88 V	207	67.1	38.9
2	*5270.00	95.6 AV			2.88 V	207	56.7	38.9
3	5350.00	63.7 PK	74.0	-10.3	3.05 V	196	62.6	1.1
4	5350.00	51.5 AV	54.0	-2.5	3.05 V	196	50.4	1.1
5	#10540.00	58.9 PK	74.0	-15.1	2.79 V	24	45.2	13.7
6	#10540.00	46.4 AV	54.0	-7.6	2.79 V	24	32.7	13.7

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 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	105.3 PK			3.15 H	335	66.4	38.9
2	*5310.00	94.7 AV			3.15 H	335	55.8	38.9
3	5350.00	67.5 PK	74.0	-6.5	2.09 H	337	66.4	1.1
4	5350.00	53.2 AV	54.0	-0.8	2.09 H	337	52.1	1.1
5	10620.00	59.1 PK	74.0	-14.9	2.64 H	283	45.3	13.8
6	10620.00	46.6 AV	54.0	-7.4	2.64 H	283	32.8	13.8
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	102.1 PK			2.89 V	215	63.2	38.9
2	*5310.00	91.3 AV			2.89 V	215	52.4	38.9
3	5350.00	65.5 PK	74.0	-8.5	2.86 V	198	64.4	1.1
4	5350.00	49.5 AV	54.0	-4.5	2.86 V	198	48.4	1.1
5	10620.00	58.7 PK	74.0	-15.3	2.02 V	276	44.9	13.8
6	10620.00	46.7 AV	54.0	-7.3	2.02 V	276	32.9	13.8

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

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	64.0 PK	74.0	-10.0	1.30 H	96	62.8	1.2
2	5460.00	47.4 AV	54.0	-6.6	1.30 H	96	46.2	1.2
3	#5470.00	67.6 PK	74.0	-6.4	1.25 H	83	66.4	1.2
4	#5470.00	53.3 AV	54.0	-0.7	1.25 H	83	52.1	1.2
5	*5510.00	103.2 PK			1.43 H	95	63.9	39.3
6	*5510.00	92.7 AV			1.43 H	95	53.4	39.3
7	11020.00	60.5 PK	74.0	-13.5	2.66 H	342	45.3	15.2
8	11020.00	47.0 AV	54.0	-7.0	2.66 H	342	31.8	15.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	63.1 PK	74.0	-10.9	2.87 V	76	61.9	1.2
2	5460.00	47.4 AV	54.0	-6.6	2.87 V	76	46.2	1.2
3	#5470.00	65.6 PK	74.0	-8.4	2.84 V	84	64.4	1.2
4	#5470.00	51.5 AV	54.0	-2.5	2.84 V	84	50.3	1.2
5	*5510.00	102.8 PK			2.81 V	87	63.5	39.3
6	*5510.00	91.7 AV			2.81 V	87	52.4	39.3
7	11020.00	60.4 PK	74.0	-13.6	1.92 V	333	45.2	15.2
8	11020.00	47.7 AV	54.0	-6.3	1.92 V	333	32.5	15.2

Remarks:

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

CHANNEL	TX Channel 110	DETECTOR FUNCTION	Peak (PK) 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	#5470.00	66.4 PK	74.0	-7.6	1.44 H	96	65.2	1.2
2	#5470.00	53.3 AV	54.0	-0.7	1.44 H	96	52.1	1.2
3	*5550.00	110.1 PK			1.42 H	81	70.8	39.3
4	*5550.00	98.4 AV			1.42 H	81	59.1	39.3
5	11100.00	60.0 PK	74.0	-14.0	2.76 H	129	45.2	14.8
6	11100.00	47.6 AV	54.0	-6.4	2.76 H	129	32.8	14.8
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	#5470.00	66.0 PK	74.0	-8.0	2.81 V	84	64.8	1.2
2	#5470.00	52.1 AV	54.0	-1.9	2.81 V	84	50.9	1.2
3	*5550.00	108.5 PK			2.64 V	86	69.2	39.3
4	*5550.00	97.2 AV			2.64 V	86	57.9	39.3
5	11100.00	59.6 PK	74.0	-14.4	2.39 V	115	44.8	14.8
6	11100.00	47.6 AV	54.0	-6.4	2.39 V	115	32.8	14.8

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

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	106.3 PK			1.39 H	83	66.6	39.7
2	*5670.00	95.4 AV			1.39 H	83	55.7	39.7
3	#5725.00	67.6 PK	74.0	-6.4	1.41 H	92	65.6	2.0
4	#5725.00	53.4 AV	54.0	-0.6	1.41 H	92	51.4	2.0
5	11340.00	60.6 PK	74.0	-13.4	2.89 H	243	45.9	14.7
6	11340.00	47.4 AV	54.0	-6.6	2.89 H	243	32.7	14.7
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	105.5 PK			2.79 V	84	65.8	39.7
2	*5670.00	93.6 AV			2.79 V	84	53.9	39.7
3	#5725.00	65.7 PK	74.0	-8.3	2.75 V	91	63.7	2.0
4	#5725.00	51.9 AV	54.0	-2.1	2.75 V	91	49.9	2.0
5	11340.00	60.2 PK	74.0	-13.8	2.76 V	243	45.5	14.7
6	11340.00	47.6 AV	54.0	-6.4	2.76 V	243	32.9	14.7

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 142	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	#5470.00	57.7 PK	74.0	-16.3	1.46 H	96	52.0	5.7
2	#5470.00	44.9 AV	54.0	-9.1	1.46 H	96	39.2	5.7
3	*5710.00	109.8 PK			1.46 H	89	69.8	40.0
4	*5710.00	98.5 AV			1.46 H	89	58.5	40.0
5	#5850.00	57.3 PK	74.0	-16.7	1.51 H	75	50.8	6.5
6	#5850.00	45.1 AV	54.0	-8.9	1.51 H	75	38.6	6.5
7	11420.00	61.0 PK	74.0	-13.0	2.08 H	219	41.7	19.3
8	11420.00	46.6 AV	54.0	-7.4	2.08 H	219	27.3	19.3
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	#5470.00	57.5 PK	74.0	-16.5	2.65 V	86	51.8	5.7
2	#5470.00	45.0 AV	54.0	-9.0	2.65 V	86	39.3	5.7
3	*5710.00	108.1 PK			2.72 V	89	68.1	40.0
4	*5710.00	96.9 AV			2.72 V	89	56.9	40.0
5	#5850.00	57.6 PK	74.0	-16.4	2.92 V	78	51.1	6.5
6	#5850.00	44.9 AV	54.0	-9.1	2.92 V	78	38.4	6.5
7	11420.00	60.9 PK	74.0	-13.1	2.99 V	308	41.6	19.3
8	11420.00	46.7 AV	54.0	-7.3	2.99 V	308	27.4	19.3

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.

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	57.5 PK	74.0	-16.5	2.90 H	333	56.7	0.8
2	5150.00	43.9 AV	54.0	-10.1	2.90 H	333	43.1	0.8
3	*5290.00	100.9 PK			2.88 H	336	62.0	38.9
4	*5290.00	89.9 AV			2.88 H	336	51.0	38.9
5	5350.00	63.3 PK	74.0	-10.7	2.96 H	333	62.2	1.1
6	5350.00	53.1 AV	54.0	-0.9	2.96 H	333	52.0	1.1
7	#10580.00	59.2 PK	74.0	-14.8	2.73 H	305	45.4	13.8
8	#10580.00	47.3 AV	54.0	-6.7	2.73 H	305	33.5	13.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	55.5 PK	74.0	-18.5	2.95 V	137	54.7	0.8
2	5150.00	43.4 AV	54.0	-10.6	2.95 V	137	42.6	0.8
3	*5290.00	96.1 PK			3.00 V	144	57.2	38.9
4	*5290.00	85.6 AV			3.00 V	144	46.7	38.9
5	5350.00	62.1 PK	74.0	-11.9	2.98 V	142	61.0	1.1
6	5350.00	48.9 AV	54.0	-5.1	2.98 V	142	47.8	1.1
7	#10580.00	59.0 PK	74.0	-15.0	1.81 V	162	45.2	13.8
8	#10580.00	47.3 AV	54.0	-6.7	1.81 V	162	33.5	13.8

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.
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	63.6 PK	74.0	-10.4	1.45 H	100	62.4	1.2
2	5460.00	51.4 AV	54.0	-2.6	1.45 H	100	50.2	1.2
3	#5470.00	65.6 PK	74.0	-8.4	1.43 H	97	64.4	1.2
4	#5470.00	53.2 AV	54.0	-0.8	1.43 H	97	52.0	1.2
5	*5530.00	99.8 PK			1.24 H	95	60.5	39.3
6	*5530.00	88.5 AV			1.24 H	95	49.2	39.3
7	#5725.00	56.7 PK	74.0	-17.3	1.48 H	102	54.7	2.0
8	#5725.00	44.1 AV	54.0	-9.9	1.48 H	102	42.1	2.0
9	11060.00	59.8 PK	74.0	-14.2	3.04 H	172	44.9	14.9
10	11060.00	47.4 AV	54.0	-6.6	3.04 H	172	32.5	14.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	63.6 PK	74.0	-10.4	2.85 V	78	62.4	1.2
2	5460.00	50.8 AV	54.0	-3.2	2.85 V	78	49.6	1.2
3	#5470.00	63.8 PK	74.0	-10.2	2.83 V	82	62.6	1.2
4	#5470.00	51.3 AV	54.0	-2.7	2.83 V	82	50.1	1.2
5	*5530.00	97.7 PK			2.97 V	86	58.4	39.3
6	*5530.00	86.5 AV			2.97 V	86	47.2	39.3
7	#5725.00	57.2 PK	74.0	-16.8	2.76 V	88	55.2	2.0
8	#5725.00	44.0 AV	54.0	-10.0	2.76 V	88	42.0	2.0
9	11060.00	60.2 PK	74.0	-13.8	1.48 V	172	45.3	14.9
10	11060.00	47.5 AV	54.0	-6.5	1.48 V	172	32.6	14.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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	#5470.00	65.7 PK	74.0	-8.3	2.71 H	335	60.0	5.7
2	#5470.00	53.2 AV	54.0	-0.8	2.71 H	335	47.5	5.7
3	*5610.00	105.4 PK			1.45 H	98	65.6	39.8
4	*5610.00	95.6 AV			1.45 H	98	55.8	39.8
5	#5725.00	62.2 PK	74.0	-11.8	2.88 H	340	55.9	6.3
6	#5725.00	49.6 AV	54.0	-4.4	2.88 H	340	43.3	6.3
7	11220.00	61.1 PK	74.0	-12.9	1.17 H	250	41.4	19.7
8	11220.00	48.7 AV	54.0	-5.3	1.17 H	250	29.0	19.7
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	#5470.00	65.0 PK	74.0	-9.0	2.74 V	79	59.3	5.7
2	#5470.00	52.5 AV	54.0	-1.5	2.74 V	79	46.8	5.7
3	*5610.00	103.8 PK			2.85 V	84	64.0	39.8
4	*5610.00	94.2 AV			2.85 V	84	54.4	39.8
5	#5725.00	62.2 PK	74.0	-11.8	2.88 V	340	55.9	6.3
6	#5725.00	49.6 AV	54.0	-4.4	2.88 V	340	43.3	6.3
7	11220.00	60.8 PK	74.0	-13.2	2.07 V	228	41.1	19.7
8	11220.00	48.9 AV	54.0	-5.1	2.07 V	228	29.2	19.7

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 138	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	#5470.00	57.6 PK	74.0	-16.4	1.48 H	97	51.9	5.7
2	#5470.00	44.7 AV	54.0	-9.3	1.48 H	97	39.0	5.7
3	*5690.00	108.7 PK			1.45 H	88	68.8	39.9
4	*5690.00	97.7 AV			1.45 H	88	57.8	39.9
5	#5850.00	57.4 PK	74.0	-16.6	1.42 H	86	50.9	6.5
6	#5850.00	45.1 AV	54.0	-8.9	1.42 H	86	38.6	6.5
7	11380.00	60.9 PK	74.0	-13.1	2.17 H	209	41.6	19.3
8	11380.00	46.5 AV	54.0	-7.5	2.17 H	209	27.2	19.3
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	#5470.00	57.8 PK	74.0	-16.2	2.82 V	88	52.1	5.7
2	#5470.00	45.1 AV	54.0	-8.9	2.82 V	88	39.4	5.7
3	*5690.00	107.4 PK			2.73 V	92	67.5	39.9
4	*5690.00	96.6 AV			2.73 V	92	56.7	39.9
5	#5850.00	57.9 PK	74.0	-16.1	2.79 V	91	51.4	6.5
6	#5850.00	44.7 AV	54.0	-9.3	2.79 V	91	38.2	6.5
7	11380.00	61.1 PK	74.0	-12.9	1.08 V	227	41.8	19.3
8	11380.00	46.4 AV	54.0	-7.6	1.08 V	227	27.1	19.3

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.

2TX

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	55.1 PK	74.0	-18.9	1.72 H	358	54.3	0.8
2	5150.00	41.7 AV	54.0	-12.3	1.72 H	358	40.9	0.8
3	*5260.00	110.6 PK			1.69 H	337	71.8	38.8
4	*5260.00	100.1 AV			1.69 H	337	61.3	38.8
5	#10520.00	58.9 PK	74.0	-15.1	1.89 H	77	45.2	13.7
6	#10520.00	45.1 AV	54.0	-8.9	1.89 H	77	31.4	13.7
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	5150.00	55.6 PK	74.0	-18.4	1.02 V	15	54.8	0.8
2	5150.00	42.4 AV	54.0	-11.6	1.02 V	15	41.6	0.8
3	*5260.00	112.8 PK			1.00 V	13	74.0	38.8
4	*5260.00	103.1 AV			1.00 V	13	64.3	38.8
5	#10520.00	58.6 PK	74.0	-15.4	1.73 V	224	44.9	13.7
6	#10520.00	45.2 AV	54.0	-8.8	1.73 V	224	31.5	13.7

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 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	109.1 PK			1.00 H	63	70.2	38.9
2	*5300.00	99.3 AV			1.00 H	63	60.4	38.9
3	5350.00	64.1 PK	74.0	-9.9	1.00 H	68	63.0	1.1
4	5350.00	50.0 AV	54.0	-4.0	1.00 H	68	48.9	1.1
5	10600.00	60.1 PK	74.0	-13.9	1.92 H	354	46.3	13.8
6	10600.00	45.9 AV	54.0	-8.1	1.92 H	354	32.1	13.8
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			1.03 V	102	74.1	38.9
2	*5300.00	103.3 AV			1.03 V	102	64.4	38.9
3	5350.00	66.9 PK	74.0	-7.1	1.00 V	338	65.8	1.1
4	5350.00	52.0 AV	54.0	-2.0	1.00 V	338	50.9	1.1
5	10600.00	59.6 PK	74.0	-14.4	1.54 V	332	45.8	13.8
6	10600.00	46.0 AV	54.0	-8.0	1.54 V	332	32.2	13.8

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

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	107.9 PK			1.10 H	343	68.9	39.0
2	*5320.00	97.8 AV			1.10 H	343	58.8	39.0
3	5350.00	63.8 PK	74.0	-10.2	1.31 H	94	62.7	1.1
4	5350.00	49.0 AV	54.0	-5.0	1.31 H	94	47.9	1.1
5	10640.00	59.1 PK	74.0	-14.9	1.76 H	238	45.2	13.9
6	10640.00	45.4 AV	54.0	-8.6	1.76 H	238	31.5	13.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	110.7 PK			1.09 V	63	71.7	39.0
2	*5320.00	101.4 AV			1.09 V	63	62.4	39.0
3	5350.00	67.2 PK	74.0	-6.8	1.05 V	14	66.1	1.1
4	5350.00	53.1 AV	54.0	-0.9	1.05 V	14	52.0	1.1
5	10640.00	58.8 PK	74.0	-15.2	1.92 V	287	44.9	13.9
6	10640.00	45.5 AV	54.0	-8.5	1.92 V	287	31.6	13.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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 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	58.5 PK	74.0	-15.5	1.34 H	65	57.3	1.2
2	5460.00	44.4 AV	54.0	-9.6	1.34 H	65	43.2	1.2
3	#5470.00	61.0 PK	74.0	-13.0	1.25 H	73	59.8	1.2
4	#5470.00	45.6 AV	54.0	-8.4	1.25 H	73	44.4	1.2
5	*5500.00	105.1 PK			1.22 H	69	65.8	39.3
6	*5500.00	94.9 AV			1.22 H	69	55.6	39.3
7	11000.00	60.2 PK	74.0	-13.8	2.38 H	216	44.9	15.3
8	11000.00	46.5 AV	54.0	-7.5	2.38 H	216	31.2	15.3
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	60.8 PK	74.0	-13.2	1.03 V	335	59.6	1.2
2	5460.00	46.9 AV	54.0	-7.1	1.03 V	335	45.7	1.2
3	#5470.00	68.0 PK	74.0	-6.0	1.00 V	334	66.8	1.2
4	#5470.00	53.1 AV	54.0	-0.9	1.00 V	334	51.9	1.2
5	*5500.00	106.3 PK			1.00 V	66	67.0	39.3
6	*5500.00	97.6 AV			1.00 V	66	58.3	39.3
7	11000.00	60.5 PK	74.0	-13.5	1.46 V	164	45.2	15.3
8	11000.00	46.8 AV	54.0	-7.2	1.46 V	164	31.5	15.3

Remarks:

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

CHANNEL	TX Channel 116	DETECTOR FUNCTION	Peak (PK) 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	108.2 PK			1.21 H	92	68.7	39.5
2	*5580.00	98.0 AV			1.21 H	92	58.5	39.5
3	11160.00	59.7 PK	74.0	-14.3	2.63 H	258	44.8	14.9
4	11160.00	46.8 AV	54.0	-7.2	2.63 H	258	31.9	14.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	109.3 PK			1.00 V	16	69.8	39.5
2	*5580.00	100.1 AV			1.00 V	16	60.6	39.5
3	11160.00	59.6 PK	74.0	-14.4	1.89 V	207	44.7	14.9
4	11160.00	46.5 AV	54.0	-7.5	1.89 V	207	31.6	14.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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 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	104.6 PK			1.11 H	81	64.8	39.8
2	*5700.00	94.6 AV			1.11 H	81	54.8	39.8
3	#5725.00	62.9 PK	74.0	-11.1	1.08 H	85	60.9	2.0
4	#5725.00	46.9 AV	54.0	-7.1	1.08 H	85	44.9	2.0
5	11400.00	60.1 PK	74.0	-13.9	1.87 H	168	45.6	14.5
6	11400.00	47.2 AV	54.0	-6.8	1.87 H	168	32.7	14.5
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	105.7 PK			1.00 V	19	65.9	39.8
2	*5700.00	96.2 AV			1.00 V	19	56.4	39.8
3	#5725.00	58.5 PK	74.0	-15.5	1.04 V	21	56.5	2.0
4	#5725.00	53.3 AV	54.0	-0.7	1.04 V	21	51.3	2.0
5	11400.00	60.3 PK	74.0	-13.7	1.67 V	238	45.8	14.5
6	11400.00	47.0 AV	54.0	-7.0	1.67 V	238	32.5	14.5

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 144	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	#5470.00	57.3 PK	74.0	-16.7	1.83 H	351	51.6	5.7
2	#5470.00	44.1 AV	54.0	-9.9	1.83 H	351	38.4	5.7
3	*5720.00	108.5 PK			1.25 H	92	68.5	40.0
4	*5720.00	98.6 AV			1.25 H	92	58.6	40.0
5	#5850.00	57.5 PK	74.0	-16.5	2.47 H	350	51.0	6.5
6	#5850.00	44.6 AV	54.0	-9.4	2.47 H	350	38.1	6.5
7	11440.00	60.5 PK	74.0	-13.5	3.33 H	310	41.2	19.3
8	11440.00	46.3 AV	54.0	-7.7	3.33 H	310	27.0	19.3
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	#5470.00	57.1 PK	74.0	-16.9	1.25 V	328	51.4	5.7
2	#5470.00	43.9 AV	54.0	-10.1	1.25 V	328	38.2	5.7
3	*5720.00	109.5 PK			1.00 V	22	69.5	40.0
4	*5720.00	100.2 AV			1.00 V	22	60.2	40.0
5	#5850.00	57.7 PK	74.0	-16.3	2.15 V	220	51.2	6.5
6	#5850.00	45.0 AV	54.0	-9.0	2.15 V	220	38.5	6.5
7	11440.00	60.1 PK	74.0	-13.9	1.77 V	243	40.8	19.3
8	11440.00	45.9 AV	54.0	-8.1	1.77 V	243	26.6	19.3

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.

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	55.5 PK	74.0	-18.5	1.25 H	348	54.7	0.8
2	5150.00	42.2 AV	54.0	-11.8	1.25 H	348	41.4	0.8
3	*5260.00	108.6 PK			1.00 H	336	69.8	38.8
4	*5260.00	96.6 AV			1.00 H	336	57.8	38.8
5	#10520.00	58.9 PK	74.0	-15.1	2.42 H	243	45.2	13.7
6	#10520.00	45.6 AV	54.0	-8.4	2.42 H	243	31.9	13.7
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	5150.00	55.6 PK	74.0	-18.4	1.02 V	348	54.8	0.8
2	5150.00	42.4 AV	54.0	-11.6	1.02 V	348	41.6	0.8
3	*5260.00	108.0 PK			1.10 V	337	69.2	38.8
4	*5260.00	98.3 AV			1.10 V	337	59.5	38.8
5	#10520.00	58.9 PK	74.0	-15.1	1.95 V	157	45.2	13.7
6	#10520.00	45.5 AV	54.0	-8.5	1.95 V	157	31.8	13.7

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 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	108.2 PK			1.00 H	343	69.3	38.9
2	*5300.00	96.2 AV			1.00 H	343	57.3	38.9
3	10600.00	60.1 PK	74.0	-13.9	1.72 H	177	46.3	13.8
4	10600.00	46.0 AV	54.0	-8.0	1.72 H	177	32.2	13.8
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	109.0 PK			1.07 V	14	70.1	38.9
2	*5300.00	98.9 AV			1.07 V	14	60.0	38.9
3	10600.00	59.9 PK	74.0	-14.1	1.43 V	138	46.1	13.8
4	10600.00	45.9 AV	54.0	-8.1	1.43 V	138	32.1	13.8

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

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	105.9 PK			1.00 H	342	66.9	39.0
2	*5320.00	95.1 AV			1.00 H	342	56.1	39.0
3	5350.00	61.4 PK	74.0	-12.6	1.01 H	340	60.3	1.1
4	5350.00	45.9 AV	54.0	-8.1	1.01 H	340	44.8	1.1
5	10640.00	58.8 PK	74.0	-15.2	1.88 H	343	44.9	13.9
6	10640.00	45.3 AV	54.0	-8.7	1.88 H	343	31.4	13.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	109.7 PK			1.00 V	64	70.7	39.0
2	*5320.00	98.9 AV			1.00 V	64	59.9	39.0
3	5350.00	67.8 PK	74.0	-6.2	1.06 V	63	66.7	1.1
4	5350.00	53.3 AV	54.0	-0.7	1.06 V	63	52.2	1.1
5	10640.00	58.8 PK	74.0	-15.2	2.99 V	254	44.9	13.9
6	10640.00	45.2 AV	54.0	-8.8	2.99 V	254	31.3	13.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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 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	58.4 PK	74.0	-15.6	1.08 H	78	57.2	1.2
2	5460.00	44.7 AV	54.0	-9.3	1.08 H	78	43.5	1.2
3	#5470.00	62.5 PK	74.0	-11.5	1.02 H	98	61.3	1.2
4	#5470.00	46.1 AV	54.0	-7.9	1.02 H	98	44.9	1.2
5	*5500.00	106.0 PK			1.00 H	91	66.7	39.3
6	*5500.00	94.6 AV			1.00 H	91	55.3	39.3
7	11000.00	60.1 PK	74.0	-13.9	1.89 H	157	44.8	15.3
8	11000.00	46.6 AV	54.0	-7.4	1.89 H	157	31.3	15.3
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	1.02 V	16	60.8	1.2
2	5460.00	47.0 AV	54.0	-7.0	1.02 V	16	45.8	1.2
3	#5470.00	70.1 PK	74.0	-3.9	1.04 V	12	68.9	1.2
4	#5470.00	53.2 AV	54.0	-0.8	1.04 V	12	52.0	1.2
5	*5500.00	107.8 PK			1.00 V	66	68.5	39.3
6	*5500.00	97.3 AV			1.00 V	66	58.0	39.3
7	11000.00	60.0 PK	74.0	-14.0	1.38 V	132	44.7	15.3
8	11000.00	46.7 AV	54.0	-7.3	1.38 V	132	31.4	15.3

Remarks:

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

CHANNEL	TX Channel 116	DETECTOR FUNCTION	Peak (PK) 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	108.4 PK			1.00 H	84	68.9	39.5
2	*5580.00	97.0 AV			1.00 H	84	57.5	39.5
3	11160.00	60.7 PK	74.0	-13.3	1.08 H	169	45.8	14.9
4	11160.00	46.7 AV	54.0	-7.3	1.08 H	169	31.8	14.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	110.4 PK			1.00 V	17	70.9	39.5
2	*5580.00	100.2 AV			1.00 V	17	60.7	39.5
3	11160.00	59.9 PK	74.0	-14.1	1.99 V	278	45.0	14.9
4	11160.00	46.6 AV	54.0	-7.4	1.99 V	278	31.7	14.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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 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	104.5 PK			1.00 H	79	64.7	39.8
2	*5700.00	94.2 AV			1.00 H	79	54.4	39.8
3	#5725.00	65.2 PK	74.0	-8.8	1.03 H	83	63.2	2.0
4	#5725.00	49.0 AV	54.0	-5.0	1.03 H	83	47.0	2.0
5	11400.00	60.8 PK	74.0	-13.2	1.94 H	138	46.3	14.5
6	11400.00	46.8 AV	54.0	-7.2	1.94 H	138	32.3	14.5
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	106.7 PK			1.00 V	20	66.9	39.8
2	*5700.00	96.6 AV			1.00 V	20	56.8	39.8
3	#5725.00	69.8 PK	74.0	-4.2	1.03 V	22	67.8	2.0
4	#5725.00	53.3 AV	54.0	-0.7	1.03 V	22	51.3	2.0
5	11400.00	60.3 PK	74.0	-13.7	1.77 V	234	45.8	14.5
6	11400.00	47.1 AV	54.0	-6.9	1.77 V	234	32.6	14.5

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 144	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	#5470.00	57.5 PK	74.0	-16.5	2.04 H	227	51.8	5.7
2	#5470.00	44.2 AV	54.0	-9.8	2.04 H	227	38.5	5.7
3	*5720.00	108.3 PK			1.18 H	86	68.3	40.0
4	*5720.00	99.0 AV			1.18 H	86	59.0	40.0
5	#5850.00	57.2 PK	74.0	-16.8	1.76 H	136	50.7	6.5
6	#5850.00	44.7 AV	54.0	-9.3	1.76 H	136	38.2	6.5
7	11440.00	60.4 PK	74.0	-13.6	2.07 H	225	41.1	19.3
8	11440.00	46.0 AV	54.0	-8.0	2.07 H	225	26.7	19.3
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	#5470.00	57.7 PK	74.0	-16.3	1.64 V	183	52.0	5.7
2	#5470.00	44.4 AV	54.0	-9.6	1.64 V	183	38.7	5.7
3	*5720.00	109.3 PK			1.05 V	27	69.3	40.0
4	*5720.00	100.1 AV			1.05 V	27	60.1	40.0
5	#5850.00	57.6 PK	74.0	-16.4	1.95 V	78	51.1	6.5
6	#5850.00	44.7 AV	54.0	-9.3	1.95 V	78	38.2	6.5
7	11440.00	59.8 PK	74.0	-14.2	1.68 V	252	40.5	19.3
8	11440.00	46.0 AV	54.0	-8.0	1.68 V	252	26.7	19.3

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.

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	*5270.00	106.0 PK			1.00 H	338	67.1	38.9
2	*5270.00	94.2 AV			1.00 H	338	55.3	38.9
3	5350.00	62.8 PK	74.0	-11.2	1.03 H	337	61.7	1.1
4	5350.00	50.2 AV	54.0	-3.8	1.03 H	337	49.1	1.1
5	#10540.00	59.0 PK	74.0	-15.0	1.47 H	168	45.3	13.7
6	#10540.00	46.6 AV	54.0	-7.4	1.47 H	168	32.9	13.7
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	*5270.00	108.3 PK			1.00 V	16	69.4	38.9
2	*5270.00	98.8 AV			1.00 V	16	59.9	38.9
3	5350.00	69.2 PK	74.0	-4.8	1.00 V	14	68.1	1.1
4	5350.00	53.2 AV	54.0	-0.8	1.00 V	14	52.1	1.1
5	#10540.00	58.5 PK	74.0	-15.5	1.57 V	305	44.8	13.7
6	#10540.00	46.5 AV	54.0	-7.5	1.57 V	305	32.8	13.7

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 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	100.8 PK			1.00 H	340	61.9	38.9
2	*5310.00	90.1 AV			1.00 H	340	51.2	38.9
3	5350.00	61.7 PK	74.0	-12.3	1.02 H	336	60.6	1.1
4	5350.00	47.8 AV	54.0	-6.2	1.02 H	336	46.7	1.1
5	10620.00	59.5 PK	74.0	-14.5	1.73 H	212	45.7	13.8
6	10620.00	46.9 AV	54.0	-7.1	1.73 H	212	33.1	13.8
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	103.6 PK			1.00 V	100	64.7	38.9
2	*5310.00	93.9 AV			1.00 V	100	55.0	38.9
3	5350.00	70.8 PK	74.0	-3.2	1.05 V	16	69.7	1.1
4	**5350.00**	**53.5 AV**	**54.0**	**-0.5**	**1.05 V**	**16**	**52.4**	**1.1**
5	10620.00	59.1 PK	74.0	-14.9	2.73 V	264	45.3	13.8
6	10620.00	47.0 AV	54.0	-7.0	2.73 V	264	33.2	13.8

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

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	57.1 PK	74.0	-16.9	1.07 H	84	55.9	1.2
2	5460.00	44.6 AV	54.0	-9.4	1.07 H	84	43.4	1.2
3	#5470.00	59.7 PK	74.0	-14.3	1.04 H	93	58.5	1.2
4	#5470.00	46.1 AV	54.0	-7.9	1.04 H	93	44.9	1.2
5	*5510.00	99.0 PK			1.00 H	89	59.7	39.3
6	*5510.00	87.8 AV			1.00 H	89	48.5	39.3
7	11020.00	60.7 PK	74.0	-13.3	1.95 H	163	45.5	15.2
8	11020.00	47.6 AV	54.0	-6.4	1.95 H	163	32.4	15.2
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	63.5 PK	74.0	-10.5	1.15 V	72	62.3	1.2
2	5460.00	46.3 AV	54.0	-7.7	1.15 V	72	45.1	1.2
3	#5470.00	66.4 PK	74.0	-7.6	1.18 V	66	65.2	1.2
4	#5470.00	53.3 AV	54.0	-0.7	1.18 V	66	52.1	1.2
5	*5510.00	101.4 PK			1.17 V	14	62.1	39.3
6	*5510.00	91.9 AV			1.17 V	14	52.6	39.3
7	11020.00	60.6 PK	74.0	-13.4	1.65 V	323	45.4	15.2
8	11020.00	48.0 AV	54.0	-6.0	1.65 V	323	32.8	15.2

Remarks:

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

CHANNEL	TX Channel 110	DETECTOR FUNCTION	Peak (PK) 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	#5470.00	62.4 PK	74.0	-11.6	1.02 H	99	61.2	1.2
2	#5470.00	48.7 AV	54.0	-5.3	1.02 H	99	47.5	1.2
3	*5550.00	105.2 PK			1.00 H	93	65.9	39.3
4	*5550.00	94.2 AV			1.00 H	93	54.9	39.3
5	11100.00	60.3 PK	74.0	-13.7	1.76 H	286	45.5	14.8
6	11100.00	47.7 AV	54.0	-6.3	1.76 H	286	32.9	14.8
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	#5470.00	67.0 PK	74.0	-7.0	1.14 V	18	65.8	1.2
2	#5470.00	53.4 AV	54.0	-0.6	1.14 V	18	52.2	1.2
3	*5550.00	107.2 PK			1.17 V	16	67.9	39.3
4	*5550.00	97.4 AV			1.17 V	16	58.1	39.3
5	11100.00	59.9 PK	74.0	-14.1	1.96 V	164	45.1	14.8
6	11100.00	47.0 AV	54.0	-7.0	1.96 V	164	32.2	14.8

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

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	102.2 PK			1.00 H	81	62.5	39.7
2	*5670.00	90.9 AV			1.00 H	81	51.2	39.7
3	#5725.00	60.9 PK	74.0	-13.1	1.05 H	88	58.9	2.0
4	#5725.00	48.9 AV	54.0	-5.1	1.05 H	88	46.9	2.0
5	11340.00	70.4 PK	74.0	-3.6	1.86 H	327	55.7	14.7
6	11340.00	47.7 AV	54.0	-6.3	1.86 H	327	33.0	14.7
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	104.5 PK			1.00 V	21	64.8	39.7
2	*5670.00	94.7 AV			1.00 V	21	55.0	39.7
3	#5725.00	64.0 PK	74.0	-10.0	1.00 V	22	62.0	2.0
4	#5725.00	53.2 AV	54.0	-0.8	1.00 V	22	51.2	2.0
5	11340.00	60.2 PK	74.0	-13.8	1.24 V	185	45.5	14.7
6	11340.00	47.7 AV	54.0	-6.3	1.24 V	185	33.0	14.7

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 142	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	#5470.00	57.4 PK	74.0	-16.6	1.65 H	218	51.7	5.7
2	#5470.00	44.3 AV	54.0	-9.7	1.65 H	218	38.6	5.7
3	*5710.00	106.4 PK			1.20 H	96	66.4	40.0
4	*5710.00	95.6 AV			1.20 H	96	55.6	40.0
5	#5850.00	58.0 PK	74.0	-16.0	1.32 H	273	51.5	6.5
6	#5850.00	44.7 AV	54.0	-9.3	1.32 H	273	38.2	6.5
7	11420.00	60.6 PK	74.0	-13.4	2.08 H	326	41.3	19.3
8	11420.00	48.0 AV	54.0	-6.0	2.08 H	326	28.7	19.3
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	#5470.00	57.8 PK	74.0	-16.2	1.54 V	27	52.1	5.7
2	#5470.00	44.2 AV	54.0	-9.8	1.54 V	27	38.5	5.7
3	*5710.00	107.6 PK			1.21 V	32	67.6	40.0
4	*5710.00	97.9 AV			1.21 V	32	57.9	40.0
5	#5850.00	57.4 PK	74.0	-16.6	1.92 V	8	50.9	6.5
6	#5850.00	45.3 AV	54.0	-8.7	1.92 V	8	38.8	6.5
7	11420.00	60.4 PK	74.0	-13.6	1.46 V	333	41.1	19.3
8	11420.00	45.8 AV	54.0	-8.2	1.46 V	333	26.5	19.3

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.

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	55.9 PK	74.0	-18.1	1.07 H	341	55.1	0.8
2	5150.00	43.4 AV	54.0	-10.6	1.07 H	341	42.6	0.8
3	*5290.00	95.7 PK			1.00 H	341	56.8	38.9
4	*5290.00	84.3 AV			1.00 H	341	45.4	38.9
5	5350.00	60.4 PK	74.0	-13.6	1.02 H	338	59.3	1.1
6	5350.00	47.5 AV	54.0	-6.5	1.02 H	338	46.4	1.1
7	#10580.00	59.7 PK	74.0	-14.3	1.96 H	143	45.9	13.8
8	#10580.00	47.6 AV	54.0	-6.4	1.96 H	143	33.8	13.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.3 PK	74.0	-16.7	1.08 V	17	56.5	0.8
2	5150.00	44.6 AV	54.0	-9.4	1.08 V	17	43.8	0.8
3	*5290.00	100.6 PK			1.01 V	16	61.7	38.9
4	*5290.00	90.2 AV			1.01 V	16	51.3	38.9
5	5350.00	62.4 PK	74.0	-11.6	1.03 V	15	61.3	1.1
6	5350.00	53.1 AV	54.0	-0.9	1.03 V	15	52.0	1.1
7	#10580.00	69.5 PK	74.0	-4.5	1.66 V	273	55.7	13.8
8	#10580.00	47.0 AV	54.0	-7.0	1.66 V	273	33.2	13.8

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.
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	59.6 PK	74.0	-14.4	1.05 H	96	58.4	1.2
2	5460.00	46.0 AV	54.0	-8.0	1.05 H	96	44.8	1.2
3	#5470.00	58.2 PK	74.0	-15.8	1.02 H	87	57.0	1.2
4	#5470.00	45.1 AV	54.0	-8.9	1.02 H	87	43.9	1.2
5	*5530.00	93.7 PK			1.00 H	90	54.4	39.3
6	*5530.00	83.1 AV			1.00 H	90	43.8	39.3
7	#5725.00	56.9 PK	74.0	-17.1	2.72 H	345	54.9	2.0
8	#5725.00	44.5 AV	54.0	-9.5	2.72 H	345	42.5	2.0
9	11060.00	70.8 PK	74.0	-3.2	1.55 H	243	55.9	14.9
10	11060.00	47.7 AV	54.0	-6.3	1.55 H	243	32.8	14.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	62.4 PK	74.0	-11.6	1.07 V	71	61.2	1.2
2	5460.00	50.4 AV	54.0	-3.6	1.07 V	71	49.2	1.2
3	#5470.00	64.8 PK	74.0	-9.2	1.04 V	63	63.6	1.2
4	#5470.00	53.1 AV	54.0	-0.9	1.04 V	63	51.9	1.2
5	*5530.00	97.2 PK			1.00 V	67	57.9	39.3
6	*5530.00	87.1 AV			1.00 V	67	47.8	39.3
7	#5725.00	57.2 PK	74.0	-16.8	1.06 V	68	55.2	2.0
8	#5725.00	44.4 AV	54.0	-9.6	1.06 V	68	42.4	2.0
9	11060.00	60.7 PK	74.0	-13.3	1.75 V	166	45.8	14.9
10	11060.00	47.9 AV	54.0	-6.1	1.75 V	166	33.0	14.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – 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	#5470.00	62.7 PK	74.0	-11.3	1.25 H	95	57.0	5.7
2	#5470.00	52.4 AV	54.0	-1.6	1.25 H	95	46.7	5.7
3	*5610.00	103.7 PK			1.24 H	98	63.9	39.8
4	*5610.00	91.9 AV			1.24 H	98	52.1	39.8
5	#5725.00	63.5 PK	74.0	-10.5	1.22 H	104	57.2	6.3
6	#5725.00	52.9 AV	54.0	-1.1	1.22 H	104	46.6	6.3
7	11220.00	60.9 PK	74.0	-13.1	2.04 H	312	41.2	19.7
8	11220.00	49.2 AV	54.0	-4.8	2.04 H	312	29.5	19.7
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	#5470.00	64.2 PK	74.0	-9.8	1.14 V	23	58.5	5.7
2	#5470.00	52.8 AV	54.0	-1.2	1.14 V	23	47.1	5.7
3	*5610.00	105.6 PK			1.16 V	19	65.8	39.8
4	*5610.00	95.4 AV			1.16 V	19	55.6	39.8
5	#5725.00	65.0 PK	74.0	-9.0	1.15 V	19	58.7	6.3
6	**#5725.00**	**53.5 AV**	**54.0**	**-0.5**	**1.15 V**	**19**	**47.2**	**6.3**
7	11220.00	61.2 PK	74.0	-12.8	1.63 V	44	41.5	19.7
8	11220.00	49.2 AV	54.0	-4.8	1.63 V	44	29.5	19.7

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 138	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	#5470.00	57.6 PK	74.0	-16.4	2.05 H	274	51.9	5.7
2	#5470.00	44.3 AV	54.0	-9.7	2.05 H	274	38.6	5.7
3	*5690.00	103.7 PK			1.04 H	100	63.8	39.9
4	*5690.00	92.9 AV			1.04 H	100	53.0	39.9
5	#5850.00	58.0 PK	74.0	-16.0	2.06 H	323	51.5	6.5
6	#5850.00	45.1 AV	54.0	-8.9	2.06 H	323	38.6	6.5
7	11380.00	60.4 PK	74.0	-13.6	1.72 H	135	41.1	19.3
8	11380.00	46.1 AV	54.0	-7.9	1.72 H	135	26.8	19.3
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	#5470.00	57.3 PK	74.0	-16.7	1.98 V	224	51.6	5.7
2	#5470.00	44.2 AV	54.0	-9.8	1.98 V	224	38.5	5.7
3	*5690.00	105.8 PK			1.18 V	33	65.9	39.9
4	*5690.00	96.5 AV			1.18 V	33	56.6	39.9
5	#5850.00	51.2 PK	74.0	-22.8	2.07 V	316	44.7	6.5
6	#5850.00	45.3 AV	54.0	-8.7	2.07 V	316	38.8	6.5
7	11380.00	60.7 PK	74.0	-13.3	1.64 V	107	41.4	19.3
8	11380.00	46.0 AV	54.0	-8.0	1.64 V	107	26.7	19.3

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.

Below 1GHz Worst-Case Data: 802.11a

CHANNEL	TX Channel 52	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	70.73	25.5 QP	40.0	-14.5	2.00 H	213	41.9	-16.4
2	107.67	22.9 QP	43.5	-20.6	1.00 H	67	40.4	-17.5
3	150.45	24.6 QP	43.5	-18.9	2.00 H	96	38.5	-13.9
4	245.72	23.6 QP	46.0	-22.4	1.00 H	245	37.7	-14.1
5	486.81	37.5 QP	46.0	-8.5	2.00 H	186	45.7	-8.2
6	932.05	37.1 QP	46.0	-8.9	1.49 H	90	36.1	1.0
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	45.45	30.9 QP	40.0	-9.1	1.00 V	292	45.6	-14.7
2	74.62	27.8 QP	40.0	-12.2	2.00 V	11	45.0	-17.2
3	150.45	23.5 QP	43.5	-20.0	1.00 V	312	37.4	-13.9
4	403.20	19.0 QP	46.0	-27.0	1.00 V	118	29.1	-10.1
5	527.64	22.8 QP	46.0	-23.2	1.49 V	193	30.1	-7.3
6	749.29	28.0 QP	46.0	-18.0	2.00 V	159	30.3	-2.3

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

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

Note: 1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Nov. 21, 2016	Nov. 20, 2017
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond1-01	Dec. 22, 2016	Dec. 21, 2017
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Mar. 10, 2017	Mar. 09, 2018
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Jul. 28, 2016	Jul. 27, 2017
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Shielded Room 1.
3. The VCCI Site Registration No. is C-2040.

4.2.3 Test 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.

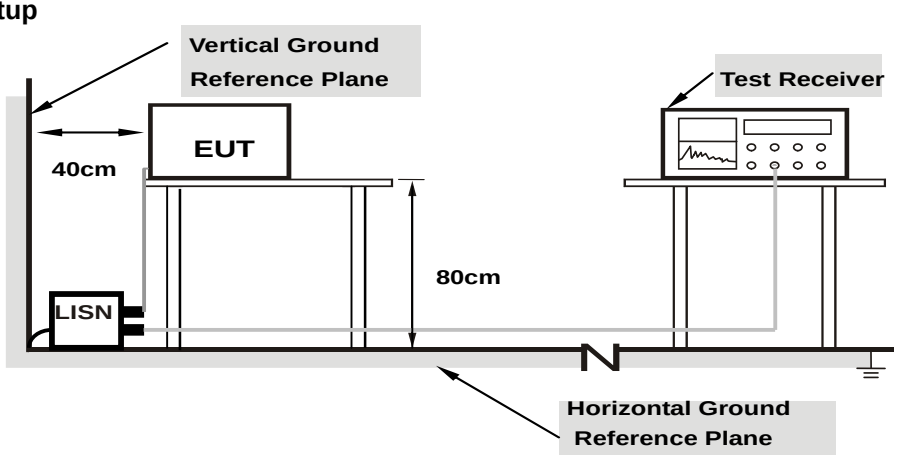
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Conditions

Same as 4.1.6.

4.2.7 Test Results

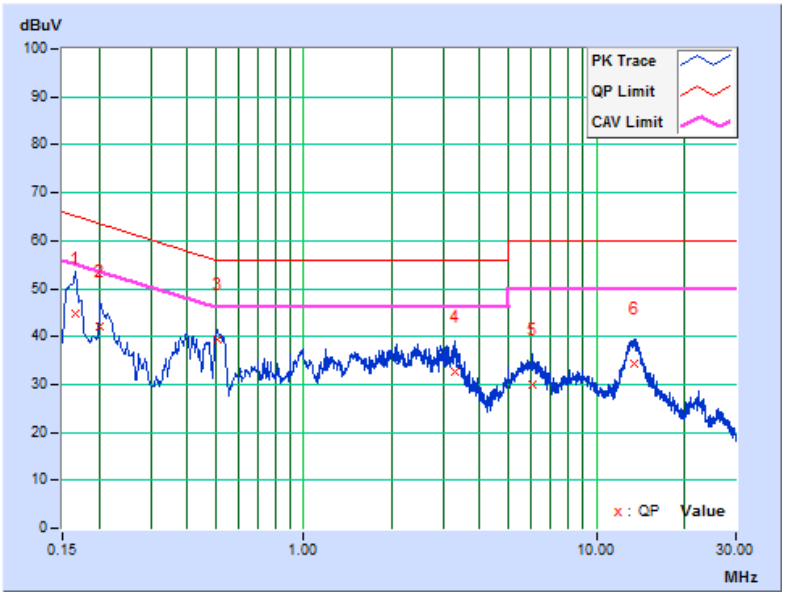
Worst-case data: 802.11a

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16600	10.41	34.36	22.80	44.77	33.21	65.16	55.16	-20.39	-21.95
2	0.20201	10.43	31.70	23.26	42.13	33.69	63.53	53.53	-21.40	-19.84
3	0.50530	10.50	29.00	21.43	39.50	31.93	56.00	46.00	-16.50	-14.07
4	3.29400	10.61	22.01	14.05	32.62	24.66	56.00	46.00	-23.38	-21.34
5	6.08600	10.74	19.08	13.84	29.82	24.58	60.00	50.00	-30.18	-25.42
6	13.46200	11.08	23.41	17.88	34.49	28.96	60.00	50.00	-25.51	-21.04

REMARKS:

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

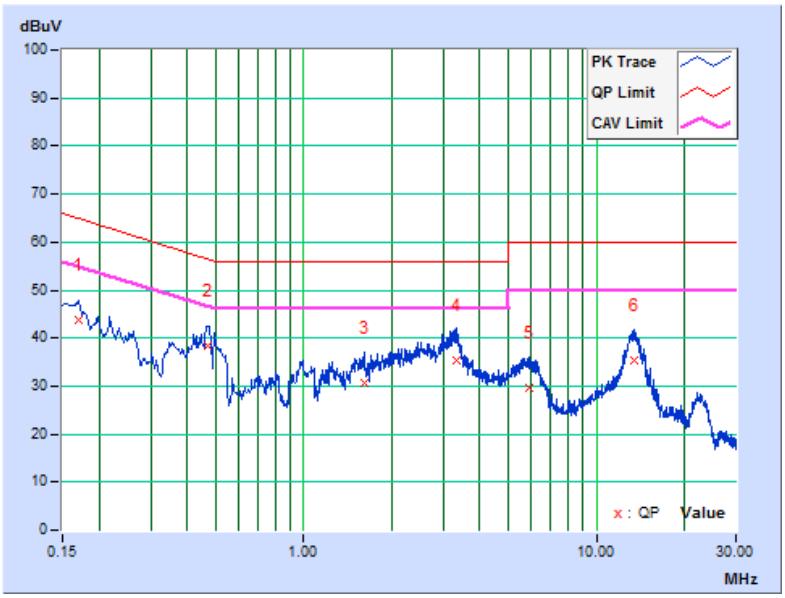


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16932	10.17	33.46	25.08	43.63	35.25	64.99	54.99	-21.36	-19.74
2	**0.46813**	**10.23**	**28.32**	**25.59**	**38.55**	**35.82**	**56.55**	**46.55**	**-18.00**	**-10.73**
3	1.61000	10.28	20.29	13.82	30.57	24.10	56.00	46.00	-25.43	-21.90
4	3.33400	10.38	24.95	17.14	35.33	27.52	56.00	46.00	-20.67	-18.48
5	5.87800	10.49	19.11	13.68	29.60	24.17	60.00	50.00	-30.40	-25.83
6	13.39800	10.78	24.52	18.92	35.30	29.70	60.00	50.00	-24.70	-20.30

REMARKS:

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



4.3 Transmit Power Measurement

4.3.1 Limits of Transmit Power Measurement

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

*B is the 26 dB emission bandwidth in megahertz

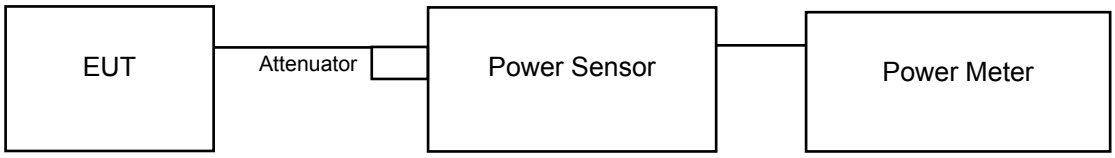
Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};
Array Gain = 5 log(N_{ANT}/N_{SS}) dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

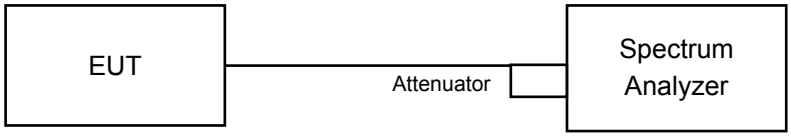
For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

4.3.2 Test Setup

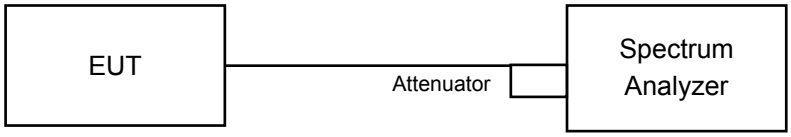
For Power Output
802.11a, 802.11n (HT20), 802.11n (HT40)



802.11ac (VHT80)



For 26dB Bandwidth



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

For Average Power Measurement

For 802.11a, 802.11n (HT20), 802.11n (HT40)
Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

For 802.11ac (VHT80)

a. Set span to encompass the entire 26 dB EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.

b. Set sweep trigger to “free run”.

c. Set RBW = 1 MHz.

d. Set VBW ≥ 3 MHz.

e. Number of points in sweep ≥ 2 Span / RBW.

f. Sweep time ≤ (number of points in sweep) * T

g. Using emission bandwidth to determine the frequency span for integration the channel bandwidth.

h. Detector = RMS.

i. Trace mode = max hold.

j. Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.

k. Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument’s band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the spectrum.

For 26dB Bandwidth

a. Set RBW = approximately 1% of the emission bandwidth.

b. Set the VBW > RBW.

c. Detector = Peak.

d. Trace mode = max hold.

e. 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 from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

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

4.3.7 Test Result

Power Output:

CDD Mode, 1TX

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
52	5260	92.683	19.67	24.00	Pass
60	5300	90.573	19.57	24.00	Pass
64	5320	60.256	17.80	24.00	Pass
100	5500	63.387	18.02	24.00	Pass
116	5580	83.946	19.24	24.00	Pass
140	5700	46.559	16.68	24.00	Pass
144	5720 For U-NII-2C	47.098	16.73	24.00	Pass
144	5720 For U-NII-3	11.402	10.57	30.00	Pass

Note:

1. 11dBm + 10log (38.76) = 26.88 dBm > 24dBm
2. 11dBm + 10log (34.96) = 26.44 dBm > 24dBm
3. 11dBm + 10log (21.93) = 24.41 dBm > 24dBm
4. 11dBm + 10log (21.97) = 24.42 dBm > 24dBm
5. 11dBm + 10log (37.97) = 26.79 dBm > 24dBm
6. 11dBm + 10log (21.93) = 24.41 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5702.79) = 24.47 dBm > 24dBm

802.11n (HT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
52	5260	88.716	19.48	24.00	Pass
60	5300	90.782	19.58	24.00	Pass
64	5320	57.544	17.60	24.00	Pass
100	5500	55.081	17.41	24.00	Pass
116	5580	81.846	19.13	24.00	Pass
140	5700	46.559	16.68	24.00	Pass
144	5720 For U-NII-2C	40.644	16.09	24.00	Pass
144	5720 For U-NII-3	10.495	10.21	30.00	Pass

Note:
1. 11dBm + 10log (41.61) = 27.19 dBm > 24dBm
2. 11dBm + 10log (36.43) = 26.61 dBm > 24dBm
3. 11dBm + 10log (22.12) = 24.45 dBm > 24dBm
4. 11dBm + 10log (22.19) = 24.46 dBm > 24dBm
5. 11dBm + 10log (39.69) = 26.99 dBm > 24dBm
6. 11dBm + 10log (22.26) = 24.48 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5701.13) = 24.78 dBm > 24dBm

802.11n (HT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
54	5270	**93.756**	19.72	24.00	Pass
62	5310	40.926	16.12	24.00	Pass
102	5510	29.648	14.72	24.00	Pass
110	5550	**99.312**	19.97	24.00	Pass
134	5670	63.387	18.02	24.00	Pass
142	5710 For U-NII-2C	56.981	17.56	24.00	Pass
142	5710 For U-NII-3	3.409	5.33	30.00	Pass

Note:
1. 11dBm + 10log (95.47) = 30.80 dBm > 24dBm
2. 11dBm + 10log (41.41) = 27.17 dBm > 24dBm
3. 11dBm + 10log (41.45) = 27.18 dBm > 24dBm
4. 11dBm + 10log (97.16) = 30.87 dBm > 24dBm
5. 11dBm + 10log (41.70) = 27.20 dBm > 24dBm
6. 11dBm + 10log (5725.00 - 5660.00) = 29.13 dBm > 24dBm

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
58	5290	34.198	15.34	24.00	Pass
106	5530	24.210	13.84	24.00	Pass
122	5610	72.277	18.59	24.00	Pass
138	5690 For U-NII-2C	32.835	15.16	24.00	Pass
138	5690 For U-NII-3	1.266	1.02	30.00	Pass

Note:
1. 11dBm + 10log (82.77) = 30.18 dBm > 24dBm
2. 11dBm + 10log (82.92) = 30.19 dBm > 24dBm
3. 11dBm + 10log (184.85) = 33.67 dBm > 24dBm
4. 11dBm + 10log (5725.00 - 5600.47) = 31.95 dBm > 24dBm

CDD Mode, 2TX

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
52	5260	17.16	17.21	104.602	20.20	24.00	Pass
60	5300	17.24	17.30	106.669	20.28	24.00	Pass
64	5320	16.82	16.73	95.182	19.79	24.00	Pass
100	5500	17.76	16.52	104.579	20.19	24.00	Pass
116	5580	17.83	17.15	112.554	20.51	24.00	Pass
140	5700	16.53	15.77	82.735	19.18	24.00	Pass
144	5720 For U-NII-2C	15.71	15.69	74.307	18.71	24.00	Pass
144	5720 For U-NII-3	9.00	9.27	16.396	12.15	30.00	Pass

Note:

Chain 0

1. 11dBm + 10log (37.44) = 26.73 dBm > 24dBm
2. 11dBm + 10log (37.65) = 26.76 dBm > 24dBm
3. 11dBm + 10log (21.70) = 24.36 dBm > 24dBm
4. 11dBm + 10log (21.63) = 24.35 dBm > 24dBm
5. 11dBm + 10log (36.82) = 26.66 dBm > 24dBm
6. 11dBm + 10log (21.77) = 24.38 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5699.70) = 25.03 dBm > 24dBm

Chain 1

1. 11dBm + 10log (36.26) = 26.59 dBm > 24dBm
2. 11dBm + 10log (36.19) = 26.59 dBm > 24dBm
3. 11dBm + 10log (21.82) = 24.39 dBm > 24dBm
4. 11dBm + 10log (21.70) = 24.36 dBm > 24dBm
5. 11dBm + 10log (39.20) = 26.93 dBm > 24dBm
6. 11dBm + 10log (21.89) = 24.40 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5699.71) = 25.03 dBm > 24dBm

802.11n (HT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
52	5260	17.37	17.31	**108.403**	20.35	24.00	Pass
60	5300	17.26	17.29	106.791	20.29	24.00	Pass
64	5320	16.77	16.56	92.824	19.68	24.00	Pass
100	5500	17.32	16.49	98.517	19.94	24.00	Pass
116	5580	17.98	17.08	**113.856**	20.56	24.00	Pass
140	5700	16.67	15.69	83.520	19.22	24.00	Pass
144	5720 For U-NII-2C	15.61	15.83	76.825	18.86	24.00	Pass
144	5720 For U-NII-3	7.97	10.25	17.345	12.39	30.00	Pass

Note:
Chain 0
1. 11dBm + 10log (43.82) = 27.42 dBm > 24dBm
2. 11dBm + 10log (38.97) = 26.91 dBm > 24dBm
3. 11dBm + 10log (21.80) = 24.38 dBm > 24dBm
4. 11dBm + 10log (21.90) = 24.40 dBm > 24dBm
5. 11dBm + 10log (39.14) = 26.93 dBm > 24dBm
6. 11dBm + 10log (22.01) = 24.43 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5698.62) = 25.21 dBm > 24dBm

Chain 1
1. 11dBm + 10log (39.59) = 26.98 dBm > 24dBm
2. 11dBm + 10log (37.48) = 26.74 dBm > 24dBm
3. 11dBm + 10log (22.09) = 24.44 dBm > 24dBm
4. 11dBm + 10log (22.10) = 24.44 dBm > 24dBm
5. 11dBm + 10log (40.91) = 27.12 dBm > 24dBm
6. 11dBm + 10log (22.13) = 24.45 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5697.67) = 25.37 dBm > 24dBm

802.11n (HT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
54	5270	17.09	17.32	105.119	20.22	24.00	Pass
62	5310	16.10	15.89	79.553	19.01	24.00	Pass
102	5510	14.05	13.11	45.874	16.62	24.00	Pass
110	5550	17.37	16.56	99.866	19.99	24.00	Pass
134	5670	16.73	15.86	85.646	19.33	24.00	Pass
142	5710 For U-NII-2C	14.21	15.24	61.759	17.91	24.00	Pass
142	5710 For U-NII-3	4.44	3.93	5.426	7.34	30.00	Pass

Note:
Chain 0
1. 11dBm + 10log (101.24) = 31.05 dBm > 24dBm
2. 11dBm + 10log (41.26) = 27.16 dBm > 24dBm
3. 11dBm + 10log (41.11) = 27.14 dBm > 24dBm
4. 11dBm + 10log (98.41) = 30.93 dBm > 24dBm
5. 11dBm + 10log (41.35) = 27.16 dBm > 24dBm
6. 11dBm + 10log (5725.00 - 5660.00) = 29.13 dBm > 24dBm

Chain 1
1. 11dBm + 10log (101.90) = 31.08 dBm > 24dBm
2. 11dBm + 10log (41.62) = 27.19 dBm > 24dBm
3. 11dBm + 10log (41.45) = 27.18 dBm > 24dBm
4. 11dBm + 10log (100.72) = 31.03 dBm > 24dBm
5. 11dBm + 10log (41.77) = 27.21 dBm > 24dBm
6. 11dBm + 10log (5725.00 - 5661.10) = 29.06 dBm > 24dBm

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
58	5290	14.51	14.14	54.191	17.34	24.00	Pass
106	5530	12.97	11.87	35.197	15.47	24.00	Pass
122	5610	17.63	16.77	105.477	20.23	24.00	Pass
138	5690 For U-NII-2C	14.33	14.52	59.142	17.72	24.00	Pass
138	5690 For U-NII-3	-0.77	0.39	2.0614	3.14	30.00	Pass

Note:
Chain 0
1. 11dBm + 10log (82.43) = 30.16 dBm > 24dBm
2. 11dBm + 10log (82.34) = 30.16 dBm > 24dBm
3. 11dBm + 10log (107.05) = 31.30 dBm > 24dBm
4. 11dBm + 10log (5725.00 - 5590.39) = 32.29 dBm > 24dBm

Chain 1
1. 11dBm + 10log (82.84) = 30.18 dBm > 24dBm
2. 11dBm + 10log (82.48) = 30.16 dBm > 24dBm
3. 11dBm + 10log (91.40) = 30.61 dBm > 24dBm
4. 11dBm + 10log (5725.00 - 5591.72) = 32.25 dBm > 24dBm

Beamforming Mode

802.11n (HT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
52	5260	15.04	14.97	**63.320**	18.02	22.65	Pass
60	5300	14.94	15.04	63.104	18.00	22.65	Pass
64	5320	15.02	14.81	62.038	17.93	22.65	Pass
100	5500	15.83	14.93	69.399	18.41	23.00	Pass
116	5580	15.73	14.83	67.820	18.31	23.00	Pass
140	5700	15.77	15.12	70.266	18.47	23.00	Pass
144	5720 For U-NII-2C	13.61	13.83	48.473	16.85	23.00	Pass
144	5720 For U-NII-3	5.97	8.25	10.943	10.39	29.00	Pass

Note:

1. 5260~5320MHz directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$ + ... + $10^{GN/20}$)^2/N] = 7.35dBi > 6dBi, so the limit shall be reduced to 24-(7.35-6) = 22.65dBm.
2. 5500~5720MHz directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$ + ... + $10^{GN/20}$)^2/N] = 7.00dBi > 6dBi, so the limit shall be reduced to 24-(7.00-6) = 23.00dBm.

Chain 0

1. 11dBm + 10log (43.82) = 27.42 dBm > 24dBm
2. 11dBm + 10log (38.97) = 26.91 dBm > 24dBm
3. 11dBm + 10log (21.80) = 24.38 dBm > 24dBm
4. 11dBm + 10log (21.90) = 24.40 dBm > 24dBm
5. 11dBm + 10log (39.14) = 26.93 dBm > 24dBm
6. 11dBm + 10log (22.01) = 24.43 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5698.62) = 25.21 dBm > 24dBm

Chain 1

1. 11dBm + 10log (39.59) = 26.98 dBm > 24dBm
2. 11dBm + 10log (37.48) = 26.74 dBm > 24dBm
3. 11dBm + 10log (22.09) = 24.44 dBm > 24dBm
4. 11dBm + 10log (22.10) = 24.44 dBm > 24dBm
5. 11dBm + 10log (40.91) = 27.12 dBm > 24dBm
6. 11dBm + 10log (22.13) = 24.45 dBm > 24dBm
7. 11dBm + 10log (5725.00 - 5697.67) = 25.37 dBm > 24dBm

802.11n (HT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
54	5270	15.26	14.69	63.018	17.99	22.65	Pass
62	5310	15.10	14.90	63.262	18.01	22.65	Pass
102	5510	13.26	13.50	43.571	16.39	23.00	Pass
110	5550	15.51	15.32	69.604	18.43	23.00	Pass
134	5670	15.73	14.86	68.031	18.33	23.00	Pass
142	5710 For U-NII-2C	11.96	12.99	35.611	15.52	23.00	Pass
142	5710 For U-NII-3	2.19	1.68	3.128	4.95	29.00	Pass

Note:

1. 5260~5320MHz directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$ + ... + $10^{GN/20}$)^2/N] = 7.35dBi > 6dBi, so the limit shall be reduced to 24-(7.35-6) = 22.65dBm.
2. 5500~5720MHz directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$ + ... + $10^{GN/20}$)^2/N] = 7.00dBi > 6dBi, so the limit shall be reduced to 24-(7.00-6) = 23.00dBm.

Chain 0

1. 11dBm + 10log (101.24) = 31.05 dBm > 24dBm
2. 11dBm + 10log (41.26) = 27.16 dBm > 24dBm
3. 11dBm + 10log (41.11) = 27.14 dBm > 24dBm
4. 11dBm + 10log (98.41) = 30.93 dBm > 24dBm
5. 11dBm + 10log (41.35) = 27.16 dBm > 24dBm
6. 11dBm + 10log (5725.00 - 5660.00) = 29.13 dBm > 24dBm

Chain 1

1. 11dBm + 10log (101.90) = 31.08 dBm > 24dBm
2. 11dBm + 10log (41.62) = 27.19 dBm > 24dBm
3. 11dBm + 10log (41.45) = 27.18 dBm > 24dBm
4. 11dBm + 10log (100.72) = 31.03 dBm > 24dBm
5. 11dBm + 10log (41.77) = 27.21 dBm > 24dBm
6. 11dBm + 10log (5725.00 - 5661.10) = 29.06 dBm > 24dBm

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
58	5290	14.41	13.57	50.357	17.02	22.65	Pass
106	5530	12.97	11.87	35.197	15.47	23.00	Pass
122	5610	15.88	15.02	**70.495**	18.48	23.00	Pass
138	5690 For U-NII-2C	12.08	12.27	35.229	15.47	23.00	Pass
138	5690 For U-NII-3	-3.02	-1.86	1.2279	0.89	29.00	Pass

Note:

1. 5260~5320MHz directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$ + ... + $10^{GN/20}$)^2/N] = 7.35dBi > 6dBi, so the limit shall be reduced to 24-(7.35-6) = 22.65dBm.
2. 5500~5720MHz directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$ + ... + $10^{GN/20}$)^2/N] = 7.00dBi > 6dBi, so the limit shall be reduced to 24-(7.00-6) = 23.00dBm.

Chain 0

1. 11dBm + 10log (82.43) = 30.16 dBm > 24dBm
2. 11dBm + 10log (82.34) = 30.16 dBm > 24dBm
3. 11dBm + 10log (107.05) = 31.30 dBm > 24dBm
4. 11dBm + 10log (5725.00 - 5590.39) = 32.29 dBm > 24dBm

Chain 1

1. 11dBm + 10log (82.84) = 30.18 dBm > 24dBm
2. 11dBm + 10log (82.48) = 30.16 dBm > 24dBm
3. 11dBm + 10log (91.40) = 30.61 dBm > 24dBm
4. 11dBm + 10log (5725.00 - 5591.72) = 32.25 dBm > 24dBm

26dB Bandwidth:

1TX

802.11a

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)
52	5260	38.76
60	5300	34.96
64	5320	21.93
100	5500	21.97
116	5580	37.97
140	5700	21.93
144	5720 For U-NII-2C	22.21
144	5720 For U-NII-3	12.78

802.11n (HT20)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)
52	5260	41.61
60	5300	36.43
64	5320	22.12
100	5500	22.19
116	5580	39.69
140	5700	22.26
144	5720 For U-NII-2C	23.87
144	5720 For U-NII-3	16.13

802.11n (HT40)

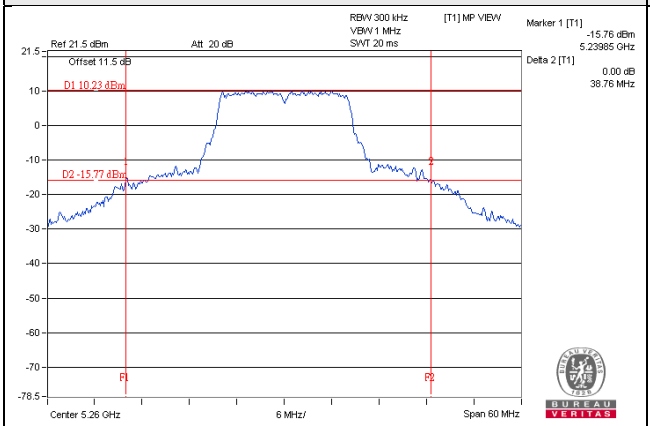
Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)
54	5270	95.47
62	5310	41.41
102	5510	41.45
110	5550	97.16
134	5670	41.70
142	5710 For U-NII-2C	65.00
142	5710 For U-NII-3	35.00

802.11ac (VHT80)

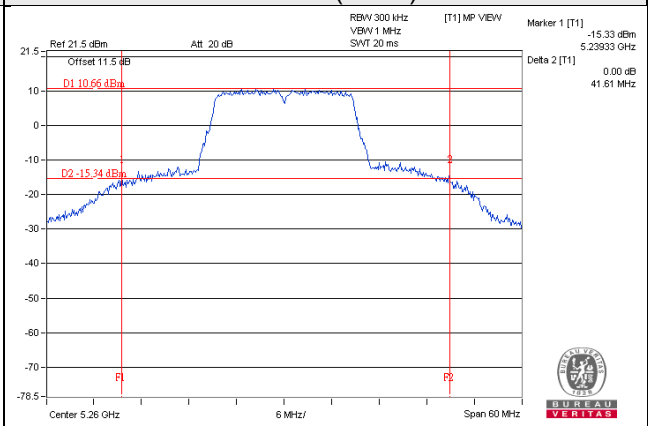
Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)
58	5290	82.77
106	5530	82.92
122	5610	184.85
138	5690 For U-NII-2C	124.53
138	5690 For U-NII-3	42.58

Spectrum Plot of Worst Value

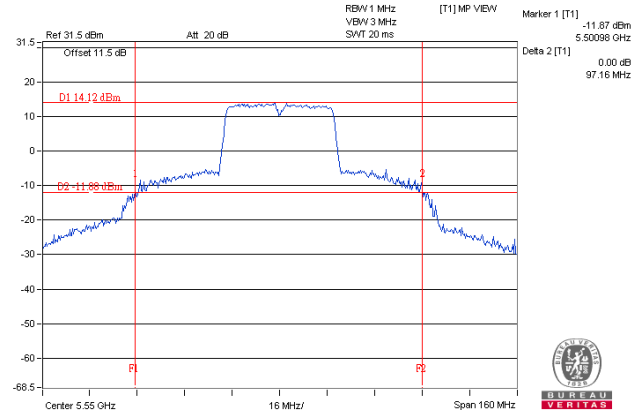
802.11a



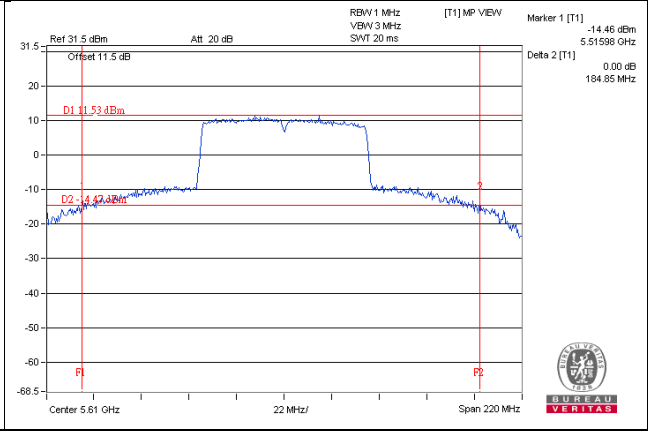
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



2TX

802.11a

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	37.44	36.26
60	5300	37.65	36.19
64	5320	21.70	21.82
100	5500	21.63	21.70
116	5580	36.82	39.20
140	5700	21.77	21.89
144	5720 For U-NII-2C	25.30	25.29
144	5720 For U-NII-3	14.01	14.57

802.11n (HT20)

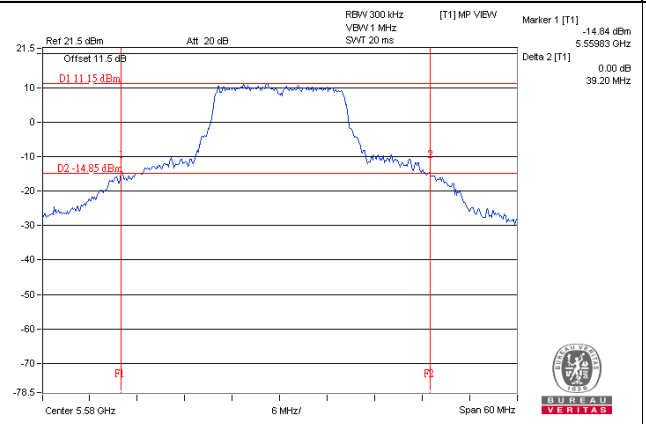
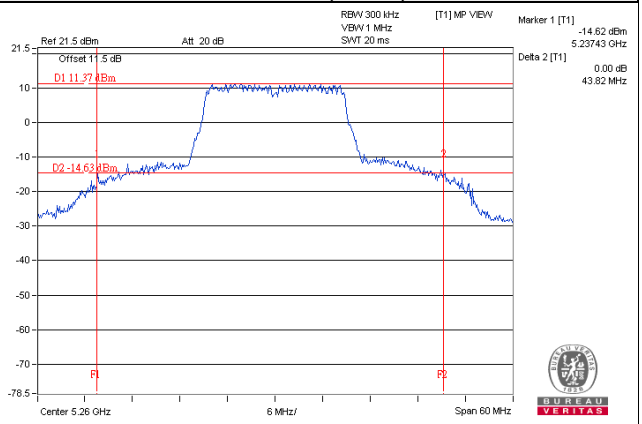
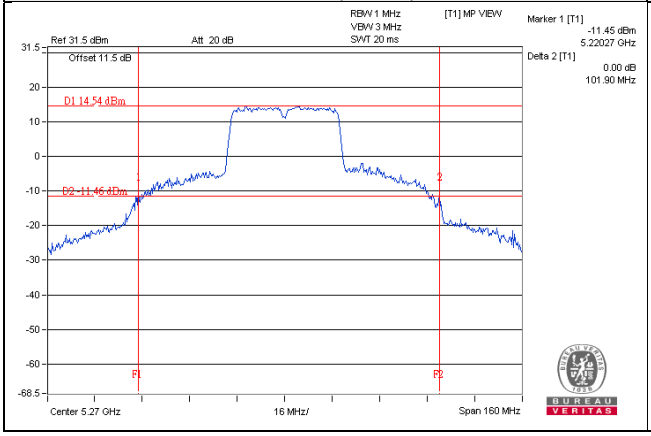
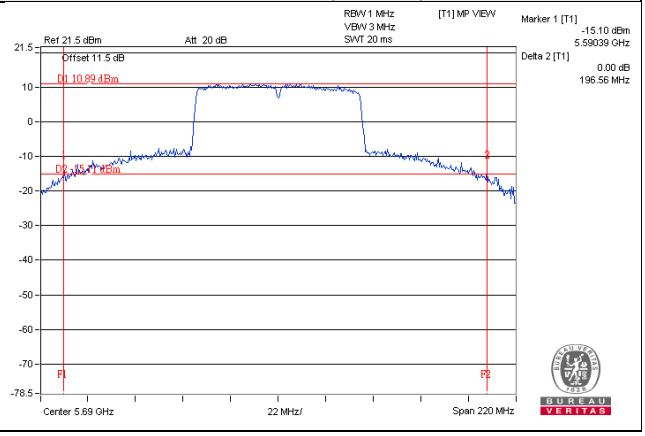
Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	43.82	39.59
60	5300	38.97	37.48
64	5320	21.80	22.09
100	5500	21.90	22.10
116	5580	39.14	40.91
140	5700	22.01	22.13
144	5720 For U-NII-2C	26.38	27.33
144	5720 For U-NII-3	16.37	16.04

802.11n (HT40)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	101.24	101.90
62	5310	41.26	41.62
102	5510	41.11	41.45
110	5550	98.41	100.72
134	5670	41.35	41.77
142	5710 For U-NII-2C	65.00	63.90
142	5710 For U-NII-3	34.96	33.83

802.11ac (VHT80)

Chan.	Freq. (MHz)	26dBc Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	82.43	82.84
106	5530	82.34	82.48
122	5610	107.05	91.40
138	5690 For U-NII-2C	134.61	133.28
138	5690 For U-NII-3	61.95	66.65

Spectrum Plot of Worst Value	
802.11a	802.11n (HT20)
	
802.11n (HT40)	802.11ac (VHT80)
	

EUT Maximum Conducted Power

CDD Mode, 1TX

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	92.683	19.67
5470~5725	83.946	19.24

802.11n (HT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	90.782	19.58
5470~5725	81.846	19.13

802.11n (HT40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	93.756	19.72
5470~5725	99.312	19.97

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	34.198	15.34
5470~5725	72.277	18.59

CDD Mode, 2TX

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	106.669	20.28
5470~5725	112.554	20.51

802.11n (HT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	108.403	20.35
5470~5725	113.856	20.56

802.11n (HT40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	105.119	20.22
5470~5725	99.866	19.99

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	54.191	17.34
5470~5725	105.477	20.23

Beamforming Mode, 2TX

802.11n (HT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	63.320	18.02
5470~5725	70.266	18.47

802.11n (HT40)

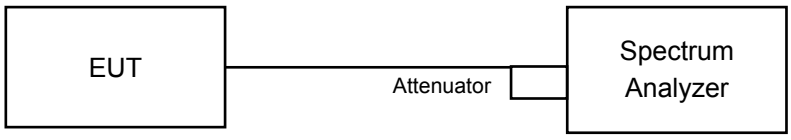
Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	63.262	18.01
5470~5725	69.604	18.43

802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	50.357	17.02
5470~5725	70.495	18.48

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 sampling. 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 Result

1TX

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
52	5260	18.72
60	5300	18.60
64	5320	17.16
100	5500	17.40
116	5580	18.60
140	5700	17.28
144	5720 For U-NII-2C	13.76
144	5720 For U-NII-3	3.64

802.11n (HT20)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
52	5260	19.08
60	5300	19.20
64	5320	18.24
100	5500	18.36
116	5580	18.96
140	5700	18.24
144	5720 For U-NII-2C	14.24
144	5720 For U-NII-3	4.12

802.11n (HT40)

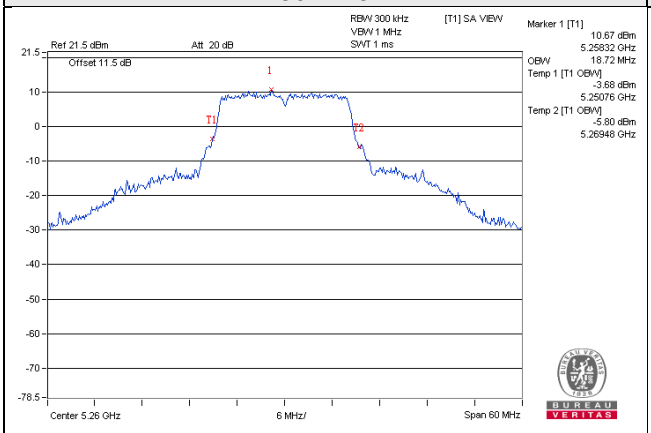
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
54	5270	37.32
62	5310	36.84
102	5510	36.72
110	5550	37.80
134	5670	36.84
142	5710 For U-NII-2C	34.08
142	5710 For U-NII-3	3.96

802.11ac (VHT80)

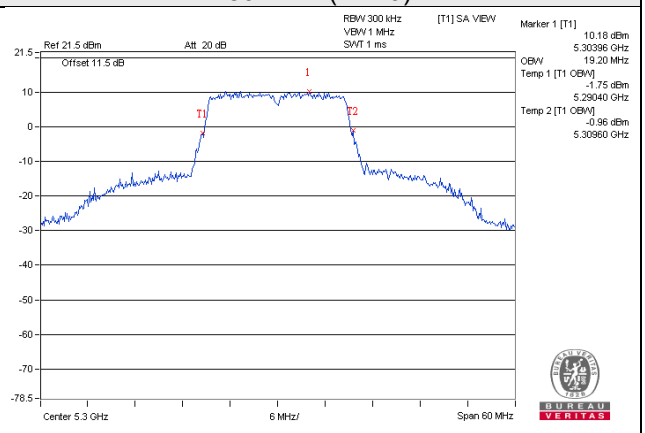
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)
58	5290	76.08
106	5530	76.08
122	5610	76.80
138	5690 For U-NII-2C	73.16
138	5690 For U-NII-3	2.92

Spectrum Plot of Worst Value

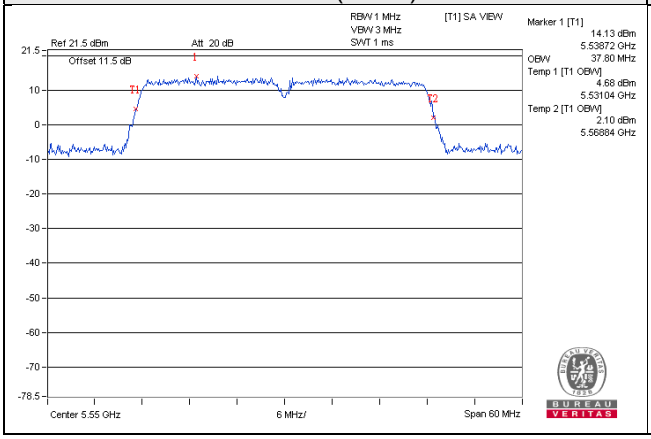
802.11a



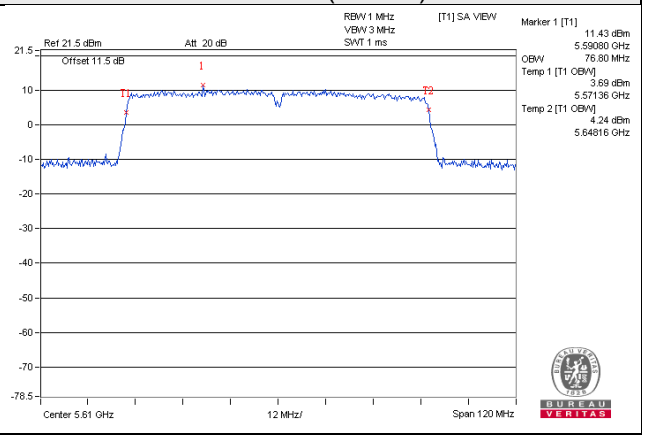
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



2TX

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	18.84	18.84
60	5300	18.96	18.96
64	5320	17.04	17.16
100	5500	17.04	17.28
116	5580	18.36	19.44
140	5700	17.04	17.16
144	5720 For U-NII-2C	14.72	14.96
144	5720 For U-NII-3	4.60	4.96

802.11n (HT20)

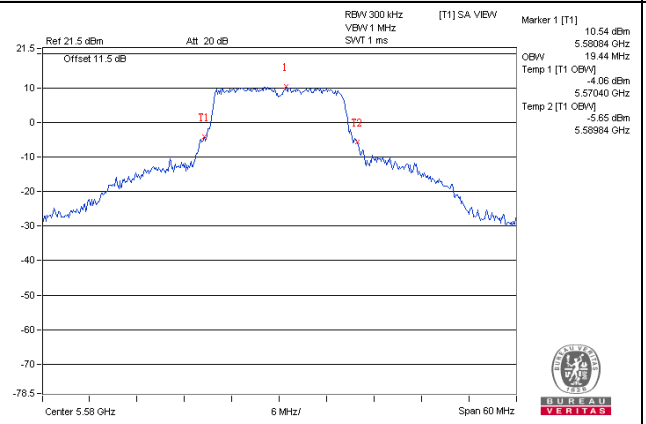
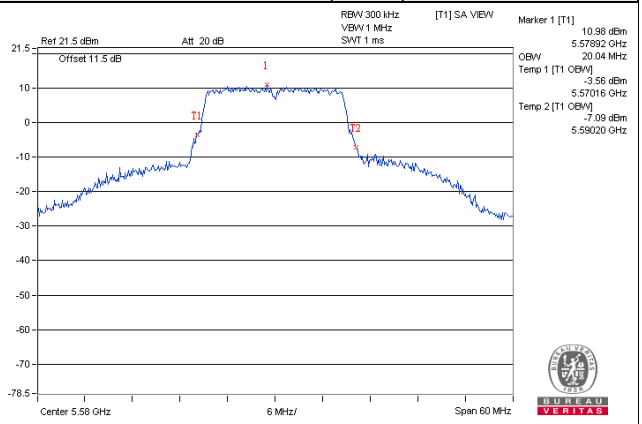
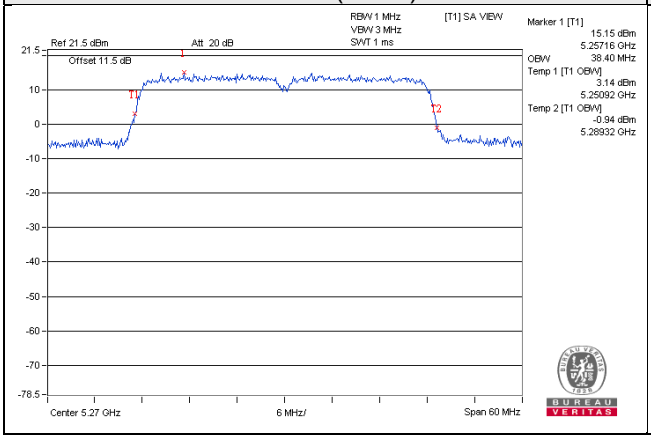
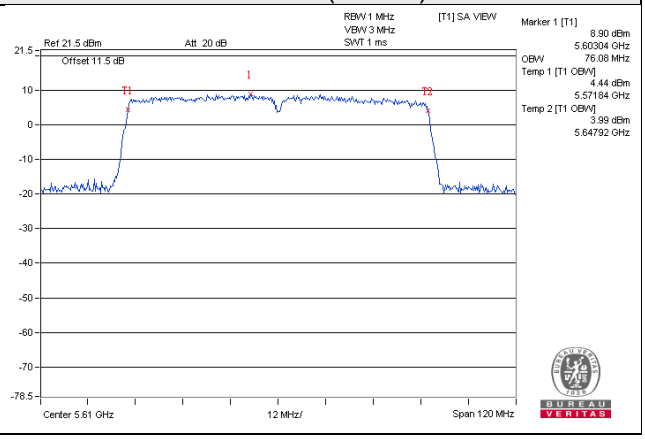
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
52	5260	19.44	19.44
60	5300	19.56	19.20
64	5320	18.00	18.12
100	5500	18.12	18.36
116	5580	19.20	20.04
140	5700	18.12	18.12
144	5720 For U-NII-2C	14.84	15.20
144	5720 For U-NII-3	4.96	5.68

802.11n (HT40)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
54	5270	38.40	38.40
62	5310	36.72	36.84
102	5510	36.72	36.72
110	5550	37.32	37.92
134	5670	36.84	36.84
142	5710 For U-NII-2C	34.32	34.08
142	5710 For U-NII-3	4.08	3.96

802.11ac (VHT80)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
58	5290	75.84	75.84
106	5530	75.84	75.84
122	5610	76.08	75.84
138	5690 For U-NII-2C	73.64	73.64
138	5690 For U-NII-3	3.40	3.16

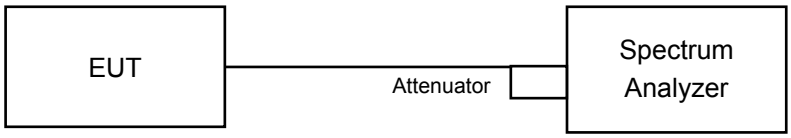
Spectrum Plot of Worst Value	
802.11a	802.11n (HT20)
	
802.11n (HT40)	802.11ac (VHT80)
	

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	17dBm/ MHz
		Fixed point-to-point Access Point	
		Indoor Access Point	
		Mobile and Portable client device	11dBm/ MHz
U-NII-2A	√		11dBm/ MHz
U-NII-2C	√		11dBm/ MHz
U-NII-3	√		30dBm/ 500kHz

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedures

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

Duty cycle of test signal is ≥ 98%

a. Using method SA-1

b. Set span to encompass the entire emission bandwidth (EBW) of the signal.

c. Set RBW = 1MHz, Set VBW ≥ 3 MHz, Detector = RMS

d. Set Channel power measure = 1MHz

e. Sweep time = auto, trigger set to “free run”.

f. Trace average at least 100 traces in power averaging mode.

g. Record the max value

Duty cycle of test signal is < 98%

Using method SA-2

a. Set span to encompass the entire emission bandwidth (EBW) of the signal.

b. Set RBW = 1MHz, Set VBW ≥ 3 MHz, Detector = RMS

c. Set Channel power measure = 1MHz

d. Sweep time = auto, trigger set to “free run”.

e. Trace average at least 100 traces in power averaging mode.

f. Record the max value and add 10 log (1/duty cycle)

For U-NII-3 band:

Duty cycle of test signal is ≥ 98%

a. Using method SA-1

b. Set span to encompass the entire emission bandwidth (EBW) of the signal.

c. Set RBW = 300 kHz, Set VBW ≥ 1 MHz, Detector = RMS.

d. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.

e. Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured 1) power by a bandwidth correction factor (BWCF) where BWCF = 10log(500 kHz / 300 kHz).

f. Sweep time = auto, trigger set to “free run”.

g. Trace average at least 100 traces in power averaging mode.

h. Record the max value.

Duty cycle of test signal is < 98%

a. Set span to encompass the entire emission bandwidth (EBW) of the signal.

b. Set RBW = 300 kHz, Set VBW ≥ 1 MHz, Detector = RMS

c. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.

d. Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where BWCF = 10log(500 kHz / 300 kHz)

e. Sweep time = auto, trigger set to “free run”.

f. Trace average at least 100 traces in power averaging mode.

g. Record the max value and add 10 log (1/duty cycle)

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

Same as 4.3.6.

4.5.7 Test Results

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

1TX

802.11a

Chan.	Freq. (MHz)	PSD (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
52	5260	6.12	11.00	Pass
60	5300	6.14	11.00	Pass
64	5320	4.25	11.00	Pass
100	5500	4.59	11.00	Pass
116	5580	5.73	11.00	Pass
140	5700	3.21	11.00	Pass
144	5720 For U-NII-2C	5.55	11.00	Pass

802.11n (HT20)

Chan.	Freq. (MHz)	PSD (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
52	5260	5.87	11.00	Pass
60	5300	5.84	11.00	Pass
64	5320	3.70	11.00	Pass
100	5500	3.64	11.00	Pass
116	5580	5.38	11.00	Pass
140	5700	2.91	11.00	Pass
144	5720 For U-NII-2C	5.09	11.00	Pass

802.11n (HT40)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
54	5270	2.92	0.18	3.10	11.00	Pass
62	5310	-0.68	0.18	-0.50	11.00	Pass
102	5510	-1.96	0.18	-1.78	11.00	Pass
110	5550	3.24	0.18	3.42	11.00	Pass
134	5670	0.03	0.18	0.21	11.00	Pass
142	5710 For U-NII-2C	3.04	0.18	3.22	11.00	Pass

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

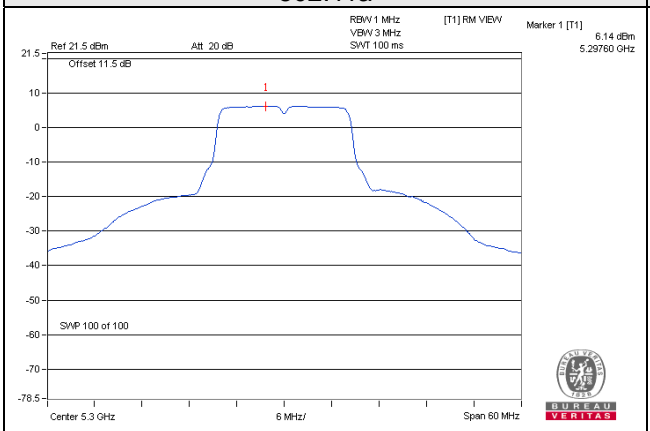
802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
58	5290	-4.85	0.27	-4.58	11.00	Pass
106	5530	-5.92	0.27	-5.65	11.00	Pass
122	5610	0.09	0.27	0.36	11.00	Pass
138	5690 For U-NII-2C	-1.34	0.27	-1.07	11.00	Pass

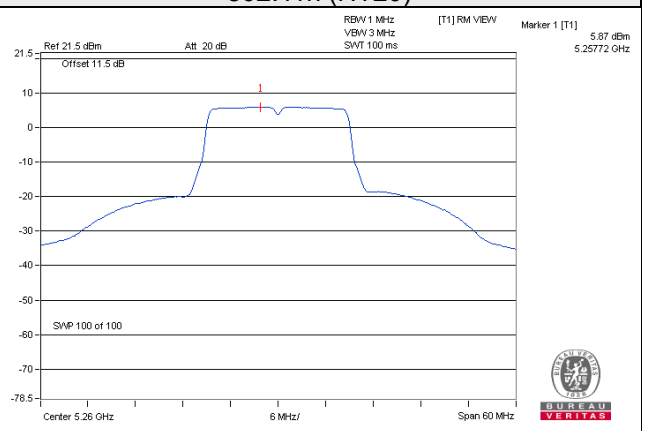
Note: Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

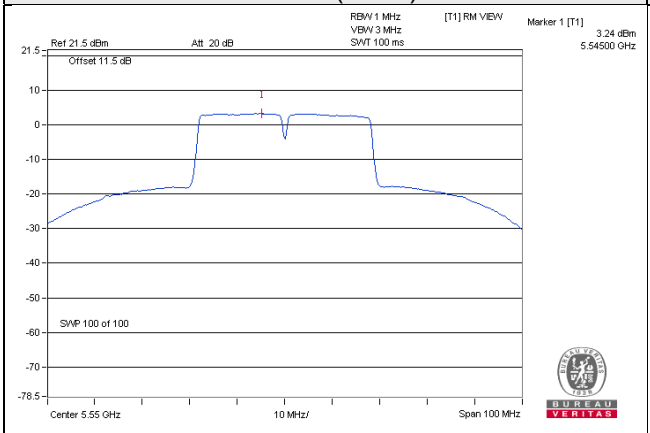
802.11a



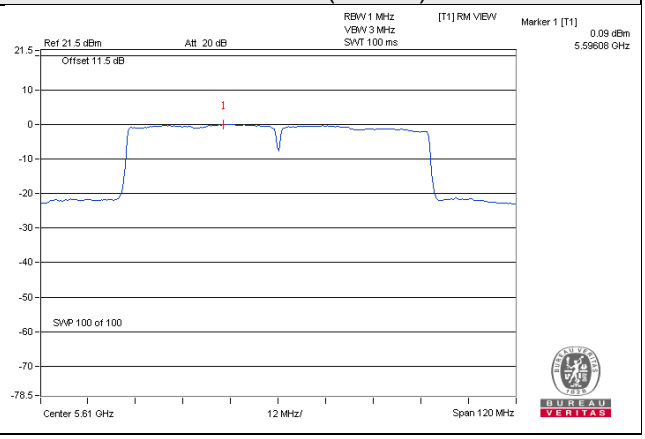
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



2TX

802.11a

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
52	5260	6.20	6.15	0.11	9.30	9.65	Pass
60	5300	6.21	6.20	0.11	9.33	9.65	Pass
64	5320	3.25	3.31	0.11	6.40	9.65	Pass
100	5500	3.22	4.09	0.11	6.80	10.00	Pass
116	5580	5.84	6.52	0.11	9.32	10.00	Pass
140	5700	2.28	3.45	0.11	6.03	10.00	Pass
144	5720 For U-NII-2C	6.43	6.47	0.11	9.57	10.00	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. 5260~5320MHz directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N$] = 7.35dBi > 6dBi, so the limit shall be reduced to 11-(7.35-6) = 9.65dBm.
   5500~5720MHz directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N$] = 7.00dBi > 6dBi, so the limit shall be reduced to 11-(7.00-6) = 10.00dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
52	5260	5.81	5.84	0.12	8.96	9.65	Pass
60	5300	5.83	5.72	0.12	8.91	9.65	Pass
64	5320	2.80	2.97	0.12	6.02	9.65	Pass
100	5500	2.76	3.85	0.12	6.47	10.00	Pass
116	5580	5.45	6.20	0.12	8.97	10.00	Pass
140	5700	2.02	3.00	0.12	5.67	10.00	Pass
144	5720 For U-NII-2C	6.04	6.08	0.12	9.19	10.00	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. 5260~5320MHz directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N$] = 7.35dBi > 6dBi, so the limit shall be reduced to 11-(7.35-6) = 9.65dBm.
   5500~5720MHz directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/N$] = 7.00dBi > 6dBi, so the limit shall be reduced to 11-(7.00-6) = 10.00dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

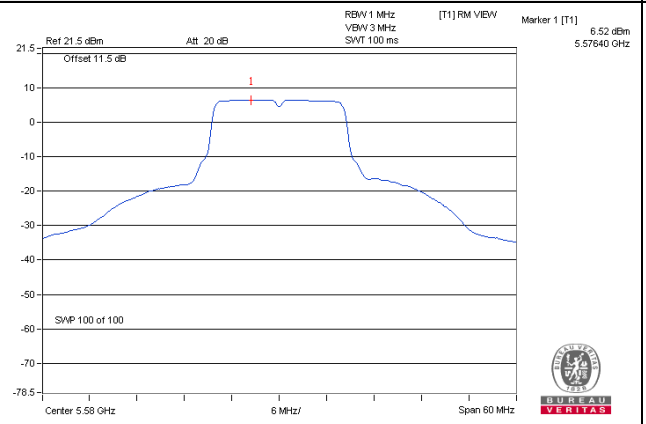
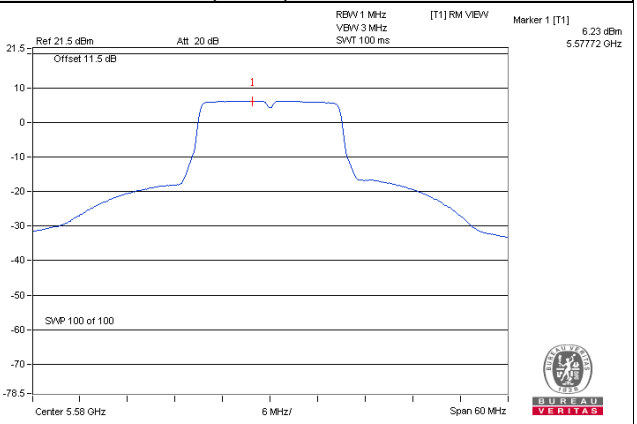
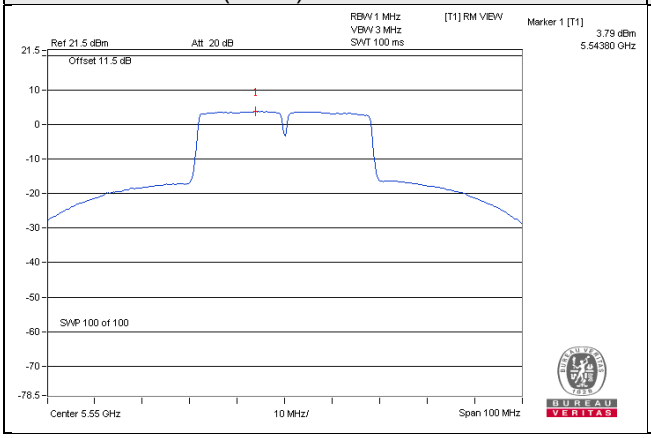
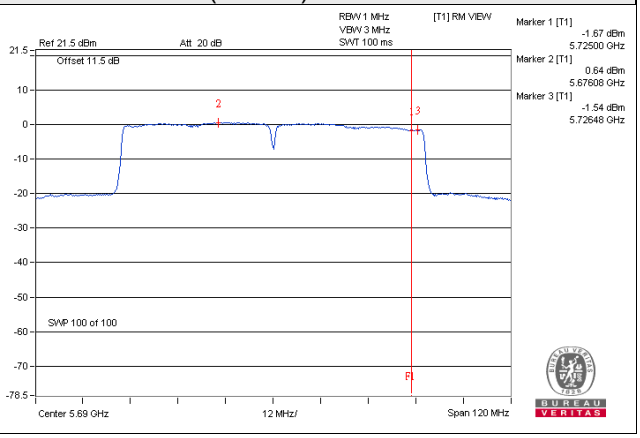
Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
54	5270	3.57	3.71	0.14	6.79	9.65	Pass
62	5310	-1.07	-0.65	0.14	2.30	9.65	Pass
102	5510	-3.81	-2.71	0.14	-0.07	10.00	Pass
110	5550	2.88	3.79	0.14	6.51	10.00	Pass
134	5670	-0.92	0.16	0.14	2.80	10.00	Pass
142	5710 For U-NII-2C	3.76	3.30	0.14	6.69	10.00	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. 5260~5320MHz directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2$/N] = 7.35dBi > 6dBi, so the limit shall be reduced to 11-(7.35-6) = 9.65dBm.
   5500~5720MHz directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2$/N] = 7.00dBi > 6dBi, so the limit shall be reduced to 11-(7.00-6) = 10.00dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
58	5290	-5.81	-5.04	0.28	-2.12	9.65	Pass
106	5530	-7.83	-6.80	0.28	-3.99	10.00	Pass
122	5610	-1.40	-2.40	0.28	1.42	10.00	Pass
138	5690 For U-NII-2C	0.45	0.64	0.28	3.84	10.00	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. 5260~5320MHz directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2$/N] = 7.35dBi > 6dBi, so the limit shall be reduced to 11-(7.35-6) = 9.65dBm.
   5500~5720MHz directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2$/N] = 7.00dBi > 6dBi, so the limit shall be reduced to 11-(7.00-6) = 10.00dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value	
802.11a / Chain 1 / CH 116	802.11n (HT20) / Chain 1 / CH 116
	
802.11n (HT40) / Chain 1 / CH 102	802.11ac (VHT80) / Chain 1 / CH 138
	

For U-NII-3 band:

1TX

802.11a

Chan.	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
144	5720 For U-NII-3	-2.99	-0.77	30.00	Pass

802.11n (HT20)

Chan.	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
144	5720 For U-NII-3	-3.51	-1.29	30.00	Pass

802.11n (HT40)

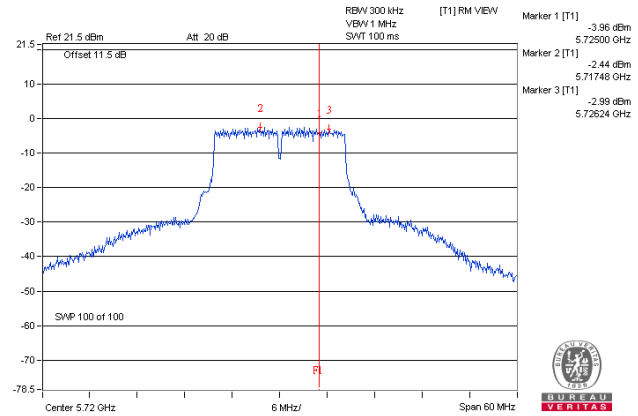
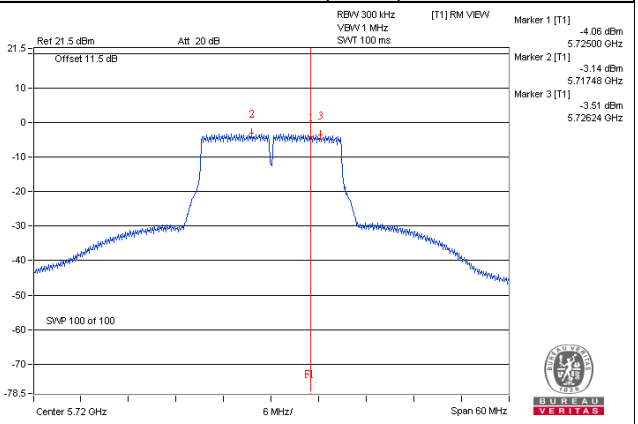
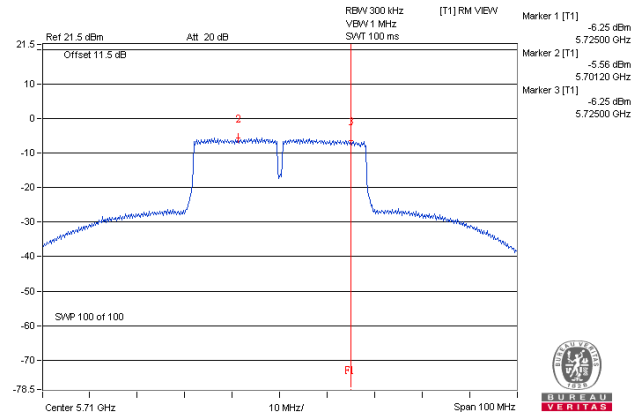
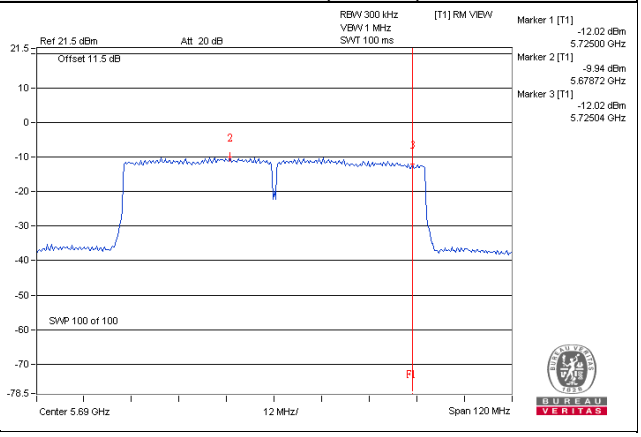
Chan.	Freq. (MHz)	PSD w/o Duty Factor		Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
		(dBm/300kHz)	(dBm/500kHz)				
142	5710 For U-NII-3	-6.25	-4.03	0.18	-3.85	30.00	Pass

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

802.11ac (VHT80)

Chan.	Freq. (MHz)	PSD w/o Duty Factor		Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
		(dBm/300kHz)	(dBm/500kHz)				
138	5690 For U-NII-3	-12.02	-9.80	0.27	-9.53	30.00	Pass

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

Spectrum Plot of Worst Value	
802.11a	802.11n (HT20)
	
802.11n (HT40)	802.11ac (VHT80)
	

2TX

802.11a

TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/ 300kHz)	(dBm/ 500kHz)					
0	144	5720 For U-NII-3	-1.92	0.30	3.01	0.11	3.42	29.00	Pass
1	144	5720 For U-NII-3	-2.16	0.06	3.01	0.11	3.18	29.00	Pass

Note:
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2$/N] = 7.00dBi > 6dBi, so the limit shall be reduced to 30-(7.00-6) = 29.00dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/ 300kHz)	(dBm/ 500kHz)					
0	144	5720 For U-NII-3	-2.86	-0.64	3.01	0.12	2.49	29.00	Pass
1	144	5720 For U-NII-3	-2.69	-0.47	3.01	0.12	2.66	29.00	Pass

Note:
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2$/N] = 7.00dBi > 6dBi, so the limit shall be reduced to 30-(7.00-6) = 29.00dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=2) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/ 300kHz)	(dBm/ 500kHz)					
0	142	5710 For U-NII-3	-5.76	-3.54	3.01	0.14	-0.39	29.00	Pass
1	142	5710 For U-NII-3	-6.06	-3.84	3.01	0.14	-0.69	29.00	Pass

Note:
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2$/N] = 7.00dBi > 6dBi, so the limit shall be reduced to 30-(7.00-6) = 29.00dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

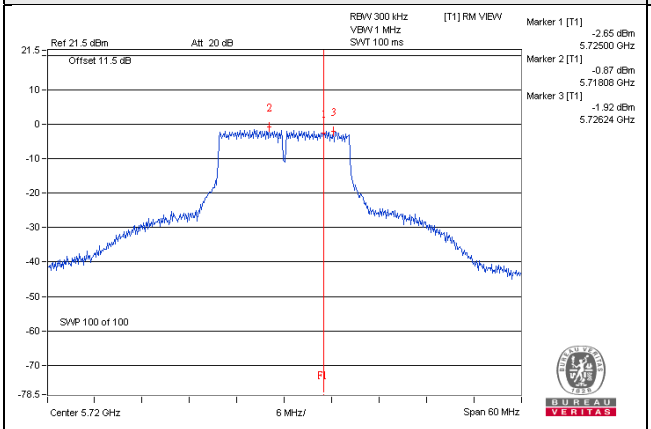
TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=3) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/ 300kHz)	(dBm/ 500kHz)					
0	138	5690 For U-NII-3	-10.44	-8.22	3.01	0.28	-4.93	29.00	Pass
1	138	5690 For U-NII-3	-10.31	-8.09	3.01	0.28	-4.80	29.00	Pass

Note:

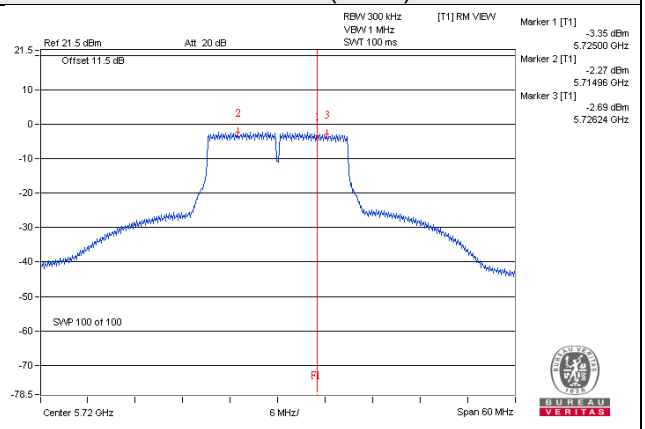
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$ + ... + $10^{GN/20}$)^2/N] = 7.00dBi > 6dBi, so the limit shall be reduced to 30-(7.00-6) = 29.00dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

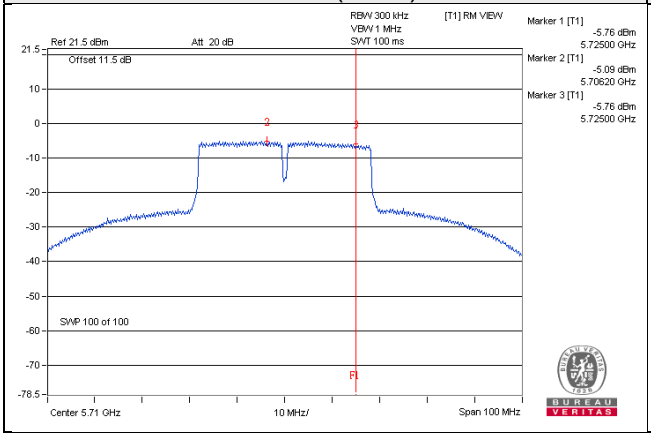
802.11a



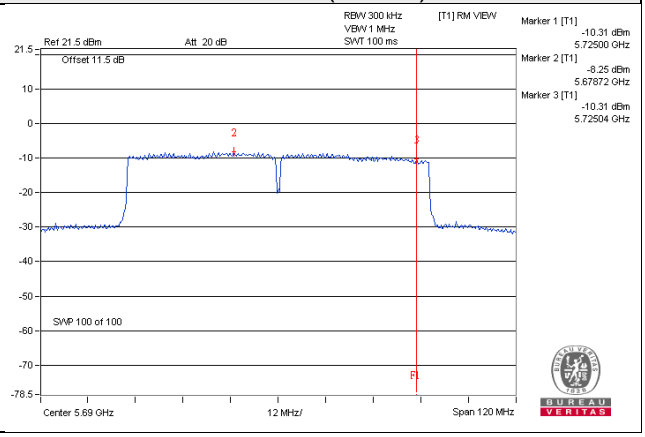
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

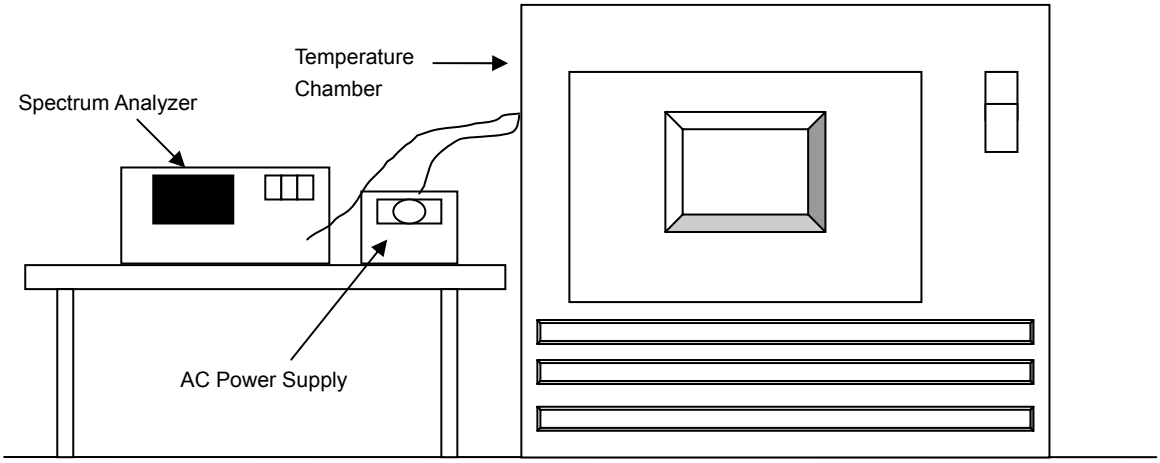


4.6 Frequency Stability

4.6.1 Limits 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 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

a. The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.

b. Turn the EUT on and couple its output to a spectrum analyzer.

c. Turn the EUT off and set the chamber to the highest temperature specified.

d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.

e. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.

f. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

4.6.5 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: 5260MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
50	120	5259.9842	-0.00030	5259.9826	-0.00033	5259.9808	-0.00037	5259.9827	-0.00033
40	120	5259.9855	-0.00028	5259.9859	-0.00027	5259.9872	-0.00024	5259.986	-0.00027
30	120	5260.0012	0.00002	5260.0009	0.00002	5260.0002	0.00000	5259.9973	-0.00005
20	120	5260.0278	0.00053	5260.0251	0.00048	5260.0235	0.00045	5260.0232	0.00044
10	120	5260.0175	0.00033	5260.0169	0.00032	5260.0151	0.00029	5260.0137	0.00026
0	120	5260.0101	0.00019	5260.0148	0.00028	5260.0107	0.00020	5260.0141	0.00027
-10	120	5259.9845	-0.00029	5259.9811	-0.00036	5259.9815	-0.00035	5259.9847	-0.00029
-20	120	5260.0252	0.00048	5260.0202	0.00038	5260.0238	0.00045	5260.0235	0.00045
-30	120	5260.0009	0.00002	5259.9981	-0.00004	5259.9976	-0.00005	5259.9977	-0.00004

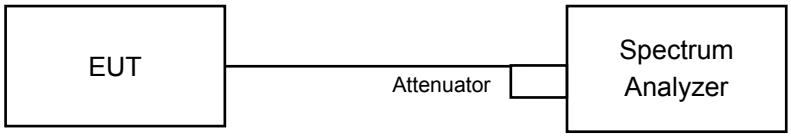
Frequency Stability Versus Voltage									
Operating Frequency: 5260MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
20	138	5260.0288	0.00055	5260.0253	0.00048	5260.0236	0.00045	5260.0225	0.00043
	120	5260.0278	0.00053	5260.0251	0.00048	5260.0235	0.00045	5260.0232	0.00044
	102	5260.0278	0.00053	5260.0261	0.00050	5260.0227	0.00043	5260.0229	0.00044

4.7 6dB Bandwidth Measurement

4.7.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 Test Procedure

Measurement Procedure REF

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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

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

4.7.7 Test Results

1TX

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
144	5720 For U-NII-3	3.16	0.5	Pass

802.11n (HT20)

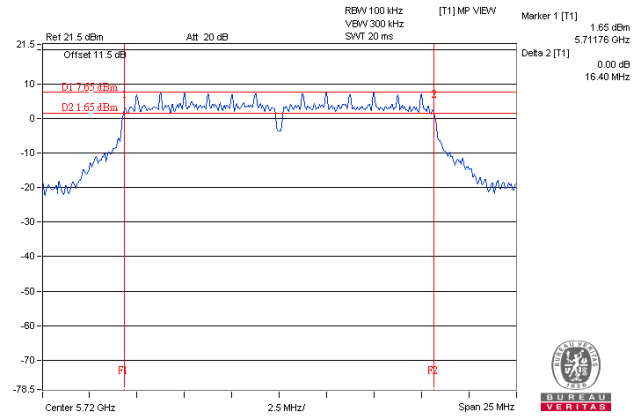
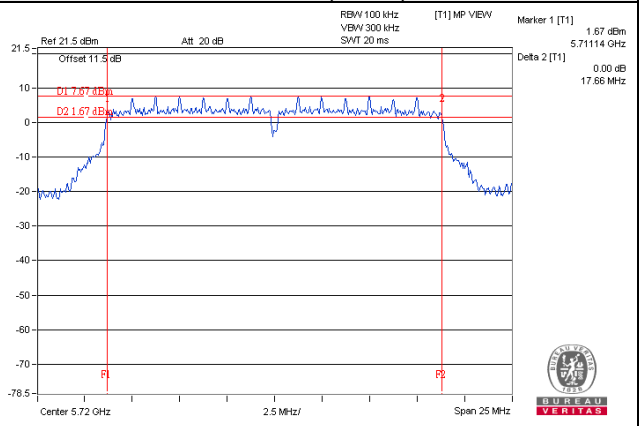
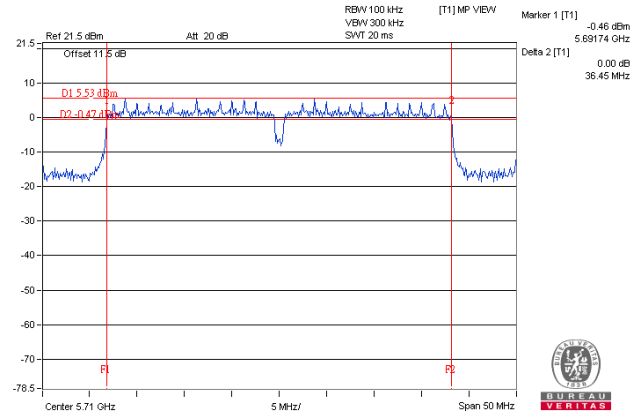
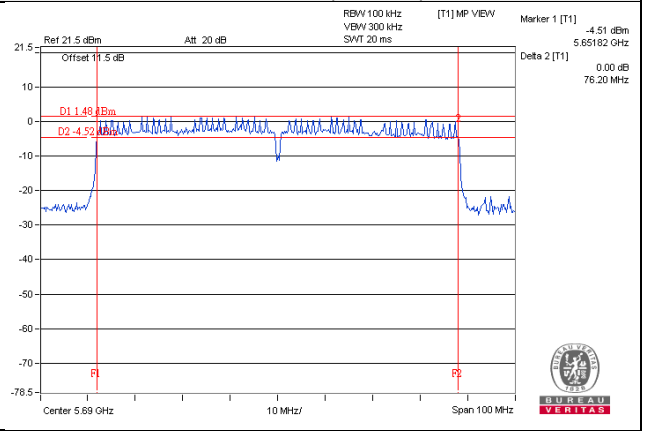
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
144	5720 For U-NII-3	3.80	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
142	5710 For U-NII-3	3.19	0.5	Pass

802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
138	5690 For U-NII-3	3.02	0.5	Pass

Spectrum Plot of Worst Value	
802.11a	802.11n (HT20)
	
802.11n (HT40)	802.11ac (VHT80)
	

Note:

For CH144 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

For CH142 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

For CH138 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

2TX

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
144	5720 For U-NII-3	3.15	3.16	0.5	Pass

802.11n (HT20)

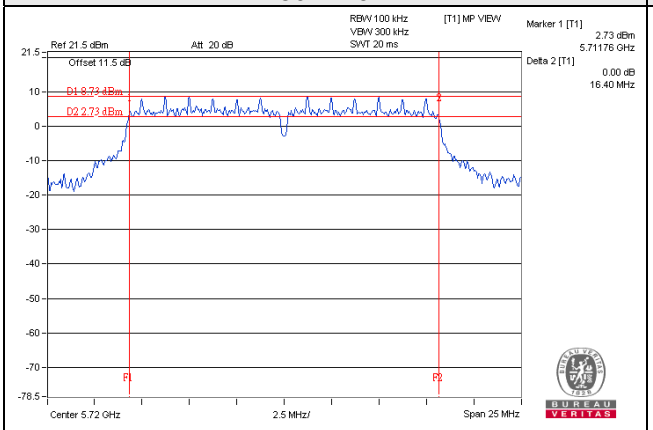
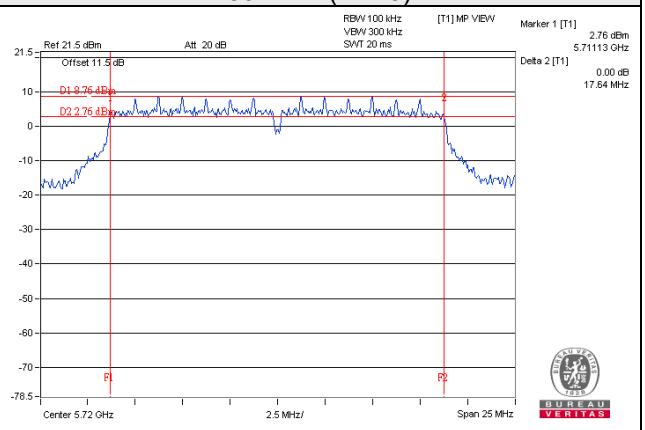
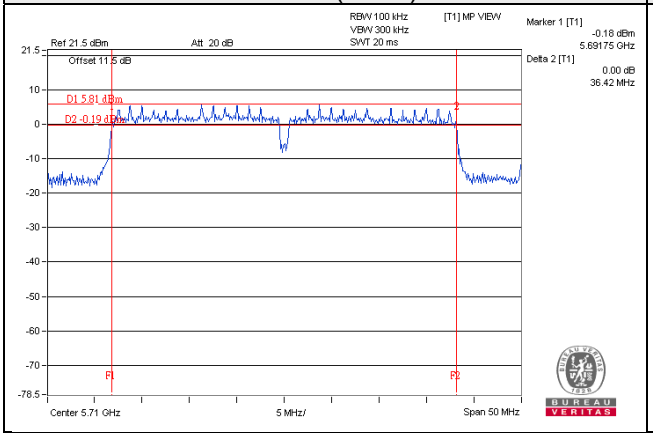
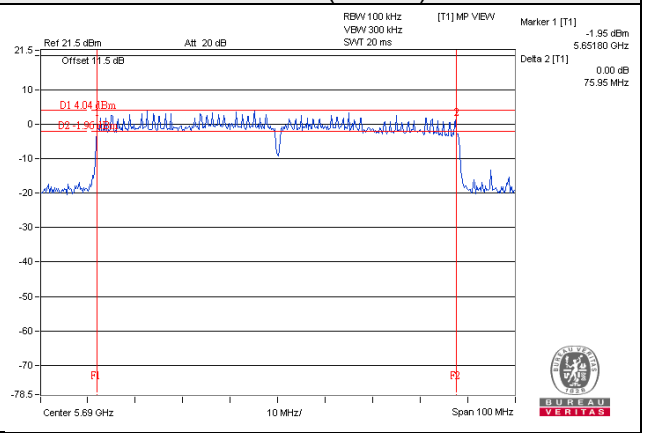
Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
144	5720 For U-NII-3	3.77	3.76	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
142	5710 For U-NII-3	3.14	3.17	0.5	Pass

802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
138	5690 For U-NII-3	2.73	2.75	0.5	Pass

Spectrum Plot of Worst Value	
802.11a	802.11n (HT20)
	
802.11n (HT40)	802.11ac (VHT80)
	

Note:

For CH144 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

For CH142 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

For CH138 (UNII-3 Band): The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 - 5725MHz

5 Pictures of Test Arrangements

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

Appendix – Information on the Testing Laboratories

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

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

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Web Site: www.bureauveritas-adt.com

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

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