FCC Test Report

Report No.:	RF190226C19A-1
FCC ID:	HD5-HONST60
Test Model:	HON-ST60
Received Date:	Apr. 09, 2019
Test Date:	May 29 ~ May 31, 2019
Issued Date:	Jun. 05, 2019
Applicant:	Honeywell International Inc
Address:	9680 Old Bailes Rd Fort Mill South Carolina United States
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C.)
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)
FCC Registration / Designation Number:	788550 / TW0003

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Release Control Record

Issue No.	Description	Date Issued
RF190226C19A-1	Original release.	Jun. 05, 2019

1 Certificate of Conformity

Product:	Wi-Fi Module
Brand:	Honeywell
Test Model:	HON-ST60
Sample Status:	Engineering sample
Applicant:	Honeywell International Inc
Test Date:	May 29 ~ May 31, 2019
Standards:	47 CFR FCC Part 15, Subpart E (Section 15.407) ANSI C63.10:2013

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

Prepared by : Pettie Chen , **Date:** Jun. 05, 2019

Pettie Chen / Senior Specialist

Approved by : Bruce Chen , **Date:** Jun. 05, 2019

Bruce Chen / Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -2.17dB at 0.79885MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -1.1dB at 798.02MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	Pass	Meet the requirement of limit.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit.
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector are MMCX and R-TNC not standard connectors.

*For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOBE test plots were recorded in Annex A.
Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

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	9kHz ~ 30MHz	3.04 dB
	30MHz ~ 200MHz	3.63 dB
	200MHz ~ 1000MHz	3.64 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Wi-Fi Module
Brand	Honeywell
Test Model	HON-ST60
Sample Status	Engineering sample
Nominal Voltage	5Vdc (host equipment)
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 135Mbps 802.11ac: up to 433.3Mbps
Operating Frequency	5180~5240MHz, 5260~5320MHz, 5500~5720MHz, 5745~5825MHz
Number of Channel	5180~5240MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5260~5320MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5500~5720MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 12 802.11n (HT40), 802.11ac (VHT40): 6 802.11ac (VHT80): 3 5745~5825MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 5 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1
Output Power	5180~5240MHz: 56.105mW 5260~5320MHz: 34.674mW 5500~5720MHz: 25.177mW 5745~5825MHz: 13.428mW
Antenna Type	Dipole antenna with 2.44dBi gain
Antenna Connector	At modular/board side: MMCX At antenna side: R-TNC
Accessory Device	NA
Cable Supplied	NA

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

Modulation Mode	TX Function
802.11a	1TX
802.11n (HT20)	1TX
802.11n (HT40)	1TX
802.11ac (VHT20)	1TX
802.11ac (VHT40)	1TX
802.11ac (VHT80)	1TX

* The modulation and bandwidth are similar for 802.11n mode for HT20/HT40 and 802.11ac mode for VHT20/VHT40. After pre-testing, 802.11ac (VHT20/VHT40) power is lower than 802.11n (HT20/HT40), therefore 802.11n (HT20/HT40) is the worst case to representative mode in test report. (Final test mode refer section 3.2.1)

3.2 Description of Test Modes

5180~5240MHz:

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

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

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

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
42	5210MHz

5260~5320MHz:

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

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

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

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
58	5290MHz

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), 802.11ac (VHT40):

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
138	5690 MHz		

5745~5825MHz:

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

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

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

Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
155	5775MHz

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:

1. 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)
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	6.5
	802.11n (HT40)		38 to 46	38, 46	OFDM	13.5
	802.11ac (VHT80)		42	42	OFDM	29.3
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	6.5
	802.11n (HT40)		54 to 62	54, 62	OFDM	13.5
	802.11ac (VHT80)		58	58	OFDM	29.3
-	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0
	802.11n (HT20)		100 to 144	100, 116, 140, 144	OFDM	6.5
	802.11n (HT40)		102 to 142	102, 110, 134, 142	OFDM	13.5
	802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	29.3
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	6.5
	802.11n (HT40)		151 to 159	151, 159	OFDM	13.5
	802.11ac (VHT80)		155	155	OFDM	29.3

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)
-	802.11ac (VHT80)	5180-5240	36 to 48	58	OFDM	29.3
		5260-5320	52 to 64		OFDM	29.3
		5500-5720	100 to 144		OFDM	29.3
		5745-5825	149 to 165		OFDM	29.3

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)
-	802.11ac (VHT80)	5180-5240	36 to 48	58	OFDM	29.3
		5260-5320	52 to 64		OFDM	29.3
		5500-5720	100 to 144		OFDM	29.3
		5745-5825	149 to 165		OFDM	29.3

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)
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	6.5
	802.11n (HT40)		38 to 46	38, 46	OFDM	13.5
	802.11ac (VHT80)		42	42	OFDM	29.3
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	6.0
	802.11n (HT20)		52 to 64	52, 60, 64	OFDM	6.5
	802.11n (HT40)		54 to 62	54, 62	OFDM	13.5
	802.11ac (VHT80)		58	58	OFDM	29.3
-	802.11a	5500-5720	100 to 144	100, 116, 140, 144	OFDM	6.0
	802.11n (HT20)		100 to 144	100, 116, 140, 144	OFDM	6.5
	802.11n (HT40)		102 to 142	102, 110, 134, 142	OFDM	13.5
	802.11ac (VHT80)		106 to 138	106, 122, 138	OFDM	29.3
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	6.5
	802.11n (HT40)		151 to 159	151, 159	OFDM	13.5
	802.11ac (VHT80)		155	155	OFDM	29.3

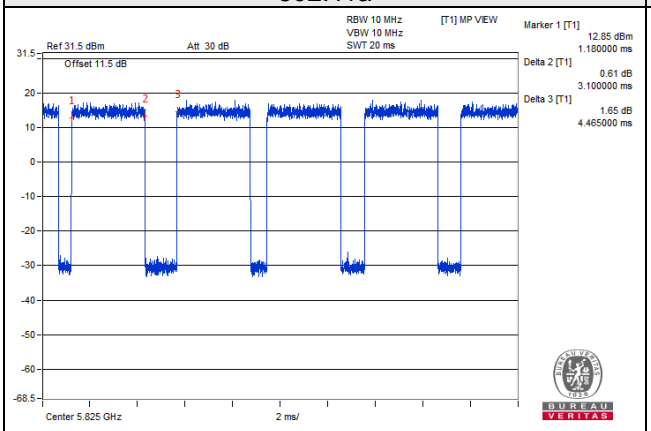
Test Condition:

Applicable to	Environmental Conditions	Input Power	Tested by
RE≥1G	25 deg. C, 70% RH	120Vac, 60Hz	Luis Lee
RE<1G	25 deg. C, 70% RH	120Vac, 60Hz	Noah Chang
PLC	25 deg. C, 75% RH	120Vac, 60Hz	Luis Lee
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Ted Chang

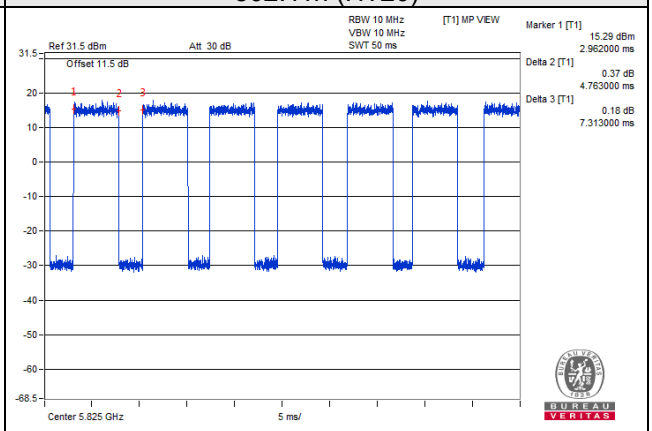
3.3 Duty Cycle of Test Signal

Duty cycle of test signal is < 98 %, duty factor is required
802.11a: Duty cycle = 3.1/4.465 =0.694, Duty factor = 10 * log(1/0.694) = 1.58
802.11n (HT20): Duty cycle = 4.763/7.313 =0.651, Duty factor = 10 * log(1/0.651) = 1.86
802.11n (HT40): Duty cycle = 2.262/7.112 =0.318, Duty factor = 10 * log(1/0.318) = 4.97
802.11ac (VHT80): Duty cycle = 0.563/7.213 =0.078, Duty factor = 10 * log(1/0.078) = 11.08

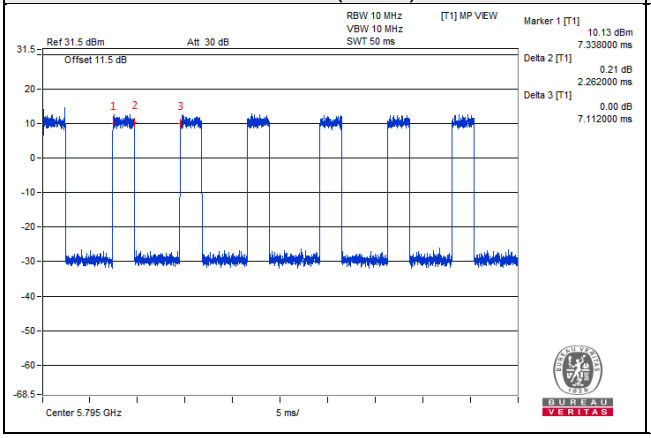
802.11a



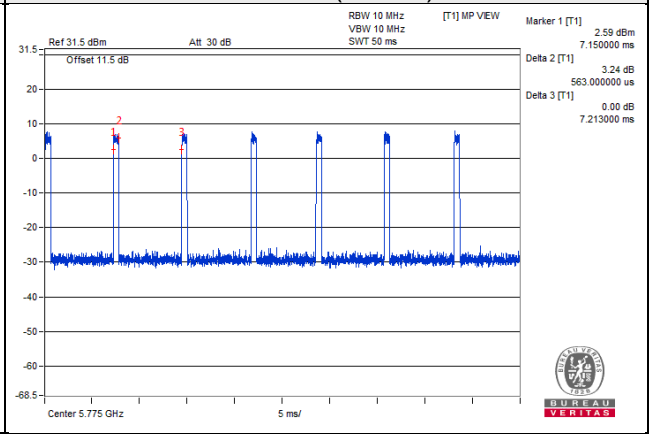
802.11n (HT20)



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.

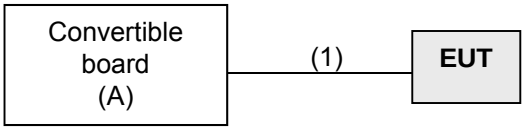
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Convertible board	NA	NA	NA	NA	Provided by client.

Note:

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

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	Cable	1	0.3	N	0	Provided by client.

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 v02r01
ANSI C63.10:2013

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

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

NOTE:

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

Limits of unwanted emission out of the restricted bands

<table>
<tr><th colspan="3">Applicable To</th><th colspan="2">Limit</th></tr>
<tr><td colspan="3" rowspan="2">789033 D02 General UNII Test Procedure New Rules v02r01</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	Jan. 03, 2019	Jan. 02, 2020
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Sep. 25, 2018	Sep. 24, 2019
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Nov. 21, 2018	Nov. 20, 2019
HORN Antenna SCHWARZBECK	9120D	9120D-408	Nov. 25, 2018	Nov. 24, 2019
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 25, 2018	Nov. 24, 2019
Loop Antenna EMCI	EM-6879	269	Sep. 07, 2018	Sep. 06, 2019
Preamplifier Agilent (Below 1GHz)	8447D	2944A10631	Aug. 08, 2018	Aug. 07, 2019
Preamplifier KEYSIGHT (Above 1GHz)	83017A	MY53270295	Jul. 02, 2018	Jul. 01, 2019
RF signal cable HUBER+SUHNER	SUCOFLEX 104	MY 13380+295012/04	Aug. 08, 2018	Aug. 07, 2019
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH4-03 (250724)	Aug. 08, 2018	Aug. 07, 2019
RF signal cable WOKEN	8D-FB	Cable-CH4-01	Aug. 29, 2018	Aug. 23, 2019
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	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
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Pre-amplifier (18GHz-40GHz) EMC	EMC184045B	980175	Nov. 14, 2018	Nov. 13, 2019
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY55190004/MY55190007/MY55210005	Jul. 17, 2018	Jul. 16, 2019

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

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

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

Note:

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

For Radiated emission above 30MHz

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

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

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

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

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

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

Note:

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

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

3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz. (802.11a: RBW = 1MHz, VBW = 1kHz; 802.11n (HT20): RBW = 1MHz, VBW = 300Hz; 802.11n (HT40): RBW = 1MHz, VBW = 1kHz; 11ac (VHT80): RBW = 1MHz, VBW = 3kHz)

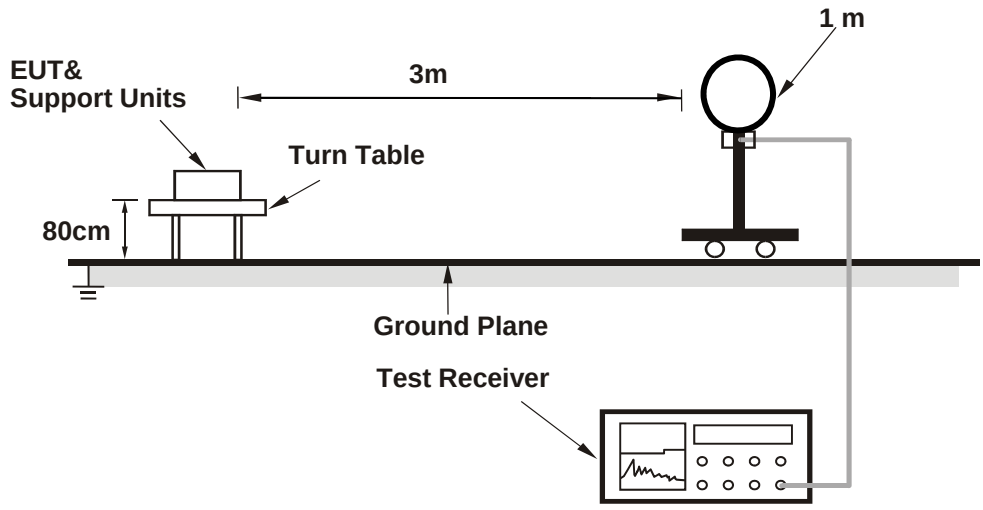
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

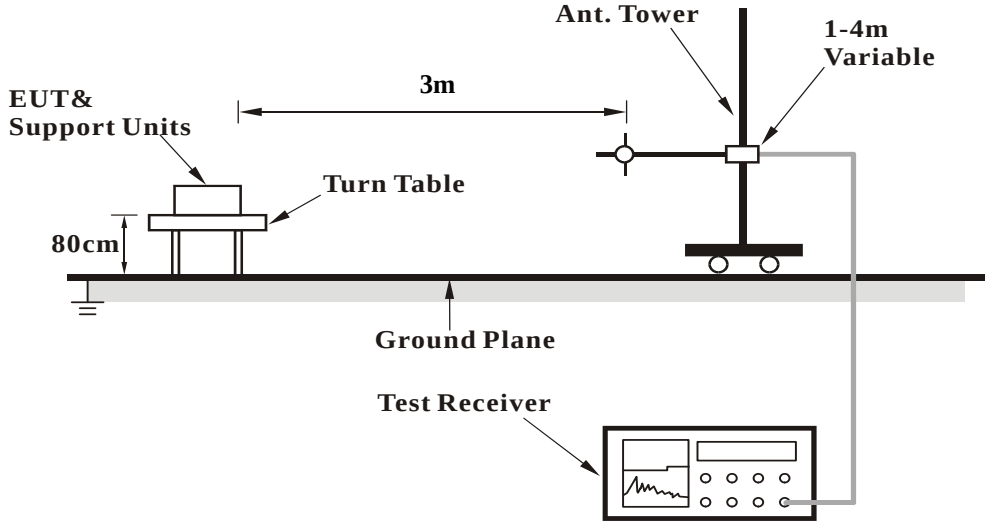
No deviation.

4.1.5 Test Set Up

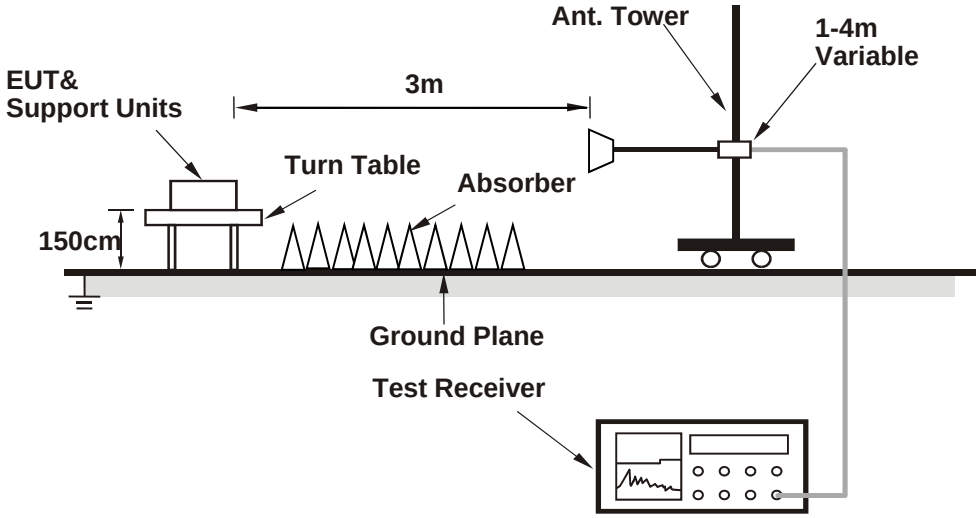
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Conditions

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

4.1.7 Test Results

Above 1GHz data:

802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	63.2 PK	74.0	-10.8	1.46 H	208	50.6	12.6
2	5150.00	48.5 AV	54.0	-5.5	1.46 H	208	35.9	12.6
3	*5180.00	95.0 PK			1.24 H	192	53.5	41.5
4	*5180.00	85.4 AV			1.24 H	192	43.9	41.5
5	#10360.00	62.2 PK	68.2	-6.0	2.63 H	140	39.7	22.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.8 PK	74.0	-9.2	2.55 V	299	52.2	12.6
2	5150.00	50.1 AV	54.0	-3.9	2.55 V	299	37.5	12.6
3	*5180.00	108.0 PK			2.47 V	258	66.5	41.5
4	*5180.00	98.4 AV			2.47 V	258	56.9	41.5
5	#10360.00	62.1 PK	68.2	-6.1	2.64 V	112	39.6	22.5

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 40	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	*5200.00	97.3 PK			1.29 H	201	55.8	41.5
2	*5200.00	87.1 AV			1.29 H	201	45.6	41.5
3	#10400.00	62.3 PK	68.2	-5.9	3.16 H	258	39.4	22.9
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	*5200.00	108.4 PK			2.47 V	263	66.9	41.5
2	*5200.00	98.1 AV			2.47 V	263	56.6	41.5
3	#10400.00	62.4 PK	68.2	-5.8	1.98 V	255	39.5	22.9

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 48	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	*5240.00	97.7 PK			1.21 H	186	56.5	41.2
2	*5240.00	88.0 AV			1.21 H	186	46.8	41.2
3	5350.00	61.7 PK	74.0	-12.3	1.50 H	179	49.3	12.4
4	5350.00	48.1 AV	54.0	-5.9	1.50 H	179	35.7	12.4
5	#10480.00	62.4 PK	68.2	-5.8	2.19 H	307	39.6	22.8
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	*5240.00	108.8 PK			2.47 V	262	67.6	41.2
2	*5240.00	98.5 AV			2.47 V	262	57.3	41.2
3	5350.00	61.9 PK	74.0	-12.1	2.50 V	257	49.5	12.4
4	5350.00	49.2 AV	54.0	-4.8	2.50 V	257	36.8	12.4
5	#10480.00	62.7 PK	68.2	-5.5	3.15 V	214	39.9	22.8

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 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	61.0 PK	74.0	-13.0	1.14 H	188	48.4	12.6
2	5150.00	48.0 AV	54.0	-6.0	1.14 H	188	35.4	12.6
3	*5260.00	93.7 PK			1.20 H	196	52.6	41.1
4	*5260.00	83.6 AV			1.20 H	196	42.5	41.1
5	#10520.00	62.8 PK	68.2	-5.4	1.99 H	305	39.8	23.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	61.1 PK	74.0	-12.9	1.29 V	180	48.5	12.6
2	5150.00	48.2 AV	54.0	-5.8	1.29 V	180	35.6	12.6
3	*5260.00	103.9 PK			1.20 V	178	62.8	41.1
4	*5260.00	94.1 AV			1.20 V	178	53.0	41.1
5	#10520.00	63.2 PK	68.2	-5.0	2.36 V	158	40.2	23.0

Remarks:

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

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK) 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	93.6 PK			1.30 H	192	52.5	41.1
2	*5300.00	86.4 AV			1.30 H	192	45.3	41.1
3	10600.00	63.0 PK	74.0	-11.0	2.63 H	185	39.8	23.2
4	10600.00	49.1 AV	54.0	-4.9	2.63 H	185	25.9	23.2
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	*5300.00	104.0 PK			1.34 V	177	62.9	41.1
2	*5300.00	94.1 AV			1.34 V	177	53.0	41.1
3	10600.00	63.3 PK	74.0	-10.7	2.36 V	114	40.1	23.2
4	10600.00	49.3 AV	54.0	-4.7	2.36 V	114	26.1	23.2

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 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	94.4 PK			1.29 H	191	53.2	41.2
2	*5320.00	84.3 AV			1.29 H	191	43.1	41.2
3	5350.00	60.8 PK	74.0	-13.2	1.38 H	211	48.4	12.4
4	5350.00	48.0 AV	54.0	-6.0	1.38 H	211	35.6	12.4
5	10640.00	62.5 PK	74.0	-11.5	1.63 H	301	39.3	23.2
6	10640.00	49.0 AV	54.0	-5.0	1.63 H	301	25.8	23.2
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	*5320.00	104.5 PK			1.11 V	179	63.3	41.2
2	*5320.00	94.4 AV			1.11 V	179	53.2	41.2
3	5350.00	60.9 PK	74.0	-13.1	1.23 V	182	48.5	12.4
4	5350.00	48.1 AV	54.0	-5.9	1.23 V	182	35.7	12.4
5	10640.00	63.1 PK	74.0	-10.9	2.31 V	187	39.9	23.2
6	10640.00	49.5 AV	54.0	-4.5	2.31 V	187	26.3	23.2

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 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	61.7 PK	74.0	-12.3	1.25 H	188	48.9	12.8
2	5460.00	48.0 AV	54.0	-6.0	1.25 H	188	35.2	12.8
3	#5470.00	62.0 PK	68.2	-6.2	1.21 H	201	49.1	12.9
4	*5500.00	96.0 PK			1.30 H	192	54.0	42.0
5	*5500.00	85.1 AV			1.30 H	192	43.1	42.0
6	11000.00	63.2 PK	74.0	-10.8	2.33 H	151	39.8	23.4
7	11000.00	49.3 AV	54.0	-4.7	2.33 H	151	25.9	23.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	62.9 PK	74.0	-11.1	1.19 V	189	50.1	12.8
2	5460.00	48.7 AV	54.0	-5.3	1.19 V	189	35.9	12.8
3	#5470.00	65.2 PK	68.2	-3.0	1.14 V	192	52.3	12.9
4	*5500.00	106.0 PK			1.17 V	200	64.0	42.0
5	*5500.00	95.5 AV			1.17 V	200	53.5	42.0
6	11000.00	63.6 PK	74.0	-10.4	2.64 V	106	40.2	23.4
7	11000.00	49.4 AV	54.0	-4.6	2.64 V	106	26.0	23.4

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	96.9 PK			1.29 H	190	55.1	41.8
2	*5580.00	87.1 AV			1.29 H	190	45.3	41.8
3	11160.00	63.1 PK	74.0	-10.9	2.64 H	117	39.8	23.3
4	11160.00	49.0 AV	54.0	-5.0	2.64 H	117	25.7	23.3
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	*5580.00	107.0 PK			1.17 V	189	65.2	41.8
2	*5580.00	97.2 AV			1.17 V	189	55.4	41.8
3	11160.00	63.4 PK	74.0	-10.6	2.97 V	118	40.1	23.3
4	11160.00	49.4 AV	54.0	-4.6	2.97 V	118	26.1	23.3

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 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	91.9 PK			1.24 H	189	49.8	42.1
2	*5700.00	81.1 AV			1.24 H	189	39.0	42.1
3	#5725.00	61.8 PK	68.2	-6.4	1.33 H	195	48.9	12.9
4	11400.00	64.4 PK	74.0	-9.6	2.65 H	196	40.0	24.4
5	11400.00	50.4 AV	54.0	-3.6	2.65 H	196	26.0	24.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	102.0 PK			1.17 V	156	59.9	42.1
2	*5700.00	91.3 AV			1.17 V	156	49.2	42.1
3	#5725.00	61.5 PK	68.2	-6.7	1.23 V	160	48.6	12.9
4	11400.00	64.6 PK	74.0	-9.4	1.92 V	255	40.2	24.4
5	11400.00	50.5 AV	54.0	-3.5	1.92 V	255	26.1	24.4

Remarks:

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

CHANNEL	TX Channel 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	61.4 PK	68.2	-6.8	1.27 H	188	48.5	12.9
2	*5720.00	95.3 PK			1.36 H	199	53.1	42.2
3	*5720.00	84.5 AV			1.36 H	199	42.3	42.2
4	#5850.00	61.9 PK	68.2	-6.3	1.37 H	194	48.6	13.3
5	11440.00	64.0 PK	74.0	-10.0	3.18 H	140	39.8	24.2
6	11440.00	50.1 AV	54.0	-3.9	3.18 H	140	25.9	24.2
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	#5470.00	61.6 PK	68.2	-6.6	1.16 V	160	48.7	12.9
2	*5720.00	105.2 PK			1.14 V	158	63.0	42.2
3	*5720.00	94.2 AV			1.14 V	158	52.0	42.2
4	#5850.00	61.8 PK	68.2	-6.4	1.20 V	162	48.5	13.3
5	11440.00	64.4 PK	74.0	-9.6	2.14 V	318	40.2	24.2
6	11440.00	50.3 AV	54.0	-3.7	2.14 V	318	26.1	24.2

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5608.80	64.0 PK	68.2	-4.2	1.30 H	187	51.3	12.7
2	*5745.00	97.6 PK			1.30 H	187	55.1	42.5
3	*5745.00	87.0 AV			1.30 H	187	44.5	42.5
4	#5991.20	64.7 PK	68.2	-3.5	1.30 H	187	50.9	13.8
5	11490.00	63.7 PK	74.0	-10.3	2.55 H	161	39.6	24.1
6	11490.00	50.8 AV	54.0	-3.2	2.55 H	161	26.7	24.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5628.00	62.7 PK	68.2	-5.5	1.17 V	202	50.0	12.7
2	*5745.00	105.8 PK			1.17 V	202	63.3	42.5
3	*5745.00	95.8 AV			1.17 V	202	53.3	42.5
4	#5928.00	63.6 PK	68.2	-4.6	1.17 V	202	50.0	13.6
5	11490.00	64.1 PK	74.0	-9.9	3.36 V	174	40.0	24.1
6	11490.00	50.9 AV	54.0	-3.1	3.36 V	174	26.8	24.1

Remarks:

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

CHANNEL	TX Channel 157	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	#5627.20	62.7 PK	68.2	-5.5	1.22 H	188	50.0	12.7
2	*5785.00	97.2 PK			1.22 H	188	54.6	42.6
3	*5785.00	86.5 AV			1.22 H	188	43.9	42.6
4	#5941.60	63.7 PK	68.2	-4.5	1.22 H	188	50.1	13.6
5	11570.00	63.5 PK	74.0	-10.5	1.99 H	257	39.5	24.0
6	11570.00	50.6 AV	54.0	-3.4	1.99 H	257	26.6	24.0
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	#5644.80	63.5 PK	68.2	-4.7	1.19 V	190	50.8	12.7
2	*5785.00	105.5 PK			1.19 V	190	62.9	42.6
3	*5785.00	95.6 AV			1.19 V	190	53.0	42.6
4	#5939.20	63.9 PK	68.2	-4.3	1.19 V	190	50.3	13.6
5	11570.00	63.8 PK	74.0	-10.2	2.10 V	155	39.8	24.0
6	11570.00	50.9 AV	54.0	-3.1	2.10 V	155	26.9	24.0

Remarks:

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

CHANNEL	TX Channel 165	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	#5606.40	63.0 PK	68.2	-5.2	1.15 H	190	50.4	12.6
2	*5825.00	96.1 PK			1.15 H	190	53.5	42.6
3	*5825.00	85.3 AV			1.15 H	190	42.7	42.6
4	#5986.40	64.3 PK	68.2	-3.9	1.15 H	190	50.5	13.8
5	11650.00	63.1 PK	74.0	-10.9	1.96 H	330	39.5	23.6
6	11650.00	50.0 AV	54.0	-4.0	1.96 H	330	26.4	23.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5640.00	63.4 PK	68.2	-4.8	1.05 V	162	50.7	12.7
2	*5825.00	105.0 PK			1.05 V	162	62.4	42.6
3	*5825.00	94.5 AV			1.05 V	162	51.9	42.6
4	#5973.60	63.7 PK	68.2	-4.5	1.05 V	162	50.0	13.7
5	11650.00	63.5 PK	74.0	-10.5	2.54 V	177	39.9	23.6
6	11650.00	50.5 AV	54.0	-3.5	2.54 V	177	26.9	23.6

Remarks:

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

802.11n (HT20)

CHANNEL	TX Channel 36	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	61.4 PK	74.0	-12.6	1.41 H	203	48.8	12.6
2	5150.00	47.8 AV	54.0	-6.2	1.41 H	203	35.2	12.6
3	*5180.00	91.5 PK			1.20 H	188	50.0	41.5
4	*5180.00	81.6 AV			1.20 H	188	40.1	41.5
5	#10360.00	62.2 PK	68.2	-6.0	2.31 H	226	39.7	22.5
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	61.8 PK	74.0	-12.2	1.18 V	302	49.2	12.6
2	5150.00	48.0 AV	54.0	-6.0	1.18 V	302	35.4	12.6
3	*5180.00	102.6 PK			1.01 V	295	61.1	41.5
4	*5180.00	93.1 AV			1.01 V	295	51.6	41.5
5	#10360.00	62.6 PK	68.2	-5.6	2.69 V	255	40.1	22.5

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 40	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	*5200.00	92.2 PK			1.49 H	176	50.7	41.5
2	*5200.00	82.1 AV			1.49 H	176	40.6	41.5
3	#10400.00	62.2 PK	68.2	-6.0	2.91 H	144	39.3	22.9
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	*5200.00	102.9 PK			1.48 V	168	61.4	41.5
2	*5200.00	93.2 AV			1.48 V	168	51.7	41.5
3	#10400.00	62.8 PK	68.2	-5.4	2.01 V	117	39.9	22.9

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 48	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	*5240.00	94.7 PK			1.17 H	189	53.5	41.2
2	*5240.00	84.2 AV			1.17 H	189	43.0	41.2
3	5350.00	60.9 PK	74.0	-13.1	1.38 H	211	48.5	12.4
4	5350.00	48.3 AV	54.0	-5.7	1.38 H	211	35.9	12.4
5	#10480.00	61.7 PK	68.2	-6.5	2.41 H	306	38.9	22.8
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	*5240.00	105.7 PK			1.15 V	178	64.5	41.2
2	*5240.00	95.3 AV			1.15 V	178	54.1	41.2
3	5350.00	61.2 PK	74.0	-12.8	1.19 V	186	48.8	12.4
4	5350.00	48.5 AV	54.0	-5.5	1.19 V	186	36.1	12.4
5	#10480.00	62.8 PK	68.2	-5.4	2.36 V	255	40.0	22.8

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.8 PK	74.0	-13.2	1.15 H	167	48.2	12.6
2	5150.00	48.1 AV	54.0	-5.9	1.15 H	167	35.5	12.6
3	*5260.00	93.6 PK			1.43 H	219	52.5	41.1
4	*5260.00	83.5 AV			1.43 H	219	42.4	41.1
5	#10520.00	62.9 PK	68.2	-5.3	2.20 H	359	39.9	23.0
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	61.0 PK	74.0	-13.0	1.25 V	183	48.4	12.6
2	5150.00	48.4 AV	54.0	-5.6	1.25 V	183	35.8	12.6
3	*5260.00	103.8 PK			1.12 V	177	62.7	41.1
4	*5260.00	93.7 AV			1.12 V	177	52.6	41.1
5	#10520.00	63.6 PK	68.2	-4.6	2.88 V	197	40.6	23.0

Remarks:

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

CHANNEL	TX Channel 60	DETECTOR FUNCTION	Peak (PK) 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	94.3 PK			1.24 H	192	53.2	41.1
2	*5300.00	84.1 AV			1.24 H	192	43.0	41.1
3	10600.00	63.0 PK	74.0	-11.0	2.41 H	302	39.8	23.2
4	10600.00	49.2 AV	54.0	-4.8	2.41 H	302	26.0	23.2
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	*5300.00	104.6 PK			1.15 V	179	63.5	41.1
2	*5300.00	94.3 AV			1.15 V	179	53.2	41.1
3	10600.00	63.4 PK	74.0	-10.6	2.14 V	192	40.2	23.2
4	10600.00	49.6 AV	54.0	-4.4	2.14 V	192	26.4	23.2

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 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	94.2 PK			1.33 H	189	53.0	41.2
2	*5320.00	84.1 AV			1.33 H	189	42.9	41.2
3	5350.00	60.6 PK	74.0	-13.4	1.18 H	246	48.2	12.4
4	5350.00	47.9 AV	54.0	-6.1	1.18 H	246	35.5	12.4
5	10640.00	62.6 PK	74.0	-11.4	1.97 H	257	39.4	23.2
6	10640.00	49.0 AV	54.0	-5.0	1.97 H	257	25.8	23.2
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	*5320.00	104.4 PK			1.20 V	174	63.2	41.2
2	*5320.00	94.6 AV			1.20 V	174	53.4	41.2
3	5350.00	60.8 PK	74.0	-13.2	1.15 V	193	48.4	12.4
4	5350.00	48.3 AV	54.0	-5.7	1.15 V	193	35.9	12.4
5	10640.00	63.0 PK	74.0	-11.0	2.66 V	120	39.8	23.2
6	10640.00	49.2 AV	54.0	-4.8	2.66 V	120	26.0	23.2

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 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	61.3 PK	74.0	-12.7	1.24 H	185	48.5	12.8
2	5460.00	48.2 AV	54.0	-5.8	1.24 H	185	35.4	12.8
3	#5470.00	62.6 PK	68.2	-5.6	1.33 H	196	49.7	12.9
4	*5500.00	96.0 PK			1.36 H	198	54.0	42.0
5	*5500.00	95.2 AV			1.36 H	198	53.2	42.0
6	11000.00	63.2 PK	74.0	-10.8	1.97 H	214	39.8	23.4
7	11000.00	49.3 AV	54.0	-4.7	1.97 H	214	25.9	23.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	62.8 PK	74.0	-11.2	1.19 V	179	50.0	12.8
2	5460.00	48.6 AV	54.0	-5.4	1.19 V	179	35.8	12.8
3	#5470.00	65.0 PK	68.2	-3.2	1.26 V	194	52.1	12.9
4	*5500.00	106.0 PK			1.18 V	186	64.0	42.0
5	*5500.00	95.3 AV			1.18 V	186	53.3	42.0
6	11000.00	63.5 PK	74.0	-10.5	2.91 V	145	40.1	23.4
7	11000.00	49.5 AV	54.0	-4.5	2.91 V	145	26.1	23.4

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	97.0 PK			1.30 H	192	55.2	41.8
2	*5580.00	87.4 AV			1.30 H	192	45.6	41.8
3	11160.00	63.1 PK	74.0	-10.9	2.69 H	336	39.8	23.3
4	11160.00	49.0 AV	54.0	-5.0	2.69 H	336	25.7	23.3
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	*5580.00	107.1 PK			1.25 V	186	65.3	41.8
2	*5580.00	97.6 AV			1.25 V	186	55.8	41.8
3	11160.00	63.3 PK	74.0	-10.7	3.15 V	147	40.0	23.3
4	11160.00	49.2 AV	54.0	-4.8	3.15 V	147	25.9	23.3

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 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	93.3 PK			1.26 H	187	51.2	42.1
2	*5700.00	82.1 AV			1.26 H	187	40.0	42.1
3	#5725.00	61.4 PK	68.2	-6.8	1.38 H	204	48.5	12.9
4	11400.00	64.3 PK	74.0	-9.7	2.03 H	317	39.9	24.4
5	11400.00	50.0 AV	54.0	-4.0	2.03 H	317	25.6	24.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	103.4 PK			1.14 V	156	61.3	42.1
2	*5700.00	92.1 AV			1.14 V	156	50.0	42.1
3	#5725.00	61.7 PK	68.2	-6.5	1.20 V	168	48.8	12.9
4	11400.00	64.5 PK	74.0	-9.5	2.19 V	256	40.1	24.4
5	11400.00	50.3 AV	54.0	-3.7	2.19 V	256	25.9	24.4

Remarks:

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

CHANNEL	TX Channel 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	61.5 PK	68.2	-6.7	1.29 H	195	48.6	12.9
2	*5720.00	95.2 PK			1.35 H	199	53.0	42.2
3	*5720.00	84.2 AV			1.35 H	199	42.0	42.2
4	#5850.00	61.9 PK	68.2	-6.3	1.30 H	216	48.6	13.3
5	11440.00	64.0 PK	74.0	-10.0	2.22 H	345	39.8	24.2
6	11440.00	50.5 AV	54.0	-3.5	2.22 H	345	26.3	24.2
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	#5470.00	61.8 PK	68.2	-6.4	1.20 V	169	48.9	12.9
2	*5720.00	105.3 PK			1.15 V	187	63.1	42.2
3	*5720.00	94.5 AV			1.15 V	187	52.3	42.2
4	#5850.00	61.9 PK	68.2	-6.3	1.17 V	162	48.6	13.3
5	11440.00	64.3 PK	74.0	-9.7	2.63 V	341	40.1	24.2
6	11440.00	50.6 AV	54.0	-3.4	2.63 V	341	26.4	24.2

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5600.80	63.1 PK	68.2	-5.1	1.17 H	188	50.5	12.6
2	*5745.00	98.2 PK			1.17 H	188	55.7	42.5
3	*5745.00	87.5 AV			1.17 H	188	45.0	42.5
4	#5971.20	64.5 PK	68.2	-3.7	1.17 H	188	50.8	13.7
5	11490.00	63.6 PK	74.0	-10.4	1.95 H	120	39.5	24.1
6	11490.00	50.4 AV	54.0	-3.6	1.95 H	120	26.3	24.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5626.40	63.6 PK	68.2	-4.6	1.03 V	202	50.9	12.7
2	*5745.00	105.9 PK			1.03 V	202	63.4	42.5
3	*5745.00	95.7 AV			1.03 V	202	53.2	42.5
4	#5966.40	63.7 PK	68.2	-4.5	1.03 V	202	50.0	13.7
5	11490.00	63.9 PK	74.0	-10.1	1.95 V	260	39.8	24.1
6	11490.00	51.0 AV	54.0	-3.0	1.95 V	260	26.9	24.1

Remarks:

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

CHANNEL	TX Channel 157	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	#5618.40	62.5 PK	68.2	-5.7	1.18 H	189	49.8	12.7
2	*5785.00	98.0 PK			1.18 H	189	55.4	42.6
3	*5785.00	86.9 AV			1.18 H	189	44.3	42.6
4	#5989.60	64.0 PK	68.2	-4.2	1.18 H	189	50.2	13.8
5	11570.00	63.6 PK	74.0	-10.4	1.63 H	150	39.6	24.0
6	11570.00	50.5 AV	54.0	-3.5	1.63 H	150	26.5	24.0
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	#5620.80	63.5 PK	68.2	-4.7	1.18 V	168	50.8	12.7
2	*5785.00	105.9 PK			1.18 V	168	63.3	42.6
3	*5785.00	95.6 AV			1.18 V	168	53.0	42.6
4	#5972.00	64.5 PK	68.2	-3.7	1.18 V	168	50.8	13.7
5	11570.00	63.9 PK	74.0	-10.1	2.00 V	187	39.9	24.0
6	11570.00	50.8 AV	54.0	-3.2	2.00 V	187	26.8	24.0

Remarks:

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

CHANNEL	TX Channel 165	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	#5626.40	62.7 PK	68.2	-5.5	1.13 H	160	50.0	12.7
2	*5825.00	97.7 PK			1.13 H	160	55.1	42.6
3	*5825.00	86.4 AV			1.13 H	160	43.8	42.6
4	#5965.60	63.9 PK	68.2	-4.3	1.13 H	160	50.2	13.7
5	11650.00	63.3 PK	74.0	-10.7	1.95 H	230	39.7	23.6
6	11650.00	50.4 AV	54.0	-3.6	1.95 H	230	26.8	23.6
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5648.80	63.1 PK	68.2	-5.1	1.17 V	169	50.5	12.6
2	*5825.00	105.3 PK			1.17 V	169	62.7	42.6
3	*5825.00	94.9 AV			1.17 V	169	52.3	42.6
4	#5978.40	63.2 PK	68.2	-5.0	1.17 V	169	49.4	13.8
5	11650.00	63.4 PK	74.0	-10.6	2.25 V	114	39.8	23.6
6	11650.00	50.4 AV	54.0	-3.6	2.25 V	114	26.8	23.6

Remarks:

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

802.11n (HT40)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.7 PK	74.0	-13.3	1.18 H	190	48.1	12.6
2	5150.00	47.6 AV	54.0	-6.4	1.18 H	190	35.0	12.6
3	*5190.00	90.6 PK			1.30 H	194	49.1	41.5
4	*5190.00	81.3 AV			1.30 H	194	39.8	41.5
5	#10380.00	62.2 PK	68.2	-6.0	2.93 H	325	39.5	22.7
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	61.0 PK	74.0	-13.0	1.26 V	157	48.4	12.6
2	5150.00	47.8 AV	54.0	-6.2	1.26 V	157	35.2	12.6
3	*5190.00	100.7 PK			1.19 V	178	59.2	41.5
4	*5190.00	90.7 AV			1.19 V	178	49.2	41.5
5	#10380.00	62.5 PK	68.2	-5.7	2.66 V	187	39.8	22.7

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 46	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	*5230.00	90.8 PK			1.23 H	189	49.5	41.3
2	*5230.00	80.7 AV			1.23 H	189	39.4	41.3
3	5350.00	61.2 PK	74.0	-12.8	1.14 H	209	48.8	12.4
4	5350.00	47.4 AV	54.0	-6.6	1.14 H	209	35.0	12.4
5	#10460.00	62.6 PK	68.2	-5.6	2.50 H	327	39.7	22.9
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	*5230.00	100.9 PK			1.20 V	166	59.6	41.3
2	*5230.00	90.8 AV			1.20 V	166	49.5	41.3
3	5350.00	61.9 PK	74.0	-12.1	1.14 V	171	49.5	12.4
4	5350.00	47.8 AV	54.0	-6.2	1.14 V	171	35.4	12.4
5	#10460.00	63.1 PK	68.2	-5.1	2.54 V	198	40.2	22.9

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.9 PK	74.0	-13.1	1.20 H	181	48.3	12.6
2	5150.00	48.3 AV	54.0	-5.7	1.20 H	181	35.7	12.6
3	*5270.00	91.2 PK			1.16 H	186	50.1	41.1
4	*5270.00	81.4 AV			1.16 H	186	40.3	41.1
5	#10540.00	62.3 PK	68.2	-5.9	2.90 H	305	39.4	22.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	61.1 PK	74.0	-12.9	1.30 V	192	48.5	12.6
2	5150.00	48.6 AV	54.0	-5.4	1.30 V	192	36.0	12.6
3	*5270.00	101.4 PK			1.24 V	188	60.3	41.1
4	*5270.00	91.8 AV			1.24 V	188	50.7	41.1
5	#10540.00	62.7 PK	68.2	-5.5	1.45 V	250	39.8	22.9

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 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	91.2 PK			1.25 H	196	50.0	41.2
2	*5310.00	81.0 AV			1.25 H	196	39.8	41.2
3	5350.00	60.8 PK	74.0	-13.2	1.12 H	182	48.4	12.4
4	5350.00	47.7 AV	54.0	-6.3	1.12 H	182	35.3	12.4
5	10620.00	63.0 PK	74.0	-11.0	2.09 H	117	39.9	23.1
6	10620.00	48.9 AV	54.0	-5.1	2.09 H	117	25.8	23.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	101.3 PK			1.14 V	184	60.1	41.2
2	*5310.00	91.1 AV			1.14 V	184	49.9	41.2
3	5350.00	61.0 PK	74.0	-13.0	1.19 V	190	48.6	12.4
4	5350.00	48.3 AV	54.0	-5.7	1.19 V	190	35.9	12.4
5	10620.00	63.4 PK	74.0	-10.6	2.04 V	319	40.3	23.1
6	10620.00	49.3 AV	54.0	-4.7	2.04 V	319	26.2	23.1

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	61.3 PK	74.0	-12.7	1.29 H	193	48.5	12.8
2	5460.00	48.4 AV	54.0	-5.6	1.29 H	193	35.6	12.8
3	#5470.00	61.7 PK	68.2	-6.5	1.38 H	176	48.8	12.9
4	*5510.00	90.3 PK			1.20 H	185	48.4	41.9
5	*5510.00	80.1 AV			1.20 H	185	38.2	41.9
6	11020.00	63.0 PK	74.0	-11.0	2.33 H	165	39.7	23.3
7	11020.00	49.3 AV	54.0	-4.7	2.33 H	165	26.0	23.3
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	61.4 PK	74.0	-12.6	1.25 V	166	48.6	12.8
2	5460.00	49.8 AV	54.0	-4.2	1.25 V	166	37.0	12.8
3	#5470.00	62.8 PK	68.2	-5.4	1.27 V	155	49.9	12.9
4	*5510.00	100.4 PK			1.19 V	159	58.5	41.9
5	*5510.00	90.0 AV			1.19 V	159	48.1	41.9
6	11020.00	63.4 PK	74.0	-10.6	2.01 V	196	40.1	23.3
7	11020.00	49.4 AV	54.0	-4.6	2.01 V	196	26.1	23.3

Remarks:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	93.8 PK			1.28 H	199	52.0	41.8
2	*5550.00	83.1 AV			1.28 H	199	41.3	41.8
3	11100.00	63.3 PK	74.0	-10.7	2.67 H	245	39.9	23.4
4	11100.00	49.2 AV	54.0	-4.8	2.67 H	245	25.8	23.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	103.9 PK			1.19 V	156	62.1	41.8
2	*5550.00	92.8 AV			1.19 V	156	51.0	41.8
3	11100.00	63.6 PK	74.0	-10.4	2.68 V	119	40.2	23.4
4	11100.00	49.7 AV	54.0	-4.3	2.68 V	119	26.3	23.4

Remarks:

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

CHANNEL	TX Channel 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	91.0 PK			1.26 H	195	49.1	41.9
2	*5670.00	89.9 AV			1.26 H	195	48.0	41.9
3	#5725.00	61.5 PK	68.2	-6.7	1.39 H	205	48.6	12.9
4	11340.00	63.9 PK	74.0	-10.1	2.55 H	187	40.1	23.8
5	11340.00	49.8 AV	54.0	-4.2	2.55 H	187	26.0	23.8
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	*5670.00	100.9 PK			1.06 V	201	59.0	41.9
2	*5670.00	90.1 AV			1.06 V	201	48.2	41.9
3	#5725.00	61.6 PK	68.2	-6.6	1.15 V	192	48.7	12.9
4	11340.00	64.0 PK	74.0	-10.0	2.69 V	141	40.2	23.8
5	11340.00	50.1 AV	54.0	-3.9	2.69 V	141	26.3	23.8

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 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	61.8 PK	68.2	-6.4	1.24 H	195	48.9	12.9
2	*5710.00	91.6 PK			1.30 H	192	49.5	42.1
3	*5710.00	80.5 AV			1.30 H	192	38.4	42.1
4	#5850.00	61.9 PK	68.2	-6.3	1.39 H	188	48.6	13.3
5	11420.00	63.9 PK	74.0	-10.1	2.55 H	141	39.5	24.4
6	11420.00	50.3 AV	54.0	-3.7	2.55 H	141	25.9	24.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5470.00	62.6 PK	68.2	-5.6	1.14 V	203	49.7	12.9
2	*5710.00	101.4 PK			1.10 V	195	59.3	42.1
3	*5710.00	90.6 AV			1.10 V	195	48.5	42.1
4	#5850.00	62.4 PK	68.2	-5.8	1.09 V	196	49.1	13.3
5	11420.00	64.3 PK	74.0	-9.7	1.95 V	231	39.9	24.4
6	11420.00	50.4 AV	54.0	-3.6	1.95 V	231	26.0	24.4

Remarks:

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

CHANNEL	TX Channel 151	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	#5609.60	62.9 PK	68.2	-5.3	1.16 H	160	50.2	12.7
2	*5755.00	93.7 PK			1.16 H	160	51.2	42.5
3	*5755.00	82.8 AV			1.16 H	160	40.3	42.5
4	#5954.40	64.9 PK	68.2	-3.3	1.16 H	160	51.3	13.6
5	11510.00	63.3 PK	74.0	-10.7	2.87 H	103	39.4	23.9
6	11510.00	50.2 AV	54.0	-3.8	2.87 H	103	26.3	23.9
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	#5606.40	63.8 PK	68.2	-4.4	1.16 V	157	51.2	12.6
2	*5755.00	101.9 PK			1.18 V	157	59.4	42.5
3	*5755.00	90.9 AV			1.18 V	157	48.4	42.5
4	#5978.40	64.0 PK	68.2	-4.2	1.16 V	157	50.2	13.8
5	11510.00	63.8 PK	74.0	-10.2	1.87 V	144	39.9	23.9
6	11510.00	50.7 AV	54.0	-3.3	1.87 V	144	26.8	23.9

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 159	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5612.00	63.2 PK	68.2	-5.0	1.00 H	188	50.5	12.7
2	*5795.00	93.6 PK			1.00 H	188	51.0	42.6
3	*5795.00	82.4 AV			1.00 H	188	39.8	42.6
4	#5948.80	63.8 PK	68.2	-4.4	1.00 H	188	50.2	13.6
5	11590.00	63.3 PK	74.0	-10.7	1.95 H	206	39.5	23.8
6	11590.00	50.2 AV	54.0	-3.8	1.95 H	206	26.4	23.8
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	#5627.20	63.1 PK	68.2	-5.1	1.09 V	200	50.4	12.7
2	*5795.00	101.6 PK			1.09 V	200	59.0	42.6
3	*5795.00	91.0 AV			1.09 V	200	48.4	42.6
4	#5980.80	63.3 PK	68.2	-4.9	1.09 V	200	49.5	13.8
5	11590.00	63.7 PK	74.0	-10.3	3.16 V	147	39.9	23.8
6	11590.00	50.6 AV	54.0	-3.4	3.16 V	147	26.8	23.8

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.

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CHANNEL	TX Channel 42	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	61.3 PK	74.0	-12.7	1.29 H	186	48.7	12.6
2	5150.00	47.8 AV	54.0	-6.2	1.29 H	186	35.2	12.6
3	*5210.00	88.9 PK			1.33 H	170	47.5	41.4
4	*5210.00	78.5 AV			1.33 H	170	37.1	41.4
5	5350.00	60.6 PK	74.0	-13.4	1.30 H	185	48.2	12.4
6	5350.00	47.8 AV	54.0	-6.2	1.30 H	185	35.4	12.4
7	#10420.00	62.5 PK	68.2	-5.7	2.15 H	300	39.7	22.8
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	61.5 PK	74.0	-12.5	1.26 V	188	48.9	12.6
2	5150.00	48.2 AV	54.0	-5.8	1.26 V	188	35.6	12.6
3	*5210.00	99.2 PK			1.18 V	177	57.8	41.4
4	*5210.00	87.9 AV			1.18 V	177	46.5	41.4
5	5350.00	60.8 PK	74.0	-13.2	1.15 V	170	48.4	12.4
6	5350.00	48.0 AV	54.0	-6.0	1.15 V	170	35.6	12.4
7	#10420.00	63.0 PK	68.2	-5.2	2.58 V	196	40.2	22.8

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 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	60.6 PK	74.0	-13.4	1.21 H	176	48.0	12.6
2	5150.00	47.8 AV	54.0	-6.2	1.21 H	176	35.2	12.6
3	*5290.00	89.4 PK			1.14 H	188	48.3	41.1
4	*5290.00	78.6 AV			1.14 H	188	37.5	41.1
5	5350.00	61.0 PK	74.0	-13.0	1.11 H	193	48.6	12.4
6	5350.00	50.6 AV	54.0	-3.4	1.11 H	193	38.2	12.4
7	#10580.00	62.5 PK	68.2	-5.7	3.30 H	145	39.4	23.1
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.7 PK	74.0	-13.3	1.20 V	177	48.1	12.6
2	5150.00	47.9 AV	54.0	-6.1	1.20 V	177	35.3	12.6
3	*5290.00	99.5 PK			1.17 V	182	58.4	41.1
4	*5290.00	88.8 AV			1.17 V	182	47.7	41.1
5	5350.00	68.1 PK	74.0	-5.9	1.08 V	199	55.7	12.4
6	5350.00	52.6 AV	54.0	-1.4	1.08 V	199	40.2	12.4
7	#10580.00	63.0 PK	68.2	-5.2	2.33 V	315	39.9	23.1

Remarks:

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

CHANNEL	TX Channel 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	61.2 PK	74.0	-12.8	1.33 H	184	48.4	12.8
2	5460.00	48.4 AV	54.0	-5.6	1.33 H	184	35.6	12.8
3	#5470.00	61.8 PK	68.2	-6.4	1.45 H	196	48.9	12.9
4	*5530.00	86.1 PK			1.30 H	192	44.2	41.9
5	*5530.00	76.8 AV			1.30 H	192	34.9	41.9
6	#5725.00	61.4 PK	68.2	-6.8	1.29 H	233	48.5	12.9
7	11060.00	63.1 PK	74.0	-10.9	2.33 H	164	39.7	23.4
8	11060.00	49.2 AV	54.0	-4.8	2.33 H	164	25.8	23.4
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	61.3 PK	74.0	-12.7	1.16 V	203	48.5	12.8
2	5460.00	48.7 AV	54.0	-5.3	1.16 V	203	35.9	12.8
3	#5470.00	63.4 PK	68.2	-4.8	1.08 V	198	50.5	12.9
4	*5530.00	96.1 PK			1.13 V	200	54.2	41.9
5	*5530.00	85.0 AV			1.13 V	200	43.1	41.9
6	#5725.00	61.8 PK	68.2	-6.4	1.15 V	197	48.9	12.9
7	11060.00	63.3 PK	74.0	-10.7	1.99 V	254	39.9	23.4
8	11060.00	49.7 AV	54.0	-4.3	1.99 V	254	26.3	23.4

Remarks:

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

CHANNEL	TX Channel 122	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	61.1 PK	74.0	-12.9	1.20 H	207	48.3	12.8
2	5460.00	48.2 AV	54.0	-5.8	1.20 H	207	35.4	12.8
3	#5470.00	61.6 PK	68.2	-6.6	1.45 H	188	48.7	12.9
4	*5610.00	86.1 PK			1.27 H	195	44.3	41.8
5	*5610.00	75.6 AV			1.27 H	195	33.8	41.8
6	#5725.00	61.7 PK	68.2	-6.5	1.39 H	190	48.8	12.9
7	11220.00	62.9 PK	74.0	-11.1	2.98 H	330	39.7	23.2
8	11220.00	49.1 AV	54.0	-4.9	2.98 H	330	25.9	23.2
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	61.4 PK	74.0	-12.6	1.13 V	205	48.6	12.8
2	5460.00	48.5 AV	54.0	-5.5	1.13 V	205	35.7	12.8
3	#5470.00	61.8 PK	68.2	-6.4	1.25 V	190	48.9	12.9
4	*5610.00	95.9 PK			1.19 V	189	54.1	41.8
5	*5610.00	84.7 AV			1.19 V	189	42.9	41.8
6	#5725.00	61.7 PK	68.2	-6.5	1.21 V	206	48.8	12.9
7	11220.00	63.4 PK	74.0	-10.6	1.96 V	311	40.2	23.2
8	11220.00	49.3 AV	54.0	-4.7	1.96 V	311	26.1	23.2

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 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	61.4 PK	68.2	-6.8	1.25 H	197	48.5	12.9
2	*5690.00	85.0 PK			1.36 H	199	43.0	42.0
3	*5690.00	74.1 AV			1.36 H	199	32.1	42.0
4	#5850.00	61.8 PK	68.2	-6.4	1.44 H	200	48.5	13.3
5	11380.00	63.7 PK	74.0	-10.3	2.14 H	106	39.5	24.2
6	11380.00	50.1 AV	54.0	-3.9	2.14 H	106	25.9	24.2
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	#5470.00	61.6 PK	68.2	-6.6	1.12 V	201	48.7	12.9
2	*5690.00	95.1 PK			1.17 V	205	53.1	42.0
3	*5690.00	84.0 AV			1.17 V	205	42.0	42.0
4	#5850.00	61.9 PK	68.2	-6.3	1.21 V	183	48.6	13.3
5	11380.00	64.0 PK	74.0	-10.0	2.54 V	188	39.8	24.2
6	11380.00	50.3 AV	54.0	-3.7	2.54 V	188	26.1	24.2

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 155	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	#5624.80	63.0 PK	68.2	-5.2	1.17 H	189	50.3	12.7
2	*5775.00	90.2 PK			1.17 H	189	47.6	42.6
3	*5775.00	79.0 AV			1.17 H	189	36.4	42.6
4	#5988.80	63.5 PK	68.2	-4.7	1.17 H	189	49.7	13.8
5	11550.00	63.5 PK	74.0	-10.5	2.01 H	315	39.6	23.9
6	11550.00	50.2 AV	54.0	-3.8	2.01 H	315	26.3	23.9
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	#5609.60	62.8 PK	68.2	-5.4	1.23 V	171	50.1	12.7
2	*5775.00	98.0 PK			1.23 V	171	55.4	42.6
3	*5775.00	86.4 AV			1.23 V	171	43.8	42.6
4	#5929.60	63.8 PK	68.2	-4.4	1.23 V	171	50.2	13.6
5	11550.00	63.8 PK	74.0	-10.2	3.05 V	142	39.9	23.9
6	11550.00	50.7 AV	54.0	-3.3	3.05 V	142	26.8	23.9

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.

Below 1GHz Worst-Case Data:

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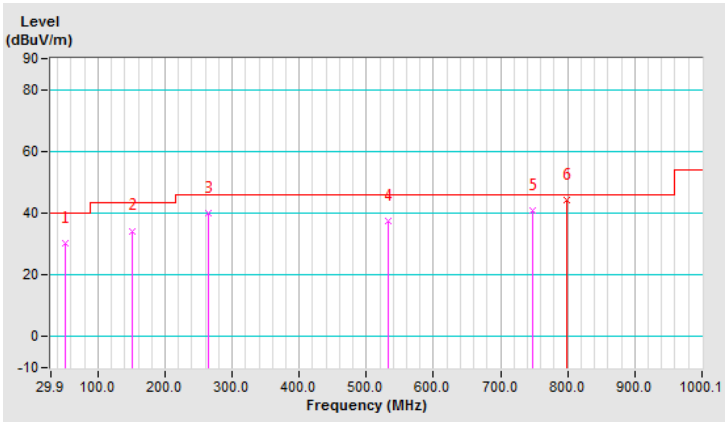
CHANNEL	TX Channel 58	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	51.24	30.2 QP	40.0	-9.8	1.50 H	129	39.2	-9.0
2	150.20	34.3 QP	43.5	-9.2	2.00 H	135	43.0	-8.7
3	264.69	40.2 QP	46.0	-5.8	1.00 H	339	49.2	-9.0
4	532.46	37.4 QP	46.0	-8.6	1.50 H	297	41.9	-4.5
5	747.85	41.0 QP	46.0	-5.0	1.50 H	354	40.1	0.9
6	798.00	44.4 QP	46.0	-1.6	1.50 H	250	42.7	1.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

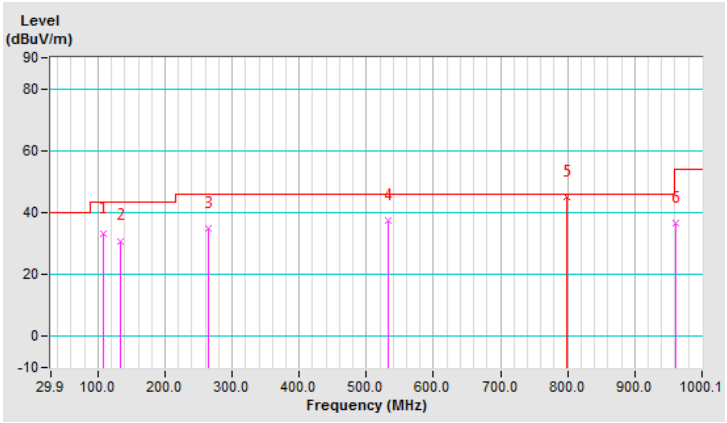


CHANNEL	TX Channel 58	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

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	107.52	33.1 QP	43.5	-10.4	1.00 V	280	45.3	-12.2
2	132.74	30.9 QP	43.5	-12.6	2.00 V	103	40.7	-9.8
3	264.69	34.8 QP	46.0	-11.2	1.50 V	278	43.8	-9.0
4	532.46	37.4 QP	46.0	-8.6	1.00 V	200	41.9	-4.5
5	**798.02**	**44.9 QP**	**46.0**	**-1.1**	**1.00 V**	**258**	**43.2**	**1.7**
6	961.29	36.5 QP	54.0	-17.5	1.00 V	304	32.0	4.5

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



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	Dec. 10, 2018	Dec. 09, 2019
RF signal cable Woken	5D-FB	Cable-cond1-01	Sep. 05, 2018	Sep. 04, 2019
LISN ROHDE & SCHWARZ (EUT)	ENV216	101826	Feb. 21, 2019	Feb. 20, 2020
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 19, 2018	Aug. 18, 2019
Software ADT	BV ADT_Cond_ V7.3.7.4	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-12040.

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.

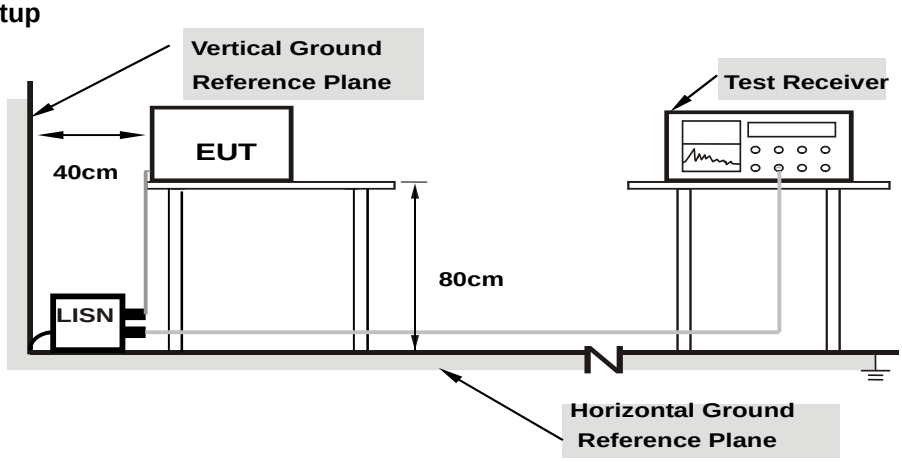
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

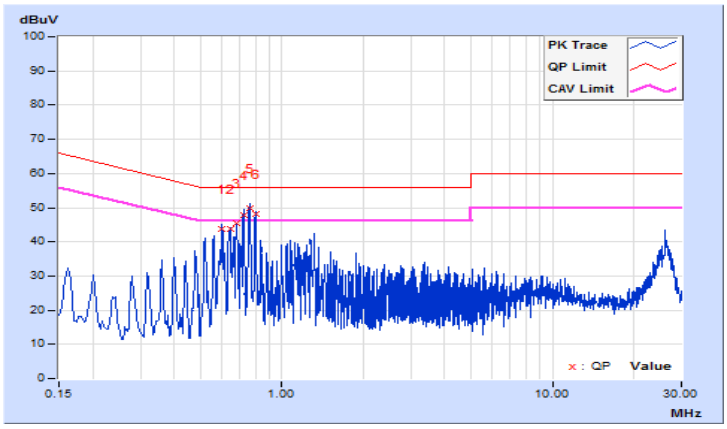
802.11ac (VHT80)

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

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.59965	9.89	33.89	29.31	43.78	39.20	56.00	46.00	-12.22	-6.80
2	0.64266	9.90	33.86	28.85	43.76	38.75	56.00	46.00	-12.24	-7.25
3	0.67845	9.90	35.67	31.04	45.57	40.94	56.00	46.00	-10.43	-5.06
4	0.72084	9.90	37.92	31.44	47.82	41.34	56.00	46.00	-8.18	-4.66
5	0.75984	9.90	39.98	32.58	49.88	42.48	56.00	46.00	-6.12	-3.52
6	0.80297	9.91	38.22	31.55	48.13	41.46	56.00	46.00	-7.87	-4.54

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.

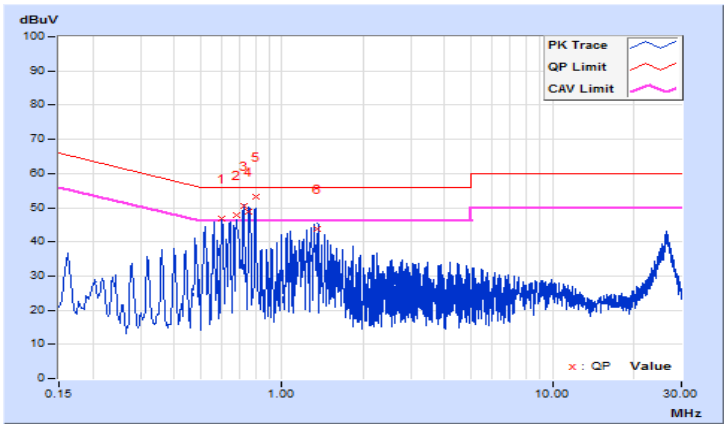


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

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	0.59965	9.87	36.98	32.35	46.85	42.22	56.00	46.00	-9.15	-3.78
2	0.67785	9.87	37.91	33.29	47.78	43.16	56.00	46.00	-8.22	-2.84
3	0.72084	9.88	40.79	33.35	50.67	43.23	56.00	46.00	-5.33	-2.77
4	0.75605	9.88	39.08	31.27	48.96	41.15	56.00	46.00	-7.04	-4.85
5	**0.79885**	**9.88**	**43.24**	**33.95**	**53.12**	**43.83**	**56.00**	**46.00**	**-2.88**	**-2.17**
6	1.35819	9.90	34.00	26.07	43.90	35.97	56.00	46.00	-12.10	-10.03

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

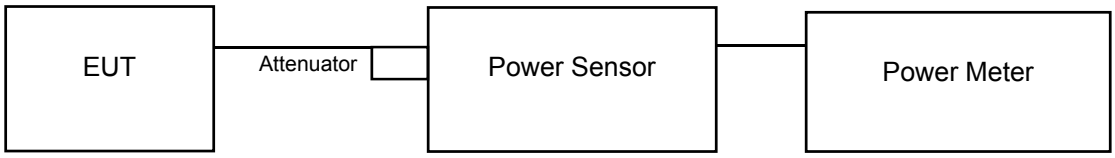
Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,

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 $N_{ANT} \geq 5$.

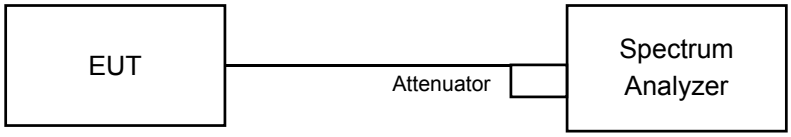
For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

4.3.2 Test Setup

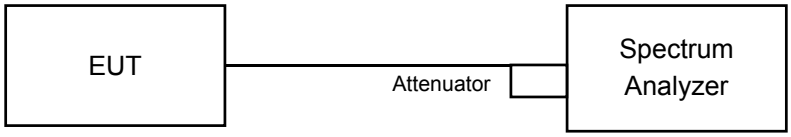
For Power Output
802.11a, 802.11n (HT20), 802.11n (HT40)



802.11ac (VHT80)



For 26dB and Occupied Bandwidth



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

For Average Power Measurement

For 802.11a, 802.11n (HT20), 802.11n (HT40)
Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst and set the detector to AVERAGE. 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. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

For Occupied Bandwidth
The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 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.

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

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

4.3.7 Test Result

Power Output:

802.11a

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	34.914	15.43	24.00	Pass
40	5200	54.075	17.33	24.00	Pass
48	5240	55.208	17.42	24.00	Pass
52	5260	34.119	15.33	24.00	Pass
60	5300	33.189	15.21	24.00	Pass
64	5320	25.293	14.03	24.00	Pass
100	5500	16.255	12.11	24.00	Pass
116	5580	24.099	13.82	24.00	Pass
140	5700	7.031	8.47	24.00	Pass
144	5720 For U-NII-2C	12.912	11.11	22.77	Pass
144	5720 For U-NII-3	4.436	6.47	30.00	Pass
149	5745	12.246	10.88	30.00	Pass
157	5785	10.691	10.29	30.00	Pass
165	5825	9.376	9.72	30.00	Pass

Note:

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

1. 11dBm + 10log (20.15) = 24.04 > 24dBm
2. 11dBm + 10log (20.10) = 24.03 > 24dBm
3. 11dBm + 10log (20.24) = 24.06 > 24dBm
4. 11dBm + 10log (20.04) = 24.01 > 24dBm
5. 11dBm + 10log (21.82) = 24.38 > 24dBm
6. 11dBm + 10log (20.26) = 24.06 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.95) = 22.77 < 24dBm

For Reference only-Power meter value

The power value was measured by power meter with average sensor

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)
144	5720	17.348	12.39

802.11n (HT20)

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	34.674	15.40	24.00	Pass
40	5200	**56.105**	17.49	24.00	Pass
48	5240	55.081	17.41	24.00	Pass
52	5260	**34.674**	15.40	24.00	Pass
60	5300	33.574	15.26	24.00	Pass
64	5320	33.266	15.22	24.00	Pass
100	5500	16.904	12.28	24.00	Pass
116	5580	**25.177**	14.01	24.00	Pass
140	5700	12.677	11.03	24.00	Pass
144	5720 For U-NII-2C	13.366	11.26	23.00	Pass
144	5720 For U-NII-3	4.732	6.75	30.00	Pass
149	5745	12.560	10.99	30.00	Pass
157	5785	10.765	10.32	30.00	Pass
165	5825	9.572	9.81	30.00	Pass

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

1. 11dBm + 10log (20.82) = 24.18 > 24dBm
2. 11dBm + 10log (20.54) = 24.12 > 24dBm
3. 11dBm + 10log (20.83) = 24.18 > 24dBm
4. 11dBm + 10log (20.51) = 24.11 > 24dBm
5. 11dBm + 10log (24.19) = 24.83 > 24dBm
6. 11dBm + 10log (20.44) = 24.10 > 24dBm
7. 11dBm + 10log (5725.00 - 5709.13) = 23.00 < 24dBm

For Reference only-Power meter value
The power value was measured by power meter with average sensor

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)
144	5720	18.098	12.58

802.11n (HT40)

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
38	5190	27.479	14.39	24.00	Pass
46	5230	35.400	15.49	24.00	Pass
54	5270	27.797	14.44	24.00	Pass
62	5310	16.749	12.24	24.00	Pass
102	5510	8.531	9.31	24.00	Pass
110	5550	16.711	12.23	24.00	Pass
134	5670	10.914	10.38	24.00	Pass
142	5710 For U-NII-2C	10.544	10.23	24.00	Pass
142	5710 For U-NII-3	1.629	2.12	30.00	Pass
151	5755	12.560	10.99	30.00	Pass
159	5795	10.965	10.40	30.00	Pass

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

1. 11dBm + 10log (41.48) = 27.17 > 24dBm
2. 11dBm + 10log (41.48) = 27.17 > 24dBm
3. 11dBm + 10log (41.62) = 27.19 > 24dBm
4. 11dBm + 10log (41.46) = 27.17 > 24dBm
5. 11dBm + 10log (41.61) = 27.19 > 24dBm
6. 11dBm + 10log (5725.00 - 5687.77) = 26.70 > 24dBm

For Reference only-Power meter value
The power value was measured by power meter with average sensor

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)
142	5710	12.173	10.85

802.11ac (VHT80)

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
42	5210	12.618	11.01	24.00	Pass
58	5290	12.677	11.03	24.00	Pass
106	5530	12.359	10.92	24.00	Pass
122	5610	10.940	10.39	24.00	Pass
138	5690 For U-NII-2C	8.710	9.40	24.00	Pass
138	5690 For U-NII-3	0.664	-1.78	30.00	Pass
155	5775	**13.428**	11.28	30.00	Pass

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

1. 17dBm + 10log (82.05) = 36.14 > 30dBm
2. 17dBm + 10log (81.83) = 36.12 > 30dBm
3. 11dBm + 10log (81.46) = 30.10 > 24dBm
4. 11dBm + 10log (5725.00 - 5649.16) = 29.79 > 24dBm

For Reference only-Power meter value
The power value was measured by power meter with average sensor

Chan.	Freq. (MHz)	Conducted Power (mW)	Conducted Power (dBm)
138	5690	9.374	9.72

26dB Bandwidth:

802.11a

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)
36	5180	20.34
40	5200	25.50
48	5240	26.12
52	5260	20.15
60	5300	20.10
64	5320	20.24
100	5500	20.04
116	5580	21.82
140	5700	20.26
144	5720 For U-NII-2C	15.05

802.11n (HT20)

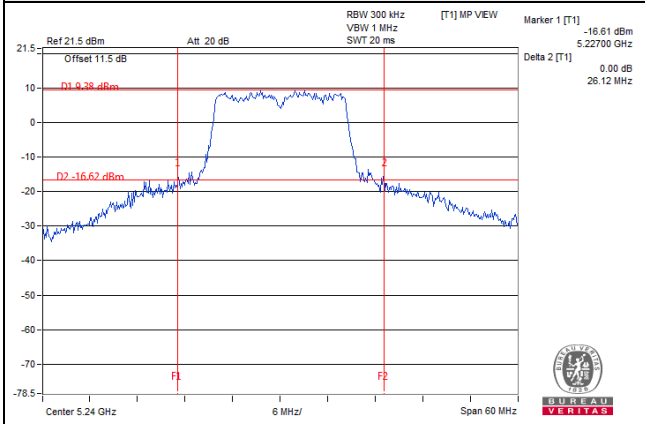
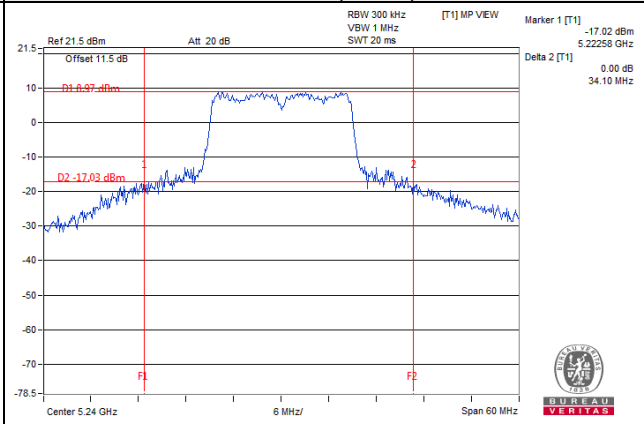
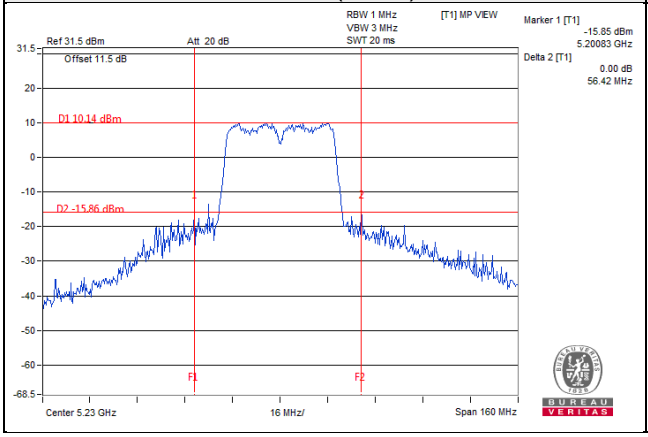
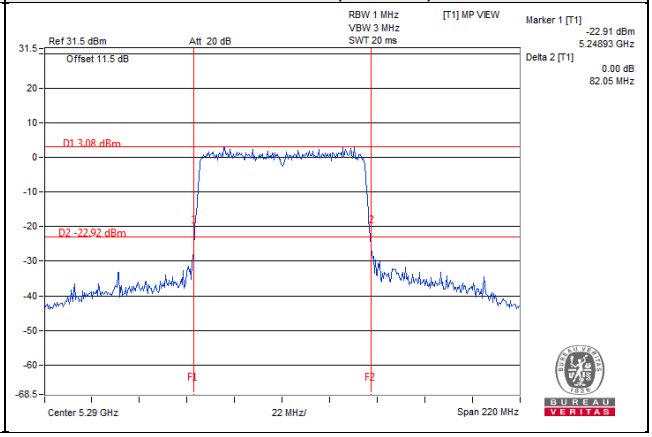
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)
36	5180	20.80
40	5200	32.43
48	5240	34.10
52	5260	20.82
60	5300	20.54
64	5320	20.83
100	5500	20.51
116	5580	24.19
140	5700	20.44
144	5720 For U-NII-2C	15.87

802.11n (HT40)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)
38	5190	41.58
46	5230	56.42
54	5270	41.48
62	5310	41.48
102	5510	41.62
110	5550	41.46
134	5670	41.61
142	5710 For U-NII-2C	37.23

802.11ac (VHT80)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)
42	5210	81.77
58	5290	82.05
106	5530	81.83
122	5610	81.46
138	5690 For U-NII-2C	75.84

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

EUT Maximum Conducted Power

802.11a

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	34.119	15.33
5470~5725	24.099	13.82

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

802.11n (HT20)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	34.674	15.40
5470~5725	25.177	14.01

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

802.11n (HT40)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	27.797	14.44
5470~5725	16.711	12.23

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

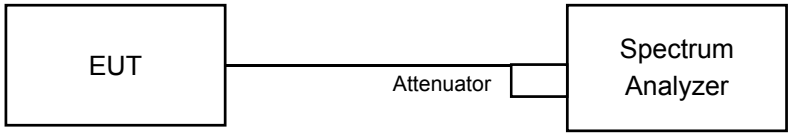
802.11ac (VHT80)

Frequency Band (MHz)	Max. Power	
	Output Power (mW)	Output Power (dBm)
5250~5350	12.677	11.03
5470~5725	12.359	10.92

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

4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

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

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	16.80
40	5200	16.92
48	5240	16.80
52	5260	16.80
60	5300	16.68
64	5320	16.80
100	5500	16.68
116	5580	16.80
140	5700	16.68
144	5720 For U-NII-2C	13.28
144	5720 For U-NII-3	3.28
149	5745	16.80
157	5785	16.80
165	5825	16.92

802.11n (HT20)

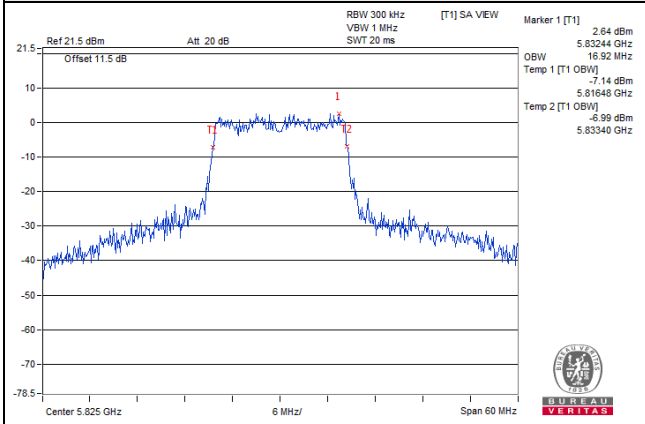
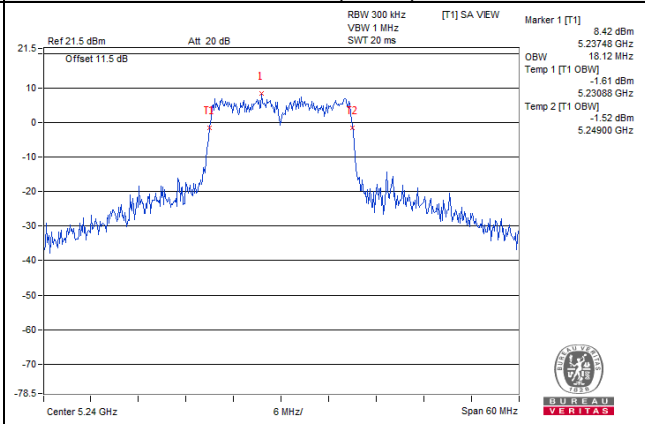
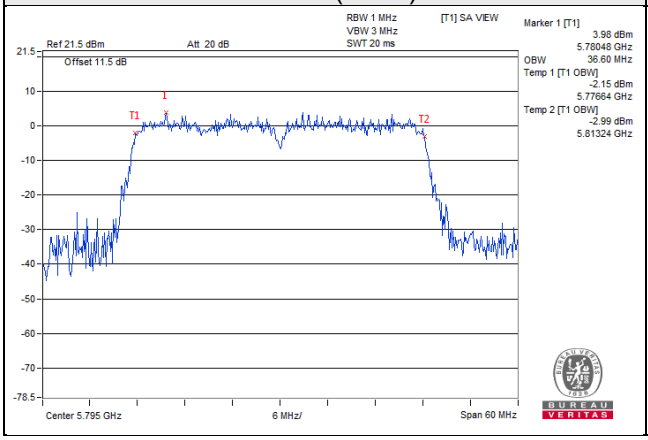
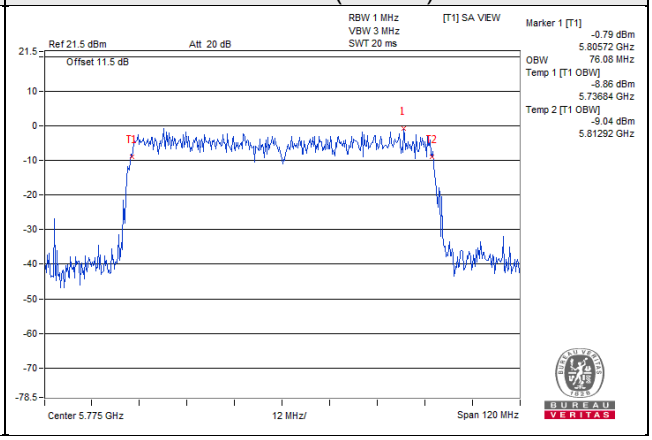
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	17.76
40	5200	17.88
48	5240	18.12
52	5260	17.76
60	5300	17.76
64	5320	17.88
100	5500	17.88
116	5580	17.88
140	5700	17.64
144	5720 For U-NII-2C	13.88
144	5720 For U-NII-3	3.76
149	5745	17.88
157	5785	17.88
165	5825	17.88

802.11n (HT40)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
38	5190	36.60
46	5230	36.48
54	5270	36.60
62	5310	36.48
102	5510	36.48
110	5550	36.60
134	5670	36.60
142	5710 For U-NII-2C	33.36
142	5710 For U-NII-3	3.24
151	5755	36.48
159	5795	36.60

802.11ac (VHT80)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)
42	5210	75.84
58	5290	76.08
106	5530	76.08
122	5610	75.84
138	5690 For U-NII-2C	73.16
138	5690 For U-NII-3	2.92
155	5775	76.08

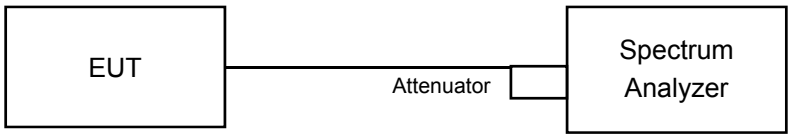
Spectrum Plot of Worst Value	
802.11a	802.11n (HT20)
	
802.11n (HT40)	802.11ac (VHT80)
	

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-1, U-NII-2A, U-NII-2C band:
Duty cycle of test signal is < 98%
Using method SA-2
1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
2) Set RBW = 1MHz, Set VBW ≥ 3 MHz, Detector = RMS
3) Set Channel power measure = 1MHz
4) Sweep time = auto, trigger set to “free run”.
5) Trace average at least 100 traces in power averaging mode.
6) Record the max value and add 10 log (1/duty cycle)

For U-NII-3 band:
Duty cycle of test signal is < 98%
1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
2) Set RBW = 300 kHz, Set VBW ≥ 1 MHz, Detector = RMS
3) Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
4) 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)
5) Sweep time = auto, trigger set to “free run”.
6) Trace average at least 100 traces in power averaging mode.
7) 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-1, U-NII-2A, U-NII-2C band

802.11a

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
36	5180	-0.49	1.58	1.09	11	Pass
40	5200	-5.15	1.58	-3.57	11	Pass
48	5240	0.93	1.58	2.51	11	Pass
52	5260	-1.96	1.58	-0.38	11	Pass
60	5300	-2.14	1.58	-0.56	11	Pass
64	5320	-8.23	1.58	-6.65	11	Pass
100	5500	-2.29	1.58	-0.71	11	Pass
116	5580	-3.05	1.58	-1.47	11	Pass
140	5700	-7.72	1.58	-6.14	11	Pass
144	5720 For U-NII-2C	-9.33	1.58	-7.75	11	Pass

Note: 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)	PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
36	5180	-1.61	1.86	0.25	11	Pass
40	5200	-9.00	1.86	-7.14	11	Pass
48	5240	-0.88	1.86	0.98	11	Pass
52	5260	-2.19	1.86	-0.33	11	Pass
60	5300	-7.12	1.86	-5.26	11	Pass
64	5320	-12.57	1.86	-10.71	11	Pass
100	5500	-2.91	1.86	-1.05	11	Pass
116	5580	-2.63	1.86	-0.77	11	Pass
140	5700	-9.10	1.86	-7.24	11	Pass
144	5720 For U-NII-2C	-17.02	1.86	-15.16	11	Pass

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

802.11n (HT40)

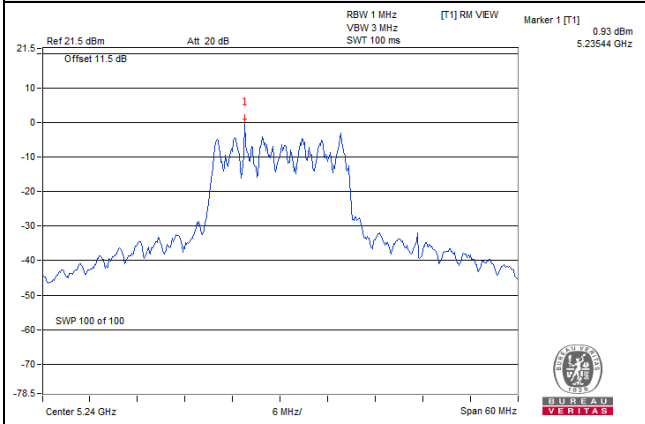
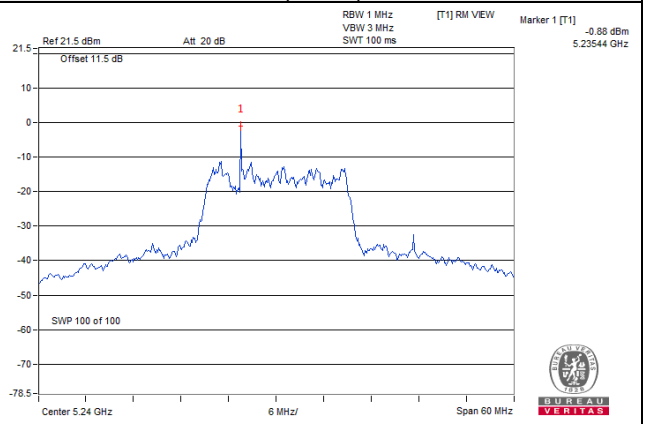
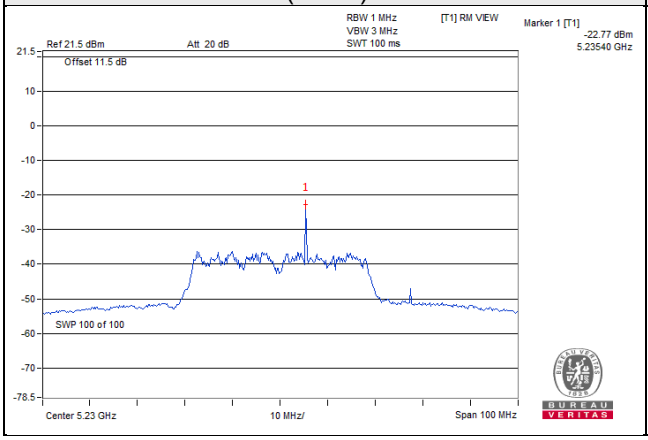
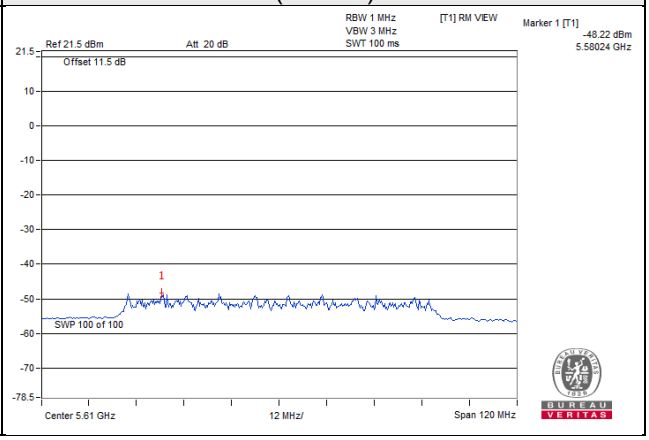
Chan.	Freq. (MHz)	PSD W/O Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD With Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
38	5190	-25.52	4.97	-20.55	11	Pass
46	5230	-22.77	4.97	-17.80	11	Pass
54	5270	-31.84	4.97	-26.87	11	Pass
62	5310	-26.28	4.97	-21.31	11	Pass
102	5510	-26.90	4.97	-21.93	11	Pass
110	5550	-28.13	4.97	-23.16	11	Pass
134	5670	-37.40	4.97	-32.43	11	Pass
142	5710 For U-NII-2C	-28.09	4.97	-23.12	11	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
42	5210	-49.49	11.08	-38.41	11	Pass
58	5290	-48.83	11.08	-37.75	11	Pass
106	5530	-49.48	11.08	-38.40	11	Pass
122	5610	-48.22	11.08	-37.14	11	Pass
138	5690 For U-NII-2C	-48.88	11.08	-37.80	11	Pass

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

Spectrum Plot of Worst Value	
802.11a / CH 48	802.11n (HT20) / CH 48
	
802.11n (HT40) / CH 46	802.11ac (VHT80) / CH 122
	

For U-NII-3 band:

802.11a

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)				
144	5720 For U-NII-3	-18.94	-16.72	1.58	-15.14	30	Pass
149	5745	-11.77	-9.55	1.58	-7.97	30	Pass
157	5785	-17.23	-15.01	1.58	-13.43	30	Pass
165	5825	-17.43	-15.21	1.58	-13.63	30	Pass

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

802.11n (HT20)

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)				
144	5720 For U-NII-3	-24.75	-22.53	1.86	-20.67	30	Pass
149	5745	-12.95	-10.73	1.86	-8.87	30	Pass
157	5785	-22.28	-20.06	1.86	-18.20	30	Pass
165	5825	-16.31	-14.09	1.86	-12.23	30	Pass

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

802.11n (HT40)

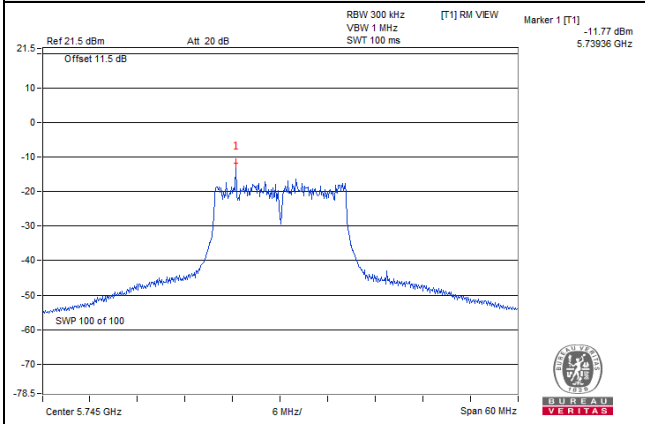
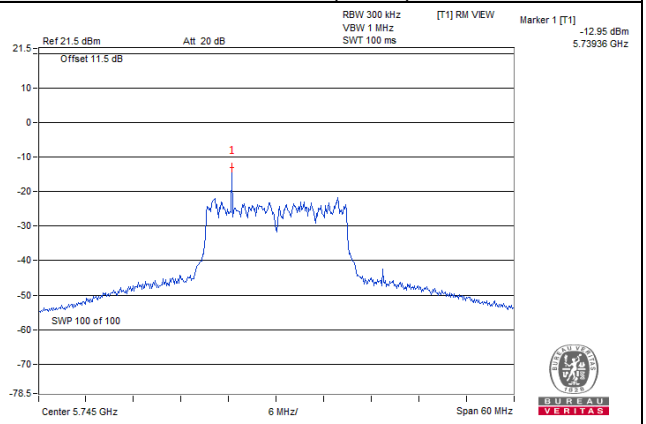
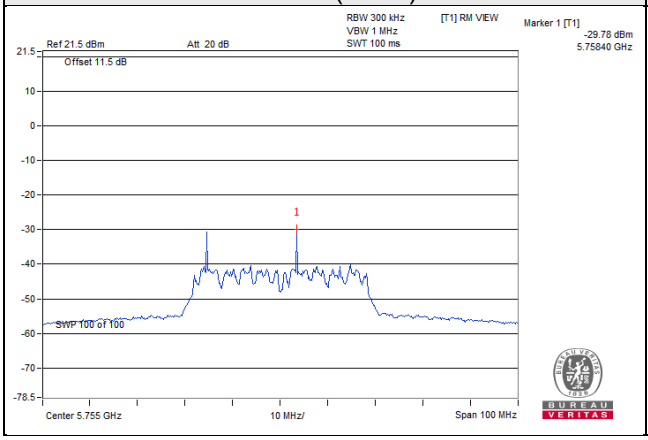
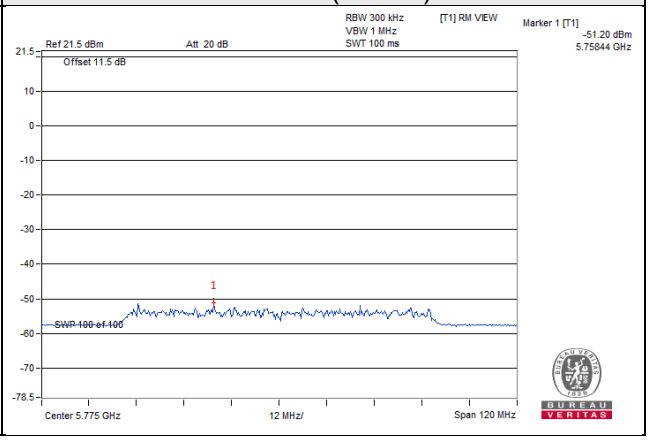
Chan.	Freq. (MHz)	PSD W/O Duty Factor		Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
		(dBm/300kHz)	(dBm/500kHz)				
142	5710 For U-NII-3	-41.95	-39.73	4.97	-34.76	30	Pass
151	5755	-29.78	-27.56	4.97	-22.59	30	Pass
159	5795	-40.29	-38.07	4.97	-33.10	30	Pass

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	-53.40	-51.18	11.08	-40.10	30	Pass
155	5775	-51.20	-48.98	11.08	-37.90	30	Pass

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

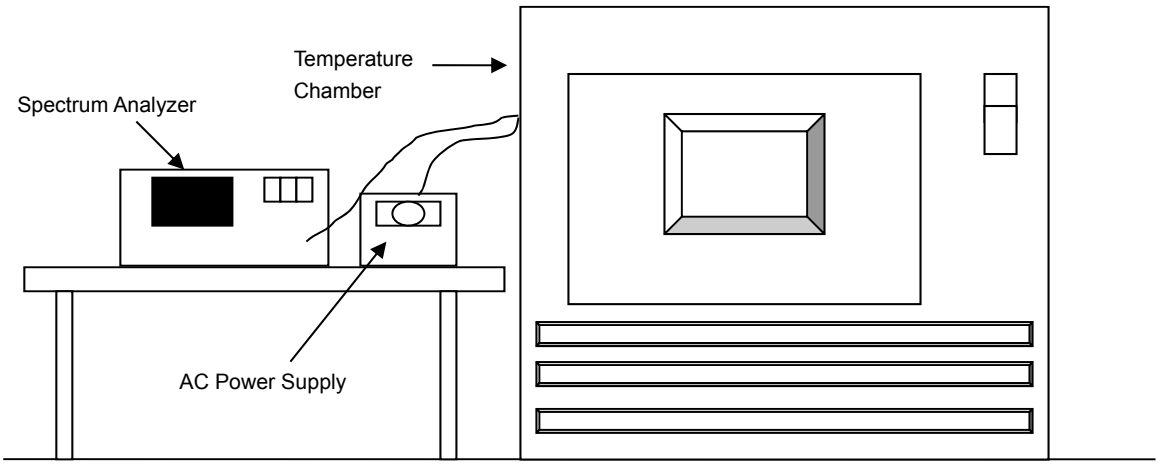
Spectrum Plot of Worst Value	
802.11a	802.11n (HT20)
	
802.11n (HT40)	802.11ac (VHT80)
	

4.6 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

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Jun. 11, 2018	Jun. 10, 2019
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 04, 2018	Jun. 03, 2019
Digital Multimeter Fluke	87-III	70360742	Jun. 29, 2018	Jun. 28, 2019
AC Power Supply Extech	6905S	1991553	NA	NA

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. Repeated step d with the temperature chamber sets to each desired 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: 5180MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
85	120	5179.9866	PASS	5179.9915	PASS	5179.9877	PASS	5179.9872	PASS
80	120	5180.0008	PASS	5179.9992	PASS	5180.0013	PASS	5179.9989	PASS
70	120	5180.0165	PASS	5180.0182	PASS	5180.0192	PASS	5180.0163	PASS
60	120	5180.0030	PASS	5180.0000	PASS	5180.0007	PASS	5180.0013	PASS
50	120	5179.9948	PASS	5179.9922	PASS	5179.9924	PASS	5179.9934	PASS
40	120	5180.0259	PASS	5180.0270	PASS	5180.0223	PASS	5180.0262	PASS
30	120	5180.0162	PASS	5180.0163	PASS	5180.0180	PASS	5180.0144	PASS
20	120	5179.9747	PASS	5179.9745	PASS	5179.9733	PASS	5179.9753	PASS
10	120	5179.9856	PASS	5179.9843	PASS	5179.9856	PASS	5179.9840	PASS
0	120	5180.0130	PASS	5180.0082	PASS	5180.0083	PASS	5180.0103	PASS
-10	120	5179.9906	PASS	5179.9892	PASS	5179.9908	PASS	5179.9914	PASS
-20	120	5180.0111	PASS	5180.0122	PASS	5180.0095	PASS	5180.0089	PASS
-30	120	5179.9943	PASS	5179.9933	PASS	5179.9944	PASS	5179.9961	PASS

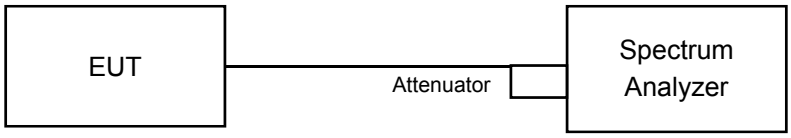
Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5179.9741	PASS	5179.9736	PASS	5179.974	PASS	5179.9753	PASS
	120	5179.9747	PASS	5179.9745	PASS	5179.9733	PASS	5179.9753	PASS
	102	5179.9746	PASS	5179.9736	PASS	5179.9735	PASS	5179.9745	PASS

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

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
144	5720 For U-NII-3	3.22	0.5	Pass
149	5745	16.42	0.5	Pass
157	5785	16.44	0.5	Pass
165	5825	16.43	0.5	Pass

802.11n (HT20)

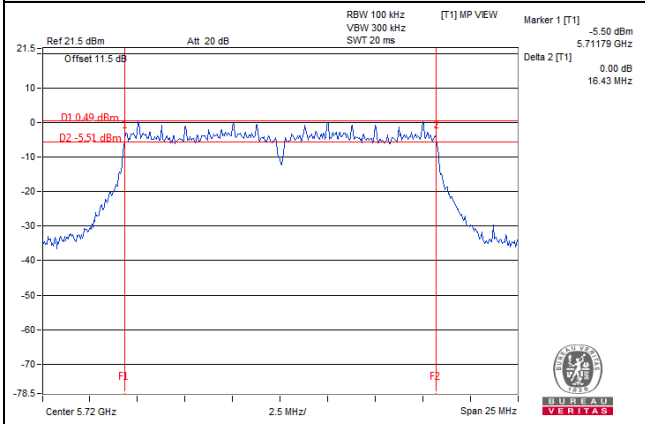
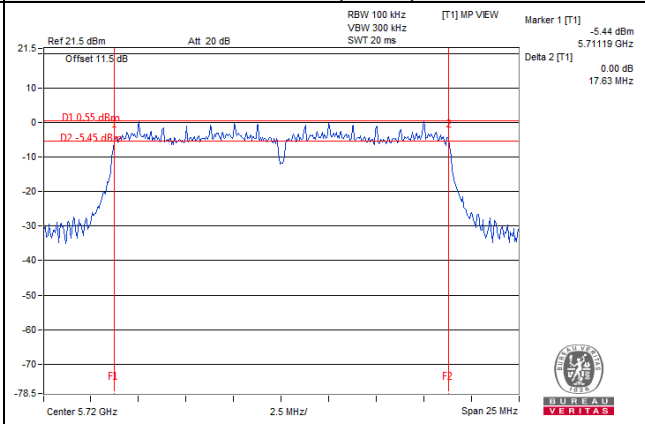
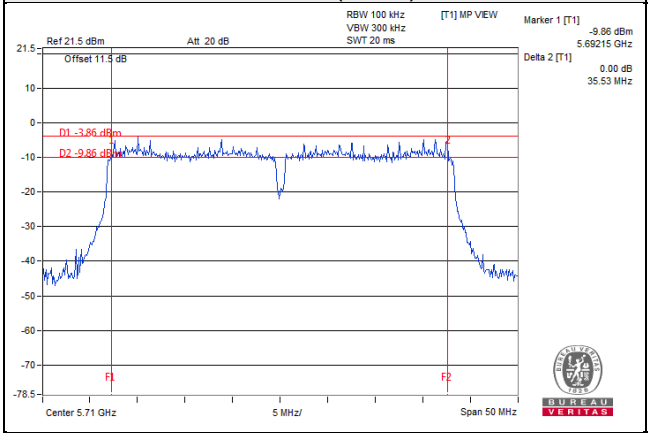
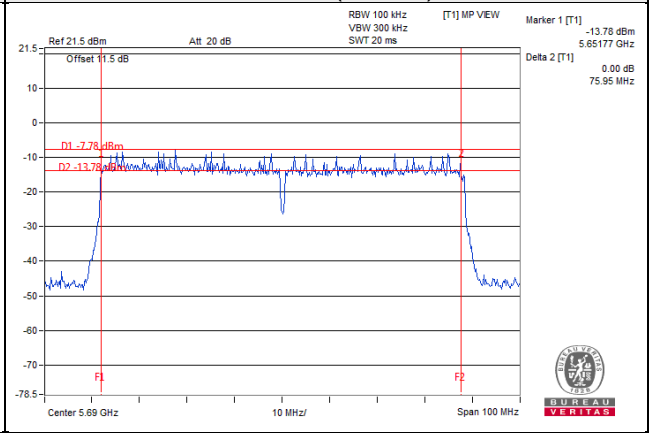
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
144	5720 For U-NII-3	3.82	0.5	Pass
149	5745	17.63	0.5	Pass
157	5785	17.62	0.5	Pass
165	5825	17.66	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
142	5710 For U-NII-3	2.68	0.5	Pass
151	5755	35.77	0.5	Pass
159	5795	35.96	0.5	Pass

802.11ac (VHT80)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
138	5690 For U-NII-3	2.72	0.5	Pass
155	5775	75.32	0.5	Pass

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

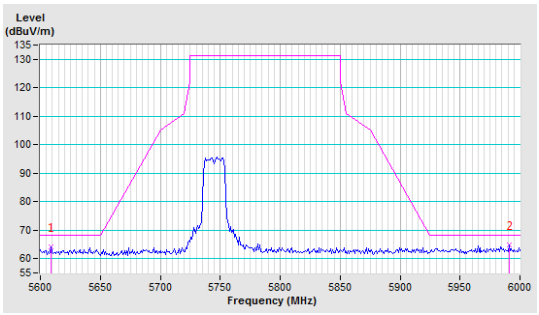
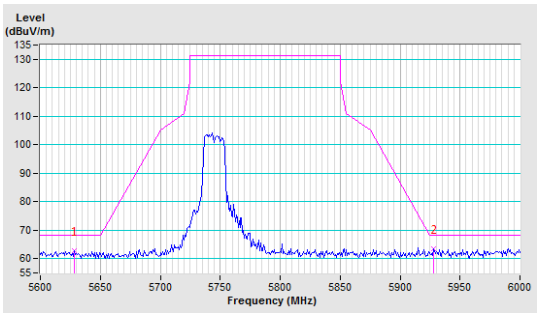
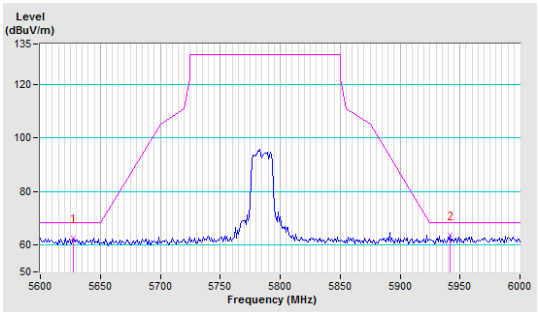
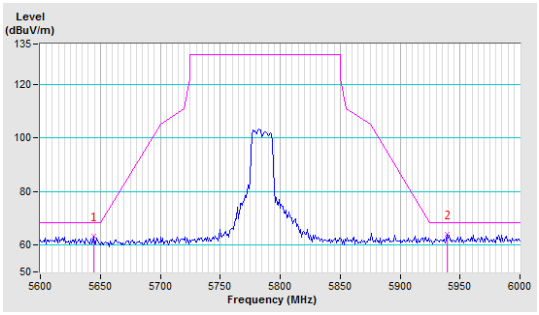
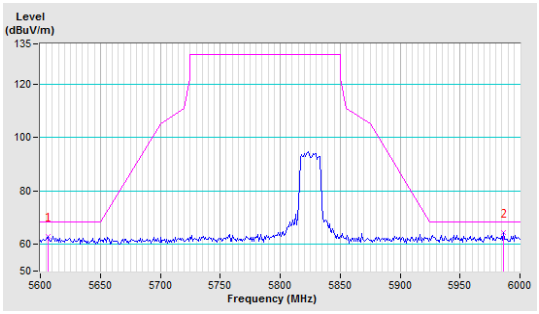
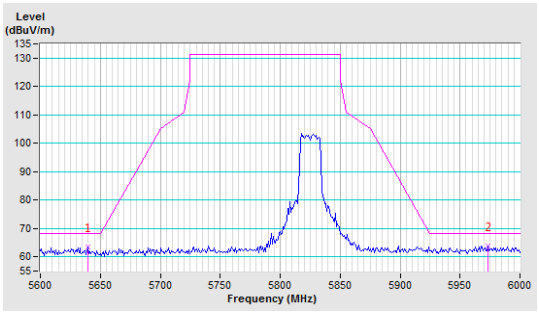
*802.11a: Ch 144 (5720MHz for U-NII-3): 16.43-(5725-5711.79) = 3.22
*802.11n (HT20): Ch 144 (5720MHz for U-NII-3): 17.63-(5725-5711.19) = 3.82
*802.11n (HT40): Ch 142 (5710MHz for U-NII-3): 35.53-(5725-5692.15) = 2.68
*802.11ac (VHT80): Ch 138 (5690MHz for U-NII-3): 75.95-(5725-5651.77) = 2.72

5 Pictures of Test Arrangements

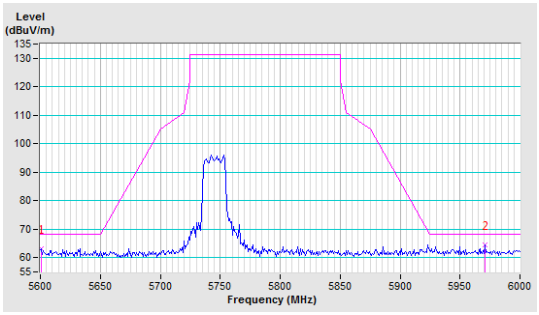
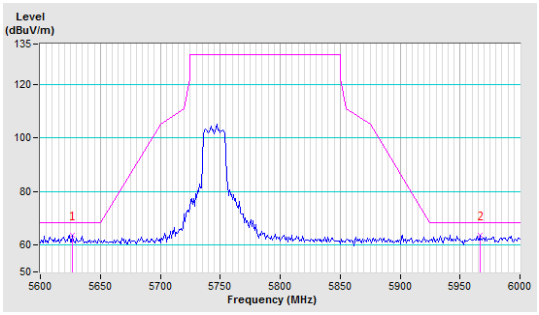
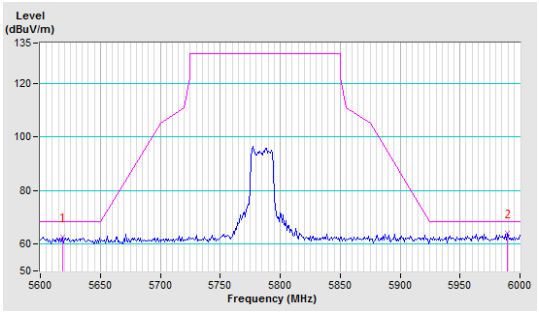
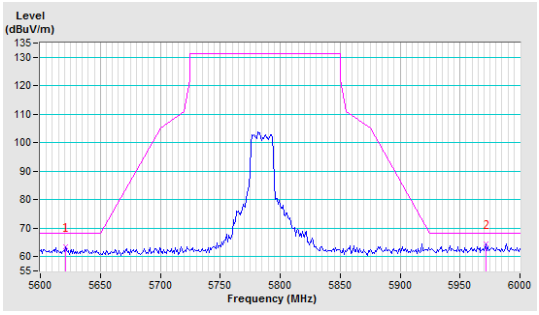
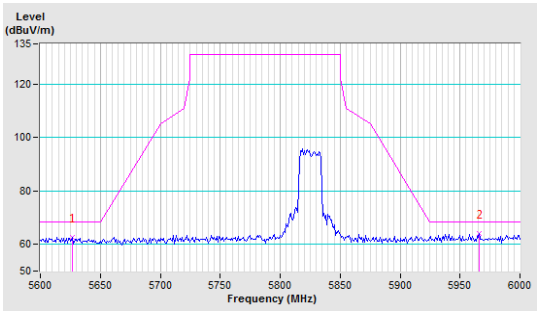
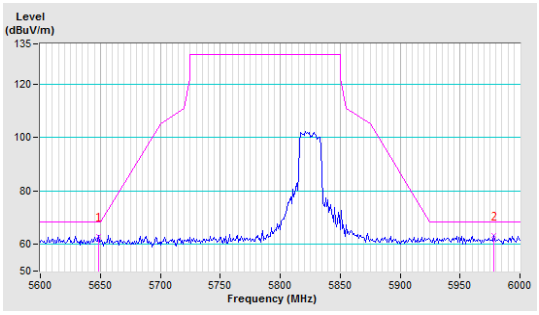
Please refer to the attached file (Test Setup Photo).

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

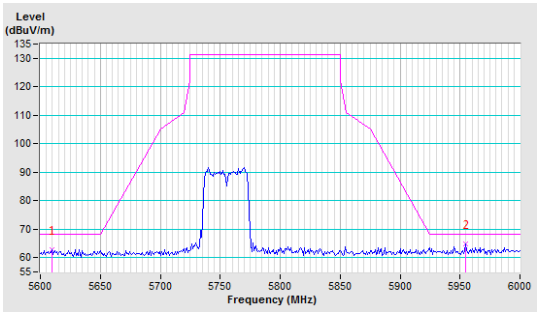
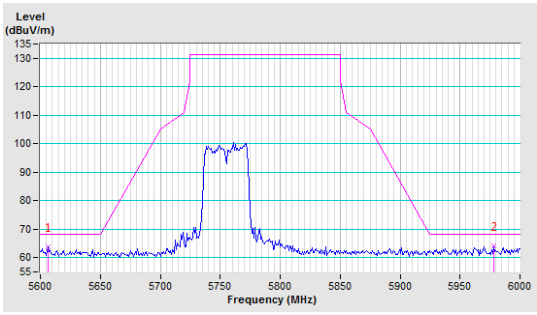
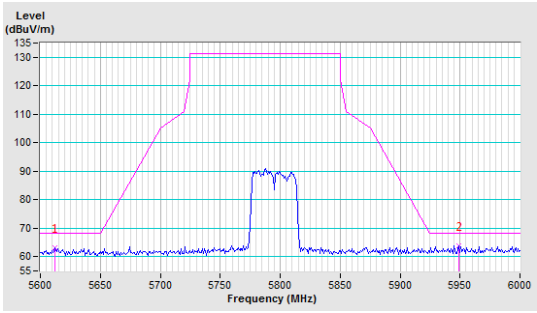
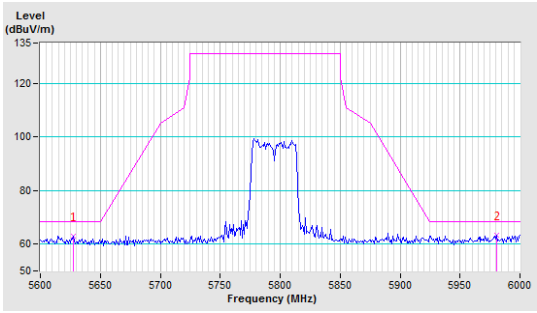
802.11a

CH149	
Horizontal	Vertical
	
CH157	
Horizontal	Vertical
	
CH165	
Horizontal	Vertical
	

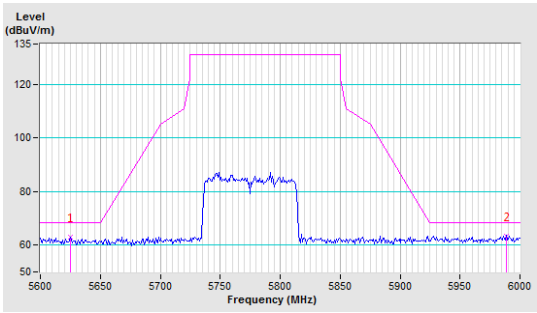
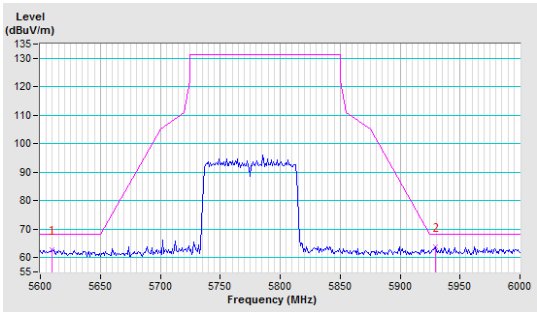
802.11n (HT20)

CH149	
Horizontal	Vertical
	
CH157	
Horizontal	Vertical
	
CH165	
Horizontal	Vertical
	

802.11n (HT40)

CH151	
Horizontal	Vertical
	
CH159	
Horizontal	Vertical
	

802.11ac (VHT80)

CH155	
Horizontal	Vertical
	

Appendix – Information of the Testing Laboratories

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

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

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Email: service.adt@tw.bureauveritas.com
Web Site: www.bureauveritas-adt.com

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

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