FCC Test Report

Report No.:	RF191205C18-3
FCC ID:	B32M424
Test Model:	M424
Received Date:	Dec. 05, 2019
Test Date:	Dec. 31, 2019 ~ Jan. 06, 2020
Issued Date:	Jan. 17, 2020
Applicant:	Verifone, Inc.
Address:	Suite 200,1400 West Stanford Ranch Road, Rocklin, CA, 95765 USA
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Lin Kou Laboratories
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location:	No.19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan
FCC Registration / Designation Number:	788550 / TW0003

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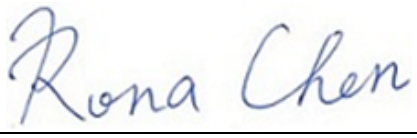
Release Control Record

Issue No.	Description	Date Issued
RF191205C18-3	Original Release	Jan. 17, 2020

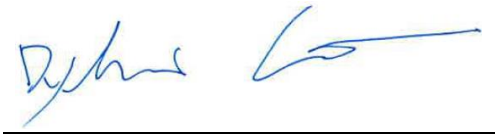
1 Certificate of Conformity

Product:	Point of Sale Terminal
Brand:	Verifone
Test Model:	M424
Sample Status:	Identical Prototype
Applicant:	Verifone, Inc.
Test Date:	Dec. 31, 2019 ~ Jan. 06, 2020
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 :  , **Date:** Jan. 17, 2020

Rona Chen / Specialist

Approved by :  , **Date:** Jan. 17, 2020

Dylan Chiou / Senior 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 -10.93 dB at 0.35025 MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -2.02 dB at 5470 MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6 dB Bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	No antenna connector is used.

Note:

1. For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOBE test plots were recorded in Annex A.
2. 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	150 kHz ~ 30 MHz	2.79 dB
Radiated Emissions up to 1 GHz	9 kHz ~ 30 MHz	3.04 dB
	30 MHz ~ 200 MHz	2.93 dB
	200 MHz ~ 1000 MHz	2.95 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	2.26 dB
	18 GHz ~ 40 GHz	1.94 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Point of Sale Terminal
Brand	Verifone
Test Model	M424
Status of EUT	Identical Prototype
Power Supply Rating	12.0 Vdc (Adapter)
Modulation Type	64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0 Mbps 802.11n: up to 150.0 Mbps
Operating Frequency	5180 ~ 5240 MHz, 5260 ~ 5320 MHz, 5500 ~ 5700 MHz, 5745 ~ 5825 MHz
Number of Channel	5180 ~ 5240 MHz: 4 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 5260 ~ 5320 MHz: 4 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 5500 ~ 5700 MHz: 11 for 802.11a, 802.11n (HT20) 5 for 802.11n (HT40) 5745 ~ 5825 MHz: 5 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40)
Output Power	17.378 mW for 5180 ~ 5240 MHz 17.498 mW for 5260 ~ 5320 MHz 11.614 mW for 5500 ~ 5700 MHz 13.428 mW for 5745 ~ 5825 MHz
Antenna Type	Fixed internal antenna with 1.51 dBi gain
Antenna Connector	N/A
Accessory Device	Refer to Note as below
Data Cable Supplied	Refer to Note as below

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

2. The EUT's accessories list refers to EUT Photo.pdf.
3. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or User's Manual.

3.2 Description of Test Modes

For 5180 ~ 5240 MHz

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

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

2 channels are provided for 802.11n (HT40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190	46	5230

For 5260 ~ 5320 MHz

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

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

2 channels are provided for 802.11n (HT40):

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

For 5500 ~ 5700 MHz

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

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

5 channels are provided for 802.11n (HT40):

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

For 5745 ~ 5825 MHz:

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

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

2 channels are provided for 802.11n (HT40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
151	5755	159	5795

3.2.1 Test Mode Applicability and Tested Channel Detail

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

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

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

Radiated Emission Test (Above 1 GHz):

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

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

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5180-5240	802.11a	36 to 48	36, 40, 48	OFDM	BPSK	6.0
-		802.11n (HT20)	36 to 48	36, 40, 48	OFDM	BPSK	6.5
-		802.11n (HT40)	38 to 46	38, 46	OFDM	BPSK	13.5
-	5260-5320	802.11a	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-		802.11n (HT20)	52 to 64	52, 60, 64	OFDM	BPSK	6.5
-		802.11n (HT40)	54 to 62	54, 62	OFDM	BPSK	13.5
-	5500-5700	802.11a	100 to 140	100, 116, 140	OFDM	BPSK	6.0
-		802.11n (HT20)	100 to 140	100, 116, 140	OFDM	BPSK	6.5
-		802.11n (HT40)	102 to 134	102, 110, 134	OFDM	BPSK	13.5
-	5745-5825	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-		802.11n (HT20)	149 to 165	149, 157, 165	OFDM	BPSK	6.5
-		802.11n (HT40)	151 to 159	151, 159	OFDM	BPSK	13.5

Radiated Emission Test (Below 1 GHz):

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

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

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5500-5700	802.11n (HT20)	100 to 140	100	OFDM	BPSK	6.5

Power Line Conducted Emission Test:

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

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

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5500-5700	802.11n (HT20)	100 to 140	100	OFDM	BPSK	6.5

Antenna Port Conducted Measurement:

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

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

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

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5180-5240	802.11a	36 to 48	36, 40, 48	OFDM	BPSK	6.0
-		802.11n (HT20)	36 to 48	36, 40, 48	OFDM	BPSK	6.5
-		802.11n (HT40)	38 to 46	38, 46	OFDM	BPSK	13.5
-	5260-5320	802.11a	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-		802.11n (HT20)	52 to 64	52, 60, 64	OFDM	BPSK	6.5
-		802.11n (HT40)	54 to 62	54, 62	OFDM	BPSK	13.5
-	5500-5700	802.11a	100 to 140	100, 116, 140	OFDM	BPSK	6.0
-		802.11n (HT20)	100 to 140	100, 116, 140	OFDM	BPSK	6.5
-		802.11n (HT40)	102 to 134	102, 110, 134	OFDM	BPSK	13.5
-	5745-5825	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-		802.11n (HT20)	149 to 165	149, 157, 165	OFDM	BPSK	6.5
-		802.11n (HT40)	151 to 159	151, 159	OFDM	BPSK	13.5

Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested by
RE≥1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Getaz Yang
RE<1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Getaz Yang
PLC	25 deg. C, 65 % RH	120 Vac, 60 Hz	Jisyong Wang
APCM	25 deg. C, 65 % RH	12.0 Vdc	Wayne Lin

3.3 Duty Cycle of Test Signal

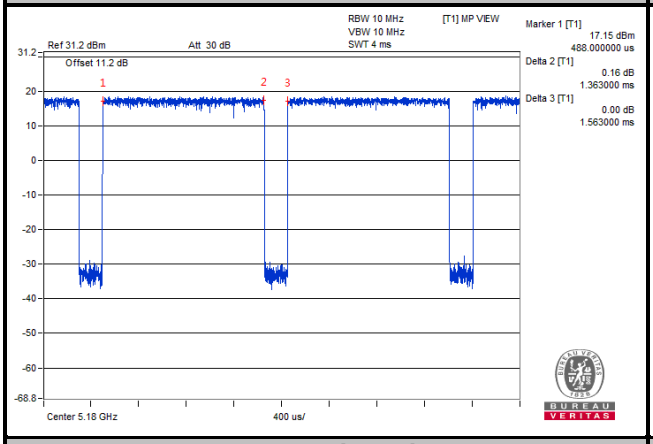
MODULATION TYPE: BPSK

802.11a: Duty cycle = 1.363/1.563 = 0.872, Duty factor = 10 * log(1/0.872) = 0.59

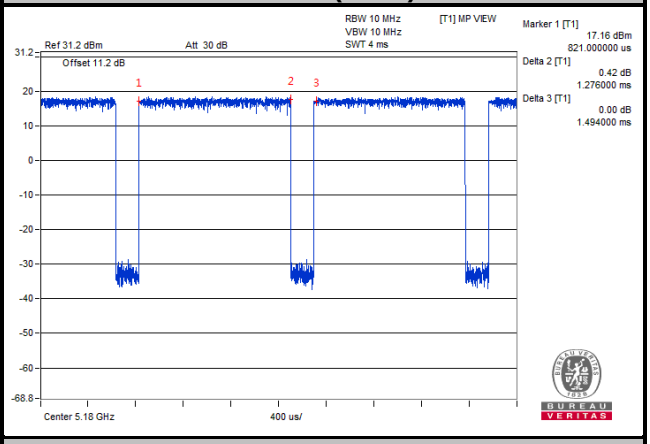
802.11n (HT20): Duty cycle = 1.276/1.494 = 0.854, Duty factor = 10 * log(1/0.854) = 0.68

802.11n (HT40): Duty cycle = 0.635/0.843 = 0.753, Duty factor = 10 * log(1/0.753) = 1.23

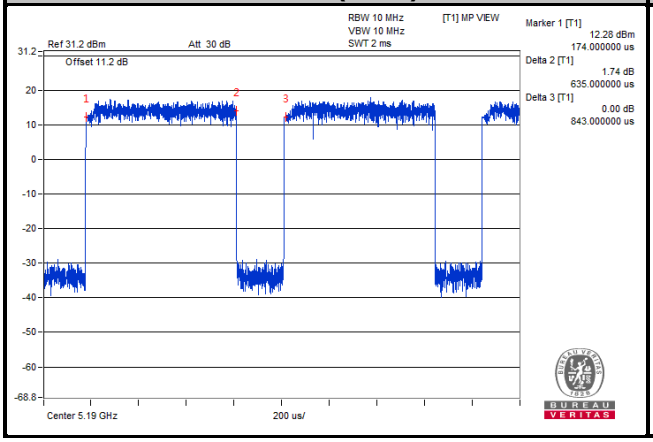
802.11a



802.11n (HT20)



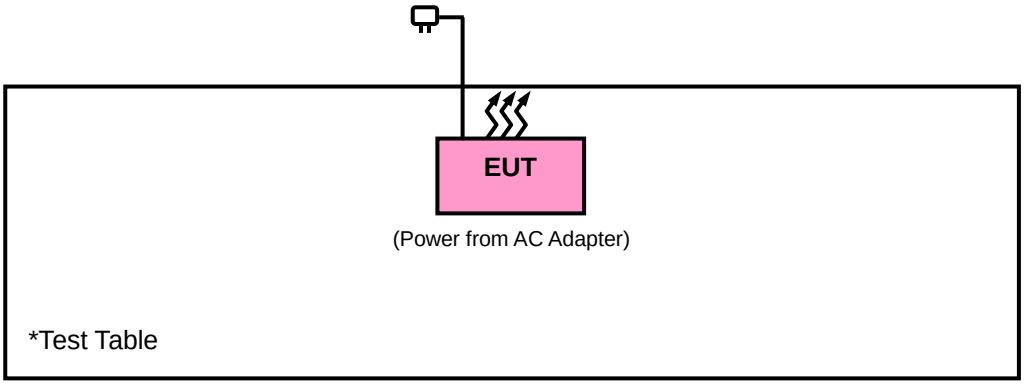
802.11n (HT40)



3.4 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units.

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards and References

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

Test Standard:

FCC Part 15, Subpart E (15.407)
ANSI C63.10-2013

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

References Test Guidance:

KDB 789033 D02 General UNII Test Procedures New Rules v02r01

All test items have been performed as a reference to the above KDB test guidance.

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 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

4.1.2 Limits of Unwanted Emission Out of the Restricted Bands

<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 Procedures New Rules v02r01</td><td colspan="2">Field Strength at 3 m</td></tr>
<tr><td>PK: 74 (dBµV/m)</td><td>AV: 54 (dBµV/m)</td></tr>
<tr><th>Frequency Band</th><th colspan="2">Applicable To</th><th>EIRP Limit</th><th>Equivalent Field Strength at 3 m</th></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).

4.1.3 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent	N9038A	MY51210203	Mar. 18, 2019	Mar. 17, 2020
Spectrum Analyzer Agilent	N9010A	MY52220314	Dec. 12, 2019	Dec. 11, 2020
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Apr. 15, 2019	Apr. 14, 2020
Broadband Horn Antenna SCHWARZBECK	BBHA 9170	148	Nov. 24, 2019	Nov. 23, 2020
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-969	Nov. 24, 2019	Nov. 23, 2020
BILOG Antenna SCHWARZBECK	VULB 9168	9168-472	Nov. 08, 2019	Nov. 07, 2020
Fixed Attenuator WORKEN	MDCS18N-10	MDCS18N-10-01	Apr. 15, 2019	Apr. 14, 2020
Loop Antenna TESEQ	HLA 6121	45745	Jul. 01, 2019	Jun. 30, 2020
Preamplifier EMCI	EMC001340	980201	Oct. 14, 2019	Oct. 13, 2020
Preamplifier EMCI	EMC 012645	980115	Oct. 08, 2019	Oct. 07, 2020
Preamplifier EMCI	EMC 184045	980116	Oct. 08, 2019	Oct. 07, 2020
Preamplifier EMCI	EMC 330H	980112	Oct. 08, 2019	Oct. 07, 2020
Power Meter Anritsu	ML2495A	1012010	Sep. 04, 2019	Sep. 03, 2020
Power Sensor Anritsu	MA2411B	1315050	Sep. 04, 2019	Sep. 03, 2020
RF Coaxial Cable HUBER+SUHNNER	EMC104-SM-SM-8000&3000	140811+170717	Oct. 08, 2019	Oct. 07, 2020
RF Coaxial Cable HUBER+SUHNNER	SUCOFLEX 104	EMC104-SM-SM-1000(140807)	Oct. 08, 2019	Oct. 07, 2020
RF Coaxial Cable WOKEN	8D-FB	Cable-Ch10-01	Oct. 08, 2019	Oct. 07, 2020
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Software BV ADT	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower &Turn Table Controller MF	MF-7802	NA	NA	NA
Temperature & Humidity Chamber	GTH-120-40-CP-AR	MAA1306-019	Sep. 06, 2019	Sep. 05, 2020
DC Power Supply Topward	33010D	807748	NA	NA
Digital Multimeter Fluke	87-III	70360742	Sep. 27, 2019	Sep. 26, 2020

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 10.

4.1.4 Test Procedures

For Radiated Emission below 30 MHz

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 9 kHz at frequency below 30 MHz.

For Radiated Emission above 30 MHz

a. The EUT was placed on the top of a rotating table 0.8 meters (for 30 MHz ~ 1 GHz) / 1.5 meters (for above 1 GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
f. The test-receiver system was set to peak and average detected function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

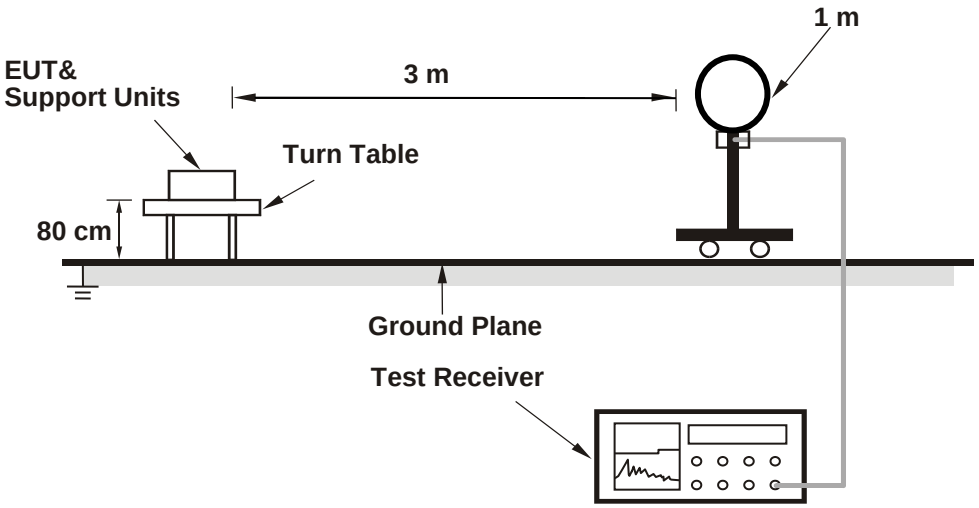
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) or Peak detection (PK) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98 %) or 10 Hz (Duty cycle ≥ 98 %) for Average detection (AV) at frequency above 1 GHz. (11a: RBW = 1 MHz, VBW = 1 kHz ; 11n (HT20): RBW = 1 MHz, VBW = 1 kHz ; 11n (HT40): RBW = 1 MHz, VBW = 3 kHz)
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.5 Deviation from Test Standard

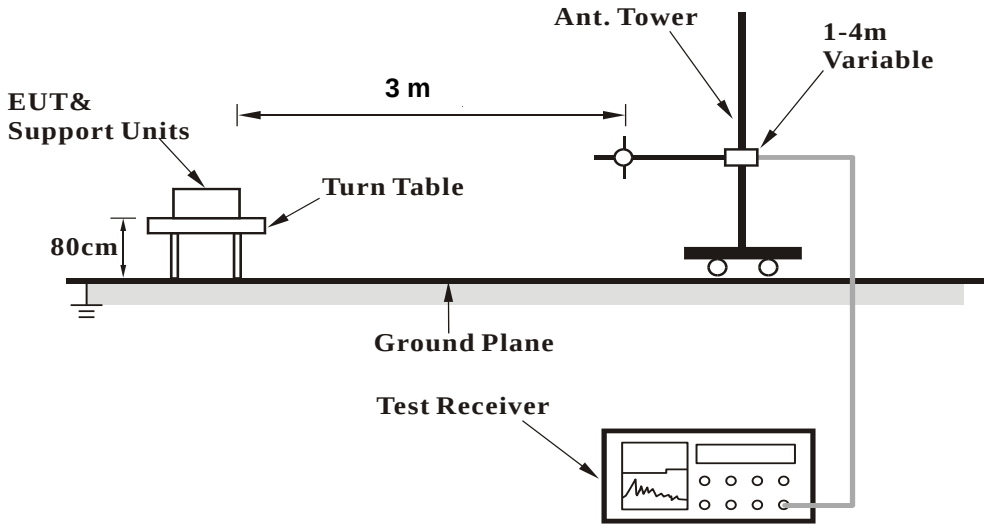
No deviation.

4.1.6 Test Setup

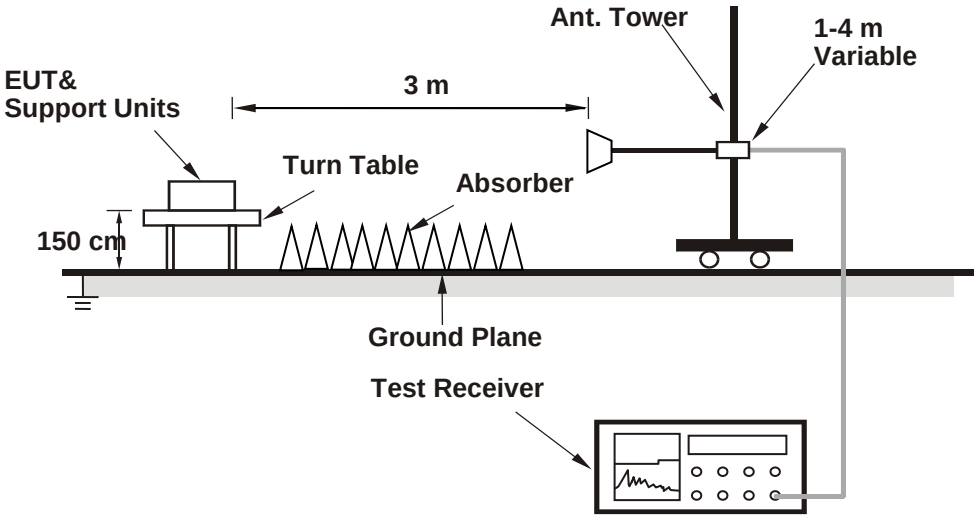
<Radiated Emission below 30 MHz>



<Radiated Emission 30 MHz to 1 GHz>



<Radiated Emission above 1 GHz>



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

4.1.7 EUT Operating Conditions

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

4.1.8 Test Results

Above 1 GHz Data：

802.11a

EUT Test Condition		Measurement Detail	
Channel	Channel 36	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5149.94	50.41	48.88	1.53	54	-3.59	206	208	Average
5149.94	64.44	62.91	1.53	74	-9.56	206	208	Peak
5180	98.16	96.63	1.53			206	208	Average
5180	104.71	103.18	1.53			206	208	Peak
*10360	51.95	54.79	-2.84	68.2	-16.25	169	45	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5149.76	46.3	44.77	1.53	54	-7.7	209	244	Average
5149.76	56.66	55.13	1.53	74	-17.34	209	244	Peak
5180	92.72	91.19	1.53			209	244	Average
5180	100.37	98.84	1.53			209	244	Peak
*10360	51.9	54.74	-2.84	68.2	-16.3	156	78	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5180 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 40	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5147.6	45.9	44.37	1.53	54	-8.1	201	209	Average
5147.6	54.61	53.08	1.53	74	-19.39	201	209	Peak
5200	98.14	96.61	1.53			201	209	Average
5200	104.76	103.23	1.53			201	209	Peak
*10400	53.01	55.9	-2.89	68.2	-15.19	163	42	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5147.6	42.86	41.33	1.53	54	-11.14	210	244	Average
5147.6	51.35	49.82	1.53	74	-22.65	210	244	Peak
5200	93.86	92.33	1.53			210	244	Average
5200	100.61	99.08	1.53			210	244	Peak
*10400	53.23	56.12	-2.89	68.2	-14.97	152	74	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5200 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 48	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5135.9	40.81	39.32	1.49	54	-13.19	188	209	Average
5135.9	50.41	48.92	1.49	74	-23.59	188	209	Peak
5240	98.32	96.94	1.38			188	209	Average
5240	104.76	103.38	1.38			188	209	Peak
5414.9	41.01	39.3	1.71	54	-12.99	188	209	Average
5414.9	50.4	48.69	1.71	74	-23.6	188	209	Peak
*10480	52.53	55.26	-2.73	68.2	-15.67	166	42	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5149.58	40.68	39.15	1.53	54	-13.32	205	245	Average
5149.58	50.88	49.35	1.53	74	-23.12	205	245	Peak
5240	93.85	92.47	1.38			205	245	Average
5240	100.64	99.26	1.38			205	245	Peak
5418.09	40.7	38.99	1.71	54	-13.3	205	245	Average
5418.09	50.32	48.61	1.71	74	-23.68	205	245	Peak
*10480	52.06	54.79	-2.73	68.2	-16.14	155	75	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5240 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 52	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5119.52	40.65	39.2	1.45	54	-13.35	199	210	Average
5119.52	50.12	48.67	1.45	74	-23.88	199	210	Peak
5260	98.35	97.04	1.31			199	210	Average
5260	105.15	103.84	1.31			199	210	Peak
5388.72	40.97	39.37	1.6	54	-13.03	199	210	Average
5388.72	50.25	48.65	1.6	74	-23.75	199	210	Peak
10520	52.48	55.2	-2.72	74	-21.52	172	42	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5142.38	40.61	39.06	1.55	54	-13.39	195	245	Average
5142.38	50.18	48.63	1.55	74	-23.82	195	245	Peak
5260	93.98	92.67	1.31			195	245	Average
5260	100.57	99.26	1.31			195	245	Peak
5410.17	40.7	39.03	1.67	54	-13.3	195	245	Average
5410.17	50.41	48.74	1.67	74	-23.59	195	245	Peak
10520	53.04	55.76	-2.72	74	-20.96	156	72	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5260 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 60	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5300	98.38	97.07	1.31			194	210	Average
5300	105.42	104.11	1.31			194	210	Peak
5352.31	46.34	44.88	1.46	54	-7.66	194	210	Average
5352.31	54.37	52.91	1.46	74	-19.63	194	210	Peak
10600	45.66	48.57	-2.91	54	-8.34	164	42	Average
10600	53.21	56.12	-2.91	74	-20.79	164	42	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5300	93.03	91.72	1.31			194	244	Average
5300	99.7	98.39	1.31			194	244	Peak
5351.98	42.89	41.43	1.46	54	-11.11	194	244	Average
5351.98	51.52	50.06	1.46	74	-22.48	194	244	Peak
10600	45.77	48.68	-2.91	54	-8.23	153	71	Average
10600	54.41	57.32	-2.91	74	-19.59	153	71	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5300 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 64	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5320	94.97	93.61	1.36			132	238	Average
5320	102.48	101.12	1.36			132	238	Peak
5350	51.73	50.27	1.46	54	-2.27	132	238	Average
5350	64.87	63.41	1.46	74	-9.13	132	238	Peak
10640	46.02	48.91	-2.89	54	-7.98	164	49	Average
10640	54.54	57.43	-2.89	74	-19.46	164	49	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5320	93.5	92.14	1.36			202	246	Average
5320	100.24	98.88	1.36			202	246	Peak
5350.11	48.61	47.15	1.46	54	-5.39	202	246	Average
5350.11	61.65	60.19	1.46	74	-12.35	202	246	Peak
10640	45.95	48.84	-2.89	54	-8.05	155	77	Average
10640	53.87	56.76	-2.89	74	-20.13	155	77	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5320 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 100	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5447.76	43.48	41.66	1.82	54	-10.52	105	242	Average
5447.76	53.77	51.95	1.82	74	-20.23	105	242	Peak
*5470	60.89	59.03	1.86	68.2	-7.31	105	242	Peak
5500	92.75	90.88	1.87			105	242	Average
5500	99.89	98.02	1.87			105	242	Peak
*5725	49.41	47.65	1.76	68.2	-18.79	105	242	Peak
11000	47.73	50.04	-2.31	54	-6.27	183	267	Average
11000	55.4	57.71	-2.31	74	-18.6	183	267	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5447.92	43.69	41.87	1.82	54	-10.31	141	206	Average
5447.92	57.09	55.27	1.82	74	-16.91	141	206	Peak
*5470	66.1	64.24	1.86	68.2	-2.1	141	206	Peak
5500	94.78	92.91	1.87			141	206	Average
5500	102.38	100.51	1.87			141	206	Peak
*5725	49.24	47.48	1.76	68.2	-18.96	141	206	Peak
11000	49.04	51.35	-2.31	54	-4.96	103	168	Average
11000	56.21	58.52	-2.31	74	-17.79	103	168	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5500 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 116	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5460	40.87	39	1.87	54	-13.13	110	243	Average
5460	50.96	49.09	1.87	74	-23.04	110	243	Peak
*5470	49.81	47.95	1.86	68.2	-18.39	110	243	Peak
5580	91.48	89.66	1.82			110	243	Average
5580	98.4	96.58	1.82			110	243	Peak
*5725	49.81	48.05	1.76	68.2	-18.39	110	243	Peak
11160	47.48	50.03	-2.55	54	-6.52	168	324	Average
11160	56.31	58.86	-2.55	74	-17.69	168	324	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5460	40.84	38.97	1.87	54	-13.16	149	208	Average
5460	50.56	48.69	1.87	74	-23.44	149	208	Peak
*5470	50.21	48.35	1.86	68.2	-17.99	149	208	Peak
5580	93.78	91.96	1.82			149	208	Average
5580	100.75	98.93	1.82			149	208	Peak
*5725	50.8	49.04	1.76	68.2	-17.4	149	208	Peak
11160	48.24	50.79	-2.55	54	-5.76	103	102	Average
11160	55.85	58.4	-2.55	74	-18.15	103	102	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5580 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 140	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5460	40.93	39.06	1.87	54	-13.07	205	105	Average
5460	51.44	49.57	1.87	74	-22.56	205	105	Peak
*5470	49.6	47.74	1.86	68.2	-18.6	205	105	Peak
5700	90.03	88.44	1.59			205	105	Average
5700	97.36	95.77	1.59			205	105	Peak
*5725	57.57	55.81	1.76	68.2	-10.63	205	105	Peak
11400	48.84	51.07	-2.23	54	-5.16	203	37	Average
11400	57.16	59.39	-2.23	74	-16.84	203	37	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5460	40.89	39.02	1.87	54	-13.11	172	211	Average
5460	50.27	48.4	1.87	74	-23.73	172	211	Peak
*5470	48.96	47.1	1.86	68.2	-19.24	172	211	Peak
5700	92.07	90.48	1.59			172	211	Average
5700	99.46	97.87	1.59			172	211	Peak
*5725	62.39	60.63	1.76	68.2	-5.81	172	211	Peak
11400	47.45	49.68	-2.23	54	-6.55	132	264	Average
11400	56.56	58.79	-2.23	74	-17.44	132	264	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5700 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 149	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5745	95.96	94.14	1.82			199	200	Average
5745	102.81	100.99	1.82			199	200	Peak
11490	45.88	48.08	-2.2	54	-8.12	189	151	Average
11490	54.89	57.09	-2.2	74	-19.11	189	151	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5745	97.18	95.36	1.82			170	139	Average
5745	104.02	102.2	1.82			170	139	Peak
11490	45.91	48.11	-2.2	54	-8.09	156	38	Average
11490	54.68	56.88	-2.2	74	-19.32	156	38	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5562.35	50.49	48.69	1.8	68.2	-17.71	199	200	Peak
5655.925	50.41	48.56	1.85	72.6	-22.19	199	200	Peak
5920.025	51.14	48.83	2.31	71.87	-20.73	199	200	Peak
5990.8	50.87	48.51	2.36	68.2	-17.33	199	200	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5631.225	50.41	48.57	1.84	68.2	-17.79	170	139	Peak
5652.6	49.99	48.08	1.91	70.13	-20.14	170	139	Peak
5922.4	50.62	48.32	2.3	70.12	-19.5	170	139	Peak
5932.375	52.04	49.74	2.3	68.2	-16.16	170	139	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5745 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 157	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5785	94.21	92.29	1.92			197	202	Average
5785	102.37	100.45	1.92			197	202	Peak
11570	45.88	48.08	-2.2	54	-8.12	192	150	Average
11570	54.06	56.26	-2.2	74	-19.94	192	150	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5785	97.18	95.26	1.92			174	141	Average
5785	104.91	102.99	1.92			174	141	Peak
11570	46.02	48.22	-2.2	54	-7.98	153	46	Average
11570	53.37	55.57	-2.2	74	-20.63	153	46	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5600.35	51.02	49.09	1.93	68.2	-17.18	197	202	Peak
5652.6	50.04	48.13	1.91	70.13	-20.09	197	202	Peak
5917.175	51.04	48.73	2.31	73.97	-22.93	197	202	Peak
6003.15	51.11	48.75	2.36	68.2	-17.09	197	202	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5632.65	50.19	48.31	1.88	68.2	-18.01	174	141	Peak
5654.5	50	48.15	1.85	71.54	-21.54	174	141	Peak
5920.025	50.04	47.73	2.31	71.87	-21.83	174	141	Peak
5964.675	51.7	49.4	2.3	68.2	-16.5	174	141	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5785 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 165	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5825	95.07	92.99	2.08			193	202	Average
5825	102.47	100.39	2.08			193	202	Peak
11650	45.73	48.12	-2.39	54	-8.27	184	159	Average
11650	53.8	56.19	-2.39	74	-20.2	184	159	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5825	96.92	94.84	2.08			182	139	Average
5825	103.33	101.25	2.08			182	139	Peak
11650	45.84	48.23	-2.39	54	-8.16	152	39	Average
11650	53.54	55.93	-2.39	74	-20.46	152	39	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5570.425	51.26	49.4	1.86	68.2	-16.94	193	202	Peak
5650.7	49.18	47.27	1.91	68.72	-19.54	193	202	Peak
5916.7	49.84	47.53	2.31	74.32	-24.48	193	202	Peak
5950.9	50.79	48.5	2.29	68.2	-17.41	193	202	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5626	49.64	47.74	1.9	68.2	-18.56	183	139	Peak
5654.025	49.06	47.21	1.85	71.19	-22.13	183	139	Peak
5919.075	49.97	47.66	2.31	72.57	-22.6	183	139	Peak
5926.675	51.06	48.76	2.3	68.2	-17.14	183	139	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5825 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

802.11n (HT20)

EUT Test Condition		Measurement Detail	
Channel	Channel 36	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	51.62	65.01	-13.39	54	-2.38	100	241	Average
5150	62.8	76.19	-13.39	74	-11.2	100	241	Peak
5180	95.05	93.52	1.53			100	241	Average
5180	101.08	99.55	1.53			100	241	Peak
*10360	53.41	56.25	-2.84	68.2	-14.79	170	52	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5149.76	47.38	45.85	1.53	54	-6.62	203	244	Average
5149.76	57.37	55.84	1.53	74	-16.63	203	244	Peak
5180	92.79	91.26	1.53			203	244	Average
5180	99.8	98.27	1.53			203	244	Peak
*10360	53.48	56.32	-2.84	68.2	-14.72	148	82	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5180 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 40	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5148.5	47.13	45.6	1.53	54	-6.87	189	209	Average
5148.5	57.15	55.62	1.53	74	-16.85	189	209	Peak
5200	99.06	97.53	1.53			189	209	Average
5200	105.56	104.03	1.53			189	209	Peak
*10400	52.1	54.99	-2.89	68.2	-16.1	172	59	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5148.14	43.36	41.83	1.53	54	-10.64	200	243	Average
5148.14	51.69	50.16	1.53	74	-22.31	200	243	Peak
5200	94.91	93.38	1.53			200	243	Average
5200	101.58	100.05	1.53			200	243	Peak
*10400	52.74	55.63	-2.89	68.2	-15.46	159	72	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5200 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 48	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5147.6	40.77	39.24	1.53	54	-13.23	197	210	Average
5147.6	52.2	50.67	1.53	74	-21.8	197	210	Peak
5240	99.1	97.72	1.38			197	210	Average
5240	105.32	103.94	1.38			197	210	Peak
5391.14	41.14	39.54	1.6	54	-12.86	197	210	Average
5391.14	50.97	49.37	1.6	74	-23.03	197	210	Peak
*10480	54.48	57.21	-2.73	68.2	-13.72	164	41	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5035.82	40.65	39.14	1.51	54	-13.35	197	244	Average
5035.82	50.32	48.81	1.51	74	-23.68	197	244	Peak
5240	94.89	93.51	1.38			197	244	Average
5240	101.55	100.17	1.38			197	244	Peak
5429.64	40.95	39.17	1.78	54	-13.05	197	244	Average
5429.64	50.76	48.98	1.78	74	-23.24	197	244	Peak
*10480	52.87	55.6	-2.73	68.2	-15.33	155	73	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5240 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 52	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5135.9	40.74	39.25	1.49	54	-13.26	200	210	Average
5135.9	50.2	48.71	1.49	74	-23.8	200	210	Peak
5260	99.29	97.98	1.31			200	210	Average
5260	106.24	104.93	1.31			200	210	Peak
5452.96	40.89	39.02	1.87	54	-13.11	200	210	Average
5452.96	50.29	48.42	1.87	74	-23.71	200	210	Peak
10520	54.14	56.86	-2.72	74	-19.86	165	42	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5132.66	40.67	39.18	1.49	54	-13.33	197	244	Average
5132.66	51.15	49.66	1.49	74	-22.85	197	244	Peak
5260	94.16	92.85	1.31			197	244	Average
5260	100.76	99.45	1.31			197	244	Peak
5378.82	40.73	39.13	1.6	54	-13.27	197	244	Average
5378.82	50.54	48.94	1.6	74	-23.46	197	244	Peak
10520	52.57	55.29	-2.72	74	-21.43	155	74	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5260 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 60	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5300	99.27	97.96	1.31			191	210	Average
5300	106.26	104.95	1.31			191	210	Peak
5351.54	49.02	47.56	1.46	54	-4.98	191	210	Average
5351.54	57.01	55.55	1.46	74	-16.99	191	210	Peak
10600	45.83	48.74	-2.91	54	-8.17	161	39	Average
10600	53.45	56.36	-2.91	74	-20.55	161	39	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5300	94.07	92.76	1.31			194	245	Average
5300	101.92	100.61	1.31			194	245	Peak
5351.87	44.34	42.88	1.46	54	-9.66	194	245	Average
5351.87	52.23	50.77	1.46	74	-21.77	194	245	Peak
10600	45.76	48.67	-2.91	54	-8.24	153	85	Average
10600	52.93	55.84	-2.91	74	-21.07	153	85	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5300 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 64	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5320	94.8	93.44	1.36			125	238	Average
5320	101.43	100.07	1.36			125	238	Peak
5350	51.43	49.97	1.46	54	-2.57	125	238	Average
5350	64.95	63.49	1.46	74	-9.05	125	238	Peak
10640	45.86	48.75	-2.89	54	-8.14	163	56	Average
10640	54.34	57.23	-2.89	74	-19.66	163	56	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5320	94.41	93.05	1.36			199	246	Average
5320	101.05	99.69	1.36			199	246	Peak
5350	49.54	48.08	1.46	54	-4.46	199	246	Average
5350	62.31	60.85	1.46	74	-11.69	199	246	Peak
10640	45.78	48.67	-2.89	54	-8.22	162	84	Average
10640	53.32	56.21	-2.89	74	-20.68	162	84	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5320 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 100	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5447.44	43.74	41.92	1.82	54	-10.26	106	241	Average
5447.44	54.62	52.8	1.82	74	-19.38	106	241	Peak
*5470	63.04	61.18	1.86	68.2	-5.16	106	241	Peak
5500	93	91.13	1.87			106	241	Average
5500	100.13	98.26	1.87			106	241	Peak
*5725	49.33	47.57	1.76	68.2	-18.87	106	241	Peak
11000	45.94	48.25	-2.31	54	-8.06	112	102	Average
11000	55.97	58.28	-2.31	74	-18.03	112	102	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5447.92	44.39	42.57	1.82	54	-9.61	140	205	Average
5447.92	56.94	55.12	1.82	74	-17.06	140	205	Peak
***5470**	**66.18**	**64.32**	**1.86**	**68.2**	**-2.02**	**140**	**205**	**Peak**
5500	95.42	93.55	1.87			140	205	Average
5500	102.78	100.91	1.87			140	205	Peak
*5725	49.48	47.72	1.76	68.2	-18.72	140	205	Peak
11000	47.13	49.44	-2.31	54	-6.87	109	65	Average
11000	54.65	56.96	-2.31	74	-19.35	109	65	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5500 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 116	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5460	40.66	38.79	1.87	54	-13.34	110	241	Average
5460	50.46	48.59	1.87	74	-23.54	110	241	Peak
*5470	49.72	47.86	1.86	68.2	-18.48	110	241	Peak
5580	92.41	90.59	1.82			110	241	Average
5580	99.24	97.42	1.82			110	241	Peak
*5725	50.45	48.69	1.76	68.2	-17.75	110	241	Peak
11160	46.09	48.64	-2.55	54	-7.91	168	34	Average
11160	55.37	57.92	-2.55	74	-18.63	168	34	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5460	40.53	38.66	1.87	54	-13.47	149	207	Average
5460	50.52	48.65	1.87	74	-23.48	149	207	Peak
*5470	49.6	47.74	1.86	68.2	-18.6	149	207	Peak
5580	94.73	92.91	1.82			149	207	Average
5580	102.12	100.3	1.82			149	207	Peak
*5725	50.06	48.3	1.76	68.2	-18.14	149	207	Peak
11160	46.98	49.53	-2.55	54	-7.02	113	124	Average
11160	55.31	57.86	-2.55	74	-18.69	113	124	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5580 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 140	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5460	40.51	38.64	1.87	54	-13.49	203	106	Average
5460	49.65	47.78	1.87	74	-24.35	203	106	Peak
*5470	49.37	47.51	1.86	68.2	-18.83	203	106	Peak
5700	90.05	88.46	1.59			203	106	Average
5700	97.38	95.79	1.59			203	106	Peak
*5725	59.8	58.04	1.76	68.2	-8.4	203	106	Peak
11400	45.89	48.12	-2.23	54	-8.11	110	102	Average
11400	55.71	57.94	-2.23	74	-18.29	110	102	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5460	40.59	38.72	1.87	54	-13.41	171	210	Average
5460	50.52	48.65	1.87	74	-23.48	171	210	Peak
*5470	49.64	47.78	1.86	68.2	-18.56	171	210	Peak
5700	92.61	91.02	1.59			171	210	Average
5700	99.76	98.17	1.59			171	210	Peak
*5725	65.84	64.08	1.76	68.2	-2.36	171	210	Peak
11400	47.58	49.81	-2.23	54	-6.42	120	66	Average
11400	56.79	59.02	-2.23	74	-17.21	120	66	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5700 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 149	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5745	95.93	94.11	1.82			194	200	Average
5745	103.13	101.31	1.82			194	200	Peak
11490	45.88	48.08	-2.2	54	-8.12	185	151	Average
11490	54.48	56.68	-2.2	74	-19.52	185	151	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5745	96.94	95.12	1.82			175	136	Average
5745	104.09	102.27	1.82			175	136	Peak
11490	46.03	48.23	-2.2	54	-7.97	155	42	Average
11490	54.73	56.93	-2.2	74	-19.27	155	42	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5583.25	52.26	50.39	1.87	68.2	-15.94	194	200	Peak
5653.55	50.14	48.23	1.91	70.84	-20.7	194	200	Peak
5922.875	50.43	48.13	2.3	69.77	-19.34	194	200	Peak
5981.3	51.1	48.77	2.33	68.2	-17.1	194	200	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5645.475	51.1	49.22	1.88	68.2	-17.1	175	136	Peak
5652.6	49.55	47.64	1.91	70.13	-20.58	175	136	Peak
5919.075	49.83	47.52	2.31	72.57	-22.74	175	136	Peak
5946.15	50.99	48.7	2.29	68.2	-17.21	175	136	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5745 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 157	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5785	96.34	94.42	1.92			192	202	Average
5785	102.99	101.07	1.92			192	202	Peak
11570	45.91	48.11	-2.2	54	-8.09	182	156	Average
11570	53.89	56.09	-2.2	74	-20.11	182	156	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5785	97.12	95.2	1.92			160	142	Average
5785	104.99	103.07	1.92			160	142	Peak
11570	46	48.2	-2.2	54	-8	153	33	Average
11570	54.72	56.92	-2.2	74	-19.28	153	33	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5635.975	51.25	49.37	1.88	68.2	-16.95	192	202	Peak
5654.975	48.91	47.06	1.85	71.9	-22.99	192	202	Peak
5921.45	49.9	47.59	2.31	70.82	-20.92	192	202	Peak
5934.275	51.27	48.97	2.3	68.2	-16.93	192	202	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5595.6	50.72	48.85	1.87	68.2	-17.48	160	142	Peak
5660.2	50.26	48.41	1.85	75.77	-25.51	160	142	Peak
5916.225	49.78	47.47	2.31	74.67	-24.89	160	142	Peak
5975.6	51.19	48.86	2.33	68.2	-17.01	160	142	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5785 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 165	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5825	94.67	92.59	2.08			193	200	Average
5825	101.98	99.9	2.08			193	200	Peak
11650	45.74	48.13	-2.39	54	-8.26	192	154	Average
11650	52.9	55.29	-2.39	74	-21.1	192	154	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5825	96.53	94.45	2.08			175	139	Average
5825	103.37	101.29	2.08			175	139	Peak
11650	45.88	48.27	-2.39	54	-8.12	159	35	Average
11650	53.22	55.61	-2.39	74	-20.78	159	35	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5569.95	50.83	48.97	1.86	68.2	-17.37	193	200	Peak
5657.825	50.8	48.95	1.85	74.01	-23.21	193	200	Peak
5921.45	50.12	47.81	2.31	70.82	-20.7	193	200	Peak
5980.825	51.16	48.83	2.33	68.2	-17.04	193	200	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5568.05	50.37	48.51	1.86	68.2	-17.83	175	139	Peak
5659.25	49.6	47.75	1.85	75.07	-25.47	175	139	Peak
5923.35	49.5	47.2	2.3	69.42	-19.92	175	139	Peak
5988.9	51.92	49.59	2.33	68.2	-16.28	175	139	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5825 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

802.11n (HT40)

EUT Test Condition		Measurement Detail	
Channel	Channel 38	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	51.32	49.79	1.53	54	-2.68	126	238	Average
5150	60.68	59.15	1.53	74	-13.32	126	238	Peak
5190	88.6	87.07	1.53			126	238	Average
5190	95.52	93.99	1.53			126	238	Peak
5350	41.15	39.69	1.46	54	-12.85	126	238	Average
5350	50.49	49.03	1.46	74	-23.51	126	238	Peak
*10380	52.72	55.59	-2.87	68.2	-15.48	166	43	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5149.94	50.64	49.11	1.53	54	-3.36	211	247	Average
5149.94	60.16	58.63	1.53	74	-13.84	211	247	Peak
5190	87.77	86.24	1.53			211	247	Average
5190	94.24	92.71	1.53			211	247	Peak
5425.79	41.07	39.31	1.76	54	-12.93	211	247	Average
5425.79	50.67	48.91	1.76	74	-23.33	211	247	Peak
*10380	52.84	55.71	-2.87	68.2	-15.36	152	73	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5190 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 46	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5149.76	44.65	43.12	1.53	54	-9.35	200	222	Average
5149.76	53.55	52.02	1.53	74	-20.45	200	222	Peak
5230	96.01	94.63	1.38			200	222	Average
5230	102.67	101.29	1.38			200	222	Peak
5365.95	41.57	40.04	1.53	54	-12.43	200	222	Average
5365.95	50.66	49.13	1.53	74	-23.34	200	222	Peak
*10460	55.29	58.08	-2.79	68.2	-12.91	177	38	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5149.94	42.27	40.74	1.53	54	-11.73	207	245	Average
5149.94	50.54	49.01	1.53	74	-23.46	207	245	Peak
5230	91.04	89.66	1.38			207	245	Average
5230	97.66	96.28	1.38			207	245	Peak
5388.72	41.12	39.52	1.6	54	-12.88	207	245	Average
5388.72	50.4	48.8	1.6	74	-23.6	207	245	Peak
*10460	54.65	57.44	-2.79	68.2	-13.55	152	71	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5230 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 54	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5145.26	41.38	39.85	1.53	54	-12.62	203	210	Average
5145.26	50.5	48.97	1.53	74	-23.5	203	210	Peak
5270	96.24	94.93	1.31			203	210	Average
5270	103.23	101.92	1.31			203	210	Peak
5352.31	46.5	45.04	1.46	54	-7.5	203	210	Average
5352.31	54.9	53.44	1.46	74	-19.1	203	210	Peak
10540	53.51	56.28	-2.77	74	-20.49	158	37	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5146.52	41.28	39.75	1.53	54	-12.72	201	244	Average
5146.52	49.74	48.21	1.53	74	-24.26	201	244	Peak
5270	91.09	89.78	1.31			201	244	Average
5270	97.83	96.52	1.31			201	244	Peak
5352.2	43.24	41.78	1.46	54	-10.76	201	244	Average
5352.2	51.5	50.04	1.46	74	-22.5	201	244	Peak
10540	53.16	55.93	-2.77	74	-20.84	152	79	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5270 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 62	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5150	41.03	39.5	1.53	54	-12.97	123	239	Average
5150	49.96	48.43	1.53	74	-24.04	123	239	Peak
5310	88.14	86.78	1.36			123	239	Average
5310	95.06	93.7	1.36			123	239	Peak
5350	51.36	49.9	1.46	54	-2.64	123	239	Average
5350	58.35	56.89	1.46	74	-15.65	123	239	Peak
10620	46.01	48.9	-2.89	54	-7.99	173	44	Average
10620	56.7	59.59	-2.89	74	-17.3	173	44	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5025.74	40.99	39.48	1.51	54	-13.01	198	244	Average
5025.74	50.11	48.6	1.51	74	-23.89	198	244	Peak
5310	86.82	85.46	1.36			198	244	Average
5310	93	91.64	1.36			198	244	Peak
5350.11	48.14	46.68	1.46	54	-5.86	198	244	Average
5350.11	59.51	58.05	1.46	74	-14.49	198	244	Peak
10620	45.94	48.83	-2.89	54	-8.06	159	82	Average
10620	55.04	57.93	-2.89	74	-18.96	159	82	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5310 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 102	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5460	44.31	42.44	1.87	54	-9.69	130	239	Average
5460	55.06	53.19	1.87	74	-18.94	130	239	Peak
*5470	62.84	60.98	1.86	68.2	-5.36	130	239	Peak
5510	86.67	84.83	1.84			130	239	Average
5510	93.74	91.9	1.84			130	239	Peak
*5725	49.92	48.16	1.76	68.2	-18.28	130	239	Peak
11020	45.99	48.33	-2.34	54	-8.01	111	103	Average
11020	56.11	58.45	-2.34	74	-17.89	111	103	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5460	45.36	43.49	1.87	54	-8.64	139	199	Average
5460	53.16	51.29	1.87	74	-20.84	139	199	Peak
*5470	66.07	64.21	1.86	68.2	-2.13	139	199	Peak
5510	88.77	86.93	1.84			139	199	Average
5510	96.35	94.51	1.84			139	199	Peak
*5725	49.55	47.79	1.76	68.2	-18.65	139	199	Peak
11020	46.27	48.61	-2.34	54	-7.73	122	59	Average
11020	55.77	58.11	-2.34	74	-18.23	122	59	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5510 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 110	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5447.44	42.84	41.02	1.82	54	-11.16	145	216	Average
5447.44	52.06	50.24	1.82	74	-21.94	145	216	Peak
*5470	56.3	54.44	1.86	68.2	-11.9	145	216	Peak
5550	92.93	91.1	1.83			145	216	Average
5550	100.03	98.2	1.83			145	216	Peak
*5725	49.62	47.86	1.76	68.2	-18.58	145	216	Peak
11100	47.18	49.64	-2.46	54	-6.82	125	28	Average
11100	54.87	57.33	-2.46	74	-19.13	125	28	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5447.44	42.37	40.55	1.82	54	-11.63	152	206	Average
5447.44	52.51	50.69	1.82	74	-21.49	152	206	Peak
*5470	58.22	56.36	1.86	68.2	-9.98	152	206	Peak
5550	92.55	90.72	1.83			152	206	Average
5550	99.37	97.54	1.83			152	206	Peak
*5725	49.35	47.59	1.76	68.2	-18.85	152	206	Peak
11100	48.49	50.95	-2.46	54	-5.51	139	267	Average
11100	53.87	56.33	-2.46	74	-20.13	139	267	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5550 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 134	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5460	40.54	38.67	1.87	54	-13.46	211	103	Average
5460	51.01	49.14	1.87	74	-22.99	211	103	Peak
*5470	49.02	47.16	1.86	68.2	-19.18	211	103	Peak
5670	89.86	88.1	1.76			211	103	Average
5670	96.12	94.36	1.76			211	103	Peak
*5725	58.48	56.72	1.76	68.2	-9.72	211	103	Peak
11340	45.88	48.24	-2.36	54	-8.12	114	98	Average
11340	56.06	58.42	-2.36	74	-17.94	114	98	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5460	40.57	38.7	1.87	54	-13.43	156	208	Average
5460	50.51	48.64	1.87	74	-23.49	156	208	Peak
*5470	49.08	47.22	1.86	68.2	-19.12	156	208	Peak
5670	90.88	89.12	1.76			156	208	Average
5670	97.86	96.1	1.76			156	208	Peak
*5725	58.31	56.55	1.76	68.2	-9.89	156	208	Peak
11340	46.37	48.73	-2.36	54	-7.63	124	63	Average
11340	57.17	59.53	-2.36	74	-16.83	124	63	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5670 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 151	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5755	92.6	90.7	1.9			182	201	Average
5755	100.5	98.6	1.9			182	201	Peak
11510	45.92	48.13	-2.21	54	-8.08	184	146	Average
11510	55.61	57.82	-2.21	74	-18.39	184	146	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5755	94.14	92.24	1.9			177	136	Average
5755	101.86	99.96	1.9			177	136	Peak
11510	46.13	48.34	-2.21	54	-7.87	152	49	Average
11510	55.09	57.3	-2.21	74	-18.91	152	49	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5643.1	50.56	48.68	1.88	68.2	-17.64	182	201	Peak
5654.025	51.22	49.37	1.85	71.19	-19.97	182	201	Peak
5920.975	50.33	48.02	2.31	71.17	-20.84	182	201	Peak
5969.425	50.55	48.25	2.3	68.2	-17.65	182	201	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5647.85	51.67	49.79	1.88	68.2	-16.53	177	136	Peak
5658.775	51.39	49.54	1.85	74.72	-23.33	177	136	Peak
5921.45	50.93	48.62	2.31	70.82	-19.89	177	136	Peak
5957.075	51.08	48.77	2.31	68.2	-17.12	177	136	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5755 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

EUT Test Condition		Measurement Detail	
Channel	Channel 159	**Frequency Range**	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5795	92.51	90.51	2			173	204	Average
5795	99.96	97.96	2			173	204	Peak
11590	45.98	48.17	-2.19	54	-8.02	186	146	Average
11590	54.9	57.09	-2.19	74	-19.1	186	146	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5795	94.34	92.34	2			179	140	Average
5795	101.02	99.02	2			179	140	Peak
11590	46.13	48.32	-2.19	54	-7.87	152	46	Average
11590	54.4	56.59	-2.19	74	-19.6	152	46	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5641.675	50.17	48.29	1.88	68.2	-18.03	173	204	Peak
5656.4	50.07	48.22	1.85	72.95	-22.88	173	204	Peak
5923.35	49.64	47.34	2.3	69.42	-19.78	173	204	Peak
5990.8	50.82	48.46	2.36	68.2	-17.38	173	204	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5569.95	50.58	48.72	1.86	68.2	-17.62	179	140	Peak
5656.4	49.94	48.09	1.85	72.95	-23.01	179	140	Peak
5919.55	51.58	49.27	2.31	72.22	-20.64	179	140	Peak
6017.875	51.25	48.85	2.4	68.2	-16.95	179	140	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5795 MHz: Fundamental Frequency
3. *: Out of Restricted Band
4. The emission levels of other frequencies were very low against the limit

9 kHz ~ 30 MHz Data:

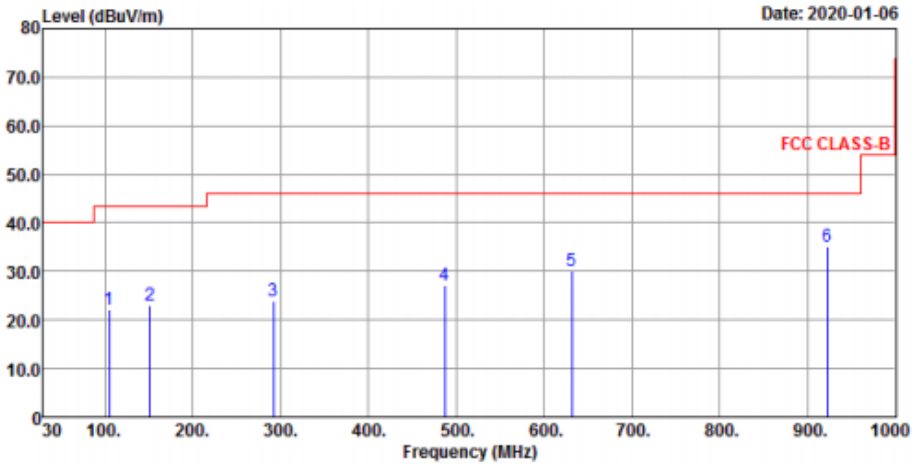
The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

30 MHz ~ 1 GHz Worst-Case Data:

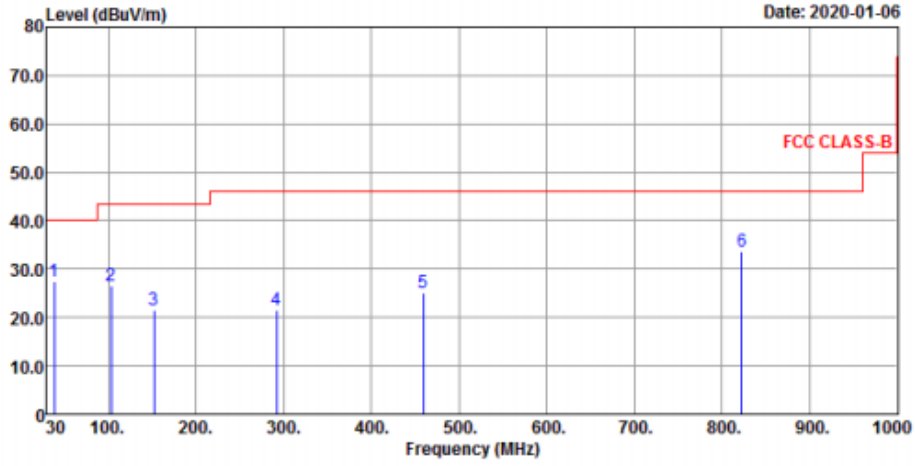
802.11n (HT20)

EUT Test Condition		Measurement Detail	
Channel	Channel 100	**Frequency Range**	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK) Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Getaz Yang

Horizontal



Vertical



Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
104.69	22.03	37.3	-15.27	43.5	-21.47	105	297	Peak
151.25	23.04	34.75	-11.71	43.5	-20.46	132	54	Peak
291.9	23.99	35.39	-11.4	46	-22.01	120	98	Peak
486.87	27.07	32.81	-5.74	46	-18.93	122	311	Peak
631.4	30.21	31.99	-1.78	46	-15.79	118	62	Peak
922.4	35.05	31.74	3.31	46	-10.95	125	311	Peak
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Factor (dB/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
38.73	27.5	39.87	-12.37	40	-12.5	112	201	Peak
103.72	26.5	41.92	-15.42	43.5	-17	140	306	Peak
152.22	21.65	33.36	-11.71	43.5	-21.85	136	51	Peak
291.9	21.65	33.05	-11.4	46	-24.35	108	213	Peak
459.71	25.18	31.43	-6.25	46	-20.82	138	31	Peak
822.49	33.51	31.3	2.21	46	-12.49	131	22	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. The emission levels of other frequencies were very low against the limit
3. At frequencies below 1GHz, the value captured using the detector peak is close to the value of the quasi-peak capture and is more stringent.

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver ROHDE & SCHWARZ	ESR3	102412	Feb. 14, 2019	Feb. 13, 2020
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond2-01	Sep. 05, 2019	Sep. 04, 2020
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Jan. 30, 2019	Jan. 29, 2020
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Aug. 13, 2019	Aug. 12, 2020
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 2.
3. The VCCI Site Registration No. is C-12047.

4.2.3 Test Procedures

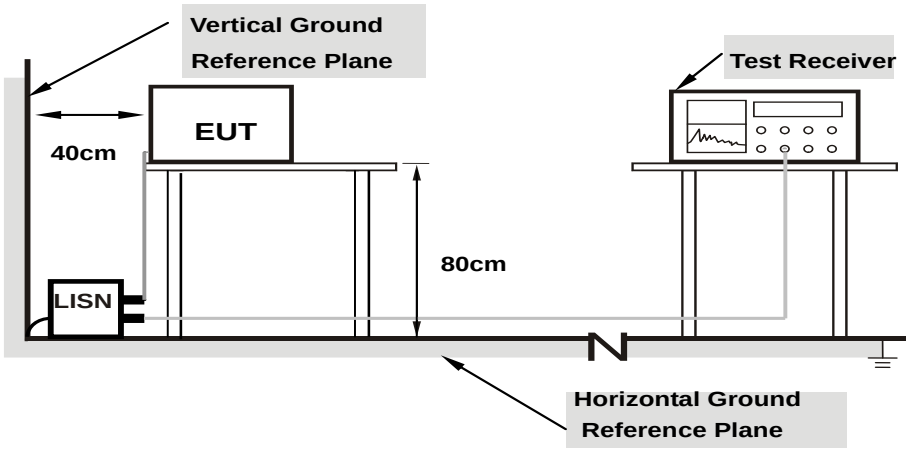
a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

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

4.2.6 EUT Operating Conditions

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

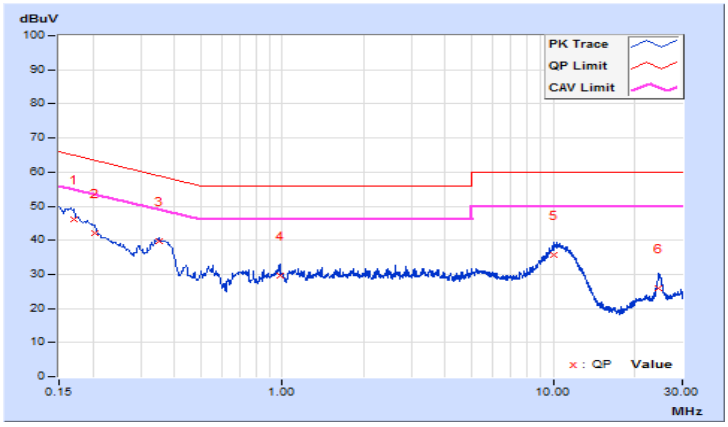
4.2.7 Test Results

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25℃, 65%RH
Tested by	Jisyong Wang	Test Date	2020/1/1

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17011	10.11	36.09	31.52	46.20	41.63	64.96	54.96	-18.76	-13.33
2	0.20249	10.12	31.88	27.03	42.00	37.15	63.51	53.51	-21.51	-16.36
3	**0.35025**	**10.15**	**29.46**	**27.88**	**39.61**	**38.03**	**58.96**	**48.96**	**-19.35**	**-10.93**
4	0.97800	10.22	19.53	15.44	29.75	25.66	56.00	46.00	-26.25	-20.34
5	10.12200	10.43	25.33	21.23	35.76	31.66	60.00	50.00	-24.24	-18.34
6	24.53550	10.52	15.51	13.51	26.03	24.03	60.00	50.00	-33.97	-25.97

Remarks:

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

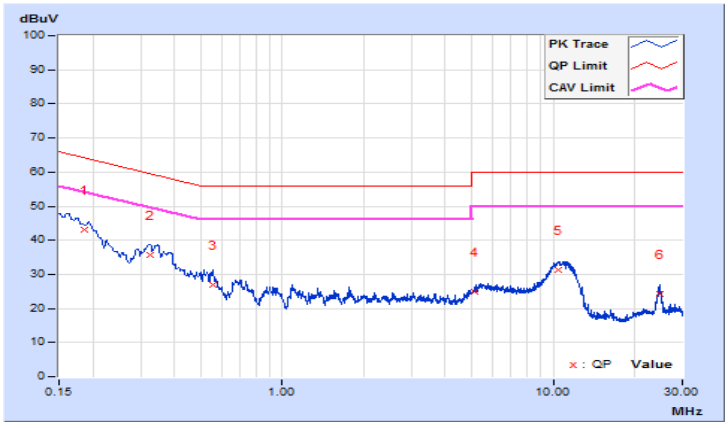


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25℃, 65%RH
Tested by	Jisyong Wang	Test Date	2020/1/1

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18657	10.17	33.05	31.56	43.22	41.73	64.19	54.19	-20.97	-12.46
2	0.32483	10.20	25.40	21.44	35.60	31.64	59.58	49.58	-23.98	-17.94
3	0.55500	10.24	16.64	13.78	26.88	24.02	56.00	46.00	-29.12	-21.98
4	5.13375	10.44	14.52	10.90	24.96	21.34	60.00	50.00	-35.04	-28.66
5	10.40325	10.56	20.65	13.81	31.21	24.37	60.00	50.00	-28.79	-25.63
6	24.69525	10.66	13.43	11.80	24.09	22.46	60.00	50.00	-35.91	-27.54

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



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

*B is the 26 dB emission bandwidth in megahertz

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

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

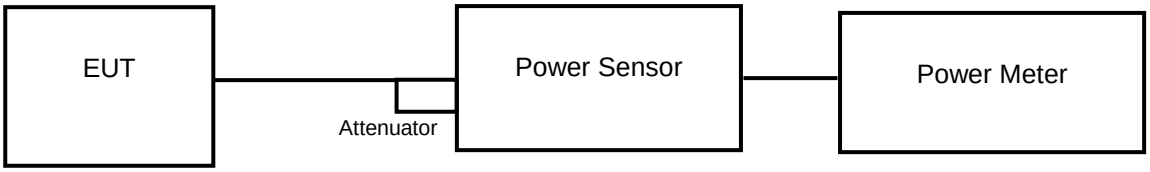
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};

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

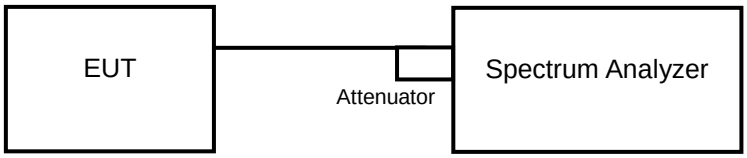
For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

4.3.2 Test Setup

<Power Output Measurement>



<26 dB Bandwidth>



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

Average Power Measurement

<802.11a, 802.11n (HT20), 802.11n (HT40)>

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

26 dB 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 %.

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 Results

Power Output:

802.11a

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	11.94	10.77	24	Pass
40	5200	12.853	11.09	24	Pass
48	5240	12.618	11.01	24	Pass
52	5260	12.531	10.98	24	Pass
60	5300	13.521	11.31	24	Pass
64	5320	10.186	10.08	24	Pass
100	5500	8.356	9.22	24	Pass
116	5580	7.998	9.03	24	Pass
140	5700	8.035	9.05	24	Pass
149	5745	12.912	11.11	30	Pass
157	5785	12.735	11.05	30	Pass
165	5825	10.544	10.23	30	Pass

Note:

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

1. 11 dBm + 10log (40.98) = 27.12 dBm > 24 dBm.
2. 11 dBm + 10log (42.16) = 27.24 dBm > 24 dBm.
3. 11 dBm + 10log (39.90) = 27.00 dBm > 24 dBm.
4. 11 dBm + 10log (33.07) = 26.19 dBm > 24 dBm.
5. 11 dBm + 10log (26.19) = 25.18 dBm > 24 dBm.
6. 11 dBm + 10log (27.48) = 25.39 dBm > 24 dBm.

802.11n (HT20)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	11.641	10.66	24	Pass
40	5200	17.338	12.39	24	Pass
48	5240	17.378	12.40	24	Pass
52	5260	17.498	12.43	24	Pass
60	5300	17.298	12.38	24	Pass
64	5320	9.141	9.61	24	Pass
100	5500	6.823	8.34	24	Pass
116	5580	11.614	10.65	24	Pass
140	5700	6.683	8.25	24	Pass
149	5745	13.428	11.28	30	Pass
157	5785	13.092	11.17	30	Pass
165	5825	11.324	10.54	30	Pass

Note:

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

1. 11 dBm + 10log (46.09) = 27.63dBm > 24 dBm.
2. 11 dBm + 10log (46.35) = 27.66dBm > 24 dBm.
3. 11 dBm + 10log (41.13) = 27.14dBm > 24 dBm.
4. 11 dBm + 10log (39.91) = 27.01dBm > 24 dBm.
5. 11 dBm + 10log (39.99) = 27.01dBm > 24 dBm.
6. 11 dBm + 10log (28.08) = 25.48dBm > 24 dBm.

802.11n (HT40)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
38	5190	4.046	6.07	24	Pass
46	5230	15.885	12.01	24	Pass
54	5270	16.406	12.15	24	Pass
62	5310	3.793	5.79	24	Pass
102	5510	3.381	5.29	24	Pass
110	5550	10.495	10.21	24	Pass
134	5670	10.74	10.31	24	Pass
151	5755	13.002	11.14	30	Pass
159	5795	12.882	11.10	30	Pass

Note:

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

1. 11 dBm + 10log (91.38) = 30.60 dBm > 24 dBm.
2. 11 dBm + 10log (46.92) = 27.71 dBm > 24 dBm.
3. 11 dBm + 10log (57.07) = 28.56 dBm > 24 dBm.
4. 11 dBm + 10log (87.50) = 30.42 dBm > 24 dBm.
5. 11 dBm + 10log (79.74) = 30.01 dBm > 24 dBm.

26 dB Bandwidth:

802.11a

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
36	5180	31.44
40	5200	35.26
48	5240	39.40
52	5260	40.98
60	5300	42.16
64	5320	39.90
100	5500	33.07
116	5580	26.19
140	5700	27.48

802.11n (HT20)

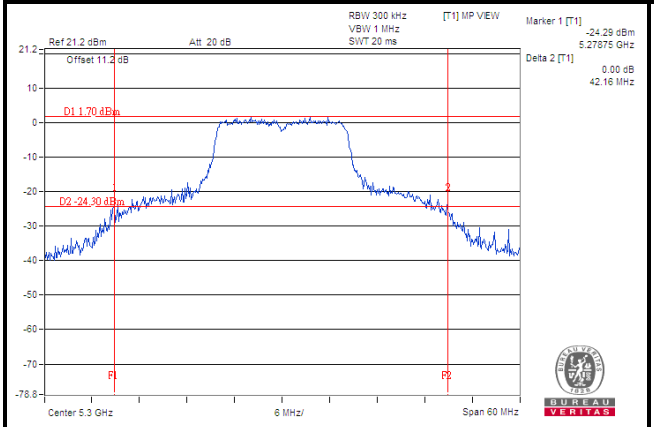
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
36	5180	32.20
40	5200	43.02
48	5240	44.38
52	5260	46.09
60	5300	46.35
64	5320	41.13
100	5500	39.91
116	5580	39.99
140	5700	28.08

802.11n (HT40)

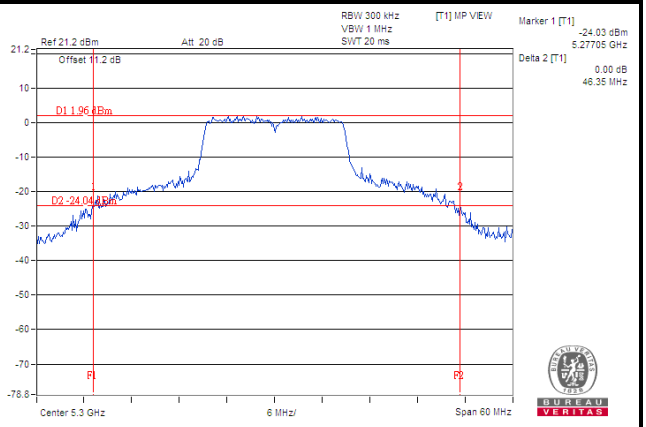
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
38	5190	45.62
46	5230	90.67
54	5270	91.38
62	5310	46.92
102	5510	57.07
110	5550	87.50
134	5670	79.74

Spectrum Plot of Worst Value

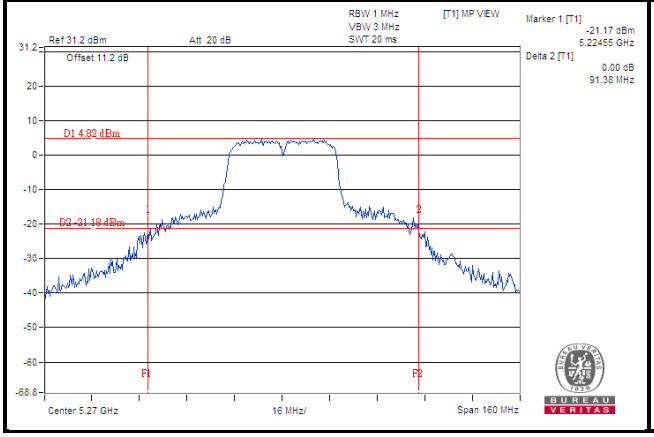
802.11a



802.11n (HT20)

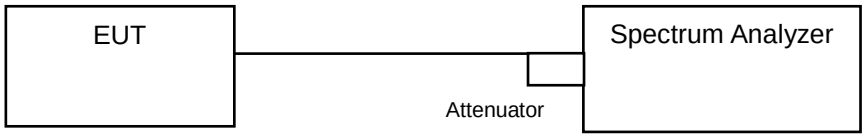


802.11n (HT40)



4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with resolution bandwidth in the range of 1 % to 5 % of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth and set the detector to SAMPLE. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 % of the total mean power of a given emission.

4.4.4 Test Results

802.11a

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	17.04
40	5200	17.04
48	5240	17.16
52	5260	17.64
60	5300	18.36
64	5320	18.24
100	5500	17.28
116	5580	17.04
140	5700	17.16
149	5745	17.50
157	5785	17.59
165	5825	17.31

802.11n (HT20)

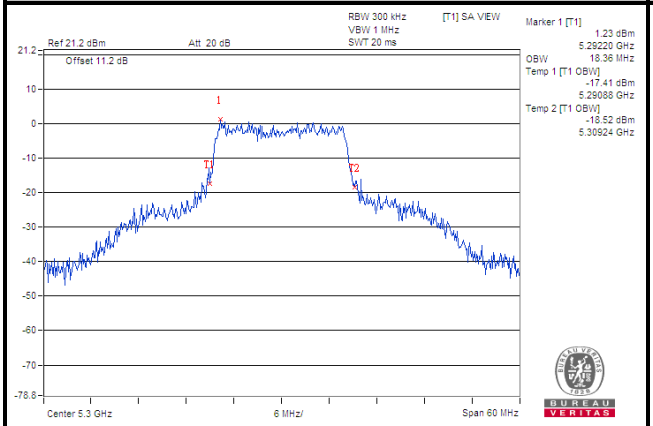
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	18.12
40	5200	18.48
48	5240	18.84
52	5260	19.80
60	5300	23.64
64	5320	18.84
100	5500	18.24
116	5580	18.48
140	5700	18.00
149	5745	18.37
157	5785	19.13
165	5825	18.27

802.11n (HT40)

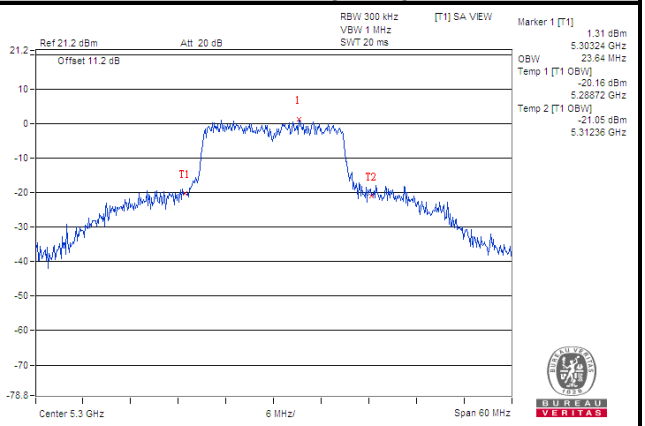
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)
38	5190	36.36
46	5230	36.84
54	5270	36.84
62	5310	36.48
102	5510	36.60
110	5550	36.60
134	5670	36.72
151	5755	36.72
159	5795	36.72

Spectrum Plot of Worst Value

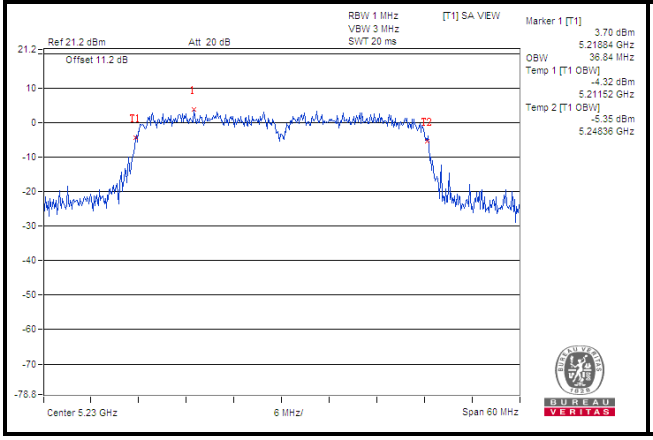
802.11a



802.11n (HT20)

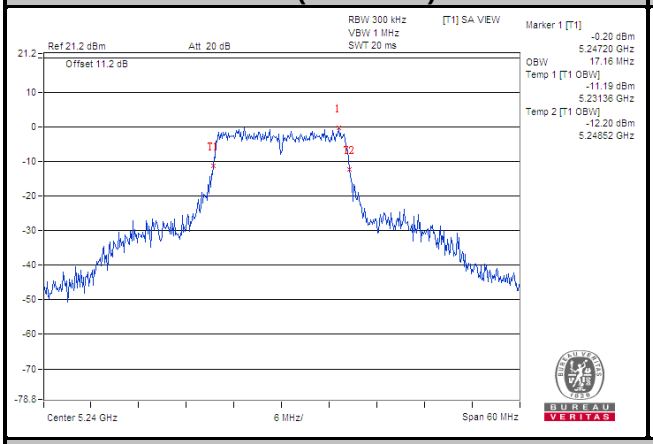
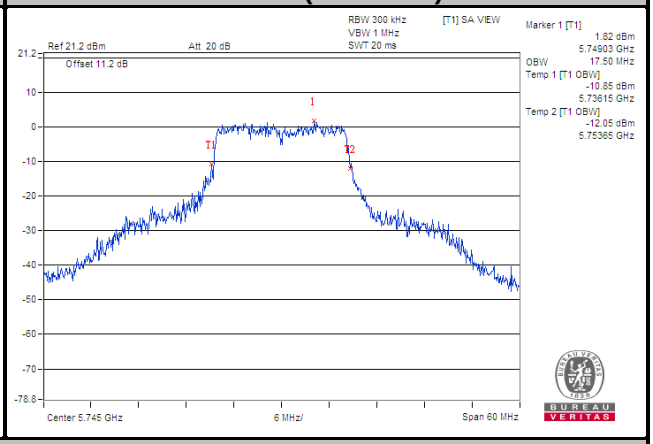


802.11n (HT40)

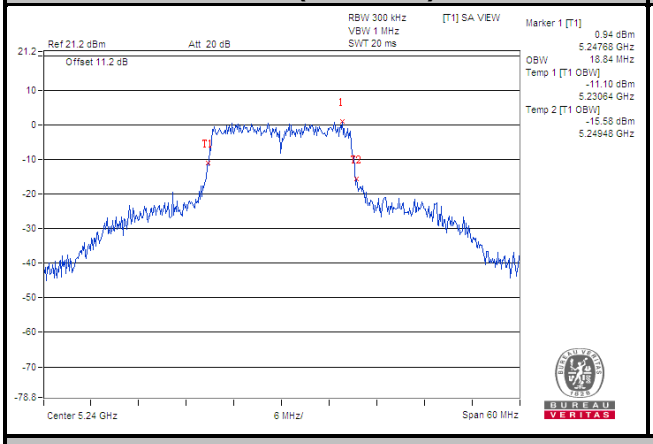
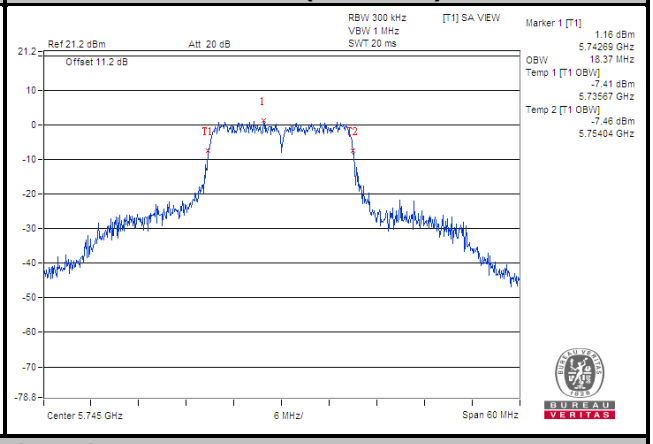


Spectrum Plot for Nearby DFS Band

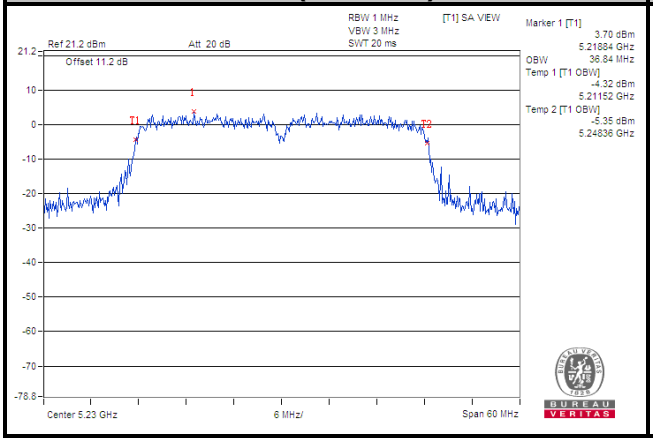
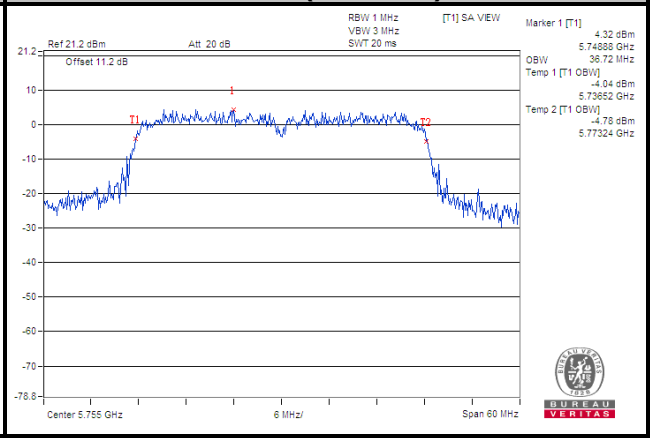
802.11a

Ch 48 (5240 MHz)	Ch 149 (5745 MHz)
	

802.11n (HT20)

Ch 48 (5240 MHz)	Ch 149 (5745 MHz)
	

802.11n (HT40)

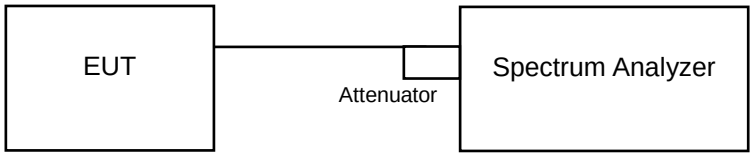
Ch 46 (5230 MHz)	Ch 151 (5755 MHz)
	

4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.5.4 Test Procedures

For U-NII-1, U-NII-2A, U-NII-2C band:

Using method SA-2

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

※For U-NII-3:

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 300 kHz, Set VBW ≥ 1 RBW, 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

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

4.5.7 Test Results

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

802.11a

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
36	5180	-4.48	0.59	-3.89	11	Pass
40	5200	-4.77	0.59	-4.18	11	Pass
48	5240	-4.85	0.59	-4.26	11	Pass
52	5260	-4.76	0.59	-4.17	11	Pass
60	5300	-4.68	0.59	-4.09	11	Pass
64	5320	-5.06	0.59	-4.47	11	Pass
100	5500	-6.33	0.59	-5.74	11	Pass
116	5580	-6.56	0.59	-5.97	11	Pass
140	5700	-6.07	0.59	-5.48	11	Pass

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

802.11n (HT20)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
36	5180	-4.23	0.68	-3.55	11	Pass
40	5200	-3.45	0.68	-2.77	11	Pass
48	5240	-3.79	0.68	-3.11	11	Pass
52	5260	-3.87	0.68	-3.19	11	Pass
60	5300	-3.81	0.68	-3.13	11	Pass
64	5320	-5.78	0.68	-5.10	11	Pass
100	5500	-6.36	0.68	-5.68	11	Pass
116	5580	-4.83	0.68	-4.15	11	Pass
140	5700	-6.35	0.68	-5.67	11	Pass

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

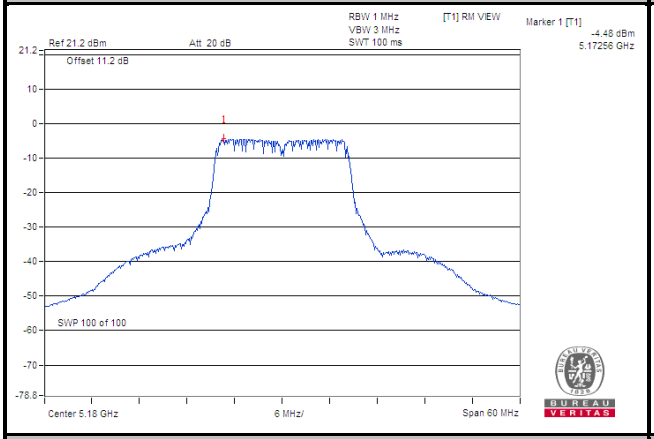
802.11n (HT40)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
38	5190	-13.91	1.23	-12.68	11	Pass
46	5230	-7.90	1.23	-6.67	11	Pass
54	5270	-7.95	1.23	-6.72	11	Pass
62	5310	-14.20	1.23	-12.97	11	Pass
102	5510	-13.08	1.23	-11.85	11	Pass
110	5550	-8.21	1.23	-6.98	11	Pass
134	5670	-8.17	1.23	-6.94	11	Pass

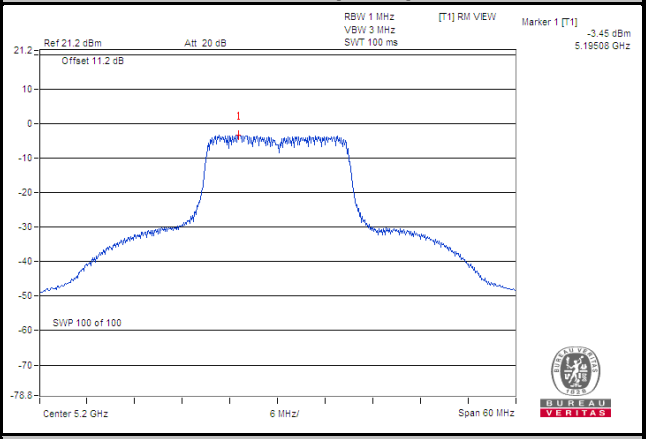
Note: Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

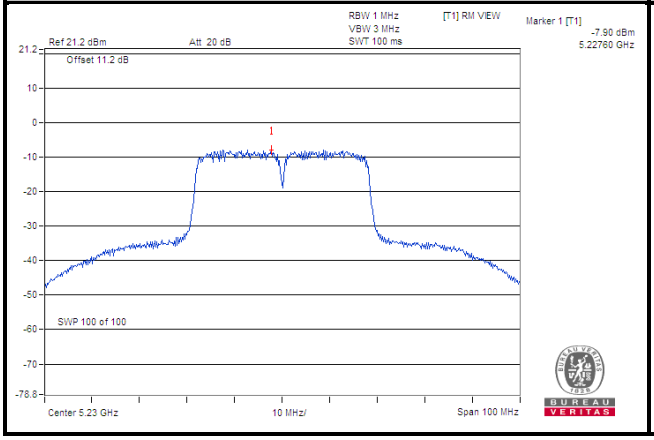
802.11a



802.11n (HT20)



802.11n (HT40)



For U-NII-3 Band

802.11a

Channel	Frequency (MHz)	PSD w/o Duty Factor		Duty Factor (dB)	PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
		(dBm/300 kHz)	(dBm/500 kHz)				
149	5745	-11.24	-9.02	0.59	-8.43	30	Pass
157	5785	-11.27	-9.05	0.59	-8.46	30	Pass
165	5825	-12.39	-10.17	0.59	-9.58	30	Pass

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

802.11n (HT20)

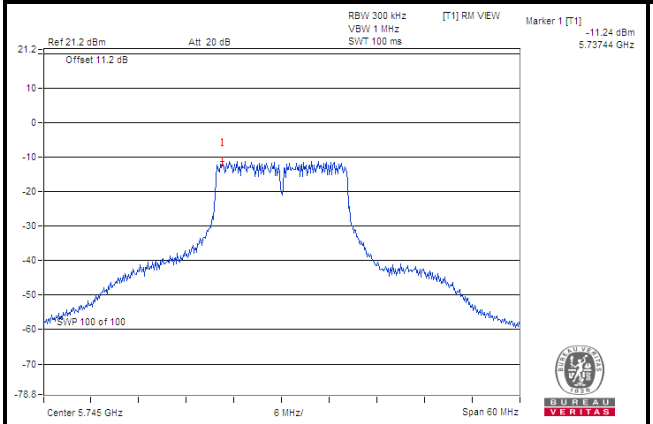
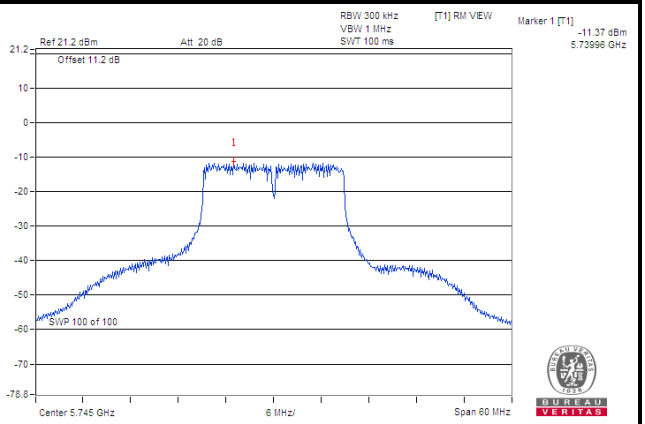
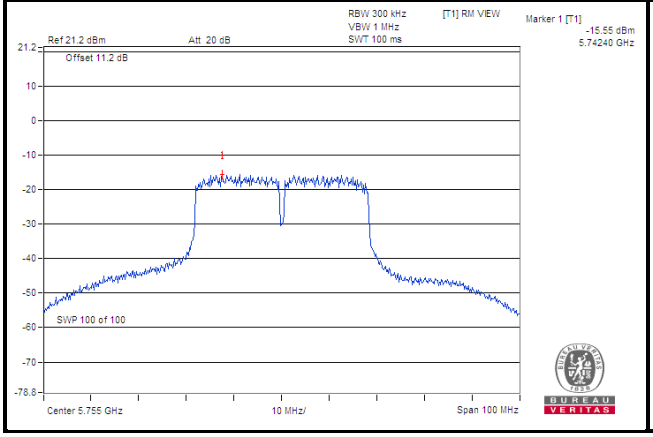
Channel	Frequency (MHz)	PSD w/o Duty Factor		Duty Factor (dB)	PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
		(dBm/300 kHz)	(dBm/500 kHz)				
149	5745	-11.37	-9.15	0.68	-8.47	30	Pass
157	5785	-11.86	-9.64	0.68	-8.96	30	Pass
165	5825	-12.67	-10.45	0.68	-9.77	30	Pass

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

802.11n (HT40)

Channel	Frequency (MHz)	PSD w/o Duty Factor		Duty Factor (dB)	PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
		(dBm/300 kHz)	(dBm/500 kHz)				
151	5755	-15.55	-13.33	1.23	-12.10	30	Pass
159	5795	-15.90	-13.68	1.23	-12.45	30	Pass

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

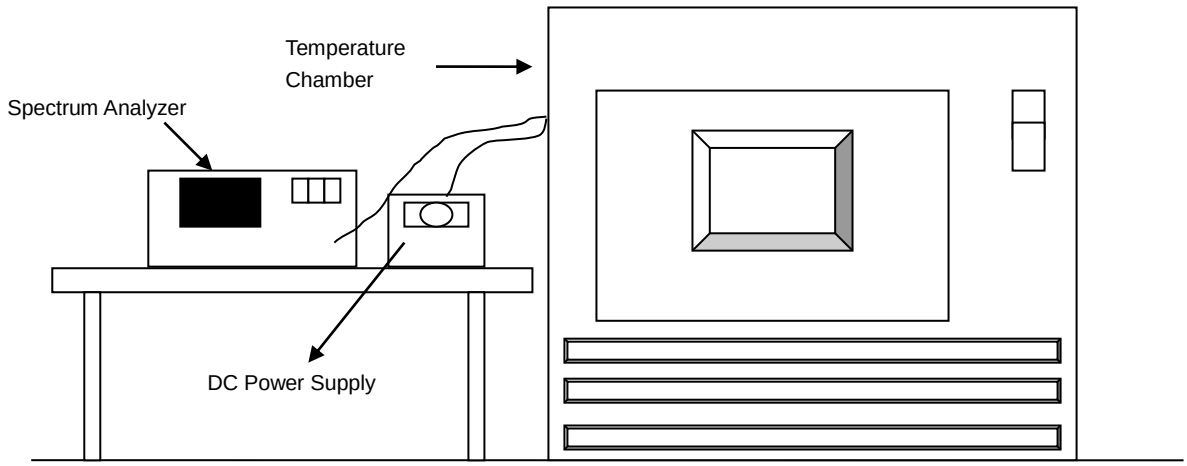
Spectrum Plot of Worst Value	
802.11a	**802.11n (HT20)**
	
802.11n (HT40)	
	

4.6 Frequency Stability

4.6.1 Limit of Frequency Stability Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.6.4 Test Procedure

a. The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
b. Turn the EUT on and couple its output to a spectrum analyzer.
c. Turn the EUT off and set the chamber to the highest temperature specified.
d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 Minutes.
e. Repeat step (d) with the temperature chamber set to the next desired temperature until measurements down to the lowest specified temperature have been completed.
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: 5180 MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
50	12.0	5180.019	PASS	5180.0167	PASS	5180.0167	PASS	5180.0203	PASS
40	12.0	5180.0057	PASS	5180.0013	PASS	5180.0032	PASS	5180.0048	PASS
30	12.0	5180.023	PASS	5180.0234	PASS	5180.0199	PASS	5180.0223	PASS
20	12.0	5179.9862	PASS	5179.9899	PASS	5179.9866	PASS	5179.9907	PASS
10	12.0	5180.0056	PASS	5180.0014	PASS	5180.0046	PASS	5180.0058	PASS
0	12.0	5180.0245	PASS	5180.0221	PASS	5180.0254	PASS	5180.0216	PASS

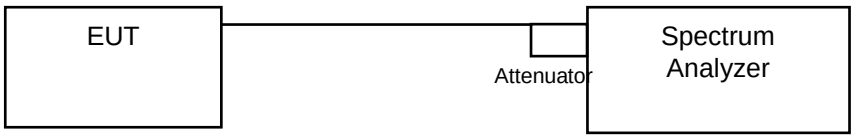
Frequency Stability Versus Voltage									
Operating Frequency: 5180 MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	13.8	5179.9872	PASS	5179.9896	PASS	5179.9873	PASS	5179.9912	PASS
	12.0	5179.9862	PASS	5179.9899	PASS	5179.9866	PASS	5179.9907	PASS
	10.2	5179.9872	PASS	5179.9893	PASS	5179.9873	PASS	5179.9898	PASS

4.7 6 dB Bandwidth Measurement

4.7.1 Limits of 6 dB Bandwidth Measurement

The minimum of 6 dB Bandwidth Measurement is 0.5 MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.7.4 Test Procedure

MEASUREMENT PROCEDURE REF

a. Set resolution bandwidth (RBW) = 100 kHz
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)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	16.46	0.5	Pass
157	5785	16.46	0.5	Pass
165	5825	16.43	0.5	Pass

802.11n (HT20)

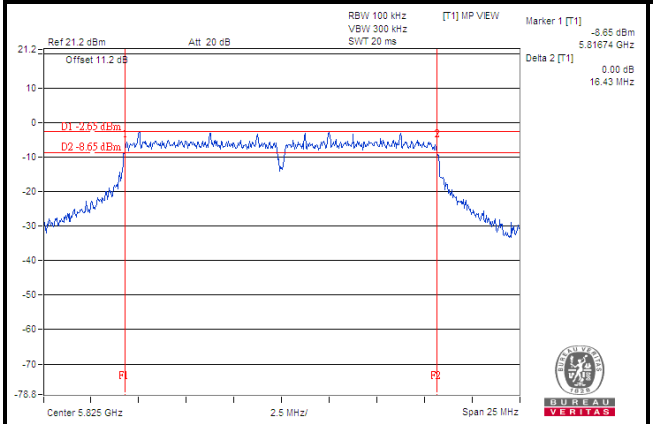
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	17.66	0.5	Pass
157	5785	17.66	0.5	Pass
165	5825	17.68	0.5	Pass

802.11n (HT40)

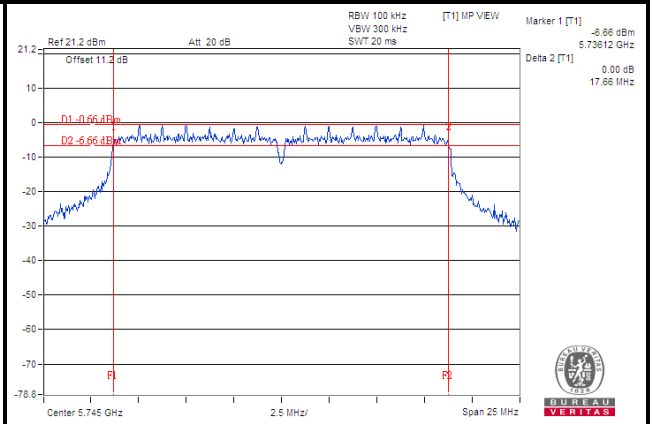
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
151	5755	35.31	0.5	Pass
159	5795	35.34	0.5	Pass

Spectrum Plot of Worst Value

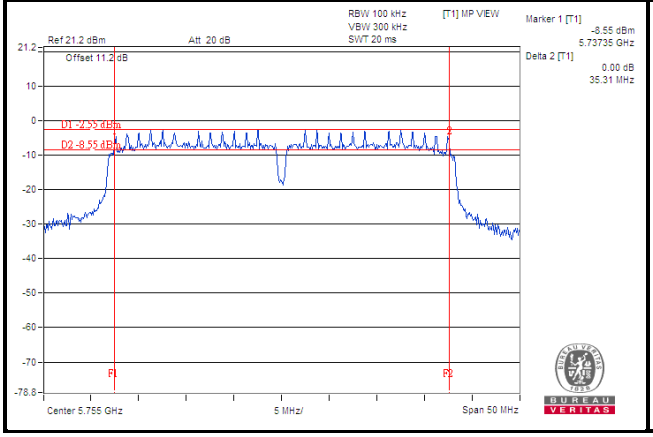
802.11a



802.11n (HT20)



802.11n (HT40)

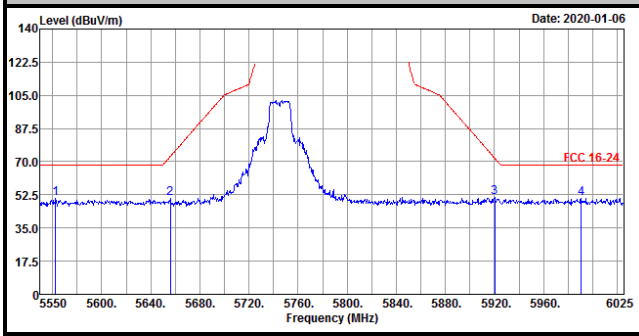
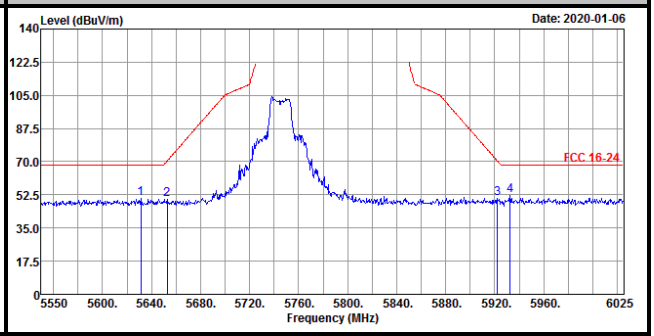
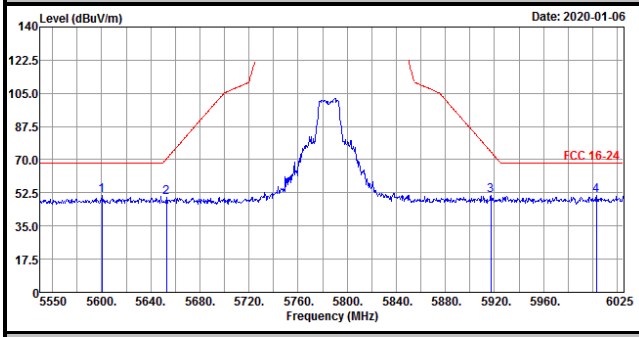
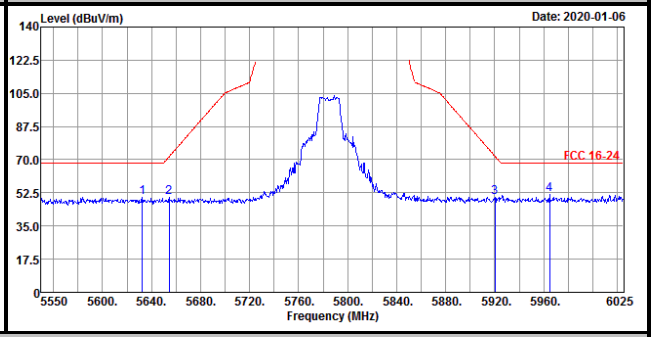
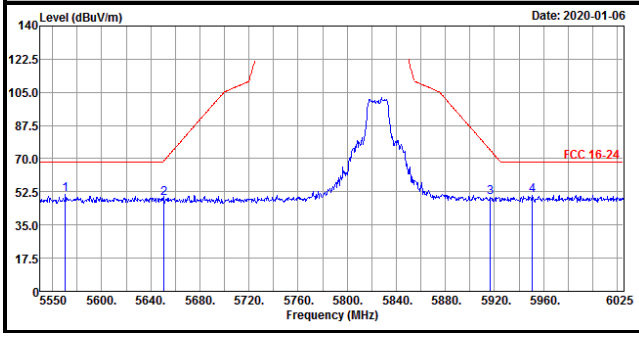
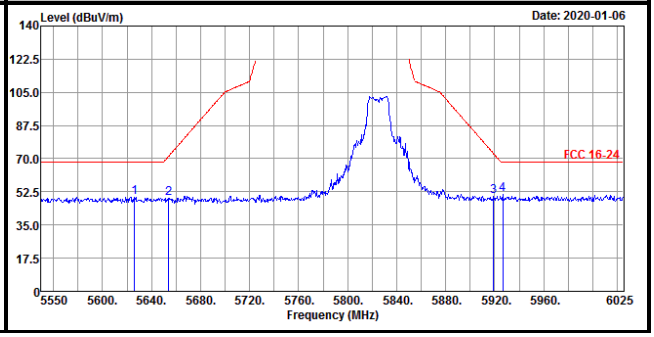


5 Pictures of Test Arrangements

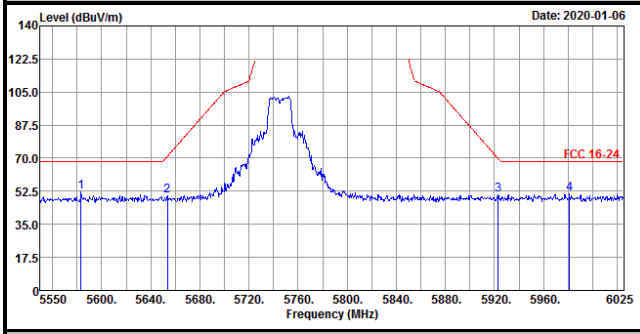
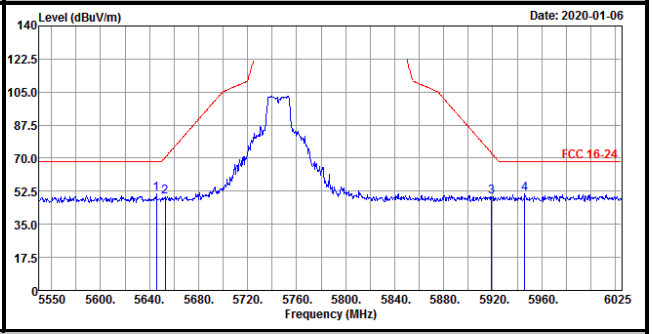
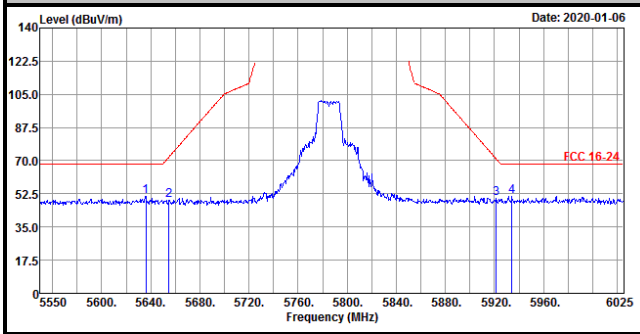
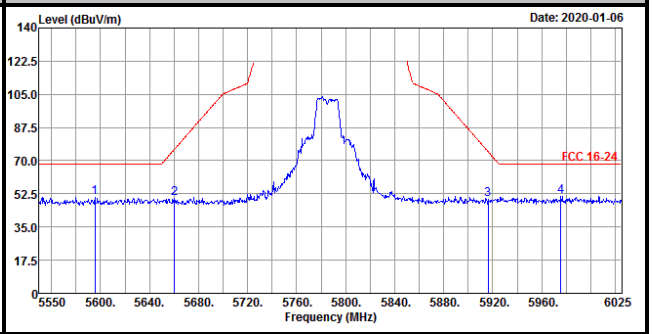
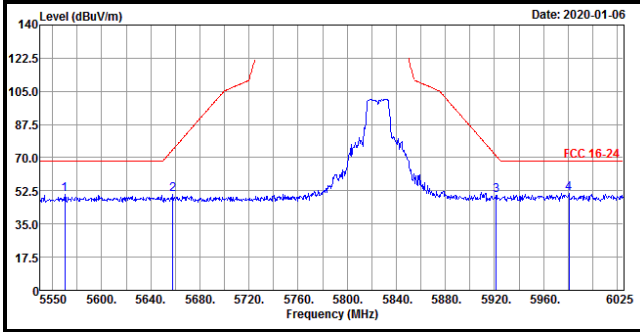
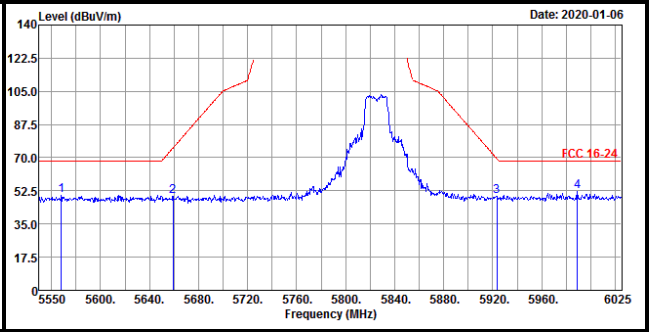
Please refer to the attached file (Test Setup Photo).

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

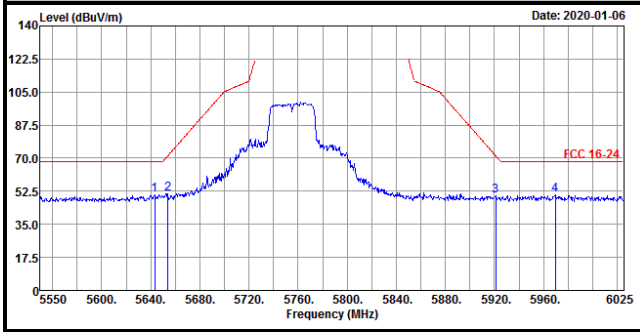
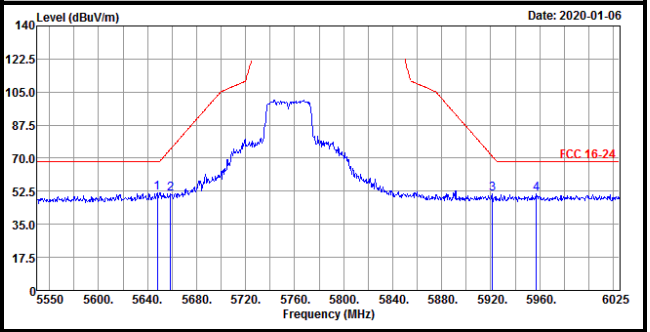
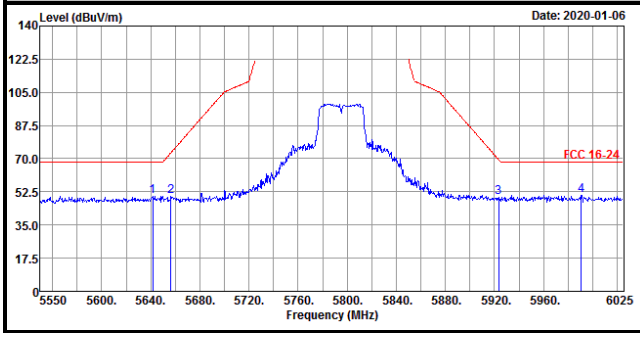
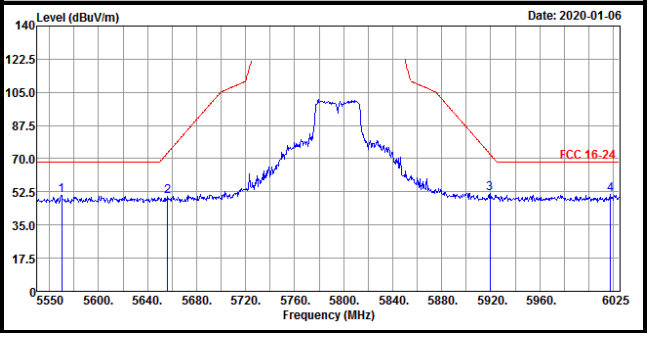
802.11a

Ch 149	
Horizontal	Vertical
	
Ch 157	
Horizontal	Vertical
	
Ch 165	
Horizontal	Vertical
	

802.11n (HT20)

Ch 149	
Horizontal	Vertical
	
Ch 157	
Horizontal	Vertical
	
Ch 165	
Horizontal	Vertical
	

802.11n (HT40)

Ch 151	
Horizontal	Vertical
	
Ch 159	
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 FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

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

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