FCC Test Report

Report No.:	RF190614C23-4
FCC ID:	B32CM5PA
Test Model:	CM5P
Received Date:	Jun. 14, 2019
Test Date:	Jun. 24 ~ Jul. 12, 2019
Issued Date:	Jul. 17, 2019
Applicant:	Verifone, Inc.
Address:	1400 West Stanford Ranch Road Suite 200 Rocklin CA 95765 USA
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C)
Test Location (1):	No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.
Test Location (2):	B2F., No.215, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City 231, Taiwan, R.O.C
FCC Registration / Designation Number:	427177 / TW0011

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Release Control Record

Issue No.	Description	Date Issued
RF190614C23-4	Original Release	Jul. 17, 2019

1 Certificate of Conformity

Product:	Point of Sale Terminal
Brand:	Verifone
Test Model:	CM5P
Sample Status:	Identical Prototype
Applicant:	Verifone, Inc.
Test Date:	Jun. 24 ~ Jul. 12, 2019
Standards:	47 CFR FCC Part 15, Subpart E (Section 15.407) ANSI C63.10:2013

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

Prepared by : _____ , **Date:** Jul. 17, 2019

Ivonne Wu / Supervisor

Approved by : _____ , **Date:** Jul. 17, 2019

Dylan Chiou / Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	**Test Item**	**Result**	**Remarks**
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -10.64 dB at 2.06981 MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -1.1 dB at 5150 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	2.44 dB
Radiated Emissions up to 1 GHz	9 kHz ~ 30 MHz	3.04 dB
	30 MHz ~ 200 MHz	2.0153 dB
	200 MHz ~ 1000 MHz	2.0224 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	1.0121 dB
	18 GHz ~ 40 GHz	1.1508 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	CM5P
Status of EUT	Identical Prototype
Power Supply Rating	5.0 Vdc (adapter or host equipment) 3.7 Vdc (battery)
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	13.868 mW for 5180 ~ 5240 MHz 13.366 mW for 5260 ~ 5320 MHz 15.596 mW for 5500 ~ 5700 MHz 11.272 mW for 5745 ~ 5825 MHz
Antenna Type	Fixed Internal antenna with 2.6 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 one transmitter and receiver.

Modulation Mode	Tx Function
802.11a	1TX
802.11n (HT20)	1TX
802.11n (HT40)	1TX

2. The EUT's accessories list refers to Ext. Pho.
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:
1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane** for 5180-5240 MHz & 5260-5320 MHz and **Y-plane** for 5500-5700 MHz & 5745-5825 MHz.
2. "-" means no effect.

Radiated Emission Test (Above 1 GHz):

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

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

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	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)
-	5180-5240	802.11n (HT40)	38 to 46	38	OFDM	BPSK	13.5

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)
-	5180-5240	802.11n (HT40)	38 to 46	38	OFDM	BPSK	13.5

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	Charles Hsiao
RE<1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Charles Hsiao
PLC	25 deg. C, 65 % RH	120 Vac, 60 Hz	Thomas Wei
APCM	25 deg. C, 65 % RH	3.7 Vdc	Wayne Lin

3.3 Duty Cycle of Test Signal

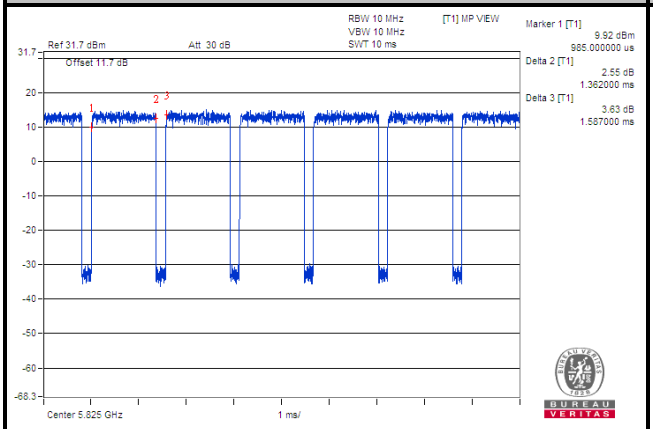
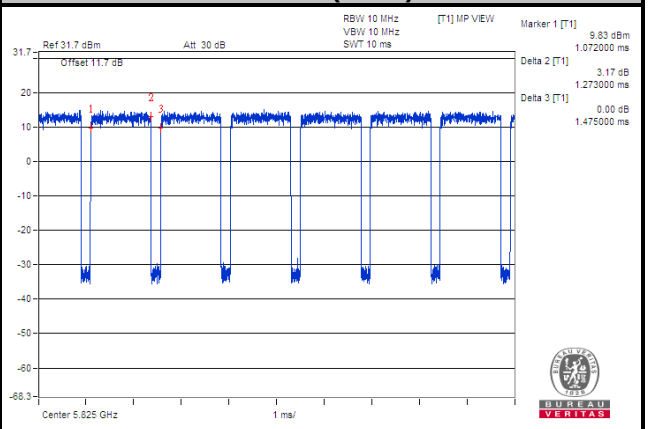
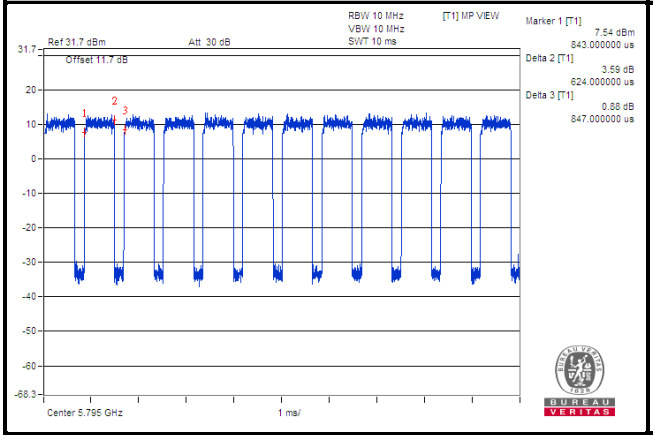
MODULATION TYPE: BPSK

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

802.11a: Duty cycle = 1.362/1.587 = 0.858, Duty factor = 10 * log(1/0.858) = 0.67

802.11n (HT20): Duty cycle = 1.273/1.475 = 0.863, Duty factor = 10 * log(1/0.863) = 0.64

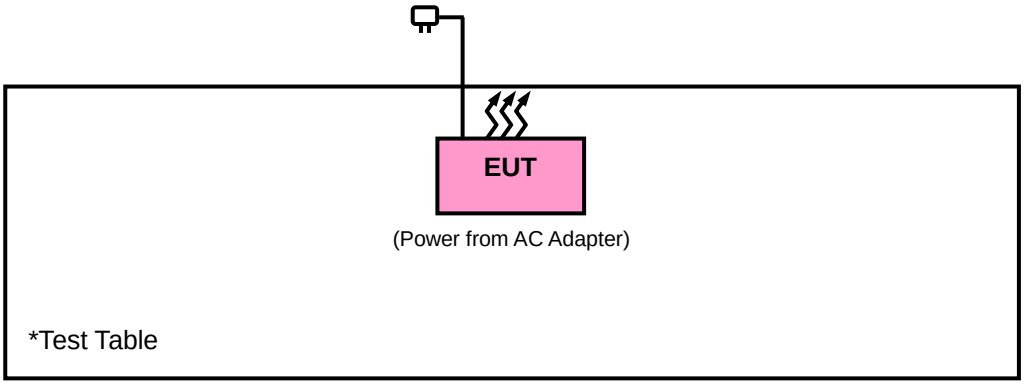
802.11n (HT40): Duty cycle = 0.624/0.847 = 0.737, Duty factor = 10 * log(1/0.737) = 1.33

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

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

FCC Part 15, Subpart E (15.407)
KDB 789033 D02 General UNII Test Procedures New Rules v02r01
ANSI C63.10-2013

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

Note:

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

4.1.2 Limits of Unwanted Emission Out of the Restricted Bands

Applicable To		Limit	
789033 D02 General UNII Test Procedures New Rules v02r01		Field Strength at 3 m	
		PK: 74 (dBμV/m)	AV: 54 (dBμV/m)
Frequency Band	**Applicable To**	**EIRP Limit**	**Equivalent Field Strength at 3 m**
5150~5250 MHz	15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	15.407(b)(4)(i)	PK:-27 (dBm/MHz) *1 PK:10 (dBm/MHz) *2 PK:15.6 (dBm/MHz) *3 PK:27 (dBm/MHz) *4	PK: 68.2 (dBμV/m) *1 PK:105.2 (dBμV/m) *2 PK: 110.8 (dBμV/m) *3 PK:122.2 (dBμV/m) *4
	15.407(b)(4)(ii)	Emission limits in section 15.247(d)	

*1 beyond 75 MHz or more above of the band edge.

*2 below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.

*3 below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.

*4 from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Note:

The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

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

4.1.3 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent Technologies	N9038A	MY52260177	Aug. 20, 2018	Aug. 19, 2019
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Apr. 15, 2019	Apr. 14, 2020
HORN Antenna ETS-Lindgren	3117	00143293	Nov. 25, 2018	Nov. 24, 2019
BILOG Antenna SCHWARZBECK	VULB 9168	9168-616	Nov. 27, 2018	Nov. 26, 2019
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Nov. 25, 2018	Nov. 24, 2019
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 15, 2019	Apr. 14, 2020
Loop Antenna	EM-6879	269	Sep. 07, 2018	Sep. 06, 2019
Preamplifier Agilent	310N	187226	Jun. 18, 2019	Jun. 17, 2020
Preamplifier Agilent	83017A	MY39501357	Jun. 18, 2019	Jun. 17, 2020
Preamplifier EMCI	EMC 184045	980116	Oct. 12, 2018	Oct. 11, 2019
RF signal cable ETS-LINDGREN	5D-FB	Cable-CH1-01(RFC-SMS-100-SMS-120+RFC-SMS-100-SMS-400)	Jun. 18, 2019	Jun. 17, 2020
RF signal cable ETS-LINDGREN	8D-FB	Cable-CH1-02(RFC-SMS-100-SMS-24)	Jun. 18, 2019	Jun. 17, 2020
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Software BV ADT	E3 8.130425b	NA	NA	NA
Antenna Tower MF	NA	NA	NA	NA
Turn Table MF	NA	NA	NA	NA
Antenna Tower &Turn Table Controller MF	MF-7802	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. 05, 2018	Sep. 04, 2019
DC Power Supply Topward	33010D	807748	NA	NA
Digital Multimeter Fluke	87-III	70360742	Jun. 29, 2018	Jun. 28, 2019
			Jun. 27, 2019	Jun. 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 HsinTien Chamber 1.

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. Both 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:

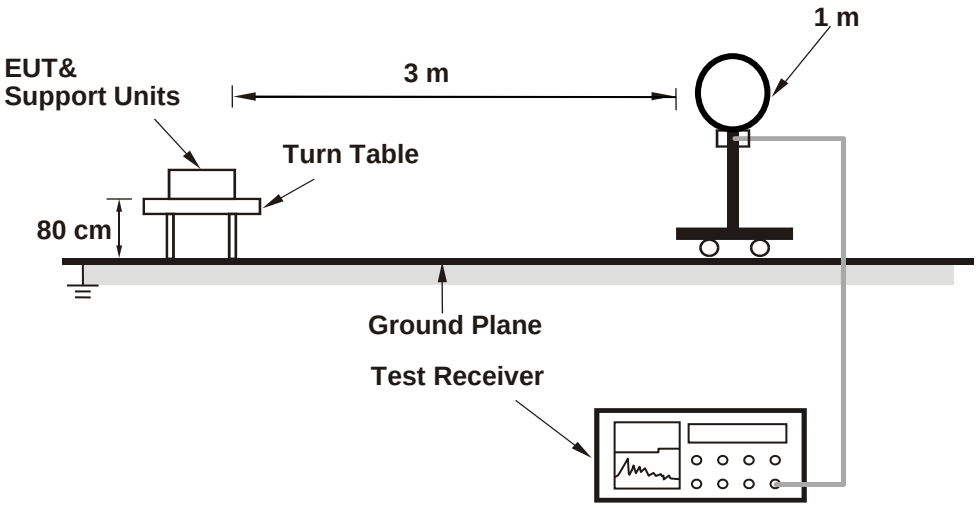
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) or Peak detection (PK) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK)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

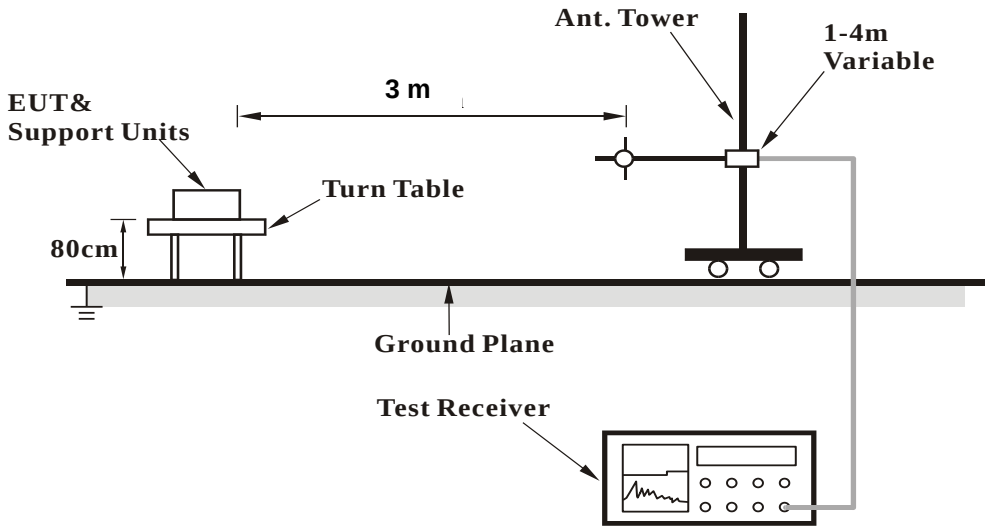
No deviation.

4.1.6 Test Setup

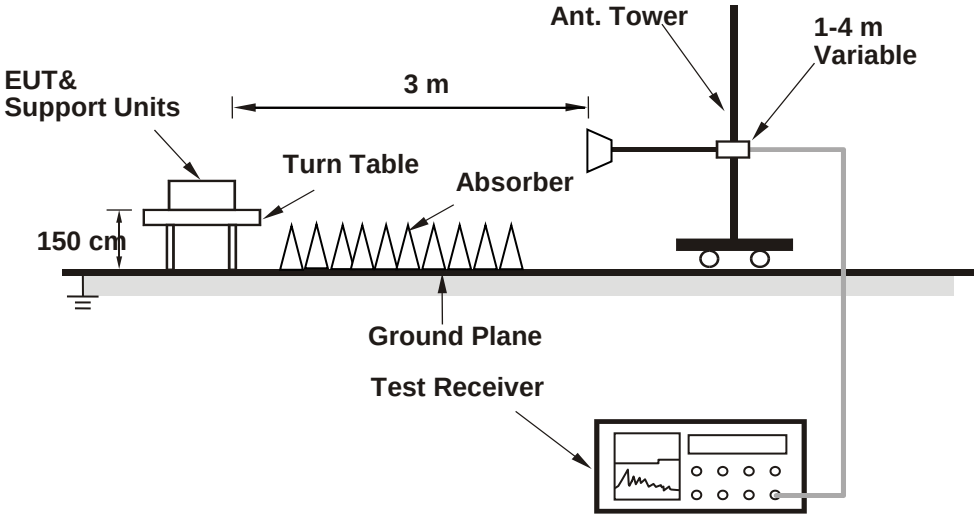
<Radiated Emission below 30 MHz>



<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**	Charles Hsiao

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**
5149.7	43.76	33.71	10.05	54	-10.24	194	306	Average
5149.7	53.81	43.76	10.05	74	-20.19	194	306	Peak
5180	91.49	81.37	10.12			194	306	Average
5180	98.63	88.51	10.12			194	306	Peak
*10360	54.94	38.92	16.02	68.2	-13.26	162	332	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**
5150	43.42	33.37	10.05	54	-10.58	100	16	Average
5150	52.47	42.42	10.05	74	-21.53	100	16	Peak
5180	90.59	80.47	10.12			100	16	Average
5180	97.42	87.3	10.12			100	16	Peak
*10360	55.14	39.12	16.02	68.2	-13.06	111	142	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**	Charles Hsiao

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**
5147.9	42.89	32.84	10.05	54	-11.11	194	306	Average
5147.9	52.77	42.72	10.05	74	-21.23	194	306	Peak
5200	92.41	82.25	10.16			194	306	Average
5200	99.09	88.93	10.16			194	306	Peak
5451.09	41.61	31.1	10.51	54	-12.39	194	306	Average
5451.09	52.33	41.82	10.51	74	-21.67	194	306	Peak
*10400	54.75	38.57	16.18	68.2	-13.45	144	117	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**
5148.05	42.11	32.06	10.05	54	-11.89	100	16	Average
5148.05	52.03	41.98	10.05	74	-21.97	100	16	Peak
5200	91.38	81.22	10.16			100	16	Average
5200	98.21	88.05	10.16			100	16	Peak
5445.81	41.56	31.07	10.49	54	-12.44	100	16	Average
5445.81	52.29	41.8	10.49	74	-21.71	100	16	Peak
*10400	54.99	38.81	16.18	68.2	-13.21	199	156	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**	Charles Hsiao

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**
5240	91.74	81.6	10.14			200	306	Average
5240	98.2	88.06	10.14			200	306	Peak
5430.3	41.79	31.31	10.48	54	-12.21	200	306	Average
5430.3	52.29	41.81	10.48	74	-21.71	200	306	Peak
*10360	54.94	38.92	16.02	68.2	-13.26	119	9	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**
5240	90.37	80.23	10.14			100	16	Average
5240	97.28	87.14	10.14			100	16	Peak
5448.45	41.72	31.23	10.49	54	-12.28	100	16	Average
5448.45	52.54	42.05	10.49	74	-21.46	100	16	Peak
*10360	55.14	39.12	16.02	68.2	-13.06	135	254	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**	Charles Hsiao

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**
5129.9	41.51	31.51	10	54	-12.49	200	308	Average
5129.9	52.37	42.37	10	74	-21.63	200	308	Peak
5260	91.71	81.59	10.12			200	308	Average
5260	98.78	88.66	10.12			200	308	Peak
*10520	53.21	37.33	15.88	68.2	-14.99	179	253	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**
5142.8	41.39	31.36	10.03	54	-12.61	166	3	Average
5142.8	52.38	42.35	10.03	74	-21.62	166	3	Peak
5260	92.03	81.91	10.12			166	3	Average
5260	99.63	89.51	10.12			166	3	Peak
*10520	53.9	38.02	15.88	68.2	-14.3	118	245	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**	Charles Hsiao

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**
5111.15	41.49	31.53	9.96	54	-12.51	200	308	Average
5111.15	53.75	43.79	9.96	74	-20.25	200	308	Peak
5300	91.46	81.4	10.06			200	308	Average
5300	98.64	88.58	10.06			200	308	Peak
5352.2	42.88	32.65	10.23	54	-11.12	200	308	Average
5352.2	52.13	41.9	10.23	74	-21.87	200	308	Peak
10600	46.96	31.2	15.76	54	-7.04	178	256	Average
10600	51.9	36.14	15.76	74	-22.1	178	256	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**
5124.2	41.37	31.38	9.99	54	-12.63	166	3	Average
5124.2	51.74	41.75	9.99	74	-22.26	166	3	Peak
5300	91.15	81.09	10.06			166	3	Average
5300	98.87	88.81	10.06			166	3	Peak
5352.09	42.73	32.5	10.23	54	-11.27	166	3	Average
5352.09	52.62	42.39	10.23	74	-21.38	166	3	Peak
10600	46.89	31.13	15.76	54	-7.11	194	199	Average
10600	52.19	36.43	15.76	74	-21.81	194	199	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5300 MHz: Fundamental Frequency
3. 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**	Charles Hsiao

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	91.43	81.34	10.09			200	308	Average
5320	98.35	88.26	10.09			200	308	Peak
5350.77	43.54	33.31	10.23	54	-10.46	200	308	Average
5350.77	55.08	44.85	10.23	74	-18.92	200	308	Peak
10640	47.28	31.29	15.99	54	-6.72	185	55	Average
10640	53.08	37.09	15.99	74	-20.92	185	55	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	91.92	81.83	10.09			166	3	Average
5320	99.1	89.01	10.09			166	3	Peak
5350.99	43.55	33.32	10.23	54	-10.45	166	3	Average
5350.99	54.26	44.03	10.23	74	-19.74	166	3	Peak
10640	47.28	31.29	15.99	54	-6.72	110	310	Average
10640	52.57	36.58	15.99	74	-21.43	110	310	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5320 MHz: Fundamental Frequency
3. 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**	Charles Hsiao

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**
5447.6	42.47	31.98	10.49	54	-11.53	111	217	Average
5447.6	52.56	42.07	10.49	74	-21.44	111	217	Peak
*5469.84	54.77	44.24	10.53	68.2	-13.43	111	217	Peak
5500	89.76	79.16	10.6			111	217	Average
5500	96.06	85.46	10.6			111	217	Peak
11000	45.32	29.19	16.13	54	-8.68	168	273	Average
11000	54.94	38.81	16.13	74	-19.06	168	273	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**
5447.6	43.03	32.54	10.49	54	-10.97	220	332	Average
5447.6	53.22	42.73	10.49	74	-20.78	220	332	Peak
*5469.2	56.31	45.78	10.53	68.2	-11.89	220	332	Peak
5500	94.44	83.84	10.6			220	332	Average
5500	101.03	90.43	10.6			220	332	Peak
11000	45.21	29.08	16.13	54	-8.79	128	116	Average
11000	54.55	38.42	16.13	74	-19.45	128	116	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**	Charles Hsiao

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**
5436.24	41.43	30.95	10.48	54	-12.57	111	217	Average
5436.24	52.39	41.91	10.48	74	-21.61	111	217	Peak
*5469.68	50.56	40.03	10.53	68.2	-17.64	111	217	Peak
5580	89.63	78.92	10.71			111	217	Average
5580	96.63	85.92	10.71			111	217	Peak
*5725.08	51.64	40.72	10.92	68.2	-16.56	111	217	Peak
11160	47.56	31.2	16.36	54	-6.44	186	37	Average
11160	57.19	40.83	16.36	74	-16.81	186	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**
5457.04	41.69	31.18	10.51	54	-12.31	220	332	Average
5457.04	52.33	41.82	10.51	74	-21.67	220	332	Peak
*5470	50.97	40.44	10.53	68.2	-17.23	220	332	Peak
5580	94.71	84	10.71			220	332	Average
5580	101.88	91.17	10.71			220	332	Peak
*5725	51.56	40.64	10.92	68.2	-16.64	220	332	Peak
11160	47.35	30.99	16.36	54	-6.65	154	62	Average
11160	57.11	40.75	16.36	74	-16.89	154	62	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**	Charles Hsiao

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**
5700	89.15	78.2	10.95			111	217	Average
5700	96.03	85.08	10.95			111	217	Peak
*5725.16	53.69	42.77	10.92	68.2	-14.51	111	217	Peak
11400	47.01	30.82	16.19	54	-6.99	174	112	Average
11400	56.75	40.56	16.19	74	-17.25	174	112	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**
5700	94.33	83.38	10.95			220	332	Average
5700	101.45	90.5	10.95			220	332	Peak
*5725.48	58.02	47.1	10.92	68.2	-10.18	220	332	Peak
11400	46.65	30.46	16.19	54	-7.35	165	95	Average
11400	56.13	39.94	16.19	74	-17.87	165	95	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**	Charles Hsiao

<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	91.76	80.88	10.88			177	281	Average
5745	99.07	88.19	10.88			177	281	Peak
11490	48.13	31.66	16.47	54	-5.87	172	154	Average
11490	57.57	41.1	16.47	74	-16.43	172	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**
5745	95.12	84.24	10.88			185	33	Average
5745	102.73	91.85	10.88			185	33	Peak
11490	46.85	30.38	16.47	54	-7.15	162	134	Average
11490	56.34	39.87	16.47	74	-17.66	162	134	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**
*5621.275	51.86	41.07	10.79	68.2	-16.34	177	281	Peak
5651.725	52.25	41.38	10.87	69.48	-17.23	177	281	Peak
5921.05	51.9	40.81	11.09	71.12	-19.22	177	281	Peak
*5962	51.71	40.48	11.23	68.2	-16.49	177	281	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**
*5588.725	51.53	40.8	10.73	68.2	-16.67	185	33	Peak
5654.35	51.25	40.38	10.87	71.42	-20.17	185	33	Peak
5920	51.29	40.2	11.09	71.9	-20.61	185	33	Peak
*5985.1	51.09	39.83	11.26	68.2	-17.11	185	33	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**	Charles Hsiao

<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	91.69	80.88	10.81			177	281	Average
5785	98.4	87.59	10.81			177	281	Peak
11570	47.21	30.72	16.49	54	-6.79	163	132	Average
11570	56.81	40.32	16.49	74	-17.19	163	132	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	94.69	83.88	10.81			185	33	Average
5785	102.51	91.7	10.81			185	33	Peak
11570	45.82	29.33	16.49	54	-8.18	165	124	Average
11570	55.59	39.1	16.49	74	-18.41	165	124	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**
*5544.1	52.71	42.05	10.66	68.2	-15.49	177	281	Peak
5651.725	50.28	39.41	10.87	69.48	-19.2	177	281	Peak
5922.1	51.44	40.33	11.11	70.35	-18.91	177	281	Peak
*5990.875	51.97	40.64	11.33	68.2	-16.23	177	281	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**
*5639.125	52.89	42.06	10.83	68.2	-15.31	185	33	Peak
5654.35	50.02	39.15	10.87	71.42	-21.4	185	33	Peak
5921.05	50.26	39.17	11.09	71.12	-20.86	185	33	Peak
*5987.2	52.24	40.93	11.31	68.2	-15.96	185	33	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**	Charles Hsiao

<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	90.04	79.16	10.88			177	281	Average
5825	97.96	87.08	10.88			177	281	Peak
11650	46.18	29.4	16.78	54	-7.82	137	185	Average
11650	55.73	38.95	16.78	74	-18.27	137	185	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	94.55	83.67	10.88			185	33	Average
5825	101.94	91.06	10.88			185	33	Peak
11650	46.32	29.54	16.78	54	-7.68	174	134	Average
11650	56.08	39.3	16.78	74	-17.92	174	134	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**
*5620.225	51.71	40.92	10.79	68.2	-16.49	177	281	Peak
5653.3	50.03	39.16	10.87	70.64	-20.61	177	281	Peak
5923.675	49.59	38.48	11.11	69.18	-19.59	177	281	Peak
*6007.15	52	40.65	11.35	68.2	-16.2	177	281	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**
*5631.25	52.81	42	10.81	68.2	-15.39	185	33	Peak
5654.875	51.38	40.51	10.87	71.81	-20.43	185	33	Peak
5921.575	50.38	39.27	11.11	70.73	-20.35	185	33	Peak
*6014.5	51.39	40.04	11.35	68.2	-16.81	185	33	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**	Charles Hsiao

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**
5149.7	46.63	36.58	10.05	54	-7.37	200	306	Average
5149.7	56.9	46.85	10.05	74	-17.1	200	306	Peak
5180	92.64	82.52	10.12			200	306	Average
5180	99.54	89.42	10.12			200	306	Peak
*10360	55.06	39.04	16.02	68.2	-13.14	153	299	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**
5149.85	44.45	34.4	10.05	54	-9.55	100	16	Average
5149.85	53.33	43.28	10.05	74	-20.67	100	16	Peak
5180	91.73	81.61	10.12			100	16	Average
5180	98.2	88.08	10.12			100	16	Peak
*10360	55.62	39.6	16.02	68.2	-12.58	108	119	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**	Charles Hsiao

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**
5148.35	44.27	34.22	10.05	54	-9.73	200	306	Average
5148.35	54.87	44.82	10.05	74	-19.13	200	306	Peak
5200	93.85	83.69	10.16			200	306	Average
5200	100.9	90.74	10.16			200	306	Peak
5449.44	41.62	31.13	10.49	54	-12.38	200	306	Average
5449.44	52.09	41.6	10.49	74	-21.91	200	306	Peak
*10400	54.19	38.01	16.18	68.2	-14.01	119	32	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**
5148.35	42.75	32.7	10.05	54	-11.25	100	16	Average
5148.35	52.33	42.28	10.05	74	-21.67	100	16	Peak
5200	92.11	81.95	10.16			100	16	Average
5200	99.09	88.93	10.16			100	16	Peak
5431.18	41.55	31.07	10.48	54	-12.45	100	16	Average
5431.18	52.19	41.71	10.48	74	-21.81	100	16	Peak
*10400	55.02	38.84	16.18	68.2	-13.18	180	105	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**	Charles Hsiao

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**
5240	93.67	83.53	10.14			200	306	Average
5240	100.21	90.07	10.14			200	306	Peak
5431.4	41.67	31.19	10.48	54	-12.33	200	306	Average
5431.4	51.71	41.23	10.48	74	-22.29	200	306	Peak
*10480	54.05	38.15	15.9	68.2	-14.15	146	256	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**
5240	92.47	82.33	10.14			100	16	Average
5240	99.65	89.51	10.14			100	16	Peak
5444.16	41.7	31.22	10.48	54	-12.3	100	16	Average
5444.16	52.85	42.37	10.48	74	-21.15	100	16	Peak
*10480	55.34	39.44	15.9	68.2	-12.86	119	278	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**	Charles Hsiao

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**
5084.9	41.62	31.71	9.91	54	-12.38	200	308	Average
5084.9	53.66	43.75	9.91	74	-20.34	200	308	Peak
5260	92.39	82.27	10.12			200	308	Average
5260	99.06	88.94	10.12			200	308	Peak
*10520	52.49	36.61	15.88	68.2	-15.71	118	24	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**
5121.8	41.46	31.49	9.97	54	-12.54	166	3	Average
5121.8	52.92	42.95	9.97	74	-21.08	166	3	Peak
5260	93.44	83.32	10.12			166	3	Average
5260	100.55	90.43	10.12			166	3	Peak
*10520	52.61	36.73	15.88	68.2	-15.59	135	185	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**	Charles Hsiao

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**
5138.6	41.47	31.47	10	54	-12.53	200	308	Average
5138.6	52.61	42.61	10	74	-21.39	200	308	Peak
5300	92.47	82.41	10.06			200	308	Average
5300	99.92	89.86	10.06			200	308	Peak
5351.76	43.44	33.21	10.23	54	-10.56	200	308	Average
5351.76	53.45	43.22	10.23	74	-20.55	200	308	Peak
10600	47.28	31.52	15.76	54	-6.72	187	88	Average
10600	54.3	38.54	15.76	74	-19.7	187	88	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**
5099.3	41.49	31.56	9.93	54	-12.51	166	3	Average
5099.3	51.98	42.05	9.93	74	-22.02	166	3	Peak
5300	93.74	83.68	10.06			166	3	Average
5300	100.27	90.21	10.06			166	3	Peak
5351.87	43.46	33.23	10.23	54	-10.54	166	3	Average
5351.87	53.01	42.78	10.23	74	-20.99	166	3	Peak
10600	46.93	31.17	15.76	54	-7.07	152	315	Average
10600	54.32	38.56	15.76	74	-19.68	152	315	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5300 MHz: Fundamental Frequency
3. 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**	Charles Hsiao

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	92.66	82.57	10.09			200	308	Average
5320	99.28	89.19	10.09			200	308	Peak
5350	46.36	36.13	10.23	54	-7.64	200	308	Average
5350	60.18	49.95	10.23	74	-13.82	200	308	Peak
10640	47.26	31.27	15.99	54	-6.74	148	16	Average
10640	52.59	36.6	15.99	74	-21.41	148	16	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	93.19	83.1	10.09			166	6	Average
5320	100.46	90.37	10.09			166	6	Peak
5350.77	46.11	35.88	10.23	54	-7.89	166	6	Average
5350.77	61.7	51.47	10.23	74	-12.3	166	6	Peak
10640	47.37	31.38	15.99	54	-6.63	153	188	Average
10640	53.78	37.79	15.99	74	-20.22	153	188	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5320 MHz: Fundamental Frequency
3. 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**	Charles Hsiao

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**
5448.56	42.74	32.25	10.49	54	-11.26	111	217	Average
5448.56	53.25	42.76	10.49	74	-20.75	111	217	Peak
*5470	56.15	45.62	10.53	68.2	-12.05	111	217	Peak
5500	90.66	80.06	10.6			111	217	Average
5500	97.46	86.86	10.6			111	217	Peak
11000	43.62	27.49	16.13	54	-10.38	181	218	Average
11000	53.39	37.26	16.13	74	-20.61	181	218	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**
5448.4	44.12	33.63	10.49	54	-9.88	220	332	Average
5448.4	53.09	42.6	10.49	74	-20.91	220	332	Peak
*5469.2	60.8	50.27	10.53	68.2	-7.4	220	332	Peak
5500	95.86	85.26	10.6			220	332	Average
5500	102.91	92.31	10.6			220	332	Peak
11000	44.23	28.1	16.13	54	-9.77	168	250	Average
11000	53.86	37.73	16.13	74	-20.14	168	250	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**	Charles Hsiao

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**
5453.2	41.56	31.05	10.51	54	-12.44	111	217	Average
5453.2	52.84	42.33	10.51	74	-21.16	111	217	Peak
*5469.52	52.62	42.09	10.53	68.2	-15.58	111	217	Peak
5580	90.71	80	10.71			111	217	Average
5580	97.83	87.12	10.71			111	217	Peak
*5725.72	50.75	39.83	10.92	68.2	-17.45	111	217	Peak
11160	45.68	29.32	16.36	54	-8.32	151	23	Average
11160	55.28	38.92	16.36	74	-18.72	151	23	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**
5451.76	41.51	31	10.51	54	-12.49	220	332	Average
5451.76	52.44	41.93	10.51	74	-21.56	220	332	Peak
*5469.52	50.52	39.99	10.53	68.2	-17.68	220	332	Peak
5580	95.64	84.93	10.71			220	332	Average
5580	102.39	91.68	10.71			220	332	Peak
*5725.08	51.33	40.41	10.92	68.2	-16.87	220	332	Peak
11160	46.89	30.53	16.36	54	-7.11	127	113	Average
11160	56.55	40.19	16.36	74	-17.45	127	113	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**	Charles Hsiao

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**
5700	90.83	79.88	10.95			111	217	Average
5700	97.62	86.67	10.95			111	217	Peak
*5725	62.78	51.86	10.92	68.2	-5.42	111	217	Peak
11400	45.75	29.56	16.19	54	-8.25	195	235	Average
11400	55.14	38.95	16.19	74	-18.86	195	235	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**
5700	95.29	84.34	10.95			220	332	Average
5700	102.08	91.13	10.95			220	332	Peak
*5725.48	66.04	55.12	10.92	68.2	-2.16	220	332	Peak
11400	45.27	29.08	16.19	54	-8.73	164	112	Average
11400	54.68	38.49	16.19	74	-19.32	164	112	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**	Charles Hsiao

<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	91.7	80.82	10.88			177	281	Average
5745	98.88	88	10.88			177	281	Peak
11490	46.36	29.89	16.47	54	-7.64	192	225	Average
11490	56.01	39.54	16.47	74	-17.99	192	225	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	95.06	84.18	10.88			185	33	Average
5745	102.36	91.48	10.88			185	33	Peak
11490	45.63	29.16	16.47	54	-8.37	154	127	Average
11490	55.23	38.76	16.47	74	-18.77	154	127	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**
*5609.725	52.53	41.76	10.77	68.2	-15.67	177	281	Peak
5651.725	49.86	38.99	10.87	69.48	-19.62	177	281	Peak
5922.1	50.09	38.98	11.11	70.35	-20.26	177	281	Peak
*5963.05	51.57	40.34	11.23	68.2	-16.63	177	281	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**
*5569.3	52.36	41.66	10.7	68.2	-15.84	185	33	Peak
5652.775	49.42	38.55	10.87	70.25	-20.83	185	33	Peak
5922.1	49	37.89	11.11	70.35	-21.35	185	33	Peak
*5975.65	52.2	40.94	11.26	68.2	-16	185	33	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**	Charles Hsiao

<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	91.71	80.9	10.81			177	281	Average
5785	98.7	87.89	10.81			177	281	Peak
11570	45.47	28.98	16.49	54	-8.53	168	174	Average
11570	55.07	38.58	16.49	74	-18.93	168	174	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	94.77	83.96	10.81			185	33	Average
5785	102.21	91.4	10.81			185	33	Peak
11570	45.31	28.82	16.49	54	-8.69	185	124	Average
11570	54.75	38.26	16.49	74	-19.25	185	124	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**
*5612.875	52.32	41.55	10.77	68.2	-15.88	177	281	Peak
5651.725	49.95	39.08	10.87	69.48	-19.53	177	281	Peak
5922.1	50.99	39.88	11.11	70.35	-19.36	177	281	Peak
*5936.275	52	40.84	11.16	68.2	-16.2	177	281	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**
*5640.175	51.54	40.71	10.83	68.2	-16.66	185	33	Peak
5652.25	50.11	39.24	10.87	69.86	-19.75	185	33	Peak
5923.15	50.16	39.05	11.11	69.57	-19.41	185	33	Peak
*5948.35	52.43	41.25	11.18	68.2	-15.77	185	33	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**	Charles Hsiao

<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	90.77	79.89	10.88			177	281	Average
5825	97.99	87.11	10.88			177	281	Peak
11650	45.74	28.96	16.78	54	-8.26	190	261	Average
11650	55.3	38.52	16.78	74	-18.7	190	261	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	94.16	83.28	10.88			185	33	Average
5825	101.62	90.74	10.88			185	33	Peak
11650	47.25	30.47	16.78	54	-6.75	157	180	Average
11650	56.74	39.96	16.78	74	-17.26	157	180	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**
*5590.825	52.19	41.46	10.73	68.2	-16.01	177	281	Peak
5653.825	50.72	39.85	10.87	71.03	-20.31	177	281	Peak
5921.575	49.47	38.36	11.11	70.73	-21.26	177	281	Peak
*5940.475	51.73	40.55	11.18	68.2	-16.47	177	281	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**
*5614.45	51.8	41.03	10.77	68.2	-16.4	185	33	Peak
5654.35	50.43	39.56	10.87	71.42	-20.99	185	33	Peak
5922.625	49.74	38.63	11.11	69.96	-20.22	185	33	Peak
*5945.725	51.38	40.2	11.18	68.2	-16.82	185	33	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**	Charles Hsiao

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	52.9	42.85	10.05	54	-1.1	200	306	Average
5150	66.41	56.36	10.05	74	-7.59	200	306	Peak
5190	88.77	78.65	10.12			200	306	Average
5190	95.36	85.24	10.12			200	306	Peak
5437.78	41.55	31.07	10.48	54	-12.45	200	306	Average
5437.78	52.85	42.37	10.48	74	-21.15	200	306	Peak
*10380	54.1	38	16.1	68.2	-14.1	101	119	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**
5149.55	49.4	39.35	10.05	54	-4.6	100	16	Average
5149.55	61.05	51	10.05	74	-12.95	100	16	Peak
5190	87.26	77.14	10.12			100	16	Average
5190	94.34	84.22	10.12			100	16	Peak
5459.01	41.53	31.02	10.51	54	-12.47	100	16	Average
5459.01	52.22	41.71	10.51	74	-21.78	100	16	Peak
*10380	54.56	38.46	16.1	68.2	-13.64	113	277	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**	Charles Hsiao

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**
5149.85	42.24	32.19	10.05	54	-11.76	200	306	Average
5149.85	52.8	42.75	10.05	74	-21.2	200	306	Peak
5230	90.88	80.74	10.14			200	306	Average
5230	97.28	87.14	10.14			200	306	Peak
5427.33	41.62	31.17	10.45	54	-12.38	200	306	Average
5427.33	52.01	41.56	10.45	74	-21.99	200	306	Peak
*10460	54.51	38.51	16	68.2	-13.69	104	118	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**
5143.4	41.84	31.81	10.03	54	-12.16	100	16	Average
5143.4	52.48	42.45	10.03	74	-21.52	100	16	Peak
5230	89.61	79.47	10.14			100	16	Average
5230	96.33	86.19	10.14			100	16	Peak
5451.53	41.55	31.04	10.51	54	-12.45	100	16	Average
5451.53	52.41	41.9	10.51	74	-21.59	100	16	Peak
*10460	53.4	37.4	16	68.2	-14.8	153	264	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**	Charles Hsiao

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**
5123.3	42.15	32.16	9.99	54	-11.85	200	308	Average
5123.3	52.67	42.68	9.99	74	-21.33	200	308	Peak
5270	90.55	80.43	10.12			200	308	Average
5270	97.15	87.03	10.12			200	308	Peak
5352.42	42.76	32.53	10.23	54	-11.24	200	308	Average
5352.42	52.57	42.34	10.23	74	-21.43	200	308	Peak
*10540	52.8	36.97	15.83	68.2	-15.4	162	253	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**
5140.25	42.08	32.07	10.01	54	-11.92	166	3	Average
5140.25	52.62	42.61	10.01	74	-21.38	166	3	Peak
5270	91.74	81.62	10.12			166	3	Average
5270	98.65	88.53	10.12			166	3	Peak
5353.41	42.76	32.53	10.23	54	-11.24	166	3	Average
5353.41	52.48	42.25	10.23	74	-21.52	166	3	Peak
*10540	53.63	37.8	15.83	68.2	-14.57	178	144	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**	Charles Hsiao

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**
5148.35	41.96	31.91	10.05	54	-12.04	200	308	Average
5148.35	53.51	43.46	10.05	74	-20.49	200	308	Peak
5310	87.44	77.35	10.09			200	308	Average
5310	94.3	84.21	10.09			200	308	Peak
5350.11	52.49	42.26	10.23	54	-1.51	200	308	Average
5350.11	63.49	53.26	10.23	74	-10.51	200	308	Peak
10620	47.75	31.87	15.88	54	-6.25	152	195	Average
10620	52.57	36.69	15.88	74	-21.43	152	195	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**
5098.85	41.89	31.96	9.93	54	-12.11	166	6	Average
5098.85	52.42	42.49	9.93	74	-21.58	166	6	Peak
5310	88.43	78.34	10.09			166	6	Average
5310	95.62	85.53	10.09			166	6	Peak
5350	52.8	42.57	10.23	54	-1.2	166	6	Average
5350	66.37	56.14	10.23	74	-7.63	166	6	Peak
10620	47.88	32	15.88	54	-6.12	136	263	Average
10620	52.55	36.67	15.88	74	-21.45	136	263	Peak

Remarks:

1. Emission Level = Read Level + Factor
   Margin value = Emission level – Limit value
2. 5310 MHz: Fundamental Frequency
3. 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**	Charles Hsiao

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	42.81	32.3	10.51	54	-11.19	177	281	Average
5460	51.95	41.44	10.51	74	-22.05	177	281	Peak
*5470	61.2	50.67	10.53	68.2	-7	177	281	Peak
5510	85.12	74.52	10.6			177	281	Average
5510	91.99	81.39	10.6			177	281	Peak
*5725.64	51	40.08	10.92	68.2	-17.2	177	281	Peak
11020	44.21	28.05	16.16	54	-9.79	142	168	Average
11020	53.72	37.56	16.16	74	-20.28	142	168	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	44.24	33.73	10.51	54	-9.76	201	33	Average
5460	54.87	44.36	10.51	74	-19.13	201	33	Peak
*5469.2	66.37	55.84	10.53	68.2	-1.83	201	33	Peak
5510	87.7	45.41	42.29			201	33	Average
5510	95.77	53.48	42.29			201	33	Peak
*5725.08	52.51	41.59	10.92	68.2	-15.69	201	33	Peak
11020	43.77	27.61	16.16	54	-10.23	184	265	Average
11020	53.43	37.27	16.16	74	-20.57	184	265	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**	Charles Hsiao

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**
5447.6	42.02	31.53	10.49	54	-11.98	177	281	Average
5447.6	52.7	42.21	10.49	74	-21.3	177	281	Peak
*5469.68	52.02	41.49	10.53	68.2	-16.18	177	281	Peak
5550	89.36	78.68	10.68			177	281	Average
5550	96.49	85.81	10.68			177	281	Peak
*5725.32	51.1	40.18	10.92	68.2	-17.1	177	281	Peak
11100	43.81	27.54	16.27	54	-10.19	196	211	Average
11100	53.58	37.31	16.27	74	-20.42	196	211	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**
5448.08	42.24	31.75	10.49	54	-11.76	201	33	Average
5448.08	52.24	41.75	10.49	74	-21.76	201	33	Peak
*5469.04	52.06	41.53	10.53	68.2	-16.14	201	33	Peak
5550	93.36	82.68	10.68			201	33	Average
5550	100.37	89.69	10.68			201	33	Peak
*5725.8	50.86	39.94	10.92	68.2	-17.34	201	33	Peak
11100	44.25	27.98	16.27	54	-9.75	151	37	Average
11100	53.77	37.5	16.27	74	-20.23	151	37	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**	Charles Hsiao

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**
5450.32	41.62	31.11	10.51	54	-12.38	177	281	Average
5450.32	52.35	41.84	10.51	74	-21.65	177	281	Peak
*5469.2	50.79	40.26	10.53	68.2	-17.41	177	281	Peak
5670	88.5	77.6	10.9			177	281	Average
5670	96.71	85.81	10.9			177	281	Peak
*5725.88	55.13	44.21	10.92	68.2	-13.07	177	281	Peak
11340	46.42	30	16.42	54	-7.58	172	304	Average
11340	56.07	39.65	16.42	74	-17.93	172	304	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**
5456.4	41.59	31.08	10.51	54	-12.41	201	33	Average
5456.4	52.19	41.68	10.51	74	-21.81	201	33	Peak
*5469.84	50.51	39.98	10.53	68.2	-17.69	201	33	Peak
5670	93.44	82.54	10.9			201	33	Average
5670	100.73	89.83	10.9			201	33	Peak
*5725.48	59.81	48.89	10.92	68.2	-8.39	201	33	Peak
11340	46.12	29.7	16.42	54	-7.88	195	167	Average
11340	55.56	39.14	16.42	74	-18.44	195	167	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**	Charles Hsiao

<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	88.64	77.74	10.9			177	281	Average
5755	96.26	85.36	10.9			177	281	Peak
11510	45.61	29.1	16.51	54	-8.39	130	85	Average
11510	55.28	38.77	16.51	74	-18.72	130	85	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	92.14	81.24	10.9			199	33	Average
5755	99.9	89	10.9			199	33	Peak
11510	45.42	28.91	16.51	54	-8.58	196	134	Average
11510	54.91	38.4	16.51	74	-19.09	196	134	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**
*5591.875	51.98	41.23	10.75	68.2	-16.22	177	281	Peak
5653.3	50.96	40.09	10.87	70.64	-19.68	177	281	Peak
5923.675	51.01	39.9	11.11	69.18	-18.17	177	281	Peak
*6000.325	52.03	40.7	11.33	68.2	-16.17	177	281	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**
*5650.15	52.38	41.51	10.87	68.31	-15.93	199	33	Peak
5652.775	52	41.13	10.87	70.25	-18.25	199	33	Peak
5922.1	49.99	38.88	11.11	70.35	-20.36	199	33	Peak
*5970.4	53.1	41.85	11.25	68.2	-15.1	199	33	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**	Charles Hsiao

<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	87.89	77.07	10.82			177	281	Average
5795	95.37	84.55	10.82			177	281	Peak
11590	45.17	28.66	16.51	54	-8.83	156	236	Average
11590	54.83	38.32	16.51	74	-19.17	156	236	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	92.08	81.26	10.82			199	33	Average
5795	98.86	88.04	10.82			199	33	Peak
11590	45.34	28.83	16.51	54	-8.66	135	87	Average
11590	54.95	38.44	16.51	74	-19.05	135	87	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**
*5650.15	52.22	41.35	10.87	68.31	-16.09	177	281	Peak
5655.925	50.95	40.08	10.87	72.58	-21.63	177	281	Peak
5920	49.62	38.53	11.09	71.9	-22.28	177	281	Peak
*5962.525	51.64	40.41	11.23	68.2	-16.56	177	281	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**
*5553.55	51.59	40.93	10.66	68.2	-16.61	199	33	Peak
5652.775	50.55	39.68	10.87	70.25	-19.7	199	33	Peak
5922.1	49.44	38.33	11.11	70.35	-20.91	199	33	Peak
*5958.325	52.99	41.78	11.21	68.2	-15.21	199	33	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:

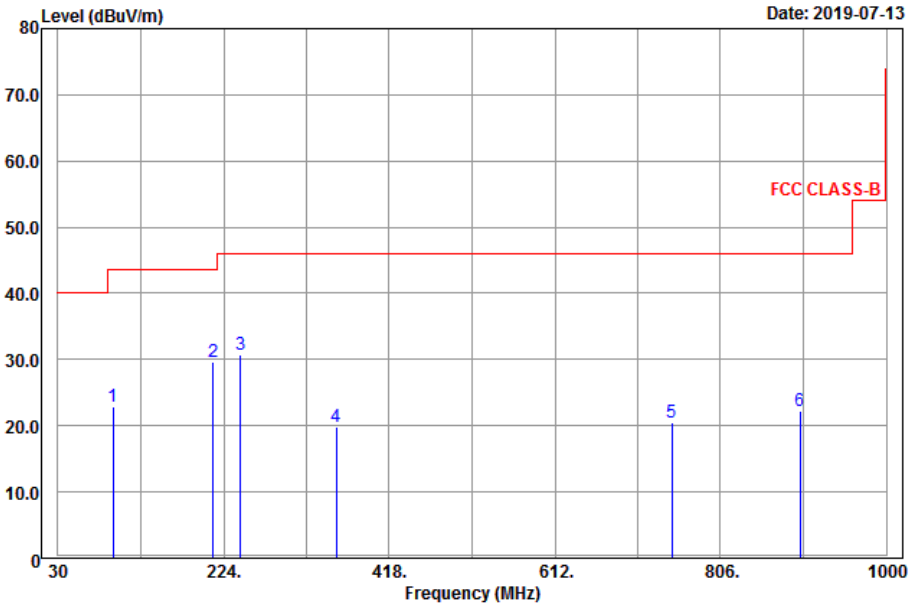
The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

30 MHz ~ 1 GHz Worst-Case Data:

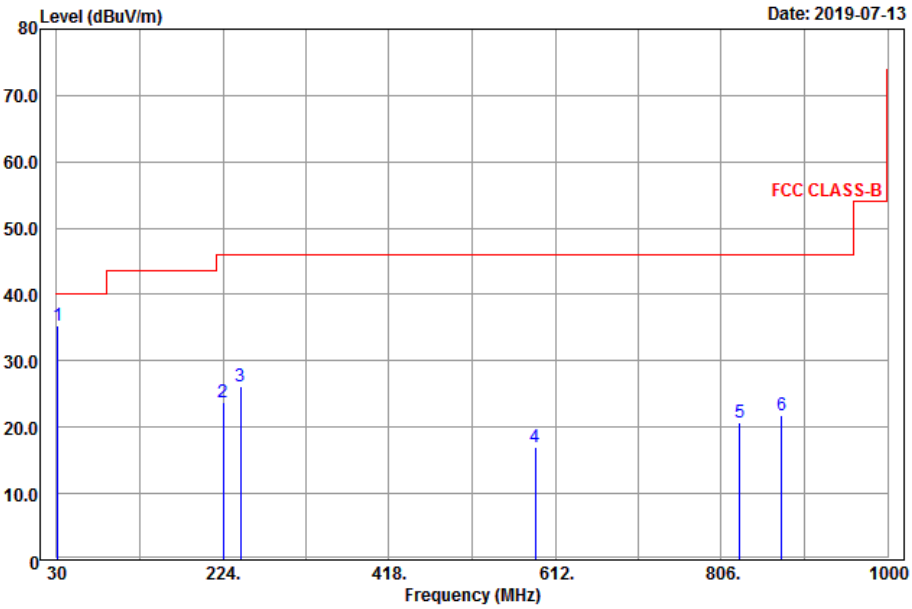
802.11n (HT40)

EUT Test Condition		Measurement Detail	
Channel	Channel 38	**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**	Charles Hsiao

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**
94.8	22.84	40.69	-17.85	43.5	-20.66	182	288	Peak
211.44	29.68	47.79	-18.11	43.5	-13.82	174	111	Peak
244.11	30.8	47.75	-16.95	46	-15.2	105	45	Peak
356	19.79	34.43	-14.64	46	-26.21	178	8	Peak
749.4	20.59	29.13	-8.54	46	-25.41	116	205	Peak
899.2	22.27	28.22	-5.95	46	-23.73	143	253	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**
31.08	35.21	53.32	-18.11	40	-4.79	116	164	Peak
224.13	23.85	41.51	-17.66	46	-22.15	182	65	Peak
244.92	26.14	43.07	-16.93	46	-19.86	178	189	Peak
589.1	17.06	27.96	-10.9	46	-28.94	170	169	Peak
827.8	20.75	27.92	-7.17	46	-25.25	127	207	Peak
876.1	21.72	27.98	-6.26	46	-24.28	118	51	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

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

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

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Dec. 10, 2018	Dec. 09, 2019
RF signal cable Woken	5D-FB	Cable-cond1-01	Sep. 05, 2018	Sep. 04, 2019
LISN/AMN ROHDE & SCHWARZ (EUT)	ENV216	101826	Feb. 21, 2019	Feb. 20, 2020
LISN/AMN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 19, 2018	Aug. 18, 2019
Software ADT	BV ADT_Cond_ V7.3.7.4	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Shielded Room 1.
3. The VCCI Site Registration No. is C-12040.

4.2.3 Test Procedures

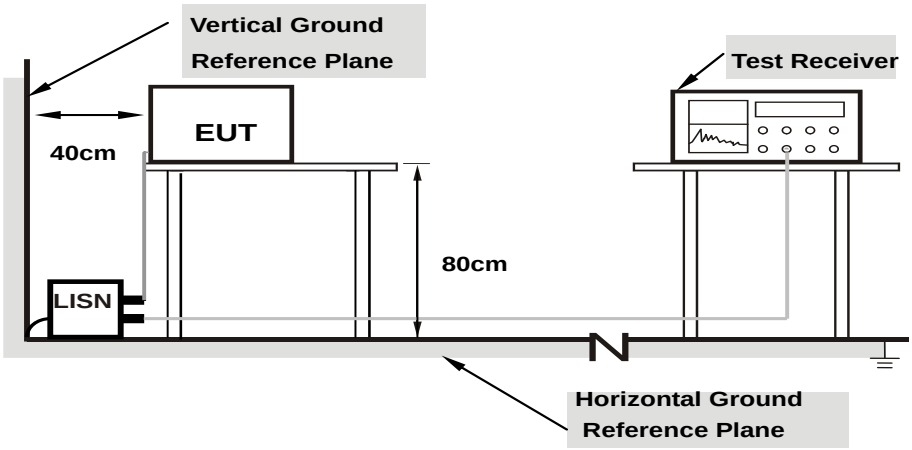
a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
c. The frequency range from 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.

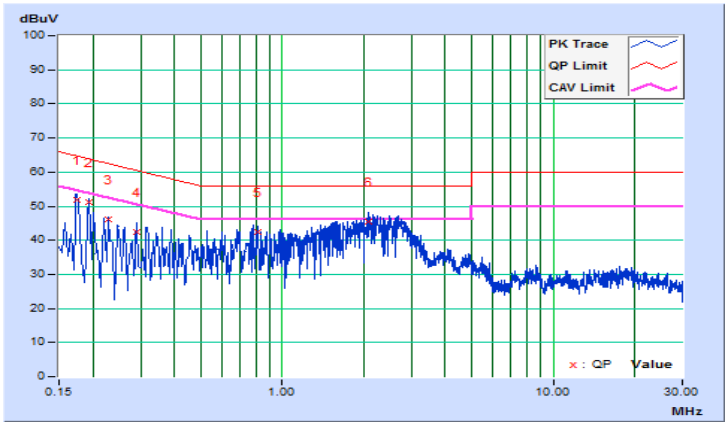
4.2.7 Test Results

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	Thomas Wei	Test Date	2019/7/9

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	0.17374	9.84	42.03	28.67	51.87	38.51	64.78	54.78	-12.91	-16.27
2	0.19305	9.85	41.21	27.57	51.06	37.42	63.90	53.90	-12.84	-16.48
3	0.22820	9.85	36.25	23.18	46.10	33.03	62.51	52.51	-16.41	-19.48
4	0.29076	9.86	32.58	18.00	42.44	27.86	60.50	50.50	-18.06	-22.64
5	0.81079	9.91	32.39	19.93	42.30	29.84	56.00	46.00	-13.70	-16.16
6	2.06981	9.95	35.41	20.91	45.36	30.86	56.00	46.00	-10.64	-15.14

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

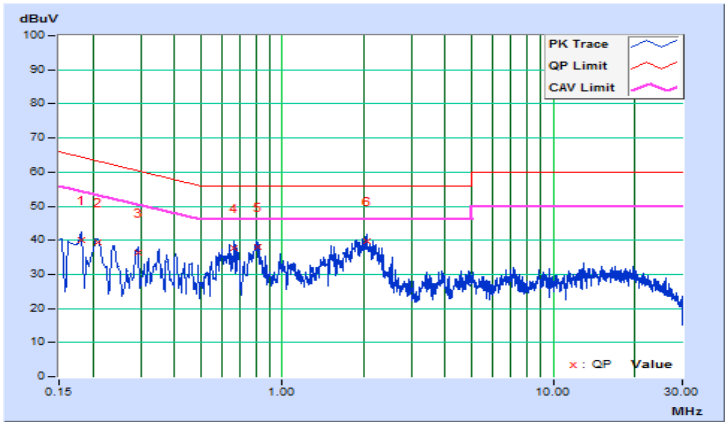


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25℃, 65%RH
Tested by	Thomas Wei	Test Date	2019/7/9

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	0.18122	9.83	30.34	20.23	40.17	30.06	64.43	54.43	-24.26	-24.37
2	0.20865	9.84	29.61	17.73	39.45	27.57	63.26	53.26	-23.81	-25.69
3	0.29467	9.85	26.45	15.00	36.30	24.85	60.39	50.39	-24.09	-25.54
4	0.66605	9.87	27.85	17.45	37.72	27.32	56.00	46.00	-18.28	-18.68
5	0.81079	9.88	28.09	16.26	37.97	26.14	56.00	46.00	-18.03	-19.86
6	2.04244	9.93	29.68	16.66	39.61	26.59	56.00	46.00	-16.39	-19.41

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

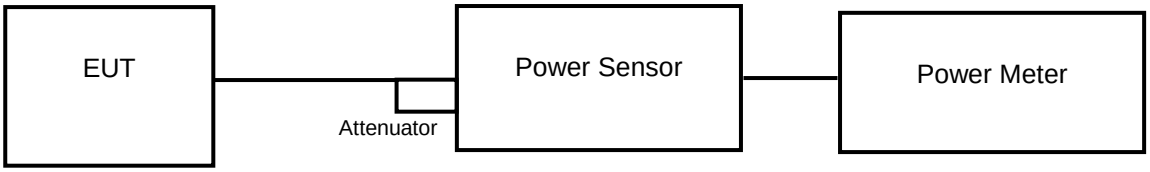
4.3.1 Limits of Transmit Power Measurement

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)

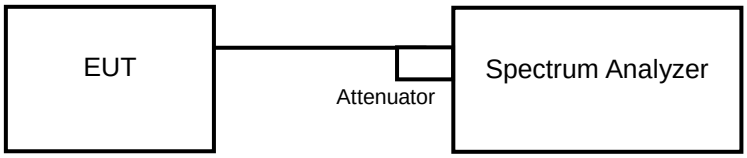
*B is the 26 dB emission bandwidth in megahertz

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	9.817	9.92	24	Pass
40	5200	9.727	9.88	24	Pass
48	5240	9.594	9.82	24	Pass
52	5260	9.661	9.85	24	Pass
60	5300	8.511	9.30	24	Pass
64	5320	8.185	9.13	24	Pass
100	5500	8.770	9.43	24	Pass
116	5580	8.433	9.26	24	Pass
140	5700	6.871	8.37	24	Pass
149	5745	11.272	10.52	30	Pass
157	5785	9.419	9.74	30	Pass
165	5825	8.395	9.24	30	Pass

Note:

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

1. 11 dBm + 10log (33.53) = 26.25 dBm > 24 dBm.
2. 11 dBm + 10log (32.26) = 26.08 dBm > 24 dBm.
3. 11 dBm + 10log (33.54) = 26.25 dBm > 24 dBm.
4. 11 dBm + 10log (29.81) = 25.74 dBm > 24 dBm.
5. 11 dBm + 10log (34.49) = 26.37 dBm > 24 dBm.
6. 11 dBm + 10log (29.08) = 25.63 dBm > 24 dBm.

802.11n (HT20)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	13.868	11.42	24	Pass
40	5200	13.772	11.39	24	Pass
48	5240	13.152	11.19	24	Pass
52	5260	13.366	11.26	24	Pass
60	5300	12.023	10.80	24	Pass
64	5320	11.668	10.67	24	Pass
100	5500	15.596	11.93	24	Pass
116	5580	14.997	11.76	24	Pass
140	5700	9.750	9.89	24	Pass
149	5745	10.864	10.36	30	Pass
157	5785	9.484	9.77	30	Pass
165	5825	8.433	9.26	30	Pass

Note:

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

1. 11 dBm + 10log (40.85) = 27.11 dBm > 24 dBm.
2. 11 dBm + 10log (40.59) = 27.08 dBm > 24 dBm.
3. 11 dBm + 10log (39.45) = 26.96 dBm > 24 dBm.
4. 11 dBm + 10log (42.63) = 27.29 dBm > 24 dBm.
5. 11 dBm + 10log (44.98) = 27.53 dBm > 24 dBm.
6. 11 dBm + 10log (40.93) = 27.12 dBm > 24 dBm.

802.11n (HT40)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
38	5190	12.246	10.88	24	Pass
46	5230	11.858	10.74	24	Pass
54	5270	11.272	10.52	24	Pass
62	5310	10.328	10.14	24	Pass
102	5510	11.350	10.55	24	Pass
110	5550	10.765	10.32	24	Pass
134	5670	9.057	9.57	24	Pass
151	5755	10.889	10.37	30	Pass
159	5795	9.661	9.85	30	Pass

Note:

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

1. 11 dBm + 10log (72.17) = 29.58 dBm > 24 dBm.
2. 11 dBm + 10log (71.33) = 29.53 dBm > 24 dBm.
3. 11 dBm + 10log (71.51) = 29.54 dBm > 24 dBm.
4. 11 dBm + 10log (73.15) = 29.64 dBm > 24 dBm.
5. 11 dBm + 10log (69.34) = 29.40 dBm > 24 dBm.

26 dB Bandwidth:

802.11a

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
36	5180	32.79
40	5200	33.16
48	5240	36.06
52	5260	33.53
60	5300	32.26
64	5320	33.54
100	5500	29.81
116	5580	34.49
140	5700	29.08

802.11n (HT20)

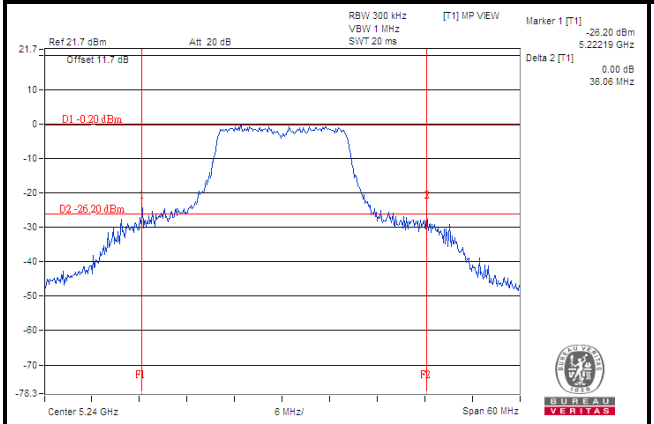
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
36	5180	39.89
40	5200	38.84
48	5240	39.88
52	5260	40.85
60	5300	40.59
64	5320	39.45
100	5500	42.63
116	5580	44.98
140	5700	40.93

802.11n (HT40)

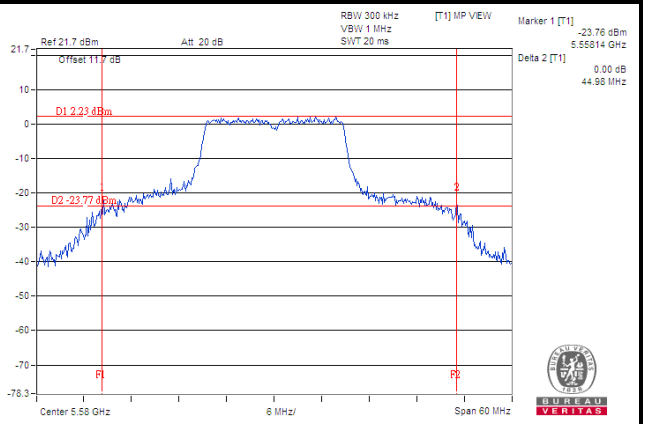
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
38	5190	71.19
46	5230	67.42
54	5270	72.17
62	5310	71.33
102	5510	71.51
110	5550	73.15
134	5670	69.34

Spectrum Plot of Worst Value

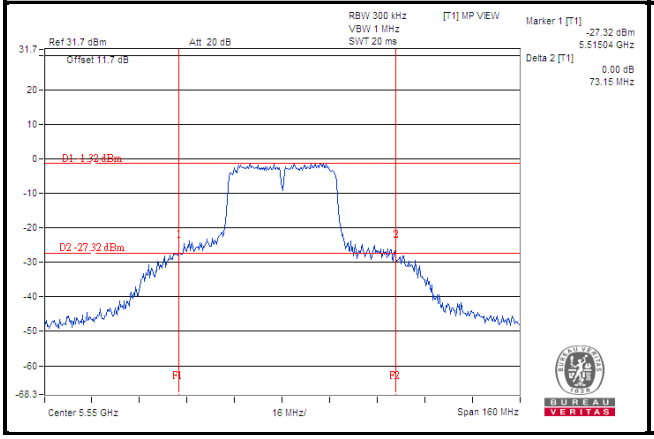
802.11a



802.11n (HT20)

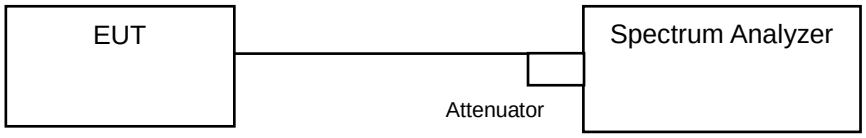


802.11n (HT40)



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	17.28
40	5200	17.16
48	5240	17.16
52	5260	17.16
60	5300	17.28
64	5320	17.16
100	5500	17.28
116	5580	17.28
140	5700	17.04
149	5745	17.69
157	5785	17.40
165	5825	17.21

802.11n (HT20)

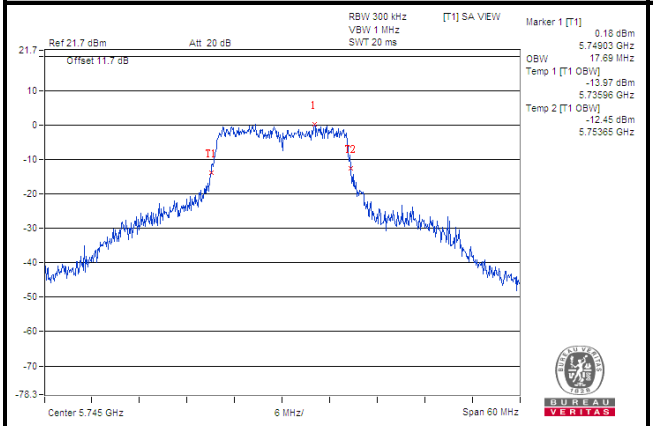
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	18.48
40	5200	18.48
48	5240	18.48
52	5260	18.48
60	5300	18.60
64	5320	18.48
100	5500	18.48
116	5580	18.72
140	5700	18.36
149	5745	18.55
157	5785	18.36
165	5825	18.17

802.11n (HT40)

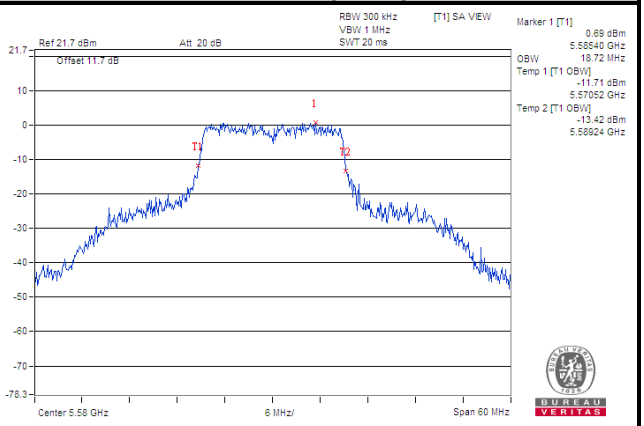
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)
38	5190	36.84
46	5230	36.72
54	5270	36.60
62	5310	36.84
102	5510	36.72
110	5550	36.72
134	5670	36.96
151	5755	36.84
159	5795	36.72

Spectrum Plot of Worst Value

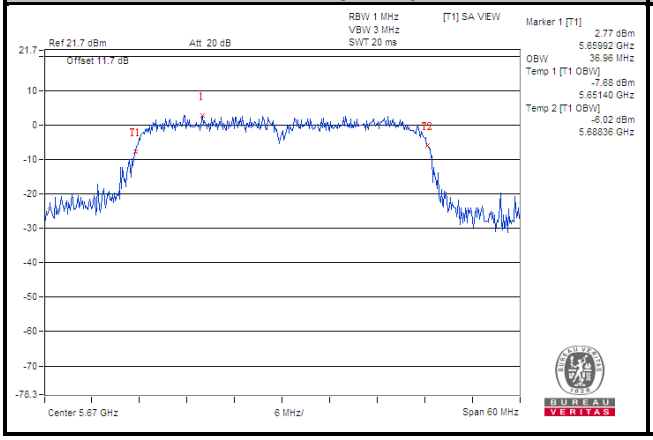
802.11a



802.11n (HT20)



802.11n (HT40)

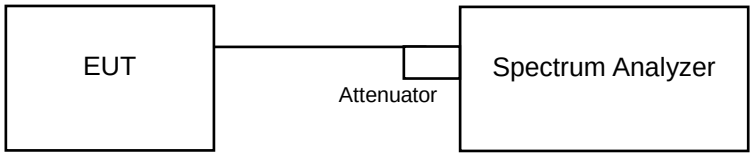


4.5 Peak Power Spectral Density Measurement

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

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	-5.68	0.67	-5.01	11	Pass
40	5200	-5.64	0.67	-4.97	11	Pass
48	5240	-5.96	0.67	-5.29	11	Pass
52	5260	-5.88	0.67	-5.21	11	Pass
60	5300	-6.26	0.67	-5.59	11	Pass
64	5320	-6.19	0.67	-5.52	11	Pass
100	5500	-4.91	0.67	-4.24	11	Pass
116	5580	-5.09	0.67	-4.42	11	Pass
140	5700	-6.06	0.67	-5.39	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	-4.38	0.64	-3.74	11	Pass
40	5200	-4.48	0.64	-3.84	11	Pass
48	5240	-4.99	0.64	-4.35	11	Pass
52	5260	-4.96	0.64	-4.32	11	Pass
60	5300	-4.78	0.64	-4.14	11	Pass
64	5320	-5.09	0.64	-4.45	11	Pass
100	5500	-3.88	0.64	-3.24	11	Pass
116	5580	-3.95	0.64	-3.31	11	Pass
140	5700	-5.17	0.64	-4.53	11	Pass

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

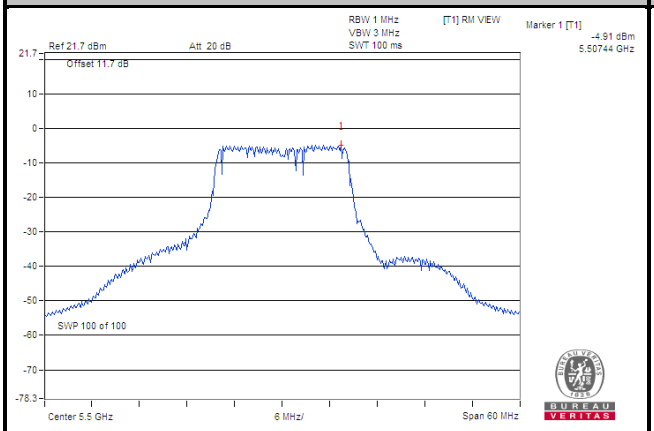
802.11n (HT40)

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	-8.28	1.33	-6.95	11	Pass
46	5230	-8.59	1.33	-7.26	11	Pass
54	5270	-8.66	1.33	-7.33	11	Pass
62	5310	-8.66	1.33	-7.33	11	Pass
102	5510	-7.83	1.33	-6.50	11	Pass
110	5550	-7.55	1.33	-6.22	11	Pass
134	5670	-8.68	1.33	-7.35	11	Pass

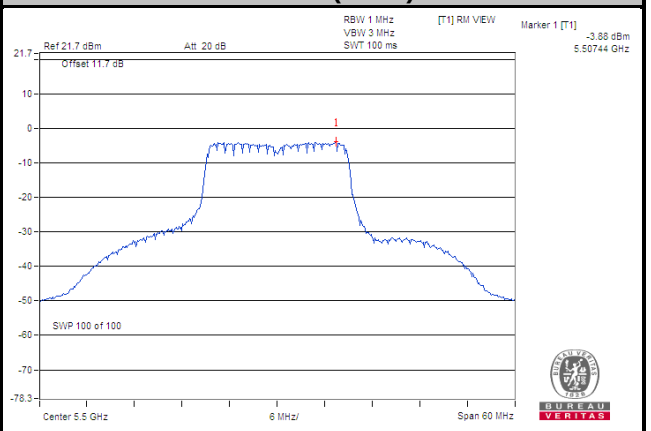
Note: Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

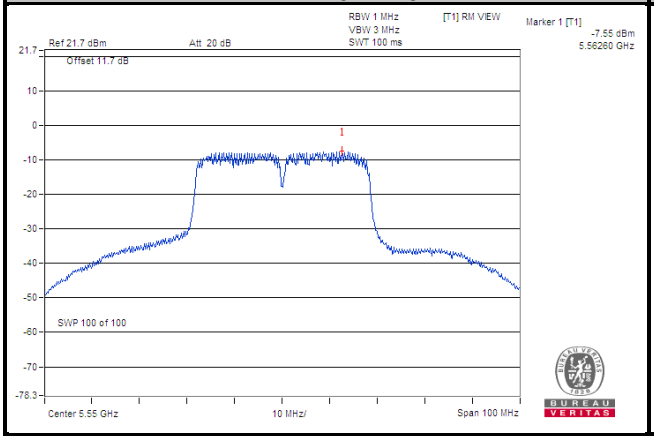
802.11a



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	-12.63	-10.41	0.67	-9.74	30	Pass
157	5785	-12.99	-10.77	0.67	-10.10	30	Pass
165	5825	-13.81	-11.59	0.67	-10.92	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	-13.08	-10.86	0.64	-10.22	30	Pass
157	5785	-13.66	-11.44	0.64	-10.80	30	Pass
165	5825	-14.11	-11.89	0.64	-11.25	30	Pass

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

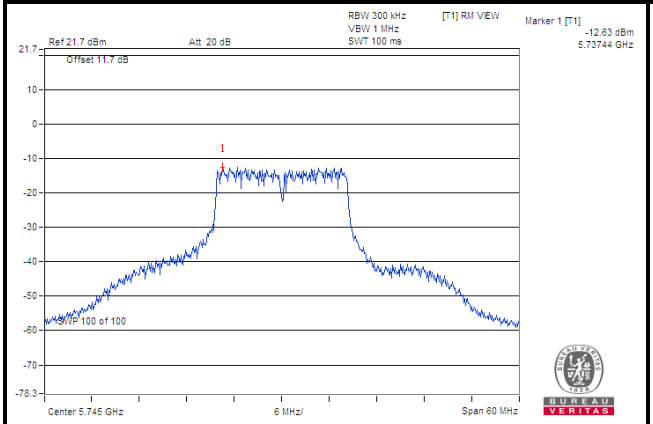
802.11n (HT40)

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	-17.02	-14.80	1.33	-13.47	30	Pass
159	5795	-17.48	-15.26	1.33	-13.93	30	Pass

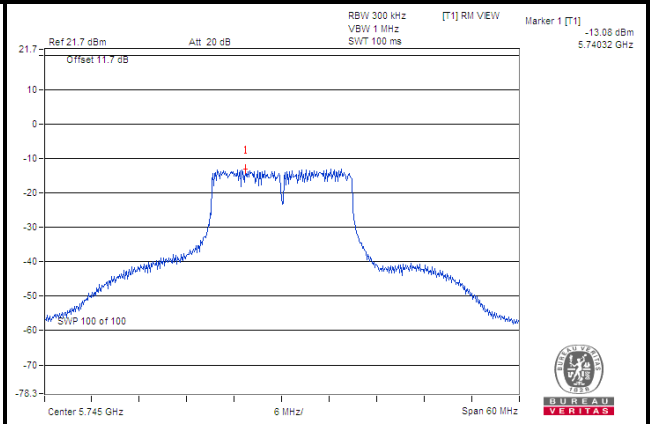
Note: Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

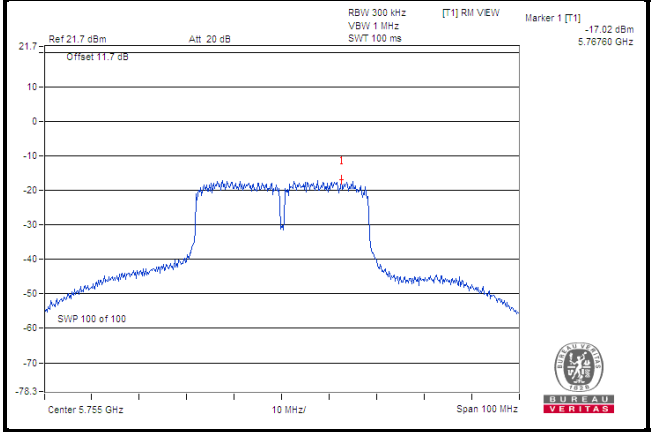
802.11a



802.11n (HT20)



802.11n (HT40)

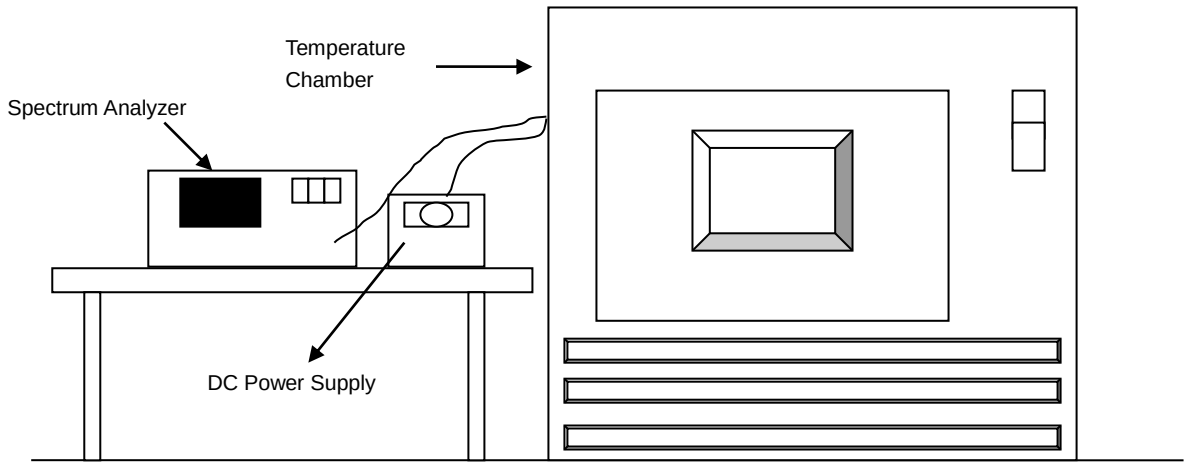


4.6 Frequency Stability

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 c and d with every 10 degrees reduction until the lowest temperature achieved.
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	3.7	5180.0058	PASS	5180.0022	PASS	5180.0053	PASS	5180.0066	PASS
40	3.7	5180.0206	PASS	5180.0241	PASS	5180.0202	PASS	5180.0227	PASS
30	3.7	5179.9996	PASS	5179.9998	PASS	5179.9964	PASS	5180.0002	PASS
20	3.7	5180.006	PASS	5180.0057	PASS	5180.0061	PASS	5180.0036	PASS
10	3.7	5180.0253	PASS	5180.0245	PASS	5180.0275	PASS	5180.0258	PASS
0	3.7	5179.9883	PASS	5179.9877	PASS	5179.9876	PASS	5179.9882	PASS
-10	3.7	5179.9845	PASS	5179.9838	PASS	5179.9851	PASS	5179.9841	PASS
-20	3.7	5180.0115	PASS	5180.0122	PASS	5180.0131	PASS	5180.0143	PASS
-30	3.7	5179.9895	PASS	5179.9878	PASS	5179.9879	PASS	5179.9851	PASS

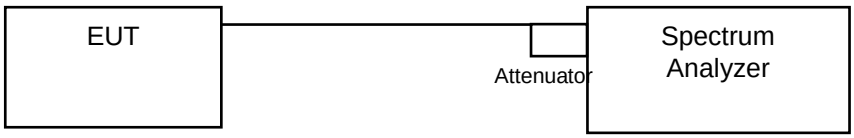
Frequency Stability Versus Voltage									
Operating Frequency: 5180 MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	4.255	5180.0053	PASS	5180.0063	PASS	5180.0062	PASS	5180.0045	PASS
	3.7	5180.006	PASS	5180.0057	PASS	5180.0061	PASS	5180.0036	PASS
	3.145	5180.005	PASS	5180.0048	PASS	5180.0053	PASS	5180.0037	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	16.45	0.5	Pass
157	5785	16.40	0.5	Pass
165	5825	16.47	0.5	Pass

802.11n (HT20)

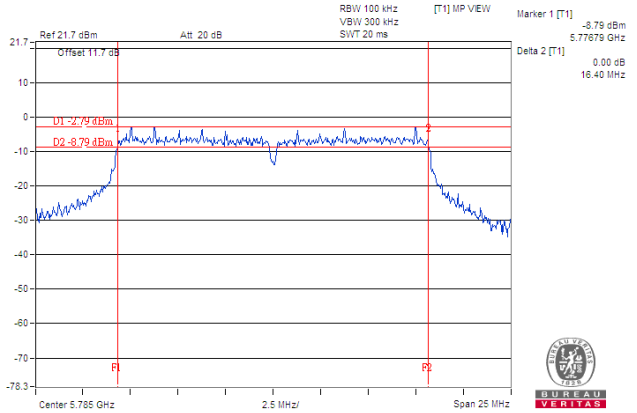
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	17.65	0.5	Pass
157	5785	17.65	0.5	Pass
165	5825	17.65	0.5	Pass

802.11n (HT40)

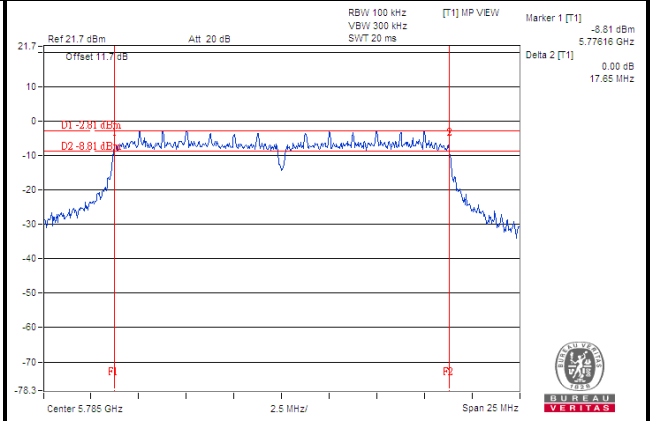
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
151	5755	35.33	0.5	Pass
159	5795	35.35	0.5	Pass

Spectrum Plot of Worst Value

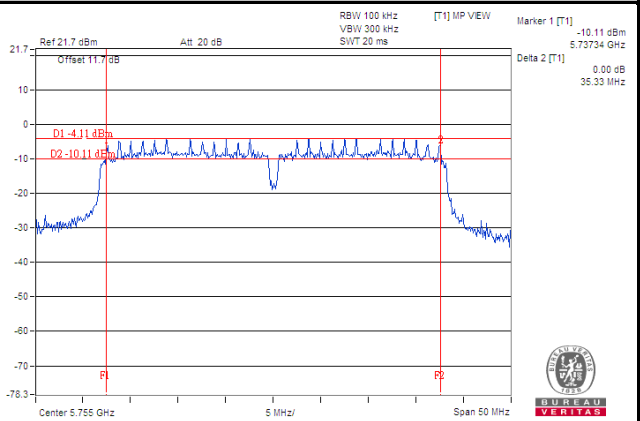
802.11a



802.11n (HT20)



802.11n (HT40)



5 Pictures of Test Arrangements

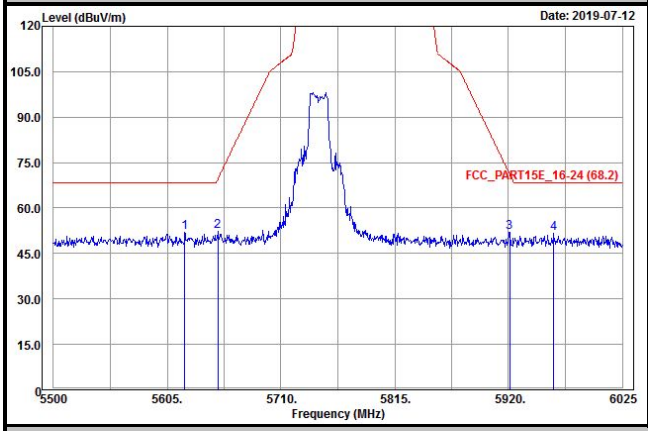
Please refer to the attached file (Test Setup Photo).

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

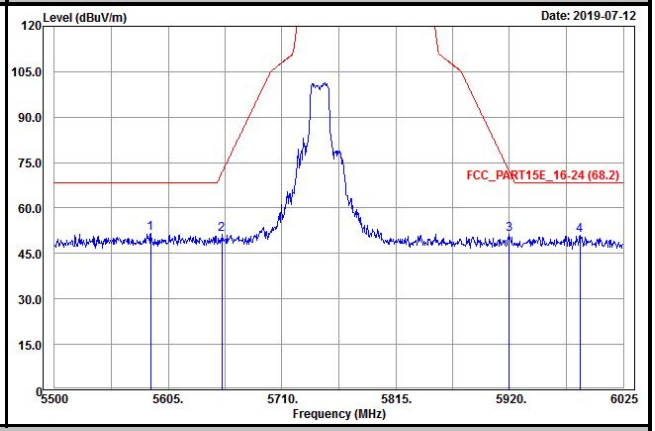
802.11a

Ch 149

Horizontal

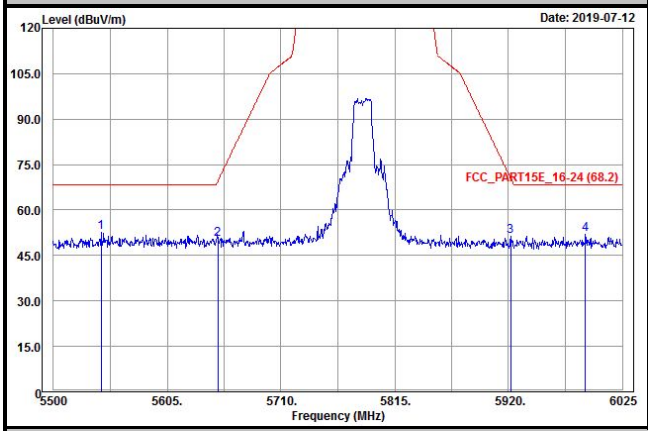


Vertical

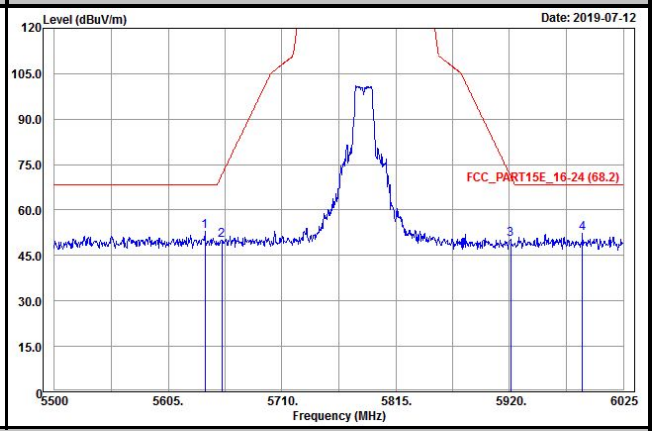


Ch 157

Horizontal

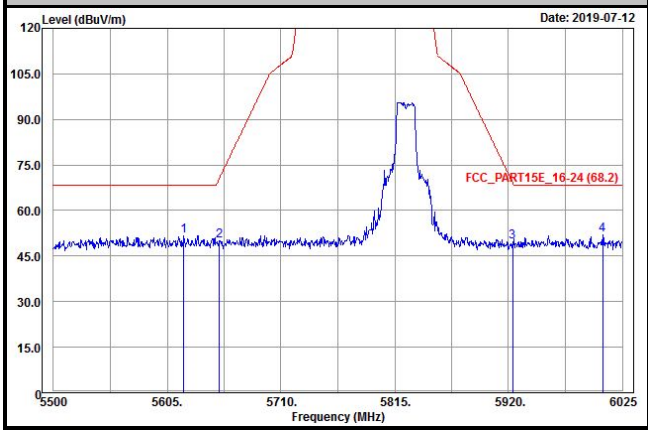


Vertical

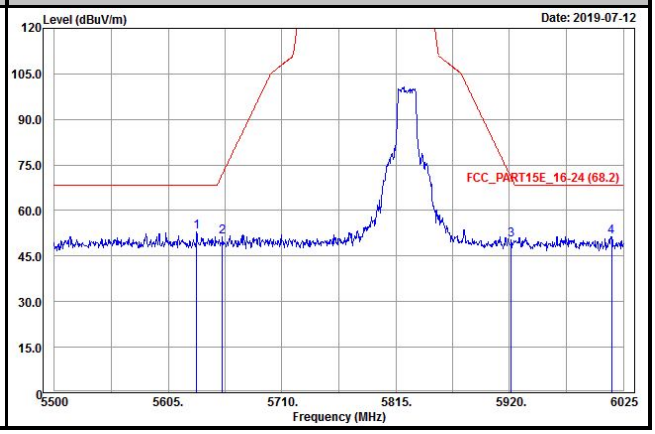


Ch 165

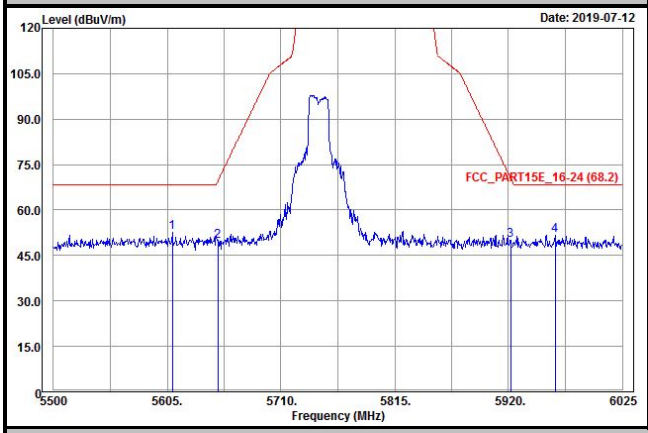
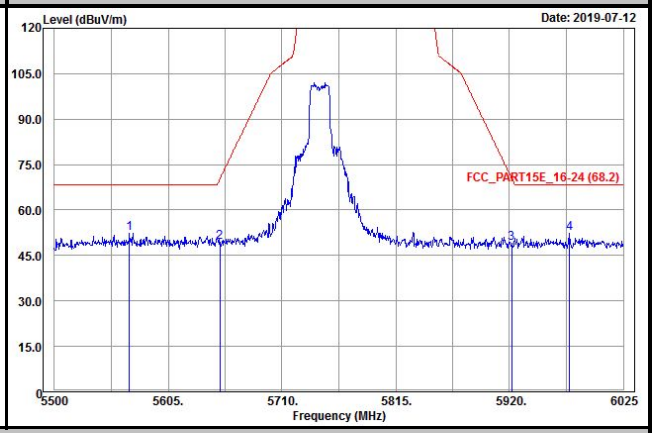
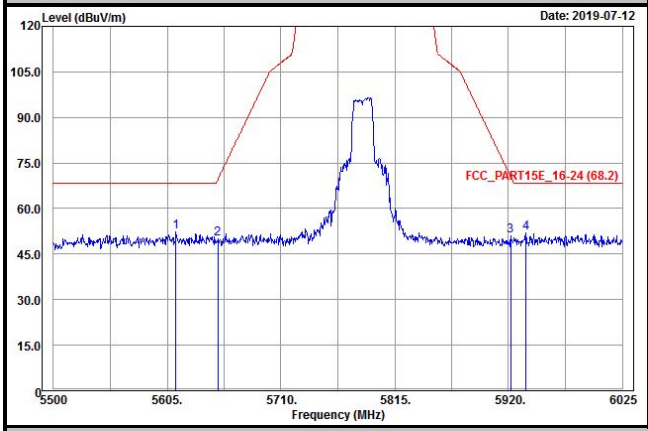
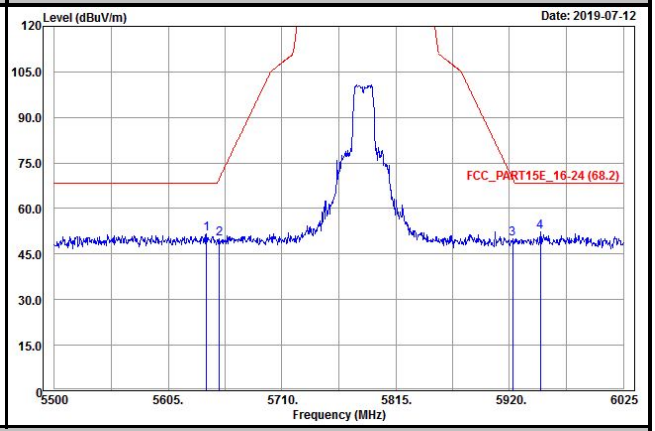
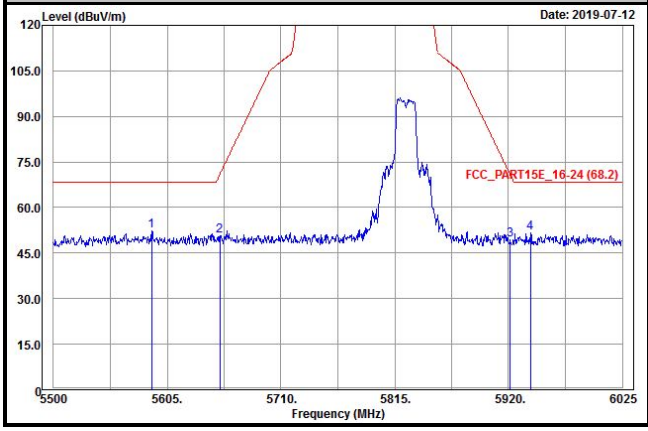
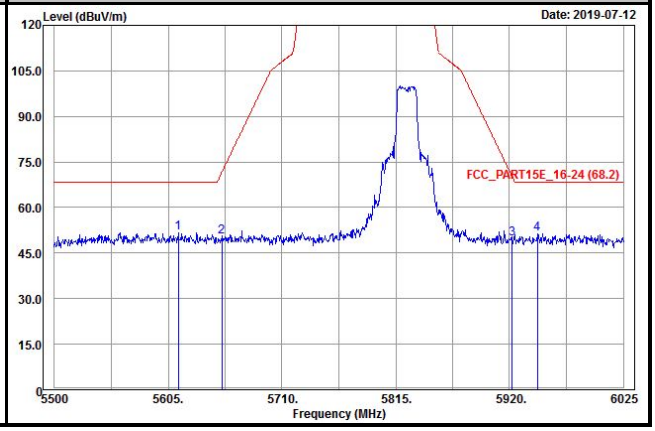
Horizontal



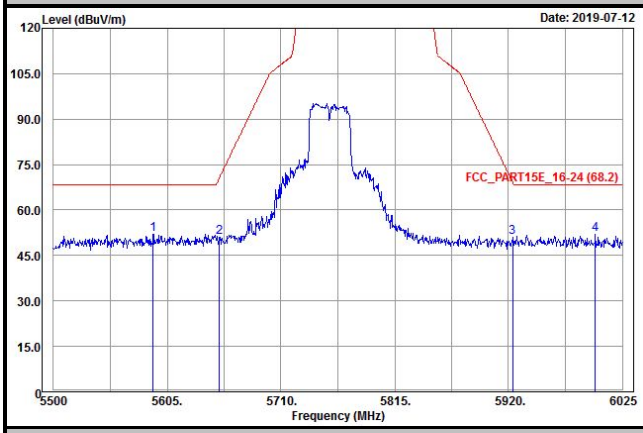
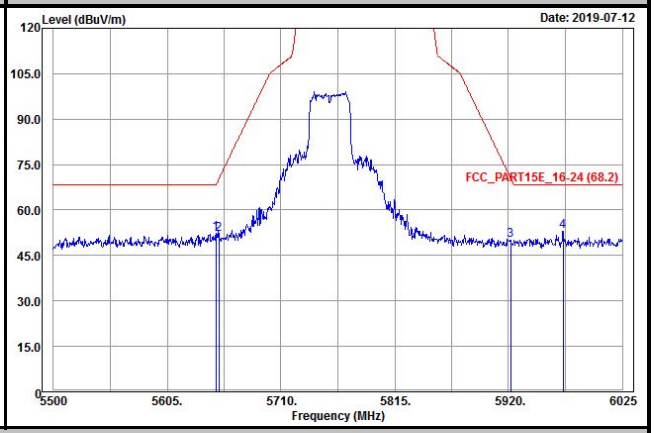
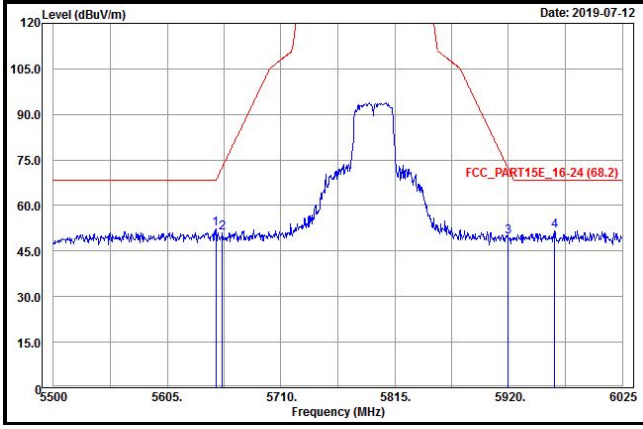
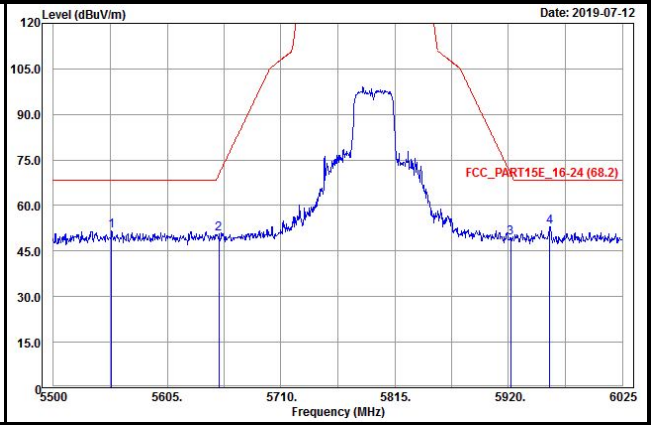
Vertical



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.

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

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

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