FCC Test Report

Report No.:	RF180709C05B-4
FCC ID:	S9E-121600
Test Model:	121600
Received Date:	Jul. 09, 2018
Test Date:	Jul. 21, 2018 ~ Aug. 09, 2018
Issued Date:	Aug. 28, 2018
Applicant:	Trimble Navigation Limited
Address:	345 SW Avery Ave Corvallis, Oregon, United States, 97333
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C)
Test Location (1):	No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.
FCC Registration / Designation Number:	788550 / TW0003

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
RF180709C05B-4	Original Release	Aug. 28, 2018

1 Certificate of Conformity

Product:	Handheld PC
Brand:	Trimble
Test Model:	121600
Sample Status:	Engineering Sample
Applicant:	Trimble Navigation Limited
Test Date:	Jul. 21, 2018 ~ Aug. 09, 2018
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:** Aug. 28, 2018

Ivonne Wu / Supervisor

Approved by : _____ , **Date:** Aug. 28, 2018

Dylan Chiou / Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	**Test Item**	**Result**	**Remarks**
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -14.57 dB at 0.56837 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 -0.38 dB at 5142.5 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	Antenna connector is I-pex not a standard connector.

*For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOBE test plots were recorded in Annex A.

2.1 Measurement Uncertainty

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

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

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Handheld PC
Brand	Trimble
Test Model	121600
Status of EUT	Engineering Sample
Power Supply Rating	19 Vdc (Adapter) 7.27 Vdc (Battery)
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0 Mbps 802.11n: up to 300 Mbps 802.11ac: up to 866.7 Mbps
Operating Frequency	5180 ~ 5240 MHz, 5260 ~ 5320 MHz, 5500 ~ 5720 MHz, 5745 ~ 5825 MHz
Number of Channel	5180 ~ 5240 MHz: 4 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 1 for 802.11ac (VHT80) 5260 ~ 5320 MHz: 4 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 1 for 802.11ac (VHT80) 5500 ~ 5720 MHz: 12 for 802.11a, 802.11n (HT20) 6 for 802.11n (HT40) 3 for 802.11ac (VHT80) 5745 ~ 5825 MHz: 5 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 1 for 802.11ac (VHT80)
Output Power	62.038 mW for 5180 ~ 5240 MHz 147.518 mW for 5260 ~ 5320 MHz 156.258 mW for 5500 ~ 5720 MHz 150.650 mW for 5745 ~ 5825 MHz
Antenna Type	PIFA antenna with 2.82 dBi gain (Main) PCB antenna with 1.33 dBi gain (Aux.)
Antenna Connector	I-pex
Accessory Device	Refer to Note as below
Data Cable Supplied	Refer to Note as below

Note:

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

Modulation Mode	Tx Function
802.11a	1TX
802.11n (HT20)	2TX
802.11n (HT40)	2TX
802.11ac (VHT20)	2TX
802.11ac (VHT40)	2TX
802.11ac (VHT80)	2TX

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

2. The EUT contains following accessory devices.

Product	Brand	Model	Description
Adapter	DELTA Electronics, INC.	ADP-90MD H	I/P: 100-240 Vac, 50-60 Hz, 1.5 A O/P: 19 Vdc, 4.74 A 1.75m shielded cable with 1 core
Battery	Trimble	121300	7.27 Vdc, 3150 mAh, 22.9Wh
WWAN Module	AirPrime	EM7455	--
BT/WLAN Module	AzureWave	AW-CB260NF	--

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

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
42	5210

For 5260 ~ 5320 MHz

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

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

2 channels are provided for 802.11n (HT40):

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

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
58	5290

For 5500 ~ 5720 MHz

12 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	144	5720

6 channels are provided for 802.11n (HT40):

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

3 channels are provided for 802.11ac (VHT80):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
106	5530	138	5690
122	5610		

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

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
155	5775

3.2.1 Test Mode Applicability and Tested Channel Detail

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

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

Note:

1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-plane** for 1TX / 2TX 5180-5240MHz & 5500-5720MHz & 5745-5825MHz, and **X-plane** for 2TX 5260-5320MHz.
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
-		802.11ac (VHT80)	42	42	OFDM	BPSK	29.3
-	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
-		802.11ac (VHT80)	58	58	OFDM	BPSK	29.3
-	5500-5720	802.11a	100 to 144	100, 116, 140, 144	OFDM	BPSK	6.0
-		802.11n (HT20)	100 to 144	100, 116, 140, 144	OFDM	BPSK	6.5
-		802.11n (HT40)	102 to 142	102, 110, 134, 142	OFDM	BPSK	13.5
-		802.11ac (VHT80)	106 to 138	106, 122, 138	OFDM	BPSK	29.3
-	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
-		802.11ac (VHT80)	155	155	OFDM	BPSK	29.3

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	802.11ac (VHT80)	42	42	OFDM	BPSK	29.3

Power Line Conducted Emission Test:

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

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

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5180-5240	802.11ac (VHT80)	42	42	OFDM	BPSK	29.3

Antenna Port Conducted Measurement:

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

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

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

EUT Configure Mode	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
-		802.11ac (VHT80)	42	42	OFDM	BPSK	29.3
-	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
-		802.11ac (VHT80)	58	58	OFDM	BPSK	29.3
-	5500-5720	802.11a	100 to 144	100, 116, 140, 144	OFDM	BPSK	6.0
-		802.11n (HT20)	100 to 144	100, 116, 140, 144	OFDM	BPSK	6.5
-		802.11n (HT40)	102 to 142	102, 110, 134, 142	OFDM	BPSK	13.5
-		802.11ac (VHT80)	106 to 138	106, 122, 138	OFDM	BPSK	29.3
-	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
-		802.11ac (VHT80)	155	155	OFDM	BPSK	29.3

Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested by
RE≥1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Thomas Wei
RE<1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Thomas Wei
PLC	25 deg. C, 65 % RH	120 Vac, 60 Hz	Jisyong Wang
APCM	25 deg. C, 65 % RH	7.27 Vdc	Vincent Huang

3.3 Duty Cycle of Test Signal

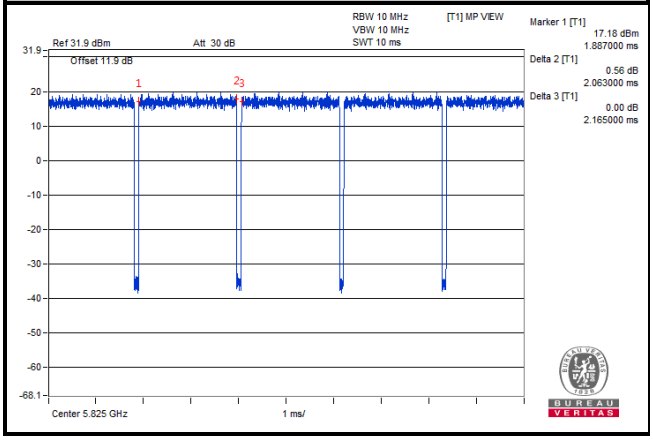
MODULATION TYPE: BPSK

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

<SISO>

802.11a: Duty cycle = 2.063/2.165 = 0.953, Duty factor = 10 * log(1/0.953) = 0.21

802.11a



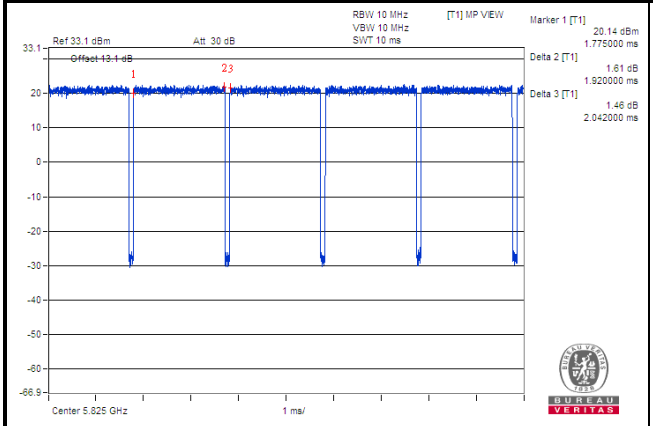
<MIMO>

802.11n (HT20): Duty cycle = 1.92/2.042 = 0.94, Duty factor = 10 * log(1/0.94) = 0.27

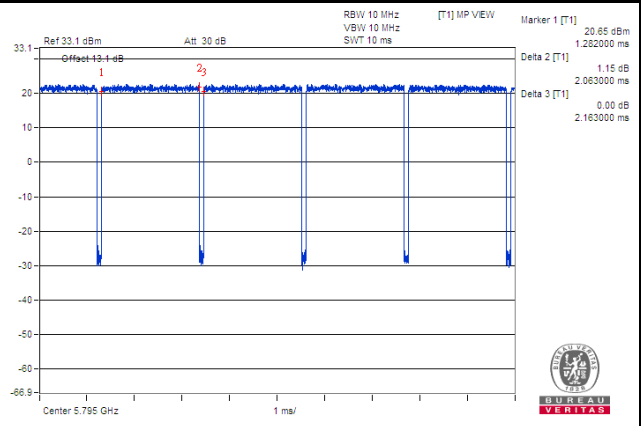
802.11n (HT40): Duty cycle = 2.063/2.163 = 0.954, Duty factor = 10 * log(1/0.954) = 0.20

802.11ac (VHT80): Duty cycle = 0.455/0.553 = 0.823, Duty factor = 10 * log(1/0.823) = 0.85

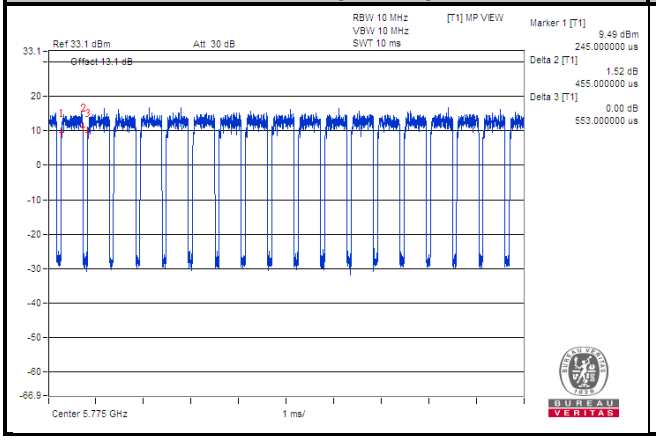
802.11n (HT20)



802.11n (HT40)



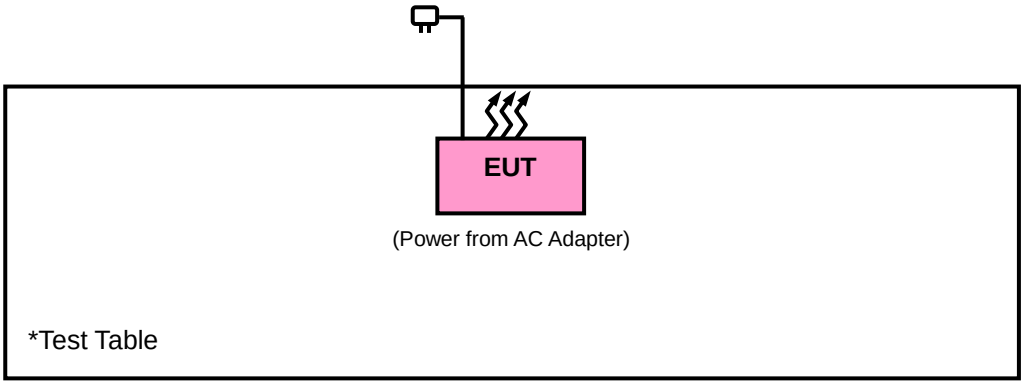
802.11ac (VHT80)



3.4 Description of Support Units

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

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
KDB 662911 D01 Multiple Transmitter Output 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. Other emissions shall be at least 20 dB below the highest level of the desired power:

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

Note:

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

4.1.2 Limits of Unwanted Emission Out of the Restricted Bands

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

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

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

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

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

Note:

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

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

4.1.3 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent	N9038A	MY51210203	Mar. 16, 2018	Mar. 15, 2019
Spectrum Analyzer Agilent	N9010A	MY52220314	Nov. 24, 2017	Nov. 23, 2018
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Jan. 11, 2018	Jan. 10, 2019
Broadband Horn Antenna SCHWARZBECK	BBHA 9170	148	Nov. 13, 2017	Nov. 12, 2018
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-969	Nov. 12, 2017	Nov. 11, 2018
BILOG Antenna SCHWARZBECK	VULB 9168	9168-472	Dec. 06, 2017	Dec. 05, 2018
Loop Antenna	EM-6879	269	Aug. 11, 2017	Aug. 10, 2018
Preamplifier EMCI	EMC001340	980201	Nov. 01, 2017	Oct. 30, 2018
Preamplifier EMCI	EMC 012645	980115	Oct. 20, 2017	Oct. 19, 2018
Preamplifier EMCI	EMC 184045	980116	Oct. 20, 2017	Oct. 19, 2018
Preamplifier EMCI	EMC 330H	980112	Oct. 13, 2017	Oct. 12, 2018
Power Meter Anritsu	ML2495A	1012010	Aug. 15, 2017	Aug. 14, 2018
Power Sensor Anritsu	MA2411B	1315050	Aug. 15, 2017	Aug. 14, 2018
RF Coaxial Cable HUBER+SUHNNER	EMC104-SM-SM-8000&3000	140811+170717	Oct. 20, 2017	Oct. 19, 2018
RF Coaxial Cable HUBER+SUHNNER	SUCOFLEX 104	EMC104-SM-SM-1000(140807)	Oct. 20, 2017	Oct. 19, 2018
RF Coaxial Cable Worken	8D-FB	Cable-Ch10-01	Oct. 20, 2017	Oct. 19, 2018
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Software BV ADT	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower &Turn Table Controller MF	MF-7802	NA	NA	NA
Temperature & Humidity Chamber	GTH-120-40-CP-AR	MAA1306-019	Sep. 08, 2017	Sep. 07, 2018
DC Power Supply Topward	33010D	807748	Oct. 25, 2016	Oct. 24, 2018
Digital Multimeter Fluke	87-III	70360742	Jun. 29, 2018	Jun. 28, 2019

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. The test was performed in HwaYa Chamber 10.

3. The horn antenna and preamplifier (model: EMC 184045) are used only for the measurement of emission frequency above 1 GHz if tested.

4. The IC Site Registration No. is IC7450F-10.

4.1.4 Test Procedures

For Radiated Emission below 30 MHz

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. 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:

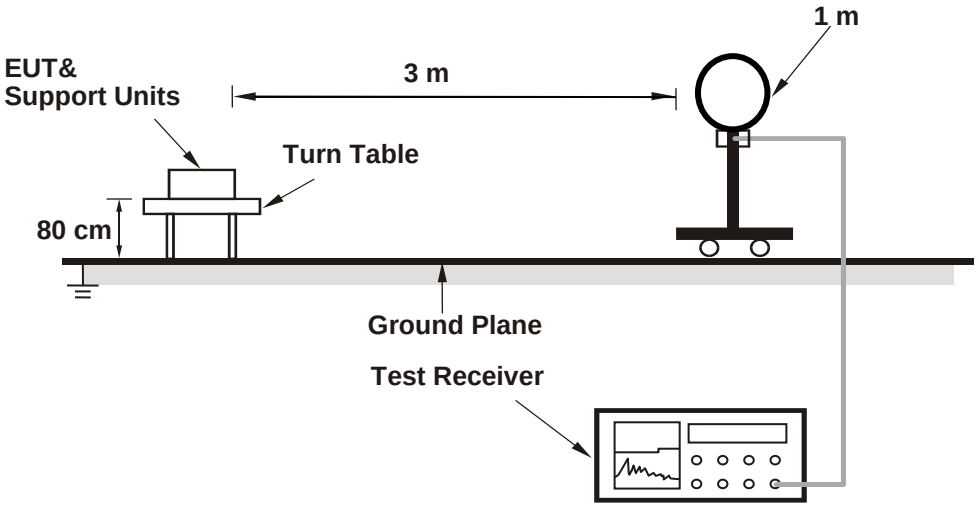
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
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 = 1 kHz ; 11ac (VHT80): 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

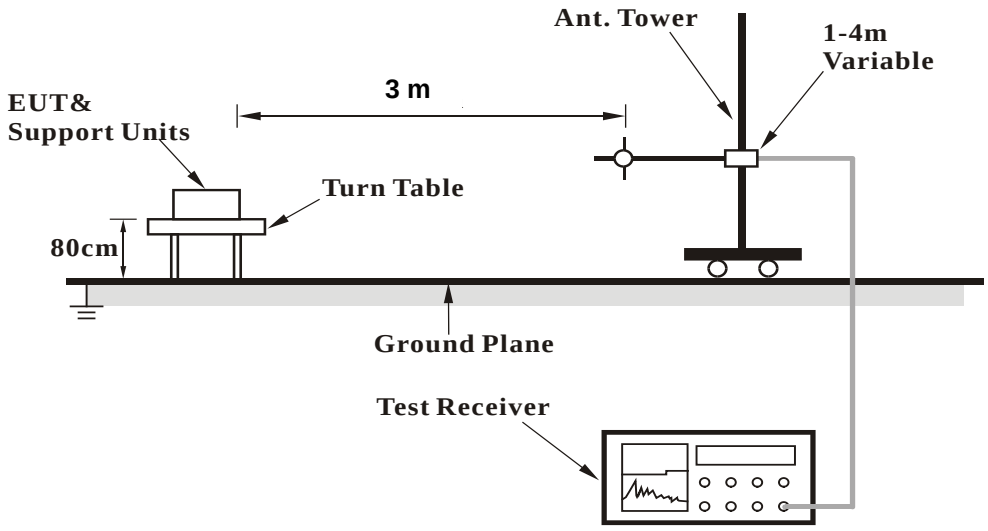
No deviation.

4.1.6 Test Setup

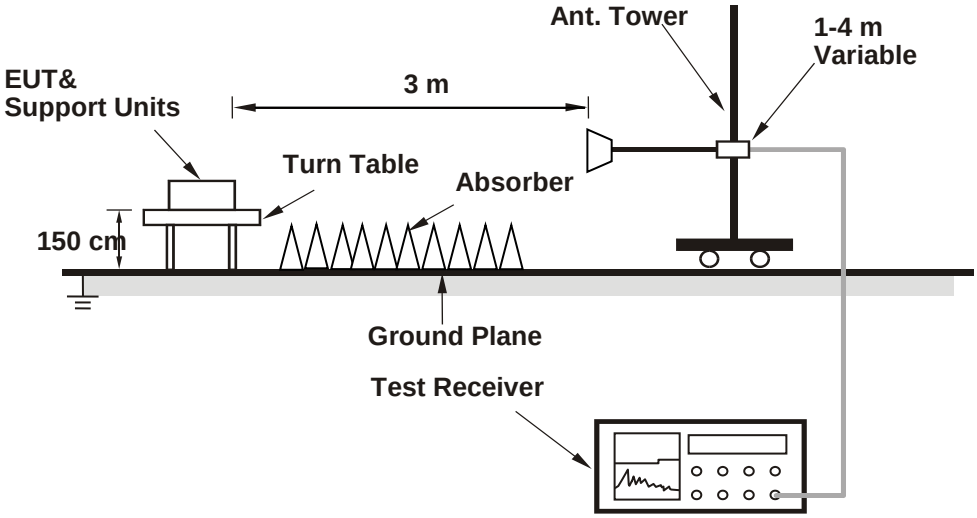
<Radiated Emission below 30 MHz>



<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：

<SISO>

802.11a

PIFA Antenna

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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5149.94	41.83	41.25	54	-12.17	31.56	6.34	37.32	164	127	Average
5149.94	53.59	53.01	74	-20.41	31.56	6.34	37.32	164	127	Peak
5180	94.81	94.19			31.59	6.37	37.34	164	127	Average
5180	103.73	103.11			31.59	6.37	37.34	164	127	Peak
*10360	52.98	55.74	68.2	-15.22	39.48	10.21	52.45	122	329	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5149.94	44.77	44.19	54	-9.23	31.56	6.34	37.32	166	61	Average
5149.94	55.87	55.29	74	-18.13	31.56	6.34	37.32	166	61	Peak
5180	98.16	97.54			31.59	6.37	37.34	166	61	Average
5180	107.45	106.83			31.59	6.37	37.34	166	61	Peak
*10360	53.75	56.51	68.2	-14.45	39.48	10.21	52.45	137	120	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5149.76	39.66	39.08	54	-14.34	31.56	6.34	37.32	172	148	Average
5149.76	52.44	51.86	74	-21.56	31.56	6.34	37.32	172	148	Peak
5200	93.6	92.97			31.6	6.39	37.36	172	148	Average
5200	102.59	101.96			31.6	6.39	37.36	172	148	Peak
5442.73	39	37.87	54	-15	31.76	6.5	37.13	172	148	Average
5442.73	51.42	50.29	74	-22.58	31.76	6.5	37.13	172	148	Peak
*10400	53.85	56.59	68.2	-14.35	39.51	10.2	52.45	141	209	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5149.58	41.29	40.71	54	-12.71	31.56	6.34	37.32	179	52	Average
5149.58	53.07	52.49	74	-20.93	31.56	6.34	37.32	179	52	Peak
5200	98.39	97.76			31.6	6.39	37.36	179	52	Average
5200	107.33	106.7			31.6	6.39	37.36	179	52	Peak
5401.81	39.15	38.12	54	-14.85	31.74	6.47	37.18	179	52	Average
5401.81	51.52	50.49	74	-22.48	31.74	6.47	37.18	179	52	Peak
*10400	55.47	58.21	68.2	-12.73	39.51	10.2	52.45	155	167	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5141.12	39.3	38.71	54	-14.7	31.56	6.33	37.3	175	127	Average
5141.12	50.7	50.11	74	-23.3	31.56	6.33	37.3	175	127	Peak
5240	94.77	94.05			31.62	6.42	37.32	175	127	Average
5240	103.47	102.75			31.62	6.42	37.32	175	127	Peak
5459.23	39.17	37.97	54	-14.83	31.77	6.51	37.08	175	127	Average
5459.23	51.84	50.64	74	-22.16	31.77	6.51	37.08	175	127	Peak
*10480	54.15	56.99	68.2	-14.05	39.6	10.22	52.66	155	89	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5149.58	40.07	39.49	54	-13.93	31.56	6.34	37.32	179	51	Average
5149.58	51.54	50.96	74	-22.46	31.56	6.34	37.32	179	51	Peak
5240	98.68	97.96			31.62	6.42	37.32	179	51	Average
5240	107.61	106.89			31.62	6.42	37.32	179	51	Peak
5447.02	39.27	38.13	54	-14.73	31.77	6.5	37.13	179	51	Average
5447.02	51.05	49.91	74	-22.95	31.77	6.5	37.13	179	51	Peak
*10480	54.86	57.7	68.2	-13.34	39.6	10.22	52.66	127	184	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5145.8	39.01	38.43	54	-14.99	31.56	6.34	37.32	184	104	Average
5145.8	51.04	50.46	74	-22.96	31.56	6.34	37.32	184	104	Peak
5260	96.63	95.82			31.65	6.43	37.27	184	104	Average
5260	105.48	104.67			31.65	6.43	37.27	184	104	Peak
5414.46	39.12	38.07	54	-14.88	31.75	6.48	37.18	184	104	Average
5414.46	51.56	50.51	74	-22.44	31.75	6.48	37.18	184	104	Peak
*10520	54.05	56.85	68.2	-14.15	39.66	10.27	52.73	132	149	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5132.12	39.26	38.69	54	-14.74	31.55	6.32	37.3	201	42	Average
5132.12	51.63	51.06	74	-22.37	31.55	6.32	37.3	201	42	Peak
5260	101.59	100.78			31.65	6.43	37.27	201	42	Average
5260	111	110.19			31.65	6.43	37.27	201	42	Peak
5446.14	39.18	38.04	54	-14.82	31.77	6.5	37.13	201	42	Average
5446.14	51.69	50.55	74	-22.31	31.77	6.5	37.13	201	42	Peak
*10520	54.87	57.67	68.2	-13.33	39.66	10.27	52.73	156	258	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5131.04	38.86	38.29	54	-15.14	31.55	6.32	37.3	182	104	Average
5131.04	51.12	50.55	74	-22.88	31.55	6.32	37.3	182	104	Peak
5300	94.91	93.97			31.67	6.46	37.19	182	104	Average
5300	103.23	102.29			31.67	6.46	37.19	182	104	Peak
5427.22	38.96	37.85	54	-15.04	31.75	6.49	37.13	182	104	Average
5427.22	51.67	50.56	74	-22.33	31.75	6.49	37.13	182	104	Peak
10600	44.47	47.3	54	-9.53	39.85	10.43	53.11	118	167	Average
10600	56.55	59.38	74	-17.45	39.85	10.43	53.11	118	167	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5130.32	39.3	38.73	54	-14.7	31.55	6.32	37.3	183	42	Average
5130.32	51.58	51.01	74	-22.42	31.55	6.32	37.3	183	42	Peak
5300	102.04	101.1			31.67	6.46	37.19	183	42	Average
5300	110.45	109.51			31.67	6.46	37.19	183	42	Peak
5350.77	40.4	39.41	54	-13.6	31.7	6.47	37.18	183	42	Average
5350.77	52.39	51.4	74	-21.61	31.7	6.47	37.18	183	42	Peak
10600	44.75	47.58	54	-9.25	39.85	10.43	53.11	137	206	Average
10600	55.38	58.21	74	-18.62	39.85	10.43	53.11	137	206	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5320	90.74	89.79			31.68	6.46	37.19	189	119	Average
5320	100.74	99.79			31.68	6.46	37.19	189	119	Peak
5352.09	40.28	39.29	54	-13.72	31.7	6.47	37.18	189	119	Average
5352.09	51.78	50.79	74	-22.22	31.7	6.47	37.18	189	119	Peak
10640	44.43	47.21	54	-9.57	39.93	10.36	53.07	161	219	Average
10640	55.03	57.81	74	-18.97	39.93	10.36	53.07	161	219	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5320	97.22	96.27			31.68	6.46	37.19	188	40	Average
5320	107.23	106.28			31.68	6.46	37.19	188	40	Peak
5350	43.26	42.27	54	-10.74	31.7	6.47	37.18	188	40	Average
5350	54.04	53.05	74	-19.96	31.7	6.47	37.18	188	40	Peak
10640	44.33	47.11	54	-9.67	39.93	10.36	53.07	126	79	Average
10640	54.61	57.39	74	-19.39	39.93	10.36	53.07	126	79	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5458.96	40.96	39.76	54	-13.04	31.77	6.51	37.08	177	115	Average
5458.96	52.65	51.45	74	-21.35	31.77	6.51	37.08	177	115	Peak
*5470	56.16	54.93	68.2	-12.04	31.79	6.52	37.08	177	115	Peak
5500	94.55	93.23			31.81	6.54	37.03	177	115	Average
5500	104.62	103.3			31.81	6.54	37.03	177	115	Peak
*5725	51.48	49.97	68.2	-16.72	32.18	6.76	37.43	177	115	Peak
11000	45.59	47.49	54	-8.41	40.73	10.4	53.03	151	209	Average
11000	55.39	57.29	74	-18.61	40.73	10.4	53.03	151	209	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5459.6	41.83	40.63	54	-12.17	31.77	6.51	37.08	149	66	Average
5459.6	53.41	52.21	74	-20.59	31.77	6.51	37.08	149	66	Peak
*5470	57.1	55.87	68.2	-11.1	31.79	6.52	37.08	149	66	Peak
5500	97.07	95.75			31.81	6.54	37.03	149	66	Average
5500	106.47	105.15			31.81	6.54	37.03	149	66	Peak
*5725	50.66	49.15	68.2	-17.54	32.18	6.76	37.43	149	66	Peak
11000	44.98	46.88	54	-9.02	40.73	10.4	53.03	162	329	Average
11000	55.75	57.65	74	-18.25	40.73	10.4	53.03	162	329	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5390.48	39.3	38.28	54	-14.7	31.73	6.47	37.18	172	99	Average
5390.48	51.6	50.58	74	-22.4	31.73	6.47	37.18	172	99	Peak
*5470	50.51	49.28	68.2	-17.69	31.79	6.52	37.08	172	99	Peak
5580	99.18	97.77			31.92	6.65	37.16	172	99	Average
5580	109.25	107.84			31.92	6.65	37.16	172	99	Peak
*5725	51.46	49.95	68.2	-16.74	32.18	6.76	37.43	172	99	Peak
11160	44.9	46.6	54	-9.1	40.56	10.52	52.78	126	233	Average
11160	54.11	55.81	74	-19.89	40.56	10.52	52.78	126	233	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5426.48	39.54	38.43	54	-14.46	31.75	6.49	37.13	138	55	Average
5426.48	51.84	50.73	74	-22.16	31.75	6.49	37.13	138	55	Peak
*5470	50.85	49.62	68.2	-17.35	31.79	6.52	37.08	138	55	Peak
5580	99.83	98.42			31.92	6.65	37.16	138	55	Average
5580	109.86	108.45			31.92	6.65	37.16	138	55	Peak
*5725	51.13	49.62	68.2	-17.07	32.18	6.76	37.43	138	55	Peak
11160	45.53	47.23	54	-8.47	40.56	10.52	52.78	141	298	Average
11160	55.59	57.29	74	-18.41	40.56	10.52	52.78	141	298	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5448.8	39.1	37.96	54	-14.9	31.77	6.5	37.13	180	101	Average
5448.88	51.37	50.23	74	-22.63	31.77	6.5	37.13	180	101	Peak
*5470	51.01	49.78	68.2	-17.19	31.79	6.52	37.08	180	101	Peak
5700	97.63	96.18			32.12	6.73	37.4	180	101	Average
5700	107.61	106.16			32.12	6.73	37.4	180	101	Peak
*5725	57.71	56.2	68.2	-10.49	32.18	6.76	37.43	180	101	Peak
11400	44.69	46.59	54	-9.31	40.33	10.47	52.7	128	221	Average
11400	56.83	58.73	74	-17.17	40.33	10.47	52.7	128	221	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5364.56	39.54	38.53	54	-14.46	31.72	6.47	37.18	154	32	Average
5364.56	51.45	50.44	74	-22.55	31.72	6.47	37.18	154	32	Peak
*5470	50.76	49.53	68.2	-17.44	31.79	6.52	37.08	154	32	Peak
5700	97.36	95.91			32.12	6.73	37.4	154	32	Average
5700	107.37	105.92			32.12	6.73	37.4	154	32	Peak
*5725	57.31	55.8	68.2	-10.89	32.18	6.76	37.43	154	32	Peak
11400	45.14	47.04	54	-8.86	40.33	10.47	52.7	166	51	Average
11400	57.48	59.38	74	-16.52	40.33	10.47	52.7	166	51	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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 144	**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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5400	40.76	39.73	54	-13.24	31.74	6.47	37.18	194	209	Average
5400	52.49	51.46	74	-21.51	31.74	6.47	37.18	194	209	Peak
*5470	49.99	48.76	68.2	-18.21	31.79	6.52	37.08	194	209	Peak
5720	95.86	94.36			32.18	6.75	37.43	194	209	Average
5720	104.89	103.39			32.18	6.75	37.43	194	209	Peak
11440	46.98	48.86	54	-7.02	40.3	10.55	52.73	105	10	Average
11440	55.9	57.78	74	-18.1	40.3	10.55	52.73	105	10	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5450	38.69	37.49	54	-15.31	31.77	6.51	37.08	203	9	Average
5450	50.47	49.34	74	-23.53	31.76	6.5	37.13	203	9	Peak
*5470	51.04	49.82	68.2	-17.16	31.79	6.51	37.08	203	9	Peak
5720	95.54	94.04			32.18	6.75	37.43	203	9	Average
5720	104.53	103.03			32.18	6.75	37.43	203	9	Peak
11440	46.09	47.97	54	-7.91	40.3	10.55	52.73	184	117	Average
11440	55.91	57.79	74	-18.09	40.3	10.55	52.73	184	117	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5720 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**	Thomas Wei

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5745	94.51	92.99			32.21	6.78	37.47	190	123	Average
5745	104.59	103.07			32.21	6.78	37.47	190	123	Peak
11490	45.01	46.88	54	-8.99	40.25	10.66	52.78	171	221	Average
11490	56.01	57.88	74	-17.99	40.25	10.66	52.78	171	221	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5745	96.84	95.32			32.21	6.78	37.47	150	49	Average
5745	106.8	105.28			32.21	6.78	37.47	150	49	Peak
11490	44.61	46.48	54	-9.39	40.25	10.66	52.78	152	233	Average
11490	55.75	57.62	74	-18.25	40.25	10.66	52.78	152	233	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5581.35	51.74	50.33	68.2	-16.46	31.92	6.65	37.16	190	123	Peak
5656.4	51.11	49.68	72.95	-21.84	32.06	6.71	37.34	190	123	Peak
5915.275	50.97	49.12	75.37	-24.4	32.49	6.86	37.5	190	123	Peak
*6002.2	52.85	50.84	68.2	-15.35	32.63	6.89	37.51	190	123	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5589.9	51.74	50.28	68.2	-16.46	31.95	6.67	37.16	150	49	Peak
5660.2	51.22	49.79	75.77	-24.55	32.06	6.71	37.34	150	49	Peak
5915.75	51.02	49.17	75.02	-24	32.49	6.86	37.5	150	49	Peak
*5949	52.54	50.62	68.2	-15.66	32.55	6.87	37.5	150	49	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5785	96.94	95.4			32.26	6.82	37.54	183	111	Average
5785	107.03	105.49			32.26	6.82	37.54	183	111	Peak
11570	44.44	46.56	54	-9.56	40.13	10.76	53.01	135	281	Average
11570	53.84	55.96	74	-20.16	40.13	10.76	53.01	135	281	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5785	96.94	95.4			32.26	6.82	37.54	172	29	Average
5785	106.98	105.44			32.26	6.82	37.54	172	29	Peak
11570	44.65	46.77	54	-9.35	40.13	10.76	53.01	183	73	Average
11570	55.82	57.94	74	-18.18	40.13	10.76	53.01	183	73	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5616.975	52.08	50.6	68.2	-16.12	32.01	6.69	37.22	183	111	Peak
5659.725	50.93	49.5	75.42	-24.49	32.06	6.71	37.34	183	111	Peak
5922.875	51.12	49.24	69.77	-18.65	32.52	6.86	37.5	183	111	Peak
*5938.55	52.87	50.95	68.2	-15.33	32.55	6.87	37.5	183	111	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5640.25	52.56	51.1	68.2	-15.64	32.04	6.7	37.28	172	29	Peak
5660.2	50.39	48.96	75.77	-25.38	32.06	6.71	37.34	172	29	Peak
5920.975	52.01	50.16	71.17	-19.16	32.49	6.86	37.5	172	29	Peak
*5932.375	52.35	50.47	68.2	-15.85	32.52	6.86	37.5	172	29	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5825	98.04	96.38			32.35	6.84	37.53	176	109	Average
5825	108.16	106.5			32.35	6.84	37.53	176	109	Peak
11650	44.48	46.79	54	-9.52	40.03	10.8	53.14	162	238	Average
11650	53.82	56.13	74	-20.18	40.03	10.8	53.14	162	238	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5825	96.71	95.05			32.35	6.84	37.53	146	48	Average
5825	106.87	105.21			32.35	6.84	37.53	146	48	Peak
11650	44.72	47.03	54	-9.28	40.03	10.8	53.14	120	339	Average
11650	54.23	56.54	74	-19.77	40.03	10.8	53.14	120	339	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5563.775	51.68	50.28	68.2	-16.52	31.89	6.63	37.12	176	109	Peak
5659.25	50.03	48.6	75.07	-25.04	32.06	6.71	37.34	176	109	Peak
5915.75	51.6	49.75	75.02	-23.42	32.49	6.86	37.5	176	109	Peak
*5972.275	51.77	49.83	68.2	-16.43	32.57	6.88	37.51	176	109	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5625.05	51.83	50.35	68.2	-16.37	32.01	6.69	37.22	146	48	Peak
5654.5	50.77	49.34	71.54	-20.77	32.06	6.71	37.34	146	48	Peak
5918.125	50.94	49.09	73.27	-22.33	32.49	6.86	37.5	146	48	Peak
*5968.95	52.87	50.93	68.2	-15.33	32.57	6.88	37.51	146	48	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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

PCB Antenna

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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5149.58	40.3	39.72	54	-13.7	31.56	6.34	37.32	174	183	Average
5149.58	51.87	51.29	74	-22.13	31.56	6.34	37.32	174	183	Peak
5180	93.31	92.69			31.59	6.37	37.34	174	183	Average
5180	101.93	101.31			31.59	6.37	37.34	174	183	Peak
*10360	52.08	54.84	68.2	-16.12	39.48	10.21	52.45	155	211	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5149.94	43.69	43.11	54	-10.31	31.56	6.34	37.32	149	137	Average
5149.94	53.97	53.39	74	-20.03	31.56	6.34	37.32	149	137	Peak
5180	96.83	96.21			31.59	6.37	37.34	149	137	Average
5180	106.6	105.98			31.59	6.37	37.34	149	137	Peak
*10360	54.05	56.81	68.2	-14.15	39.48	10.21	52.45	118	259	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5149.92	39.44	38.86	54	-14.56	31.56	6.34	37.32	142	211	Average
5149.92	52.19	51.61	74	-21.81	31.56	6.34	37.32	142	211	Peak
5200	92.41	91.78			31.6	6.39	37.36	142	211	Average
5200	100.92	100.29			31.6	6.39	37.36	142	211	Peak
5352.28	38.75	37.62	54	-15.25	31.76	6.5	37.13	142	211	Average
5352.28	51.26	50.13	74	-22.74	31.76	6.5	37.13	142	211	Peak
*10400	53.32	56.06	68.2	-14.88	39.51	10.2	52.45	124	153	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5148.77	41.49	40.91	54	-12.51	31.56	6.34	37.32	195	103	Average
5148.77	53.57	52.99	74	-20.43	31.56	6.34	37.32	195	103	Peak
5200	96.94	96.31			31.6	6.39	37.36	195	103	Average
5200	106.44	105.81			31.6	6.39	37.36	195	103	Peak
5389.22	38.83	37.8	54	-15.17	31.74	6.47	37.18	195	103	Average
5389.22	50.8	49.77	74	-23.2	31.74	6.47	37.18	195	103	Peak
*10400	54.71	57.45	68.2	-13.49	39.51	10.2	52.45	182	49	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5148.57	39.05	38.46	54	-14.95	31.56	6.33	37.3	160	147	Average
5148.57	50.04	49.45	74	-23.96	31.56	6.33	37.3	160	147	Peak
5240	93.51	92.79			31.62	6.42	37.32	160	147	Average
5240	101.72	101			31.62	6.42	37.32	160	147	Peak
5371.12	38.9	37.7	54	-15.1	31.77	6.51	37.08	160	147	Average
5371.12	51.07	49.87	74	-22.93	31.77	6.51	37.08	160	147	Peak
*10480	53.62	56.46	68.2	-14.58	39.6	10.22	52.66	127	301	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5147.61	39.47	38.89	54	-14.53	31.56	6.34	37.32	158	183	Average
5147.61	50.34	49.76	74	-23.66	31.56	6.34	37.32	158	183	Peak
5240	97.53	96.81			31.62	6.42	37.32	158	183	Average
5240	106.05	105.33			31.62	6.42	37.32	158	183	Peak
5381	38.71	37.57	54	-15.29	31.77	6.5	37.13	158	183	Average
5381	50.86	49.72	74	-23.14	31.77	6.5	37.13	158	183	Peak
*10480	53.55	56.39	68.2	-14.65	39.6	10.22	52.66	119	239	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5148.33	38.6	38.02	54	-15.4	31.56	6.34	37.32	161	199	Average
5148.33	50.74	50.15	74	-23.26	31.57	6.34	37.32	161	199	Peak
5260	95.53	94.72			31.65	6.43	37.27	161	199	Average
5260	104.51	103.7			31.65	6.43	37.27	161	199	Peak
5352.19	38.71	37.66	54	-15.29	31.75	6.48	37.18	161	199	Average
5352.19	50.69	49.64	74	-23.31	31.75	6.48	37.18	161	199	Peak
*10520	53.19	55.99	68.2	-15.01	39.66	10.27	52.73	154	216	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5144.79	38.85	38.28	54	-15.15	31.55	6.32	37.3	181	82	Average
5144.79	50.86	50.29	74	-23.14	31.55	6.32	37.3	181	82	Peak
5260	100.19	99.38			31.65	6.43	37.27	181	82	Average
5260	110.1	109.29			31.65	6.43	37.27	181	82	Peak
5401.23	38.98	37.84	54	-15.02	31.77	6.5	37.13	181	82	Average
5401.23	50.85	49.71	74	-23.15	31.77	6.5	37.13	181	82	Peak
*10520	54.16	56.96	68.2	-14.04	39.66	10.27	52.73	136	334	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5147.56	38.3	37.73	54	-15.7	31.55	6.32	37.3	164	181	Average
5147.56	50.51	49.94	74	-23.49	31.55	6.32	37.3	164	181	Peak
5300	93.78	92.84			31.67	6.46	37.19	164	181	Average
5300	102.13	101.19			31.67	6.46	37.19	164	181	Peak
5368.77	38.46	37.35	54	-15.54	31.75	6.49	37.13	164	181	Average
5368.77	50.73	49.62	74	-23.27	31.75	6.49	37.13	164	181	Peak
10600	43.65	46.48	54	-10.35	39.85	10.43	53.11	147	34	Average
10600	55.65	58.48	74	-18.35	39.85	10.43	53.11	147	34	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5126.88	38.8	38.23	54	-15.2	31.55	6.32	37.3	183	157	Average
5126.88	50.84	50.27	74	-23.16	31.55	6.32	37.3	183	157	Peak
5300	100.87	99.93			31.67	6.46	37.19	183	157	Average
5300	108.71	107.77			31.67	6.46	37.19	183	157	Peak
5351.29	39.75	38.76	54	-14.25	31.7	6.47	37.18	183	157	Average
5351.29	51.62	50.63	74	-22.38	31.7	6.47	37.18	183	157	Peak
10600	43.15	45.98	54	-10.85	39.85	10.43	53.11	167	149	Average
10600	54.08	56.91	74	-19.92	39.85	10.43	53.11	167	149	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5320	88.94	87.99			31.68	6.46	37.19	214	192	Average
5320	99.17	98.22			31.68	6.46	37.19	214	192	Peak
5350.63	38.76	37.77	54	-15.24	31.7	6.47	37.18	214	192	Average
5350.63	50.21	49.22	74	-23.79	31.7	6.47	37.18	214	192	Peak
10640	43.53	46.31	54	-10.47	39.93	10.36	53.07	135	322	Average
10640	53.64	56.42	74	-20.36	39.93	10.36	53.07	135	322	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5320	95.92	94.97			31.68	6.46	37.19	175	122	Average
5320	105.73	104.78			31.68	6.46	37.19	175	122	Peak
5350.33	42.74	41.75	54	-11.26	31.7	6.47	37.18	175	122	Average
5350.33	52.64	51.65	74	-21.36	31.7	6.47	37.18	175	122	Peak
10640	43.03	45.81	54	-10.97	39.93	10.36	53.07	146	157	Average
10640	52.93	55.71	74	-21.07	39.93	10.36	53.07	146	157	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5459.32	39.36	38.16	54	-14.64	31.77	6.51	37.08	167	143	Average
5459.32	50.95	49.75	74	-23.05	31.77	6.51	37.08	167	143	Peak
*5470	54.83	53.6	68.2	-13.37	31.79	6.52	37.08	167	143	Peak
5500	93.28	91.96			31.81	6.54	37.03	167	143	Average
5500	102.93	101.61			31.81	6.54	37.03	167	143	Peak
*5725	50.61	49.1	68.2	-17.59	32.18	6.76	37.43	167	143	Peak
11000	45.29	47.19	54	-8.71	40.73	10.4	53.03	171	117	Average
11000	54.5	56.4	74	-19.5	40.73	10.4	53.03	171	117	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5459.63	40.17	38.97	54	-13.83	31.77	6.51	37.08	166	139	Average
5459.63	52.6	51.4	74	-21.4	31.77	6.51	37.08	166	139	Peak
*5470	55.7	54.47	68.2	-12.5	31.79	6.52	37.08	166	139	Peak
5500	95.87	94.55			31.81	6.54	37.03	166	139	Average
5500	105.75	104.43			31.81	6.54	37.03	166	139	Peak
*5725	48.96	47.45	68.2	-19.24	32.18	6.76	37.43	166	139	Peak
11000	43.68	45.58	54	-10.32	40.73	10.4	53.03	127	152	Average
11000	53.93	55.83	74	-20.07	40.73	10.4	53.03	127	152	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5429	38.92	37.9	54	-15.08	31.73	6.47	37.18	190	123	Average
5429	50.71	49.69	74	-23.29	31.73	6.47	37.18	190	123	Peak
*5470	49.91	48.68	68.2	-18.29	31.79	6.52	37.08	190	123	Peak
5580	97.85	96.44			31.92	6.65	37.16	190	123	Average
5580	108.05	106.64			31.92	6.65	37.16	190	123	Peak
*5725	51.06	49.55	68.2	-17.14	32.18	6.76	37.43	190	123	Peak
11160	44.1	45.8	54	-9.9	40.56	10.52	52.78	148	160	Average
11160	53.31	55.01	74	-20.69	40.56	10.52	52.78	148	160	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5432.24	39.5	38.39	54	-14.5	31.75	6.49	37.13	172	159	Average
5432.24	5.4	4.29	74	-68.6	31.75	6.49	37.13	172	159	Peak
*5470	49.37	48.14	68.2	-18.83	31.79	6.52	37.08	172	159	Peak
5580	98.73	97.32			31.92	6.65	37.16	172	159	Average
5580	108.69	107.28			31.92	6.65	37.16	172	159	Peak
*5725	50.32	48.81	68.2	-17.88	32.18	6.76	37.43	172	159	Peak
11160	45.03	46.73	54	-8.97	40.56	10.52	52.78	152	304	Average
11160	54.56	56.26	74	-19.44	40.56	10.52	52.78	152	304	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5455.27	38.05	36.91	54	-15.95	31.77	6.5	37.13	162	133	Average
5455.27	50.28	49.14	74	-23.72	31.77	6.5	37.13	162	133	Peak
*5470	50.04	48.81	68.2	-18.16	31.79	6.52	37.08	162	133	Peak
5700	95.28	93.83			32.12	6.73	37.4	162	133	Average
5700	105.91	104.46			32.12	6.73	37.4	162	133	Peak
*5725	55.91	54.4	68.2	-12.29	32.18	6.76	37.43	162	133	Peak
11400	43.42	45.32	54	-10.58	40.33	10.47	52.7	142	267	Average
11400	55.37	57.27	74	-18.63	40.33	10.47	52.7	142	267	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5416	37.82	36.81	54	-16.18	31.72	6.47	37.18	183	161	Average
5416	50.15	49.14	74	-23.85	31.72	6.47	37.18	183	161	Peak
*5470	49.08	47.85	68.2	-19.12	31.79	6.52	37.08	183	161	Peak
5700	96.03	94.58			32.12	6.73	37.4	183	161	Average
5700	106.17	104.72			32.12	6.73	37.4	183	161	Peak
*5725	56.21	54.7	68.2	-11.99	32.18	6.76	37.43	183	161	Peak
11400	44.74	46.64	54	-9.26	40.33	10.47	52.7	130	57	Average
11400	57.08	58.98	74	-16.92	40.33	10.47	52.7	130	57	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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 144	**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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5432.69	38.84	37.81	54	-15.16	31.74	6.47	37.18	183	264	Average
5432.69	51.09	50.06	74	-22.91	31.74	6.47	37.18	183	264	Peak
*5470	49.36	48.13	68.2	-18.84	31.79	6.52	37.08	183	264	Peak
5720	93.96	92.46			32.18	6.75	37.43	183	264	Average
5720	102.97	101.47			32.18	6.75	37.43	183	264	Peak
11440	45.17	47.05	54	-8.83	40.3	10.55	52.73	144	97	Average
11440	54.56	56.44	74	-19.44	40.3	10.55	52.73	144	97	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5455	37.09	35.89	54	-16.91	31.77	6.51	37.08	179	33	Average
5455	48.86	47.73	74	-25.14	31.76	6.5	37.13	179	33	Peak
*5470	51.68	50.46	68.2	-16.52	31.79	6.51	37.08	179	33	Peak
5720	92.59	91.09			32.18	6.75	37.43	179	33	Average
5720	101.82	100.32			32.18	6.75	37.43	179	33	Peak
11440	45.36	47.24	54	-8.64	40.3	10.55	52.73	160	327	Average
11440	54.41	56.29	74	-19.59	40.3	10.55	52.73	160	327	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5720 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**	Thomas Wei

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5745	92.91	91.39			32.21	6.78	37.47	205	177	Average
5745	102.92	101.4			32.21	6.78	37.47	205	177	Peak
11490	44.32	46.19	54	-9.68	40.25	10.66	52.78	162	183	Average
11490	55.2	57.07	74	-18.8	40.25	10.66	52.78	162	183	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5745	95.54	108.29			32.21	7.55	52.51	176	103	Average
5745	105.47	103.95			32.21	6.78	37.47	176	103	Peak
11490	43.32	45.19	54	-10.68	40.25	10.66	52.78	118	241	Average
11490	54.4	56.27	74	-19.6	40.25	10.66	52.78	118	241	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5581.35	51.74	50.33	68.2	-16.46	31.92	6.65	37.16	205	177	Peak
*5644.05	50.43	48.97	68.2	-17.77	32.04	6.7	37.28	205	177	Peak
*5933.8	50.83	48.95	68.2	-17.37	32.52	6.86	37.5	205	177	Peak
*6008.85	51.17	49.12	68.2	-17.03	32.67	6.89	37.51	205	177	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5594.175	51.44	49.98	68.2	-16.76	31.95	6.67	37.16	176	103	Peak
*5645	50.77	49.31	68.2	-17.43	32.04	6.7	37.28	176	103	Peak
*5949	52.54	50.62	68.2	-15.66	32.55	6.87	37.5	176	103	Peak
*6006.95	51.66	49.61	68.2	-16.54	32.67	6.89	37.51	176	103	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5785	94.99	93.45			32.26	6.82	37.54	154	163	Average
5785	105.13	103.59			32.26	6.82	37.54	154	163	Peak
11570	44.07	46.19	54	-9.93	40.13	10.76	53.01	155	49	Average
11570	51.99	54.11	74	-22.01	40.13	10.76	53.01	155	49	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5785	95.64	94.1			32.26	6.82	37.54	199	124	Average
5785	105.71	104.17			32.26	6.82	37.54	199	124	Peak
11570	43.95	46.07	54	-10.05	40.13	10.76	53.01	203	117	Average
11570	54.22	56.34	74	-19.78	40.13	10.76	53.01	203	117	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5554.275	51.66	50.27	68.2	-16.54	31.89	6.62	37.12	154	163	Peak
*5616.975	52.08	50.6	68.2	-16.12	32.01	6.69	37.22	154	163	Peak
*5938.55	52.87	50.95	68.2	-15.33	32.55	6.87	37.5	154	163	Peak
*6011.225	51.76	49.7	68.2	-16.44	32.67	6.89	37.5	154	163	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5559.975	51.31	49.92	68.2	-16.89	31.89	6.62	37.12	199	124	Peak
*5640.25	52.56	51.1	68.2	-15.64	32.04	6.7	37.28	199	124	Peak
*5950.9	51.66	49.74	68.2	-16.54	32.55	6.87	37.5	199	124	Peak
*6004.575	51.55	49.54	68.2	-16.65	32.63	6.89	37.51	199	124	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5825	96.52	94.86			32.35	6.84	37.53	169	137	Average
5825	105.46	103.8			32.35	6.84	37.53	169	137	Peak
11650	44.48	46.79	54	-9.52	40.03	10.8	53.14	128	112	Average
11650	51.93	54.24	74	-22.07	40.03	10.8	53.14	128	112	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5825	95.41	93.75			32.35	6.84	37.53	180	78	Average
5825	105.37	103.71			32.35	6.84	37.53	180	78	Peak
11650	44.22	46.53	54	-9.78	40.03	10.8	53.14	185	201	Average
11650	53.53	55.84	74	-20.47	40.03	10.8	53.14	185	201	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5575.65	52.95	51.5	68.2	-15.25	31.92	6.65	37.12	169	137	Peak
5671.125	50.8	49.33	83.87	-33.07	32.09	6.72	37.34	169	137	Peak
5915.75	51.6	49.75	75.02	-23.42	32.49	6.86	37.5	169	137	Peak
*5992.7	52.49	50.48	68.2	-15.71	32.63	6.89	37.51	169	137	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5590.85	51.47	50.01	68.2	-16.73	31.95	6.67	37.16	180	78	Peak
5656.4	49.7	48.27	72.95	-23.25	32.06	6.71	37.34	180	78	Peak
5923.35	50.09	48.21	69.42	-19.33	32.52	6.86	37.5	180	78	Peak
*5990.8	53.07	51.06	68.2	-15.13	32.63	6.89	37.51	180	78	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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

<MIMO>

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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5149.76	42.36	41.78	54	-11.64	31.56	6.34	37.32	100	21	Average
5149.76	54.24	53.66	74	-19.76	31.56	6.34	37.32	100	21	Peak
5180	95.21	94.59			31.59	6.37	37.34	100	21	Average
5180	105.71	105.09			31.59	6.37	37.34	100	21	Peak
*10360	53.09	55.85	68.2	-15.11	39.48	10.21	52.45	187	54	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5149.58	44.61	44.03	54	-9.39	31.56	6.34	37.32	181	58	Average
5149.58	57.72	57.14	74	-16.28	31.56	6.34	37.32	181	58	Peak
5180	98.36	97.74			31.59	6.37	37.34	181	58	Average
5180	108.9	108.28			31.59	6.37	37.34	181	58	Peak
*10360	53.85	56.61	68.2	-14.35	39.48	10.21	52.45	123	55	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5149.76	40.04	39.46	54	-13.96	31.56	6.34	37.32	108	21	Average
5149.76	51.31	50.73	74	-22.69	31.56	6.34	37.32	108	21	Peak
5200	94.54	93.91			31.6	6.39	37.36	108	21	Average
5200	104.44	103.81			31.6	6.39	37.36	108	21	Peak
5443.17	38.84	37.71	54	-15.16	31.76	6.5	37.13	108	21	Average
5443.17	51	49.87	74	-23	31.76	6.5	37.13	108	21	Peak
*10400	55.08	57.82	68.2	-13.12	39.51	10.2	52.45	166	222	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5149.58	41.12	40.54	54	-12.88	31.56	6.34	37.32	188	62	Average
5149.58	52.04	51.46	74	-21.96	31.56	6.34	37.32	188	62	Peak
5200	97.66	97.03			31.6	6.39	37.36	188	62	Average
5200	107.99	107.36			31.6	6.39	37.36	188	62	Peak
5452.08	39.13	37.93	54	-14.87	31.77	6.51	37.08	188	62	Average
5452.08	51.46	50.26	74	-22.54	31.77	6.51	37.08	188	62	Peak
*10400	54.44	57.18	68.2	-13.76	39.51	10.2	52.45	113	259	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5144.54	38.81	38.24	54	-15.19	31.56	6.33	37.32	100	181	Average
5144.54	51.47	50.9	74	-22.53	31.56	6.33	37.32	100	181	Peak
5240	93.7	92.98			31.62	6.42	37.32	100	181	Average
5240	104.11	103.39			31.62	6.42	37.32	100	181	Peak
5440.09	38.78	37.65	54	-15.22	31.76	6.5	37.13	100	181	Average
5440.09	51.35	50.22	74	-22.65	31.76	6.5	37.13	100	181	Peak
*10480	53.73	56.57	68.2	-14.47	39.6	10.22	52.66	136	224	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5142.38	39.92	39.33	54	-14.08	31.56	6.33	37.3	178	60	Average
5142.38	51.99	51.4	74	-22.01	31.56	6.33	37.3	178	60	Peak
5240	98.1	97.38			31.62	6.42	37.32	178	60	Average
5240	107.96	107.24			31.62	6.42	37.32	178	60	Peak
5417.87	39.16	38.11	54	-14.84	31.75	6.48	37.18	178	60	Average
5417.87	51.64	50.59	74	-22.36	31.75	6.48	37.18	178	60	Peak
*10480	54.08	56.92	68.2	-14.12	39.6	10.22	52.66	171	266	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5142.2	39.44	38.85	54	-14.56	31.56	6.33	37.3	133	123	Average
5142.2	51.17	50.58	74	-22.83	31.56	6.33	37.3	133	123	Peak
5260	100.59	99.78			31.65	6.43	37.27	133	123	Average
5260	110.2	109.39			31.65	6.43	37.27	133	123	Peak
5415.01	39.36	38.31	54	-14.64	31.75	6.48	37.18	133	123	Average
5415.01	51.91	50.86	74	-22.09	31.75	6.48	37.18	133	123	Peak
*10520	56.34	59.14	68.2	-11.86	39.66	10.27	52.73	195	256	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5144.36	39.23	38.66	54	-14.77	31.56	6.33	37.32	135	165	Average
5144.36	51.69	51.12	74	-22.31	31.56	6.33	37.32	135	165	Peak
5260	99.7	98.89			31.65	6.43	37.27	135	165	Average
5260	109.12	108.31			31.65	6.43	37.27	135	165	Peak
5425.35	39.08	37.97	54	-14.92	31.75	6.49	37.13	135	165	Average
5425.35	51	49.89	74	-23	31.75	6.49	37.13	135	165	Peak
*10520	56.34	59.14	68.2	-11.86	39.66	10.27	52.73	184	231	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5134.64	39.31	38.74	54	-14.69	31.55	6.32	37.3	148	122	Average
5134.64	51.2	50.63	74	-22.8	31.55	6.32	37.3	148	122	Peak
5300	99.01	98.07			31.67	6.46	37.19	148	122	Average
5300	108.21	107.27			31.67	6.46	37.19	148	122	Peak
5351.1	40.62	39.63	54	-13.38	31.7	6.47	37.18	148	122	Average
5351.1	53.11	52.12	74	-20.89	31.7	6.47	37.18	148	122	Peak
10600	47.51	50.34	54	-6.49	39.85	10.43	53.11	152	111	Average
10600	56.51	59.34	74	-17.49	39.85	10.43	53.11	152	111	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5134.82	38.92	38.35	54	-15.08	31.55	6.32	37.3	136	219	Average
5134.82	50.88	50.31	74	-23.12	31.55	6.32	37.3	136	219	Peak
5300	98.76	97.82			31.67	6.46	37.19	136	219	Average
5300	108.18	107.24			31.67	6.46	37.19	136	219	Peak
5351.1	39.15	38.16	54	-14.85	31.7	6.47	37.18	136	219	Average
5351.1	50.94	49.95	74	-23.06	31.7	6.47	37.18	136	219	Peak
10600	47.57	50.4	54	-6.43	39.85	10.43	53.11	251	152	Average
10600	56.6	59.43	74	-17.4	39.85	10.43	53.11	251	152	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5320	97.35	96.4			31.68	6.46	37.19	138	124	Average
5320	106.55	105.6			31.68	6.46	37.19	138	124	Peak
5350.88	43.48	42.49	54	-10.52	31.7	6.47	37.18	138	124	Average
5350.88	53.89	52.9	74	-20.11	31.7	6.47	37.18	138	124	Peak
10640	48.24	51.02	54	-5.76	39.93	10.36	53.07	195	256	Average
10640	57.43	60.21	74	-16.57	39.93	10.36	53.07	195	256	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5320	96.57	95.62			31.68	6.46	37.19	158	218	Average
5320	106.17	105.22			31.68	6.46	37.19	158	218	Peak
5350.11	40.91	39.92	54	-13.09	31.7	6.47	37.18	158	218	Average
5350.11	51.89	50.9	74	-22.11	31.7	6.47	37.18	158	218	Peak
10640	48.12	50.9	54	-5.88	39.93	10.36	53.07	195	285	Average
10640	57.12	59.9	74	-16.88	39.93	10.36	53.07	195	285	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5458.32	40.97	39.77	54	-13.03	31.77	6.51	37.08	166	71	Average
5458.32	52.56	51.36	74	-21.44	31.77	6.51	37.08	166	71	Peak
*5470	54.37	53.14	68.2	-13.83	31.79	6.52	37.08	166	71	Peak
5500	96.48	95.16			31.81	6.54	37.03	166	71	Average
5500	106.08	104.76			31.81	6.54	37.03	166	71	Peak
*5725	50.99	49.48	68.2	-17.21	32.18	6.76	37.43	166	71	Peak
11000	46.82	48.72	54	-7.18	40.73	10.4	53.03	152	111	Average
11000	56.83	58.73	74	-17.17	40.73	10.4	53.03	152	111	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5459.76	42.76	41.56	54	-11.24	31.77	6.51	37.08	173	56	Average
5459.76	54.19	52.99	74	-19.81	31.77	6.51	37.08	173	56	Peak
*5470	56.05	54.82	68.2	-12.15	31.79	6.52	37.08	173	56	Peak
5500	98.52	97.2			31.81	6.54	37.03	173	56	Average
5500	108.09	106.77			31.81	6.54	37.03	173	56	Peak
*5725	51.06	49.55	68.2	-17.14	32.18	6.76	37.43	173	56	Peak
11000	47.62	49.52	54	-6.38	40.73	10.4	53.03	152	231	Average
11000	57.2	59.1	74	-16.8	40.73	10.4	53.03	152	231	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5389.52	39.09	38.07	54	-14.91	31.73	6.47	37.18	171	79	Average
5389.52	51.43	50.41	74	-22.57	31.73	6.47	37.18	171	79	Peak
*5470	50.94	49.71	68.2	-17.26	31.79	6.52	37.08	171	79	Peak
5580	99.53	98.12			31.92	6.65	37.16	171	79	Average
5580	109.77	108.36			31.92	6.65	37.16	171	79	Peak
*5725	51.42	49.91	68.2	-16.78	32.18	6.76	37.43	171	79	Peak
11160	48.61	50.31	54	-5.39	40.56	10.52	52.78	152	214	Average
11160	58.69	60.39	74	-15.31	40.56	10.52	52.78	152	214	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5459.92	39.27	38.07	54	-14.73	31.77	6.51	37.08	148	37	Average
5459.92	52.35	51.15	74	-21.65	31.77	6.51	37.08	148	37	Peak
*5470	50.58	49.38	68.2	-17.62	31.77	6.51	37.08	148	37	Peak
5580	100.47	99.06			31.92	6.65	37.16	148	37	Average
5580	110.73	109.32			31.92	6.65	37.16	148	37	Peak
*5725	50.75	49.24	68.2	-17.45	32.18	6.76	37.43	148	37	Peak
11160	47.29	48.99	54	-6.71	40.56	10.52	52.78	185	265	Average
11160	57.23	58.93	74	-16.77	40.56	10.52	52.78	185	265	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5424.88	38.83	37.72	54	-15.17	31.75	6.49	37.13	100	22	Average
5424.88	51.04	49.93	74	-22.96	31.75	6.49	37.13	100	22	Peak
*5470	50.14	48.91	68.2	-18.06	31.79	6.52	37.08	100	22	Peak
5700	95.25	93.8			32.12	6.73	37.4	100	22	Average
5700	105.11	103.66			32.12	6.73	37.4	100	22	Peak
*5725	53.65	52.14	68.2	-14.55	32.18	6.76	37.43	100	22	Peak
11400	48	49.9	54	-6	40.33	10.47	52.7	152	285	Average
11400	58.03	59.93	74	-15.97	40.33	10.47	52.7	152	285	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5452.24	39.56	38.36	54	-14.44	31.77	6.51	37.08	170	65	Average
5452.24	51.63	50.43	74	-22.37	31.77	6.51	37.08	170	65	Peak
*5470	50.6	49.37	68.2	-17.6	31.79	6.52	37.08	170	65	Peak
5700	97.73	96.28			32.12	6.73	37.4	170	65	Average
5700	108.29	106.84			32.12	6.73	37.4	170	65	Peak
*5725	56.7	55.19	68.2	-11.5	32.18	6.76	37.43	170	65	Peak
11400	48.04	49.94	54	-5.96	40.33	10.47	52.7	165	285	Average
11400	58.05	59.95	74	-15.95	40.33	10.47	52.7	165	285	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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 144	**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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5396	41.26	40.23	54	-12.74	31.74	6.47	37.18	200	291	Average
5396	52.37	51.34	74	-21.63	31.74	6.47	37.18	200	291	Peak
*5470	49.88	48.65	68.2	-18.32	31.79	6.52	37.08	200	291	Peak
5720	99.04	97.54			32.18	6.75	37.43	200	291	Average
5720	108.65	107.15			32.18	6.75	37.43	200	291	Peak
11440	47.26	49.14	54	-6.74	40.3	10.55	52.73	100	251	Average
11440	56.49	58.37	74	-17.51	40.3	10.55	52.73	100	251	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5400	44.49	43.46	54	-9.51	31.74	6.47	37.18	200	91	Average
5400	55.8	54.77	74	-18.2	31.74	6.47	37.18	200	91	Peak
*5470	51.4	50.17	68.2	-16.8	31.79	6.52	37.08	200	91	Peak
5720	101.54	100.04			32.18	6.75	37.43	200	91	Average
5720	111.23	109.73			32.18	6.75	37.43	200	91	Peak
11440	46.5	48.38	54	-7.5	40.3	10.55	52.73	117	85	Average
11440	55.27	57.15	74	-18.73	40.3	10.55	52.73	117	85	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5720 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**	Thomas Wei

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5745	97.31	95.79			32.21	6.78	37.47	180	89	Average
5745	107.31	105.79			32.21	6.78	37.47	180	89	Peak
11490	48.34	50.21	54	-5.66	40.25	10.66	52.78	152	111	Average
11490	57.57	59.44	74	-16.43	40.25	10.66	52.78	152	111	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5745	97.04	95.52			32.21	6.78	37.47	253	63	Average
5745	107.04	105.52			32.21	6.78	37.47	253	63	Peak
11490	48.66	50.53	54	-5.34	40.25	10.66	52.78	152	111	Average
11490	57.67	59.54	74	-16.33	40.25	10.66	52.78	152	111	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5621.725	52.59	51.11	68.2	-15.61	32.01	6.69	37.22	180	89	Peak
5655.45	51.08	49.65	72.25	-21.17	32.06	6.71	37.34	180	89	Peak
5918.125	52.72	50.87	73.27	-20.55	32.49	6.86	37.5	180	89	Peak
*5985.1	52.35	50.38	68.2	-15.85	32.6	6.88	37.51	180	89	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5604.15	52	50.56	68.2	-16.2	31.98	6.68	37.22	253	63	Peak
5655.45	52.23	50.8	72.25	-20.02	32.06	6.71	37.34	253	63	Peak
5916.225	51.08	49.23	74.67	-23.59	32.49	6.86	37.5	253	63	Peak
*5939.5	53.07	51.15	68.2	-15.13	32.55	6.87	37.5	253	63	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5785	96.72	95.18			32.26	6.82	37.54	189	52	Average
5785	106.12	104.58			32.26	6.82	37.54	189	52	Peak
11570	48.82	50.94	54	-5.18	40.13	10.76	53.01	152	111	Average
11570	57.82	59.94	74	-16.18	40.13	10.76	53.01	152	111	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5785	98.94	97.4			32.26	6.82	37.54	156	61	Average
5785	108.44	106.9			32.26	6.82	37.54	156	61	Peak
11570	48.58	50.7	54	-5.42	40.13	10.76	53.01	165	285	Average
11570	57.58	59.7	74	-16.42	40.13	10.76	53.01	165	285	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5645	52.17	50.71	68.2	-16.03	32.04	6.7	37.28	189	52	Peak
5659.725	50.85	49.42	75.42	-24.57	32.06	6.71	37.34	189	52	Peak
5918.125	51.06	49.21	73.27	-22.21	32.49	6.86	37.5	189	52	Peak
*5965.15	52.44	50.5	68.2	-15.76	32.57	6.88	37.51	189	52	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5574.7	52.52	51.08	68.2	-15.68	31.92	6.64	37.12	156	61	Peak
5660.2	51.2	49.77	75.77	-24.57	32.06	6.71	37.34	156	61	Peak
5921.925	51.42	49.54	70.47	-19.05	32.52	6.86	37.5	156	61	Peak
*5967.05	51.87	49.93	68.2	-16.33	32.57	6.88	37.51	156	61	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5825	98.99	97.33			32.35	6.84	37.53	179	98	Average
5825	109.07	107.41			32.35	6.84	37.53	179	98	Peak
11650	47.85	50.16	54	-6.15	40.03	10.8	53.14	265	252	Average
11650	56.85	59.16	74	-17.15	40.03	10.8	53.14	265	252	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5825	99.99	98.33			32.35	6.84	37.53	181	74	Average
5825	110.04	108.38			32.35	6.84	37.53	181	74	Peak
11650	47.67	49.98	54	-6.33	40.03	10.8	53.14	165	235	Average
11650	56.13	58.44	74	-17.87	40.03	10.8	53.14	165	235	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5609.375	52.17	50.73	68.2	-16.03	31.98	6.68	37.22	179	98	Peak
5654.975	50.81	49.38	71.9	-21.09	32.06	6.71	37.34	179	98	Peak
5921.45	52.76	50.91	70.82	-18.06	32.49	6.86	37.5	179	98	Peak
*5976.55	52.35	50.38	68.2	-15.85	32.6	6.88	37.51	179	98	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5632.175	51.41	49.98	68.2	-16.79	32.01	6.7	37.28	181	74	Peak
5654.975	52.22	50.79	71.9	-19.68	32.06	6.71	37.34	181	74	Peak
5918.6	51.29	49.44	72.92	-21.63	32.49	6.86	37.5	181	74	Peak
*5929.525	52.29	50.41	68.2	-15.91	32.52	6.86	37.5	181	74	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5149.94	48.27	47.69	54	-5.73	31.56	6.34	37.32	117	22	Average
5149.94	62.97	62.39	74	-11.03	31.56	6.34	37.32	117	22	Peak
5190	91.17	90.54			31.59	6.38	37.34	117	22	Average
5190	101.54	100.91			31.59	6.38	37.34	117	22	Peak
5418.97	38.86	37.81	54	-15.14	31.75	6.48	37.18	117	22	Average
5418.97	52.17	51.12	74	-21.83	31.75	6.48	37.18	117	22	Peak
*10380	53.49	56.23	68.2	-14.71	39.5	10.21	52.45	154	47	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5149.76	50.38	49.8	54	-3.62	31.56	6.34	37.32	179	66	Average
5149.76	69.33	68.75	74	-4.67	31.56	6.34	37.32	179	66	Peak
5190	94.29	93.66			31.59	6.38	37.34	179	66	Average
5190	104.95	104.32			31.59	6.38	37.34	179	66	Peak
5399.94	39.2	38.17	54	-14.8	31.74	6.47	37.18	179	66	Average
5399.94	56.39	55.36	74	-17.61	31.74	6.47	37.18	179	66	Peak
*10380	54.03	56.77	68.2	-14.17	39.5	10.21	52.45	109	113	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5149.94	38.93	38.35	54	-15.07	31.56	6.34	37.32	100	182	Average
5149.94	52.52	51.94	74	-21.48	31.56	6.34	37.32	100	182	Peak
5230	90.03	89.32			31.62	6.41	37.32	100	182	Average
5230	101.28	100.57			31.62	6.41	37.32	100	182	Peak
5415.01	38.91	37.86	54	-15.09	31.75	6.48	37.18	100	182	Average
5415.01	53.37	52.32	74	-20.63	31.75	6.48	37.18	100	182	Peak
*10460	53.57	56.37	68.2	-14.63	39.57	10.22	52.59	151	189	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5148.86	41.17	40.59	54	-12.83	31.56	6.34	37.32	178	60	Average
5148.86	59.36	58.78	74	-14.64	31.56	6.34	37.32	178	60	Peak
5230	94.03	93.32			31.62	6.41	37.32	178	60	Average
5230	104.14	103.43			31.62	6.41	37.32	178	60	Peak
5363.42	39.19	38.18	54	-14.81	31.72	6.47	37.18	178	60	Average
5363.42	56.66	55.65	74	-17.34	31.72	6.47	37.18	178	60	Peak
*10460	53.92	56.72	68.2	-14.28	39.57	10.22	52.59	136	43	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5131.4	39.67	39.1	54	-14.33	31.55	6.32	37.3	154	123	Average
5131.4	60.1	59.53	74	-13.9	31.55	6.32	37.3	154	123	Peak
5270	96.29	95.47			31.65	6.44	37.27	154	123	Average
5270	108.03	107.21			31.65	6.44	37.27	154	123	Peak
5351.21	40.99	40	54	-13.01	31.7	6.47	37.18	154	123	Average
5351.21	62.1	61.11	74	-11.9	31.7	6.47	37.18	154	123	Peak
*10540	55.47	58.32	68.2	-12.73	39.7	10.31	52.86	152	231	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5129.96	39.16	38.59	54	-14.84	31.55	6.32	37.3	144	164	Average
5129.96	57.75	57.18	74	-16.25	31.55	6.32	37.3	144	164	Peak
5270	95.97	95.15			31.65	6.44	37.27	144	164	Average
5270	106.47	105.65			31.65	6.44	37.27	144	164	Peak
5357.81	39.32	38.33	54	-14.68	31.7	6.47	37.18	144	164	Average
5357.81	57.2	56.21	74	-16.8	31.7	6.47	37.18	144	164	Peak
*10540	54.96	57.81	68.2	-13.24	39.7	10.31	52.86	165	258	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5135.18	39.43	38.85	54	-14.57	31.55	6.33	37.3	121	120	Average
5135.18	57.09	56.51	74	-16.91	31.55	6.33	37.3	121	120	Peak
5310	93.81	92.86			31.68	6.46	37.19	121	120	Average
5310	104.45	103.5			31.68	6.46	37.19	121	120	Peak
5350	50.15	49.16	54	-3.85	31.7	6.47	37.18	121	120	Average
5350	64.83	63.84	74	-9.17	31.7	6.47	37.18	121	120	Peak
10620	47.33	50.14	54	-6.67	39.89	10.39	53.09	152	231	Average
10620	56.34	59.15	74	-17.66	39.89	10.39	53.09	152	231	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5149.4	38.93	38.35	54	-15.07	31.56	6.34	37.32	100	137	Average
5149.4	50.77	50.19	74	-23.23	31.56	6.34	37.32	100	137	Peak
5310	89.95	89			31.68	6.46	37.19	100	137	Average
5310	100.56	99.61			31.68	6.46	37.19	100	137	Peak
5350.44	44.23	43.24	54	-9.77	31.7	6.47	37.18	100	137	Average
5350.44	60.24	59.25	74	-13.76	31.7	6.47	37.18	100	137	Peak
10620	47.79	50.6	54	-6.21	39.89	10.39	53.09	265	214	Average
10620	56.8	59.61	74	-17.2	39.89	10.39	53.09	265	214	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5459.76	46.36	45.16	54	-7.64	31.77	6.51	37.08	153	87	Average
5459.76	60.62	59.42	74	-13.38	31.77	6.51	37.08	153	87	Peak
*5470	63.71	62.48	68.2	-4.49	31.79	6.52	37.08	153	87	Peak
5510	94.18	92.88			31.81	6.55	37.06	153	87	Average
5510	104.64	103.34			31.81	6.55	37.06	153	87	Peak
*5725	57.79	56.28	68.2	-10.41	32.18	6.76	37.43	153	87	Peak
11020	47.48	49.31	54	-6.52	40.71	10.41	52.95	152	231	Average
11020	57.56	59.39	74	-16.44	40.71	10.41	52.95	152	231	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5459.6	47.4	46.2	54	-6.6	31.77	6.51	37.08	176	44	Average
5459.6	63.64	62.44	74	-10.36	31.77	6.51	37.08	176	44	Peak
*5470	65.7	64.47	68.2	-2.5	31.79	6.52	37.08	176	44	Peak
5510	94.56	93.26			31.81	6.55	37.06	176	44	Average
5510	105.11	103.81			31.81	6.55	37.06	176	44	Peak
*5725	54.12	52.61	68.2	-14.08	32.18	6.76	37.43	176	44	Peak
11020	47.16	48.99	54	-6.84	40.71	10.41	52.95	152	231	Average
11020	57.15	58.98	74	-16.85	40.71	10.41	52.95	152	231	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5454	41.52	40.32	54	-12.48	31.77	6.51	37.08	158	85	Average
5454	58.54	57.34	74	-15.46	31.77	6.51	37.08	158	85	Peak
*5470	59.85	58.62	68.2	-8.35	31.79	6.52	37.08	158	85	Peak
5550	96.56	95.15			31.89	6.61	37.09	158	85	Average
5550	107.58	106.17			31.89	6.61	37.09	158	85	Peak
*5725	57.37	55.86	68.2	-10.83	32.18	6.76	37.43	158	85	Peak
11100	47.29	48.9	54	-6.71	40.63	10.47	52.71	152	231	Average
11100	57.32	58.93	74	-16.68	40.63	10.47	52.71	152	231	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5454	41.83	40.63	54	-12.17	31.77	6.51	37.08	158	38	Average
5454	60.09	58.89	74	-13.91	31.77	6.51	37.08	158	38	Peak
*5470	60.52	59.29	68.2	-7.68	31.79	6.52	37.08	158	38	Peak
5550	96.81	95.4			31.89	6.61	37.09	158	38	Average
5550	106.8	105.39			31.89	6.61	37.09	158	38	Peak
*5725	52.56	51.05	68.2	-15.64	32.18	6.76	37.43	158	38	Peak
11100	47.29	48.9	54	-6.71	40.63	10.47	52.71	165	295	Average
11100	57.32	58.93	74	-16.68	40.63	10.47	52.71	165	295	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5446.96	39.06	37.92	54	-14.94	31.77	6.5	37.13	166	67	Average
5446.96	51.06	49.92	74	-22.94	31.77	6.5	37.13	166	67	Peak
*5470	51.15	49.92	68.2	-17.05	31.79	6.52	37.08	166	67	Peak
5670	94.36	92.89			32.09	6.72	37.34	166	67	Average
5670	106.18	104.71			32.09	6.72	37.34	166	67	Peak
*5725	64.54	63.03	68.2	-3.66	32.18	6.76	37.43	166	67	Peak
11340	47.73	49.53	54	-6.27	40.4	10.52	52.72	265	285	Average
11340	57.73	59.53	74	-16.27	40.4	10.52	52.72	265	285	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5399.92	39.2	38.17	54	-14.8	31.74	6.47	37.18	178	68	Average
5399.92	51.76	50.77	74	-22.24	31.7	6.47	37.18	178	68	Peak
*5470	51.04	49.84	68.2	-17.16	31.77	6.51	37.08	178	68	Peak
5670	96.45	94.98			32.09	6.72	37.34	178	68	Average
5670	108.61	107.14			32.09	6.72	37.34	178	68	Peak
*5725	65.54	64.03	68.2	-2.66	32.18	6.76	37.43	178	68	Peak
11340	47.02	48.82	54	-6.98	40.4	10.52	52.72	152	265	Average
11340	57.03	58.83	74	-16.97	40.4	10.52	52.72	152	265	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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 142	**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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5401	41.02	40	54	-12.98	31.73	6.47	37.18	207	168	Average
5401	51.72	50.69	74	-22.28	31.74	6.47	37.18	207	168	Peak
*5470	51.61	50.41	68.2	-22.39	31.77	6.51	37.08	207	168	Peak
5710	96.04	94.58			32.15	6.74	37.43	207	168	Average
5710	105.63	104.17			32.15	6.74	37.43	207	168	Peak
11420	46.79	48.7	54	-7.21	40.31	10.51	52.73	184	119	Average
11420	55.27	57.18	74	-18.73	40.31	10.51	52.73	184	119	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5391	42.99	41.96	54	-11.01	31.74	6.47	37.18	187	93	Average
5391	54.15	53.13	74	-19.85	31.73	6.47	37.18	187	93	Peak
*5470	51.93	50.71	68.2	-22.07	31.79	6.51	37.08	187	93	Peak
5710	98.43	96.97			32.15	6.74	37.43	187	93	Average
5710	107.37	105.91			32.15	6.74	37.43	187	93	Peak
11420	46.84	48.75	54	-7.16	40.31	10.51	52.73	154	38	Average
11420	55.34	57.25	74	-18.66	40.31	10.51	52.73	154	38	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5710 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**	Thomas Wei

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5755	91.82	90.27			32.23	6.79	37.47	187	105	Average
5755	101.84	100.29			32.23	6.79	37.47	187	105	Peak
11510	49.01	50.9	54	-4.99	40.23	10.69	52.81	152	111	Average
11510	59.01	60.9	74	-14.99	40.23	10.69	52.81	152	111	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5755	92.74	91.19			32.23	6.79	37.47	163	67	Average
5755	102.75	101.2			32.23	6.79	37.47	163	67	Peak
11510	48.12	50.01	54	-5.88	40.23	10.69	52.81	251	285	Average
11510	57.2	59.09	74	-16.8	40.23	10.69	52.81	251	285	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5629.8	54.84	53.42	68.2	-13.36	32.01	6.69	37.28	187	105	Peak
5654.025	53.93	52.5	71.19	-17.26	32.06	6.71	37.34	187	105	Peak
5920.5	51.18	49.33	71.52	-20.34	32.49	6.86	37.5	187	105	Peak
*5982.725	52.11	50.14	68.2	-16.09	32.6	6.88	37.51	187	105	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5638.825	55.5	54.04	68.2	-12.7	32.04	6.7	37.28	163	67	Peak
5652.6	52.96	51.47	70.13	-17.17	32.06	6.71	37.28	163	67	Peak
5922.4	50.97	49.09	70.12	-19.15	32.52	6.86	37.5	163	67	Peak
*6006.95	52.07	50.02	68.2	-16.13	32.67	6.89	37.51	163	67	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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**	Thomas Wei

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5795	96.71	95.13			32.29	6.83	37.54	180	101	Average
5795	106.72	105.14			32.29	6.83	37.54	180	101	Peak
11590	47.25	49.37	54	-6.75	40.11	10.78	53.01	251	125	Average
11590	56.26	58.38	74	-17.74	40.11	10.78	53.01	251	125	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5795	99.14	97.56			32.29	6.83	37.54	173	69	Average
5795	109.13	107.55			32.29	6.83	37.54	173	69	Peak
11590	46.97	49.09	54	-7.03	40.11	10.78	53.01	174	185	Average
11590	55.98	58.1	74	-18.02	40.11	10.78	53.01	174	185	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5576.125	51.94	50.49	68.2	-16.26	31.92	6.65	37.12	180	101	Peak
5656.4	50.64	49.21	72.95	-22.31	32.06	6.71	37.34	180	101	Peak
5916.225	52.05	50.2	74.67	-22.62	32.49	6.86	37.5	180	101	Peak
*5988.9	52.05	50.07	68.2	-16.15	32.6	6.89	37.51	180	101	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5598.45	51.53	50.06	68.2	-16.67	31.95	6.68	37.16	173	69	Peak
5658.775	52.64	51.21	74.72	-22.08	32.06	6.71	37.34	173	69	Peak
5917.175	52.49	50.64	73.97	-21.48	32.49	6.86	37.5	173	69	Peak
*5932.85	52.32	50.44	68.2	-15.88	32.52	6.86	37.5	173	69	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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

802.11ac (VHT80)

EUT Test Condition		Measurement Detail	
Channel	Channel 42	**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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5145.5	52.06	51.48	54	-1.94	31.56	6.34	37.32	100	19	Average
5145.5	61.66	61.08	74	-12.34	31.56	6.34	37.32	100	19	Peak
5210	89.67	89.02			31.61	6.4	37.36	100	19	Average
5210	98.47	97.82			31.61	6.4	37.36	100	19	Peak
5351.54	40.03	39.04	54	-13.97	31.7	6.47	37.18	100	19	Average
5351.54	51.58	50.59	74	-22.42	31.7	6.47	37.18	100	19	Peak
*10420	54.37	57.08	68.2	-13.83	39.53	10.21	52.45	152	203	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5142.5	53.62	53.03	54	-0.38	31.56	6.33	37.3	166	77	Average
5142.5	65.52	64.93	74	-8.48	31.56	6.33	37.3	166	77	Peak
5210	92.32	91.67			31.61	6.4	37.36	166	77	Average
5210	102.01	101.36			31.61	6.4	37.36	166	77	Peak
5350.22	41.35	40.36	54	-12.65	31.7	6.47	37.18	166	77	Average
5350.22	52.68	51.69	74	-21.32	31.7	6.47	37.18	166	77	Peak
*10420	53.97	56.68	68.2	-14.23	39.53	10.21	52.45	139	94	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5210 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 58	**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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5149.1	42.61	42.03	54	-11.39	31.56	6.34	37.32	145	116	Average
5149.1	53.52	52.94	74	-20.48	31.56	6.34	37.32	145	116	Peak
5290	90.57	89.69			31.66	6.45	37.23	145	116	Average
5290	100.29	99.41			31.66	6.45	37.23	145	116	Peak
5350	46.97	45.98	54	-7.03	31.7	6.47	37.18	145	116	Average
5350	57.61	56.62	74	-16.39	31.7	6.47	37.18	145	116	Peak
*10580	56.88	59.79	68.2	-11.32	39.81	10.39	53.11	152	111	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5146.7	40.92	40.34	54	-13.08	31.56	6.34	37.32	134	155	Average
5146.7	52.11	51.53	74	-21.89	31.56	6.34	37.32	134	155	Peak
5290	89.01	88.13			31.66	6.45	37.23	134	155	Average
5290	98.85	97.97			31.66	6.45	37.23	134	155	Peak
5375.96	43.27	42.26	54	-10.73	31.72	6.47	37.18	134	155	Average
5375.96	54.71	53.7	74	-19.29	31.72	6.47	37.18	134	155	Peak
*10580	56.43	59.34	68.2	-11.77	39.81	10.39	53.11	262	145	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5290 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 106	**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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5459.44	45.96	44.76	54	-8.04	31.77	6.51	37.08	162	92	Average
5459.44	56.65	55.45	74	-17.35	31.77	6.51	37.08	162	92	Peak
*5470	57.76	56.53	68.2	-10.44	31.79	6.52	37.08	162	92	Peak
5530	91.52	90.19			31.84	6.58	37.09	162	92	Average
5530	100.58	99.25			31.84	6.58	37.09	162	92	Peak
*5725	53.29	51.78	68.2	-14.91	32.18	6.76	37.43	162	92	Peak
11060	48.92	50.61	54	-5.08	40.66	10.44	52.79	152	111	Average
11060	56.92	58.61	74	-17.08	40.66	10.44	52.79	152	111	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5459.92	47.94	46.74	54	-6.06	31.77	6.51	37.08	189	63	Average
5459.92	59.1	57.9	74	-14.9	31.77	6.51	37.08	189	63	Peak
*5470	60.15	58.92	68.2	-8.05	31.79	6.52	37.08	189	63	Peak
5530	92.18	90.85			31.84	6.58	37.09	189	63	Average
5530	101.76	100.43			31.84	6.58	37.09	189	63	Peak
*5725	52.02	50.51	68.2	-16.18	32.18	6.76	37.43	189	63	Peak
11060	46.84	48.53	54	-7.16	40.66	10.44	52.79	152	111	Average
11060	56.86	58.55	74	-17.14	40.66	10.44	52.79	152	111	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5530 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 122	**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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5457.52	41.7	40.5	54	-12.3	31.77	6.51	37.08	148	82	Average
5457.52	53.62	52.42	74	-20.38	31.77	6.51	37.08	148	82	Peak
*5470	53.95	52.72	68.2	-14.25	31.79	6.52	37.08	148	82	Peak
5610	95.14	93.7			31.98	6.68	37.22	148	82	Average
5610	104.28	102.84			31.98	6.68	37.22	148	82	Peak
*5725	57.99	56.48	68.2	-10.21	32.18	6.76	37.43	148	82	Peak
11220	48.1	49.85	54	-5.9	40.51	10.55	52.81	152	214	Average
11220	58.1	59.85	74	-15.9	40.51	10.55	52.81	152	214	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5459.92	44.29	43.09	54	-9.71	31.77	6.51	37.08	176	66	Average
5459.92	55.84	54.64	74	-18.16	31.77	6.51	37.08	176	66	Peak
*5470	57.56	56.33	68.2	-10.64	31.79	6.52	37.08	176	66	Peak
5610	96.96	95.52			31.98	6.68	37.22	176	66	Average
5610	106.29	104.85			31.98	6.68	37.22	176	66	Peak
*5725	58.64	57.13	68.2	-9.56	32.18	6.76	37.43	176	66	Peak
11220	48.26	50.01	54	-5.74	40.51	10.55	52.81	132	251	Average
11220	58.32	60.07	74	-15.68	40.51	10.55	52.81	132	251	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5610 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 138	**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**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5455	39.97	38.77	54	-14.03	31.77	6.51	37.08	224	62	Average
5455	51.64	50.44	74	-22.36	31.77	6.51	37.08	224	62	Peak
*5470	50.82	49.59	68.2	-17.38	31.79	6.52	37.08	224	62	Peak
5690	91.5	90.06			32.12	6.72	37.4	224	62	Average
5690	103.35	101.91			32.12	6.72	37.4	224	62	Peak
11380	47.11	48.98	54	-6.89	40.35	10.49	52.71	159	158	Average
11380	56.12	57.99	74	-17.88	40.35	10.49	52.71	159	158	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5457	41.59	40.39	54	-12.41	31.77	6.51	37.08	194	99	Average
5457	53.12	51.92	74	-20.88	31.77	6.51	37.08	194	99	Peak
*5470	53.19	51.99	68.2	-15.01	31.77	6.51	37.08	194	99	Peak
5690	93.63	92.19			32.12	6.72	37.4	194	99	Average
5690	104.09	102.65			32.12	6.72	37.4	194	99	Peak
11380	46.48	48.35	54	-7.52	40.35	10.49	52.71	105	247	Average
11380	55.76	57.63	74	-18.24	40.35	10.49	52.71	105	247	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5690 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 155	**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**	Thomas Wei

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5775	89.48	87.91			32.26	6.81	37.5	165	90	Average
5775	99.49	97.92			32.26	6.81	37.5	165	90	Peak
11550	47.96	50	54	-6.04	40.16	10.74	52.94	152	111	Average
11550	56.79	58.83	74	-17.21	40.16	10.74	52.94	152	111	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
5775	90.23	88.66			32.26	6.81	37.5	167	66	Average
5775	100.24	98.67			32.26	6.81	37.5	167	66	Peak
11550	47.84	49.88	54	-6.16	40.16	10.74	52.94	165	252	Average
11550	56.33	58.37	74	-17.67	40.16	10.74	52.94	165	252	Peak

<Out of Band Emission (OOBE)>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5645.475	54.66	53.2	68.2	-13.54	32.04	6.7	37.28	165	90	Peak
5659.25	55.36	53.93	75.07	-19.71	32.06	6.71	37.34	165	90	Peak
5915.75	53.31	51.46	75.02	-21.71	32.49	6.86	37.5	165	90	Peak
*5929.05	53.07	51.19	68.2	-15.13	32.52	6.86	37.5	165	90	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
*5646.9	54.74	53.28	68.2	-13.46	32.04	6.7	37.28	167	66	Peak
5657.825	57.38	55.95	74.01	-16.63	32.06	6.71	37.34	167	66	Peak
5917.175	53.42	51.57	73.97	-20.55	32.49	6.86	37.5	167	66	Peak
*5929.525	53.19	51.31	68.2	-15.01	32.52	6.86	37.5	167	66	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5775 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:

<2TX>

802.11ac (VHT80)

EUT Test Condition		Measurement Detail	
Channel	Channel 42	**Frequency Range**	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	**Detector Function**	Peak (PK)
Environmental Conditions	25 deg. C, 65 % RH	**Tested By**	Thomas Wei

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
52.31	28.71	46.73	40	-11.29	12.76	0.54	31.32	152	111	Peak
125.06	21.58	41.25	43.5	-21.92	11.35	0.87	31.89	202	231	Peak
269.59	22.24	40.69	46	-23.76	12.05	1.53	32.03	165	251	Peak
585.81	23.64	33.65	46	-22.36	19.28	2.84	32.13	111	152	Peak
800.18	28.55	34.08	46	-17.45	22.23	3.67	31.43	285	265	Peak
928.22	29.35	33.51	46	-16.65	23.67	4.16	31.99	132	256	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	**Emission Level (dBuV/m)**	**Read Level (dBuV)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Antenna Height (cm)**	**Table Angle (Degree)**	**Remark**
30	34.14	52.86	40	-5.86	11.98	0.44	31.14	111	123	Peak
121.18	28.22	48.18	43.5	-15.28	11.09	0.85	31.9	152	111	Peak
288.99	16.26	33.69	46	-29.74	12.63	1.62	31.68	165	251	Peak
626.55	24.47	33.68	46	-21.53	19.93	3.01	32.15	111	132	Peak
831.22	27.54	32.87	46	-18.46	22.63	3.77	31.73	152	111	Peak
967.99	29.72	33.39	54	-24.28	23.89	4.32	31.88	202	251	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp 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	Nov. 23, 2017	Nov. 22, 2018
RF signal cable Woken	5D-FB	Cable-cond1-01	Sep. 05, 2017	Sep. 04, 2018
LISN/AMN ROHDE & SCHWARZ (EUT)	ENV216	101826	Feb. 26, 2018	Feb. 25, 2019
LISN/AMN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 15, 2017	Aug. 14, 2018
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-2040.

4.2.3 Test Procedures

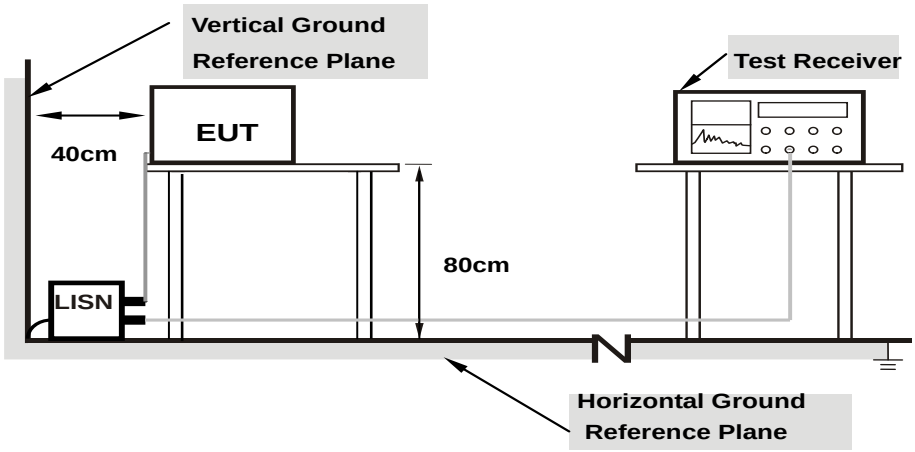
a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

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

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



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

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

4.2.6 EUT Operating Conditions

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

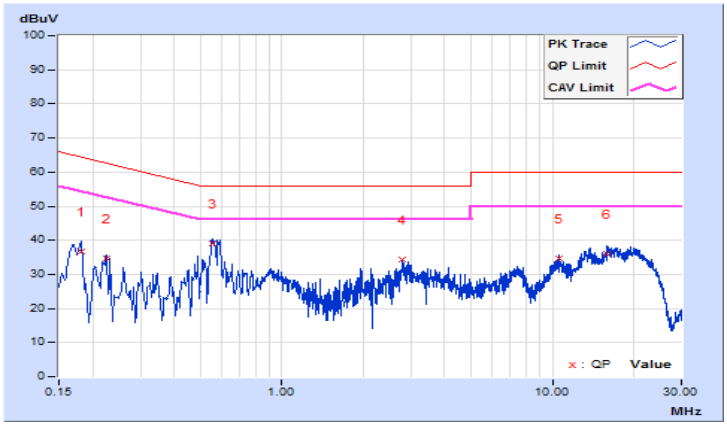
4.2.7 Test Results

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25℃, 65%RH
Tested by	Jisyong Wang	Test Date	2018/7/21

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	0.18122	9.67	26.99	9.56	36.66	19.23	64.43	54.43	-27.77	-35.20
2	0.22434	9.67	25.12	4.11	34.79	13.78	62.66	52.66	-27.87	-38.88
3	0.55679	9.67	29.27	13.26	38.94	22.93	56.00	46.00	-17.06	-23.07
4	2.79316	9.73	24.77	10.72	34.50	20.45	56.00	46.00	-21.50	-25.55
5	10.61707	9.88	24.65	11.62	34.53	21.50	60.00	50.00	-25.47	-28.50
6	15.99332	9.92	26.12	11.53	36.04	21.45	60.00	50.00	-23.96	-28.55

Remarks:

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

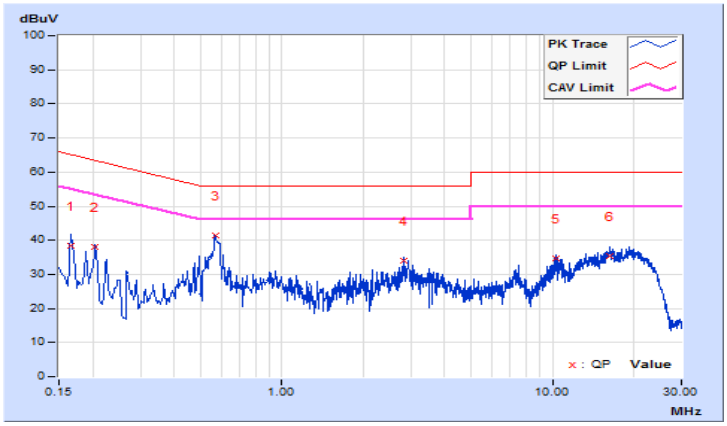


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25℃, 65%RH
Tested by	Jisyong Wang	Test Date	2018/7/21

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	0.16564	9.68	28.66	14.54	38.34	24.22	65.18	55.18	-26.84	-30.96
2	0.20458	9.68	28.37	12.76	38.05	22.44	63.42	53.42	-25.37	-30.98
3	0.56837	9.68	31.75	15.81	41.43	25.49	56.00	46.00	-14.57	-20.51
4	2.80880	9.73	24.13	9.33	33.86	19.06	56.00	46.00	-22.14	-26.94
5	10.33164	9.89	24.92	10.44	34.81	20.33	60.00	50.00	-25.19	-29.67
6	16.26702	9.99	25.25	12.95	35.24	22.94	60.00	50.00	-24.76	-27.06

Remarks:

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



4.3 Transmit Power Measurement

4.3.1 Limits of Transmit Power Measurement

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

*B is the 26 dB emission bandwidth in megahertz

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

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

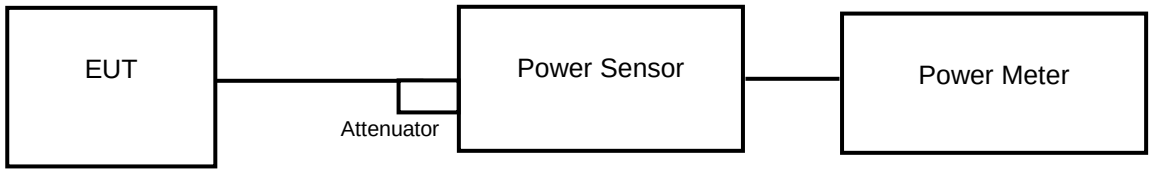
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};

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

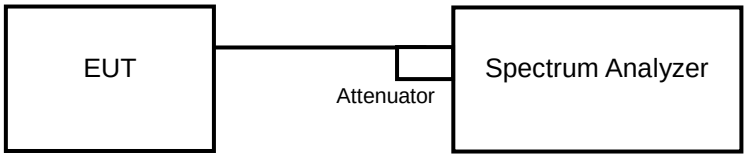
For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

4.3.2 Test Setup

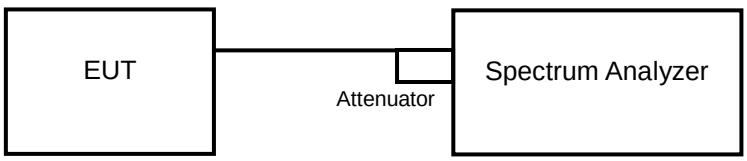
<Power Output Measurement>



or



<26 dB Bandwidth>



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

Average Power Measurement

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

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

<802.11ac (VHT80)>

a. Set span to encompass the entire 26 dB EBW (or, alternatively, the entire 99 % occupied bandwidth) of the signal.
b. Set sweep trigger to “free run”.
c. Set RBW = 1 MHz.
d. Set VBW ≥ 3 MHz
e. Number of points in sweep ≥ 2 Span / RBW.
f. Sweep time ≤ (number of points in sweep) * T
g. Using emission bandwidth to determine the frequency span for integration the channel bandwidth.
h. Detector = RMS.
i. Trace mode = max hold.
j. Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.

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:

<SISO>

802.11a

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	29.785	14.74	24	Pass
40	5200	29.717	14.73	24	Pass
48	5240	30.200	14.8	24	Pass
52	5260	74.645	18.73	24	Pass
60	5300	75.509	18.78	24	Pass
64	5320	48.978	16.9	24	Pass
100	5500	49.091	16.91	23.92	Pass
116	5580	77.625	18.9	24	Pass
140	5700	43.752	16.41	23.9	Pass
144	5720 (U-NII-2C)	28.642	14.57	23.9	Pass
144	5720 (U-NII-3)	11.561	10.63	30	Pass
149	5745	49.317	16.93	30	Pass
157	5785	73.114	18.64	30	Pass
165	5825	72.111	18.58	30	Pass

Note:

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

1. 11 dBm + 10log (21.61) = 24.34 dBm > 24 dBm.
2. 11 dBm + 10log (21.64) = 24.35 dBm > 24 dBm.
3. 11 dBm + 10log (20.34) = 24.08 dBm > 24 dBm.
4. 11 dBm + 10log (19.62) = 23.92 dBm < 24 dBm.
5. 11 dBm + 10log (27.58) = 25.40 dBm > 24 dBm.
6. 11 dBm + 10log (19.53) = 23.90 dBm < 24 dBm.
7. 11 dBm + 10log (19.53) = 23.90 dBm < 24 dBm.

<MIMO>

802.11n (HT20)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
36	5180	14.79	15.01	61.826	17.91	24	Pass
40	5200	14.75	14.79	59.984	17.78	24	Pass
48	5240	14.81	15.02	62.038	17.93	24	Pass
52	5260	18.51	18.84	147.518	21.69	24	Pass
60	5300	18.47	18.52	141.428	21.51	24	Pass
64	5320	16.32	16.99	92.858	19.68	24	Pass
100	5500	16.82	16.86	96.613	19.85	24	Pass
116	5580	18.76	19.09	156.258	21.94	24	Pass
140	5700	15.62	15.86	75.023	18.75	24	Pass
144	5720 (U-NII-2C)	14.34	15.01	58.86	17.70	23.07	Pass
144	5720 (U-NII-3)	11.44	10.92	26.291	14.20	30	Pass
149	5745	16.71	16.55	92.067	19.64	30	Pass
157	5785	18.96	18.57	150.650	21.78	30	Pass
165	5825	18.76	18.67	148.783	21.73	30	Pass

Note:

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

Chain 0

1. 11 dBm + 10log (22.75) = 24.56 dBm > 24 dBm.
2. 11 dBm + 10log (22.55) = 24.53 dBm > 24 dBm.
3. 11 dBm + 10log (20.63) = 24.14 dBm > 24 dBm.
4. 11 dBm + 10log (20.85) = 24.19 dBm > 24 dBm.
5. 11 dBm + 10log (29.01) = 25.62 dBm > 24 dBm.
6. 11 dBm + 10log (20.89) = 24.19 dBm > 24 dBm.
7. 11 dBm + 10log (19.29) = 23.85 dBm < 24 dBm.

Chain 1

1. 11 dBm + 10log (21.27) = 24.27 dBm > 24 dBm.
2. 11 dBm + 10log (22.27) = 24.47 dBm > 24 dBm.
3. 11 dBm + 10log (20.85) = 24.19 dBm > 24 dBm.
4. 11 dBm + 10log (20.62) = 24.14 dBm > 24 dBm.
5. 11 dBm + 10log (22.38) = 24.49 dBm > 24 dBm.
6. 11 dBm + 10log (22.26) = 24.47 dBm > 24 dBm.
7. 11 dBm + 10log (16.13) = 23.07 dBm < 24 dBm.

802.11n (HT40)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
38	5190	14.53	15.01	60.075	17.79	24	Pass
46	5230	14.58	14.96	60.041	17.78	24	Pass
54	5270	18.62	18.59	145.055	21.62	24	Pass
62	5310	16.56	17.14	97.051	19.87	24	Pass
102	5510	16.92	16.98	99.092	19.96	24	Pass
110	5550	18.79	18.71	149.985	21.76	24	Pass
134	5670	18.75	18.73	149.634	21.75	24	Pass
142	5710 (U-NII-2C)	17.28	17.84	114.27	20.58	24	Pass
142	5710 (U-NII-3)	13.05	10.96	32.658	15.14	30	Pass
151	5755	14.35	14.03	52.520	17.20	30	Pass
159	5795	18.66	18.45	143.435	21.57	30	Pass

Note:

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

Chain 0

1. 11 dBm + 10log (57.12) = 28.56 dBm > 24 dBm.
2. 11 dBm + 10log (42.67) = 27.30 dBm > 24 dBm.
3. 11 dBm + 10log (42.19) = 27.25 dBm > 24 dBm.
4. 11 dBm + 10log (68.26) = 29.34 dBm > 24 dBm.
5. 11 dBm + 10log (66.81) = 29.24 dBm > 24 dBm.
6. 11 dBm + 10log (48.60) = 27.86 dBm > 24 dBm.

Chain 1

1. 11 dBm + 10log (44.28) = 27.46 dBm > 24 dBm.
2. 11 dBm + 10log (44.00) = 27.43 dBm > 24 dBm.
3. 11 dBm + 10log (43.50) = 27.38 dBm > 24 dBm.
4. 11 dBm + 10log (43.98) = 27.43 dBm > 24 dBm.
5. 11 dBm + 10log (45.02) = 27.53 dBm > 24 dBm.
6. 11 dBm + 10log (37.33) = 26.72 dBm > 24 dBm.

802.11ac (VHT80)

Channel	Frequency (MHz)	Maximum Conducted Power (dBm)		Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1				
42	5210	14.12	14.53	54.202	17.34	24	Pass
58	5290	13.32	13.94	46.252	16.65	24	Pass
106	5530	14.58	14.10	54.412	17.36	24	Pass
122	5610	17.78	18.12	124.842	20.96	24	Pass
138	5690 (U-NII-2C)	17.34	17.67	112.679	20.52	24	Pass
138	5690 (U-NII-3)	6.87	7.06	9.946	9.98	30	Pass
155	5775	13.53	13.99	47.603	16.78	30	Pass

Note:

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

Chain 0

1. 11 dBm + 10log (83.92) = 30.23 dBm > 24 dBm.
2. 11 dBm + 10log (83.87) = 30.23 dBm > 24 dBm.
3. 11 dBm + 10log (86.01) = 30.34 dBm > 24 dBm.
4. 11 dBm + 10log (77.48) = 29.89 dBm > 24 dBm.

Chain 1

1. 11 dBm + 10log (83.88) = 30.23 dBm > 24 dBm.
2. 11 dBm + 10log (83.71) = 30.22 dBm > 24 dBm.
3. 11 dBm + 10log (84.93) = 30.29 dBm > 24 dBm.
4. 11 dBm + 10log (78.62) = 29.95 dBm > 24 dBm.

26 dB Bandwidth:

<SISO>

802.11a

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
36	5180	19.42
40	5200	19.60
48	5240	19.24
52	5260	21.61
60	5300	21.64
64	5320	20.34
100	5500	19.62
116	5580	27.58
140	5700	19.53
144	5720 (U-NII-2C)	19.53
144	5720 (U-NII-3)	7.89

<MIMO>

802.11n (HT20)

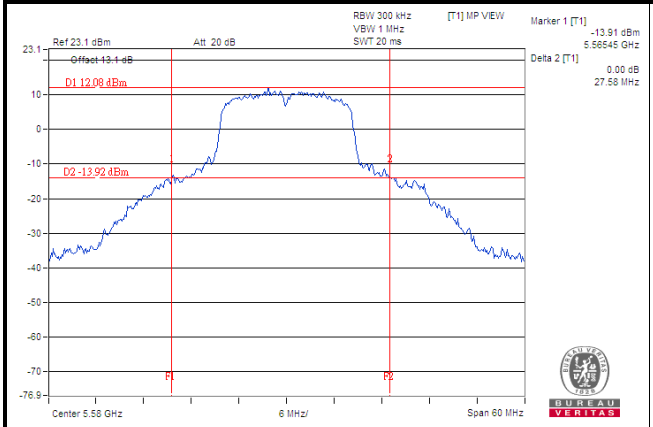
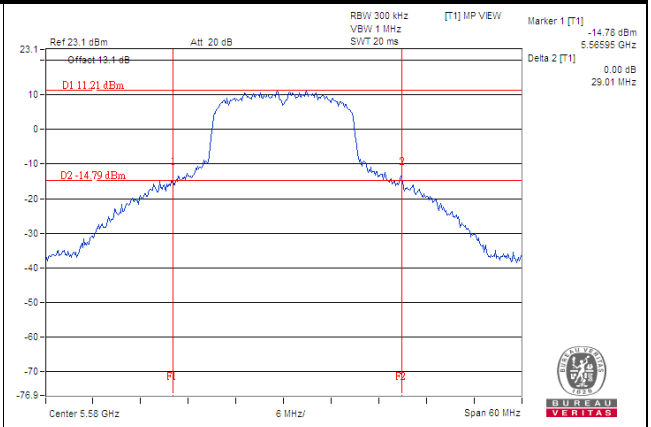
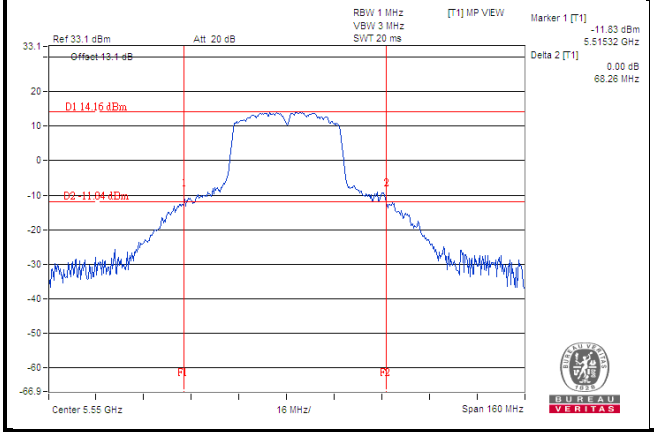
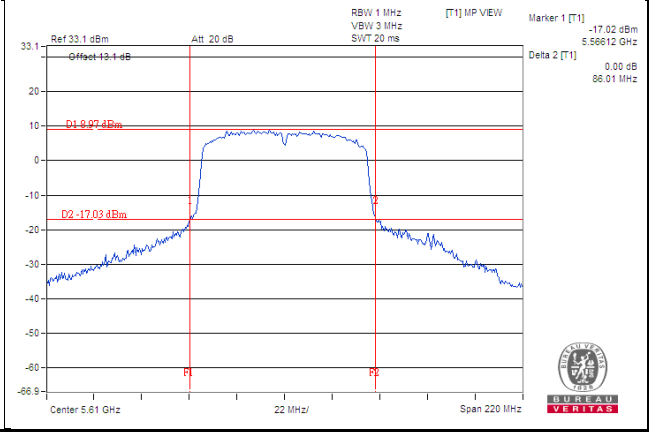
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	20.70	20.72
40	5200	20.63	20.67
48	5240	20.60	20.49
52	5260	22.75	21.27
60	5300	22.55	22.27
64	5320	20.63	20.85
100	5500	20.85	20.62
116	5580	29.01	22.38
140	5700	20.89	22.26
144	5720 (U-NII-2C)	19.29	16.13
144	5720 (U-NII-3)	9.88	6.29

802.11n (HT40)

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	42.65	41.84
46	5230	41.89	43.24
54	5270	57.12	44.28
62	5310	42.67	44.00
102	5510	42.19	43.50
110	5550	68.26	43.98
134	5670	66.81	45.02
142	5710 (U-NII-2C)	48.60	37.33
142	5710 (U-NII-3)	18.36	7.66

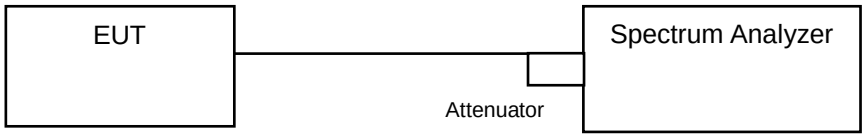
802.11ac (VHT80)

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	83.88	84.24
58	5290	83.92	83.88
106	5530	83.87	83.71
122	5610	86.01	84.93
138	5690 (U-NII-2C)	77.48	78.62
138	5690 (U-NII-3)	6.96	6.83

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

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

<SISO>

802.11a

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)
36	5180	16.32
40	5200	16.32
48	5240	16.32
52	5260	16.44
60	5300	16.44
64	5320	16.32
100	5500	16.32
116	5580	16.80
140	5700	16.32
144	5720 (U-NII-2C)	13.40
144	5720 (U-NII-3)	3.16
149	5745	16.35
157	5785	16.43
165	5825	16.43

<MIMO>

802.11n (HT20)

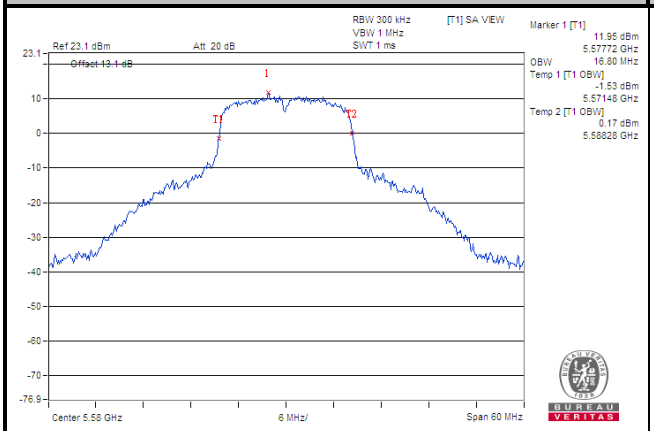
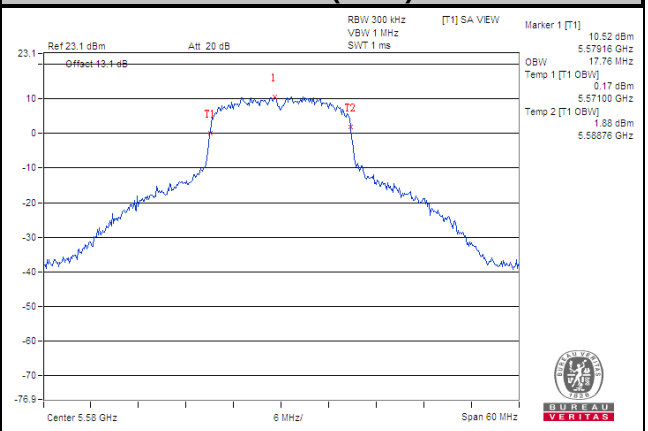
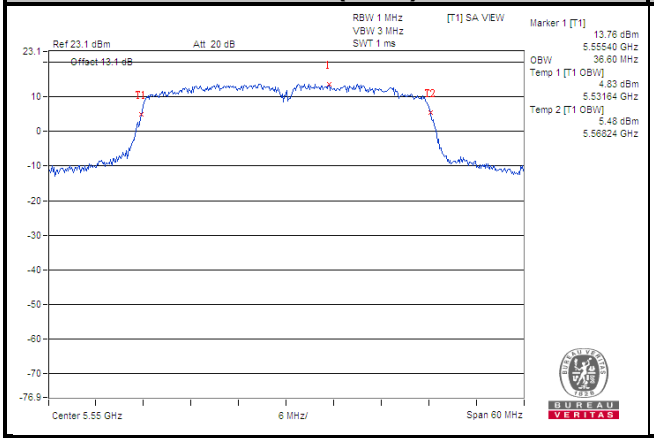
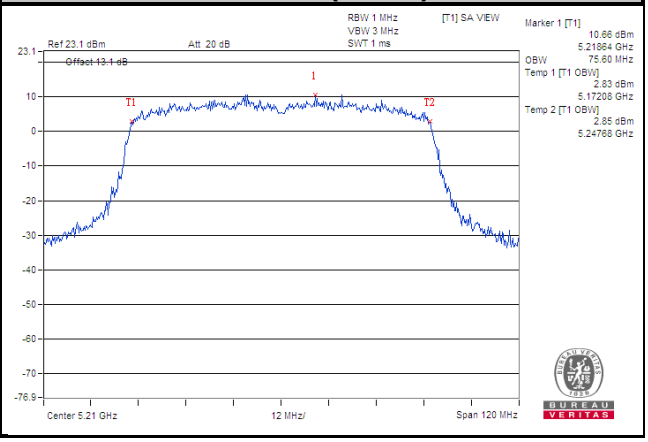
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
36	5180	17.40	17.40
40	5200	17.40	17.40
48	5240	17.40	17.40
52	5260	17.52	16.44
60	5300	17.52	17.52
64	5320	17.40	17.40
100	5500	17.40	17.40
116	5580	17.76	17.52
140	5700	17.52	17.52
144	5720 (U-NII-2C)	13.88	13.88
144	5720 (U-NII-3)	3.64	3.64
149	5745	17.39	17.39
157	5785	17.57	17.57
165	5825	17.57	17.57

802.11n (HT40)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
38	5190	36.12	36.12
46	5230	36.12	36.12
54	5270	36.36	36.24
62	5310	36.12	36.12
102	5510	36.12	36.12
110	5550	36.60	36.12
134	5670	36.36	36.24
142	5710 (U-NII-2C)	33.36	33.12
142	5710 (U-NII-3)	3.12	3.00
151	5755	36.09	36.09
159	5795	36.26	36.17

802.11ac (VHT80)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	
		Chain 0	Chain 1
42	5210	75.60	75.12
58	5290	75.36	75.12
106	5530	75.12	75.12
122	5610	75.60	75.36
138	5690 (U-NII-2C)	72.92	72.92
138	5690 (U-NII-3)	2.44	2.44
155	5775	75.13	75.13

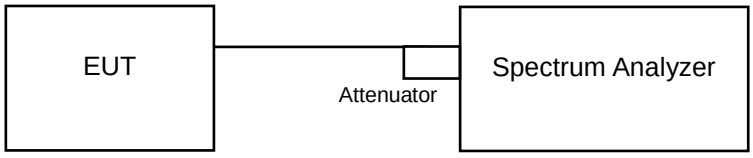
Spectrum Plot of Worst Value	
802.11a	802.11n (HT20)
	
802.11n (HT40)	802.11ac (VHT80)
	

4.5 Peak Power Spectral Density Measurement

4.5.1 Limits of Peak Power Spectral Density Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.5.4 Test Procedures

For U-NII-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 = 500 kHz, Set VBW ≥ 3 RBW, Detector = RMS
3. Use the peak marker function to determine the maximum power level in any 500 kHz band segment within the fundamental EBW.
4. Sweep time = auto, trigger set to “free run”.
5. Trace average at least 100 traces in power averaging mode.
6. Record the max value and add 10 log (1/duty cycle)

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

<SISO>

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	1.83	0.21	2.04	11	Pass
40	5200	1.73	0.21	1.94	11	Pass
48	5240	2.11	0.21	2.32	11	Pass
52	5260	6.23	0.21	6.44	11	Pass
60	5300	6.02	0.21	6.23	11	Pass
64	5320	3.96	0.21	4.17	11	Pass
100	5500	4.25	0.21	4.46	11	Pass
116	5580	6.57	0.21	6.78	11	Pass
140	5700	4.02	0.21	4.23	11	Pass
144	5720 (U-NII-2C)	6.60	0.21	6.81	11	Pass

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

<MIMO>

802.11n (HT20)

Channel	Frequency (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
36	5180	1.80	2.13	0.27	5.25	11	Pass
40	5200	1.66	1.79	0.27	5.00	11	Pass
48	5240	1.64	1.92	0.27	5.06	11	Pass
52	5260	5.65	5.99	0.27	9.10	11	Pass
60	5300	5.61	5.56	0.27	8.86	11	Pass
64	5320	3.75	3.75	0.27	7.03	11	Pass
100	5500	3.78	3.68	0.27	7.01	11	Pass
116	5580	6.17	5.84	0.27	9.29	11	Pass
140	5700	3.18	6.01	0.27	8.10	11	Pass
144	5720 (U-NII-2C)	6.26	5.93	0.27	9.38	11	Pass

Note:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \ldots. + 10^{GN/20})^2 / N_{ANT}] = 5.12$ dBi < 6 dBi, so the limit no need to reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

Channel	Frequency (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
38	5190	-1.40	-1.28	0.20	1.87	11	Pass
46	5230	-1.08	-1.64	0.20	1.85	11	Pass
54	5270	2.85	2.16	0.20	5.72	11	Pass
62	5310	0.33	0.48	0.20	3.61	11	Pass
102	5510	0.44	0.18	0.20	3.52	11	Pass
110	5550	3.39	2.43	0.20	6.14	11	Pass
134	5670	2.93	2.66	0.20	6.00	11	Pass
142	5710 (U-NII-2C)	3.03	2.71	0.20	6.08	11	Pass

Note:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \ldots. + 10^{GN/20})^2 / N_{ANT}] = 5.12$ dBi < 6 dBi, so the limit no need to reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

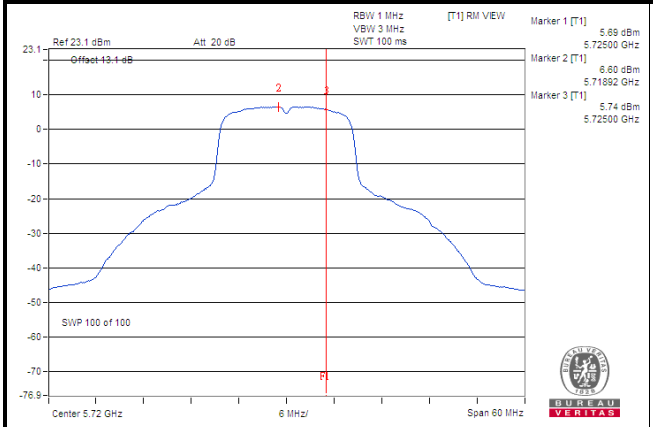
Channel	Frequency (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1				
42	5210	-4.82	-5.03	0.85	-1.07	11	Pass
58	5290	-5.93	-5.65	0.85	-1.93	11	Pass
106	5530	-5.06	-5.08	0.85	-1.21	11	Pass
122	5610	-2.59	-1.70	0.85	1.73	11	Pass
138	5690 (U-NII-2C)	-2.67	-1.95	0.85	1.56	11	Pass

Note:

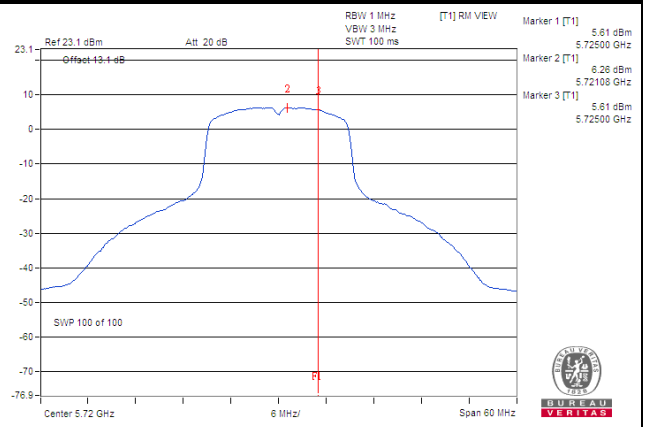
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \ldots. + 10^{GN/20})^2 / N_{ANT}] = 5.12$ dBi < 6 dBi, so the limit no need to reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

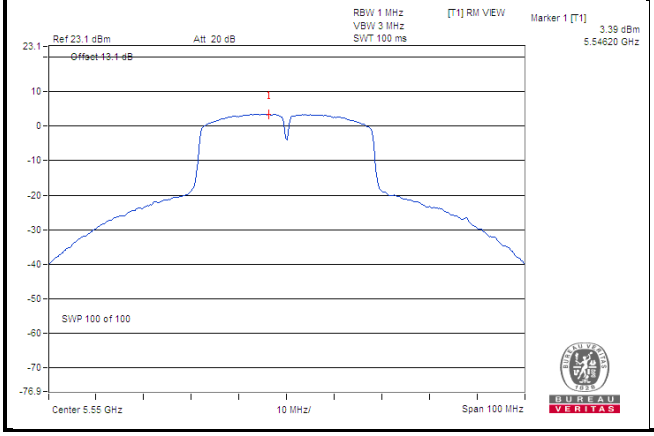
802.11a



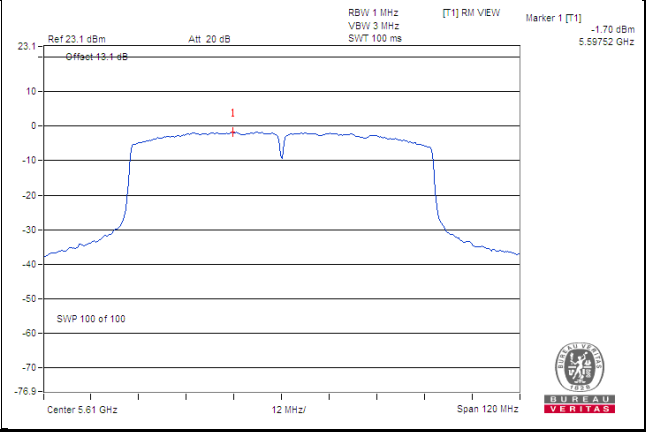
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



For U-NII-3 Band

<SISO>

802.11a

Channel	Frequency (MHz)	PSD (dBm/MHz)		Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		dBm/300 kHz	dBm/500 kHz				
144	5720 (U-NII-3)	-2.67	-0.45	0.21	-0.24	11	Pass
149	5745	-4.32	-2.10	0.21	-1.89	11	Pass
157	5785	-2.48	-0.26	0.21	-0.05	11	Pass
165	5825	-2.76	-0.54	0.21	-0.33	11	Pass

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

<MIMO>

802.11n (HT20)

TX Chain	Channel	Frequency (MHz)	PSD (dBm/MHz)		10 log (N=2) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
			PSD (dBm/300 kHz)	PSD (dBm/500 kHz)					
0	144	5720 (U-NII-3)	-2.92	-0.70	3.01	0.27	2.58	30	Pass
	149	5745	-4.55	-2.33	3.01	0.27	0.95	30	Pass
	157	5785	-2.83	-0.61	3.01	0.27	2.67	30	Pass
	165	5825	-3.04	-0.82	3.01	0.27	2.46	30	Pass
1	144	5720 (U-NII-3)	-2.88	-0.66	3.01	0.27	2.62	30	Pass
	149	5745	-4.12	-1.90	3.01	0.27	1.38	30	Pass
	157	5785	-2.40	-0.18	3.01	0.27	3.10	30	Pass
	165	5825	-2.31	-0.09	3.01	0.27	3.19	30	Pass

Note:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \ldots. + 10^{GN/20})^2 / N_{ANT}] = 5.12$ dBi < 6 dBi, so the limit no need to reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT40)

TX Chain	Channel	Frequency (MHz)	PSD (dBm/MHz)		10 log (N=2) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
			PSD (dBm/300 kHz)	PSD (dBm/500 kHz)					
0	142	5710 (U-NII-3)	-7.73	-5.51	3.01	0.20	-2.30	30	Pass
	151	5755	-10.52	-8.30	3.01	0.20	-5.09	30	Pass
	159	5795	-5.97	-3.75	3.01	0.20	-0.54	30	Pass
1	142	5710 (U-NII-3)	-8.12	-5.90	3.01	0.20	-2.69	30	Pass
	151	5755	-10.72	-8.50	3.01	0.20	-5.29	30	Pass
	159	5795	-6.07	-3.85	3.01	0.20	-0.64	30	Pass

Note:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \ldots. + 10^{GN/20})^2 / N_{ANT}] = 5.12$ dBi < 6 dBi, so the limit no need to reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

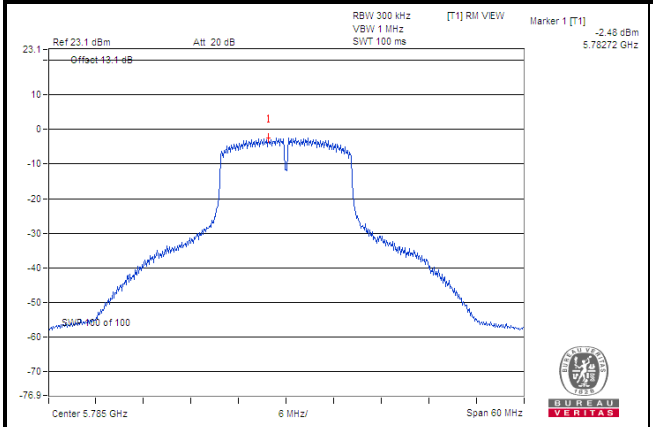
TX Chain	Channel	Frequency (MHz)	PSD (dBm/MHz)		10 log (N=2) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
			PSD (dBm/300 kHz)	PSD (dBm/500 kHz)					
0	138	5690 (U-NII-3)	-15.29	-13.07	3.01	0.85	-9.21	30	Pass
	155	5775	-14.28	-12.06	3.01	0.85	-8.20	30	Pass
1	138	5690 (U-NII-3)	-13.83	-11.61	3.01	0.85	-7.75	30	Pass
	155	5775	-14.16	-11.94	3.01	0.85	-8.08	30	Pass

Note:

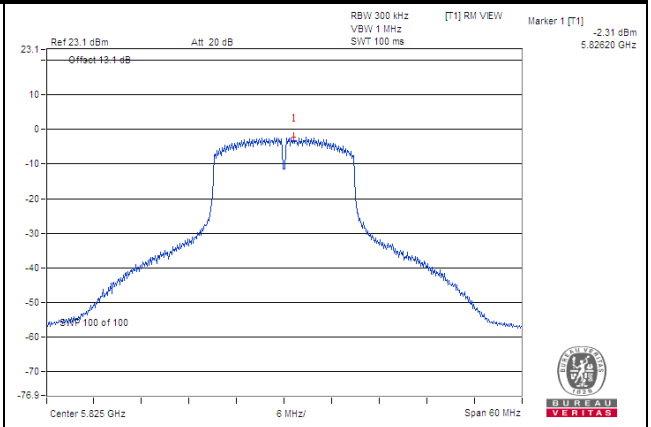
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = $10\log[(10^{G1/20} + 10^{G2/20} + \ldots. + 10^{GN/20})^2 / N_{ANT}] = 5.12$ dBi < 6 dBi, so the limit no need to reduced.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

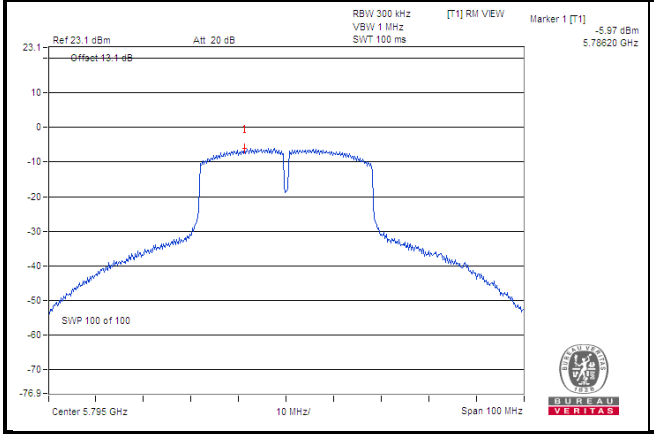
802.11a



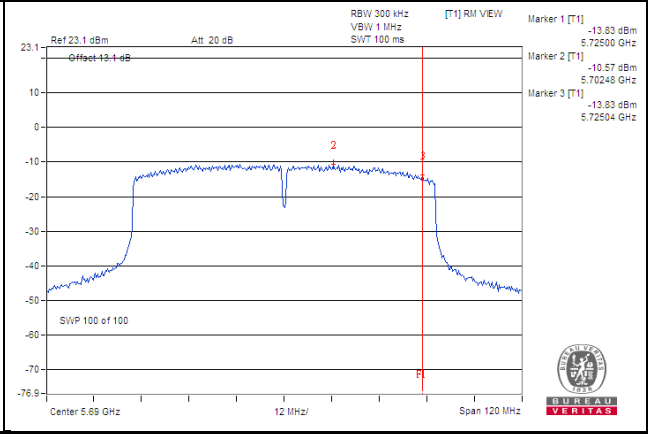
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

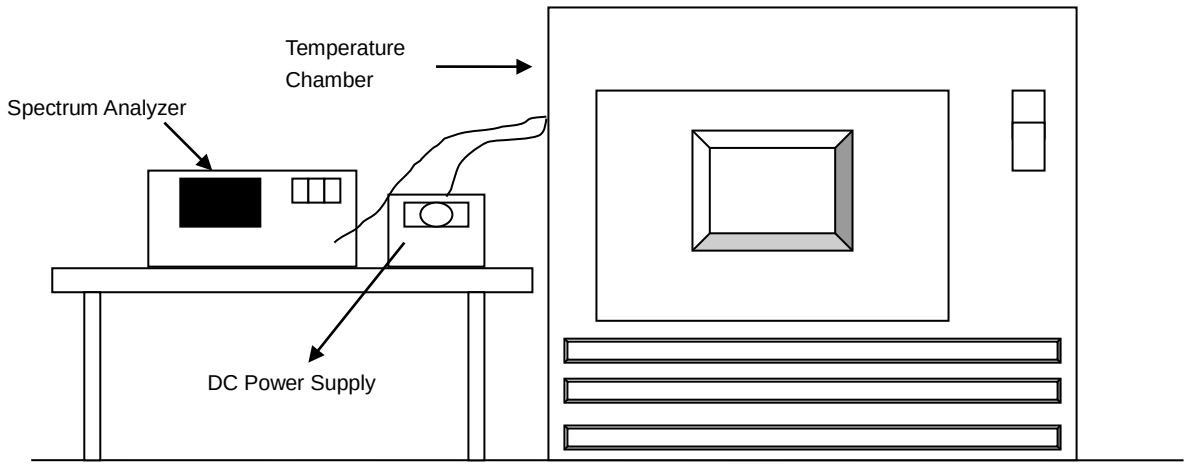


4.6 Frequency Stability

4.6.1 Limit of Frequency Stability Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.6.4 Test Procedure

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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 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	19	5179.9864	PASS	5179.9883	PASS	5179.9867	PASS	5179.9881	PASS
40	19	5180.027	PASS	5180.025	PASS	5180.0232	PASS	5180.0261	PASS
30	19	5180.01	PASS	5180.0144	PASS	5180.01	PASS	5180.0131	PASS
20	19	5179.981	PASS	5179.9823	PASS	5179.979	PASS	5179.9789	PASS
10	19	5180.0147	PASS	5180.0097	PASS	5180.0107	PASS	5180.0114	PASS
0	19	5180.0182	PASS	5180.0178	PASS	5180.0184	PASS	5180.018	PASS
-10	19	5179.9891	PASS	5179.9878	PASS	5179.9922	PASS	5179.9884	PASS
-20	19	5179.9973	PASS	5179.9989	PASS	5179.9981	PASS	5179.9953	PASS
-30	19	5179.9886	PASS	5179.9892	PASS	5179.989	PASS	5179.9886	PASS

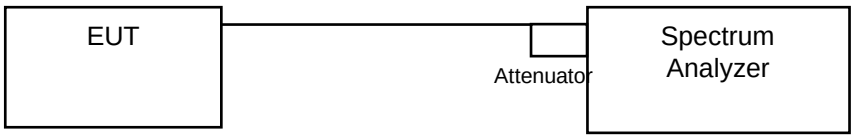
Frequency Stability Versus Temp.									
Operating Frequency: 5180 MHz									
Temp. (℃)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	21.85	5179.9809	PASS	5179.9828	PASS	5179.9798	PASS	5179.9782	PASS
	19	5179.981	PASS	5179.9823	PASS	5179.979	PASS	5179.9789	PASS
	16.15	5179.9802	PASS	5179.9824	PASS	5179.9782	PASS	5179.9785	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

<SISO>

802.11a

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
144	5720 (U-NII-3)	2.53	0.5	Pass
149	5745	15.19	0.5	Pass
157	5785	15.17	0.5	Pass
165	5825	15.17	0.5	Pass

<MIMO>

802.11n (HT20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
144	5720 (U-NII-3)	2.54	2.53	0.5	Pass
149	5745	15.17	15.19	0.5	Pass
157	5785	15.17	15.17	0.5	Pass
165	5825	15.16	15.17	0.5	Pass

802.11n (HT40)

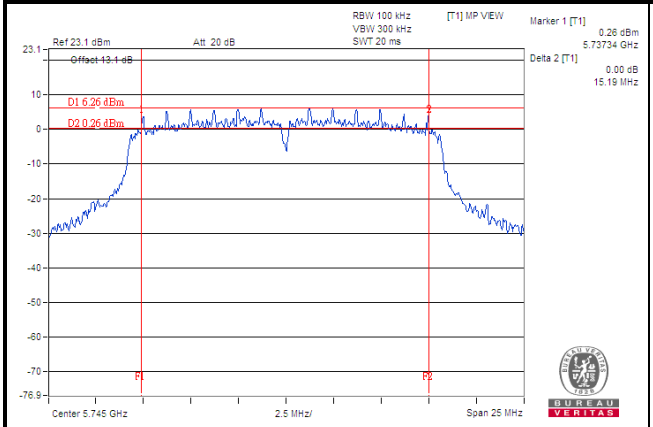
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
142	5710 (U-NII-3)	2.53	2.53	0.5	Pass
151	5755	35.19	35.19	0.5	Pass
159	5795	35.19	35.15	0.5	Pass

802.11ac (VHT80)

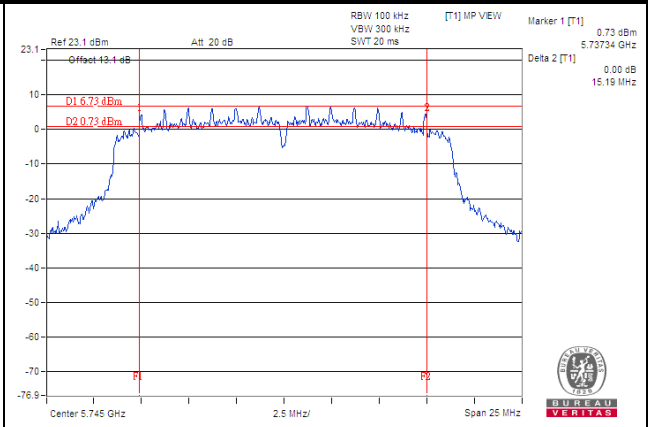
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
138	5690 (U-NII-3)	2.65	2.64	0.5	Pass
155	5775	75.32	75.33	0.5	Pass

Spectrum Plot of Worst Value

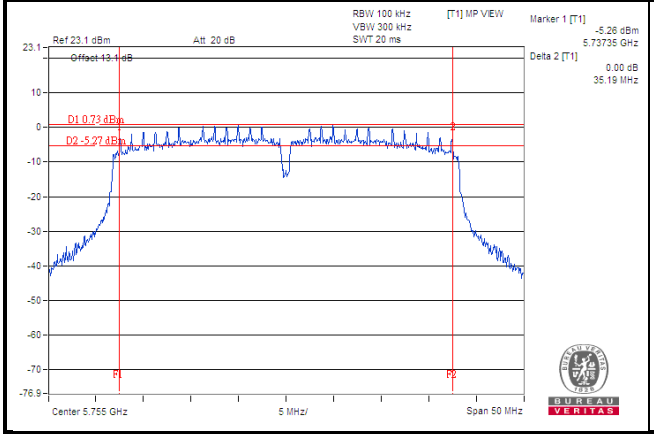
802.11a



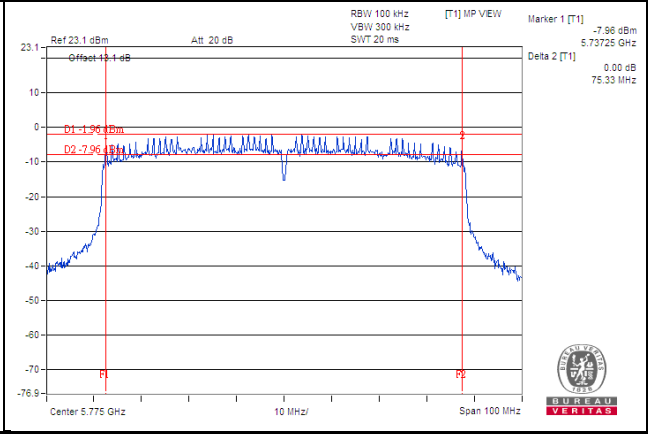
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



5 Pictures of Test Arrangements

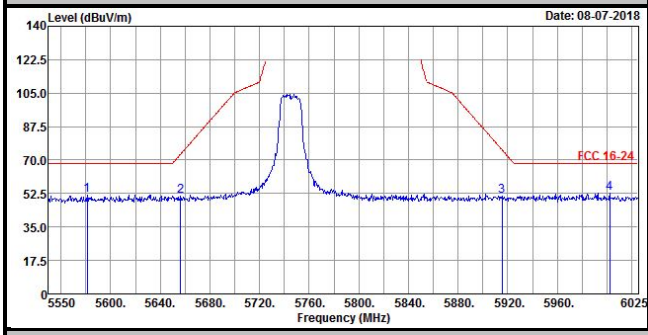
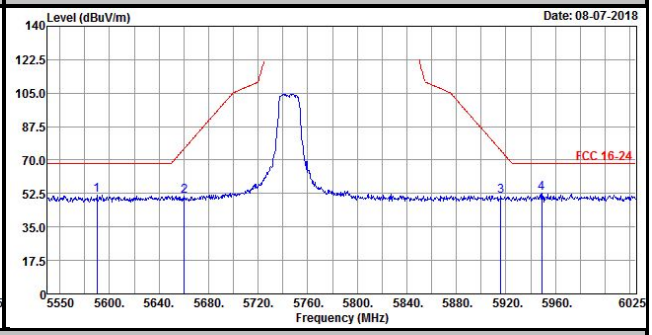
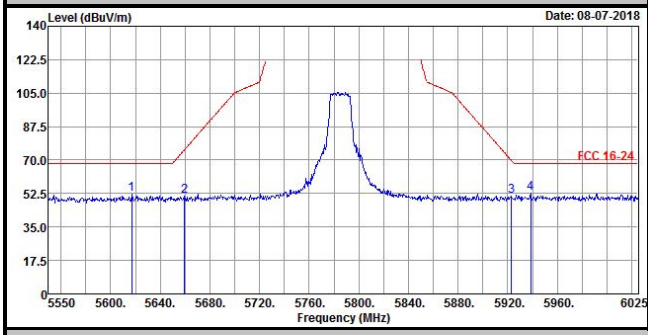
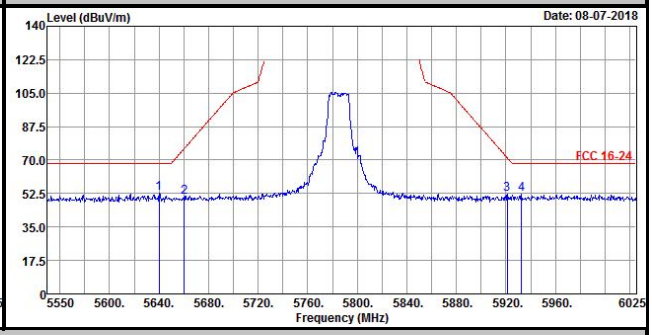
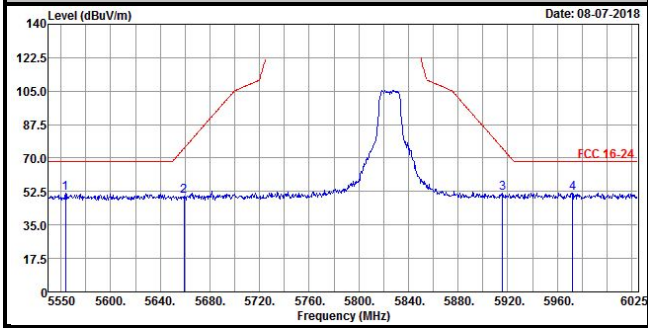
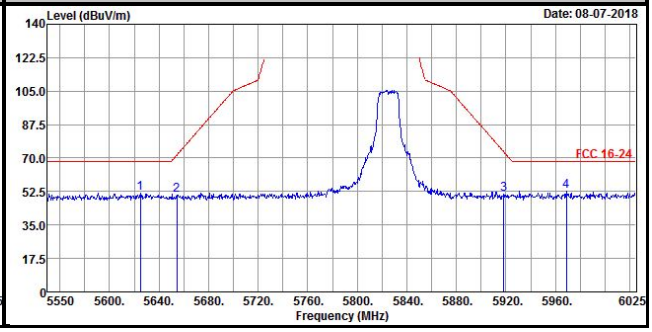
Please refer to the attached file (Test Setup Photo).

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

<SISO>

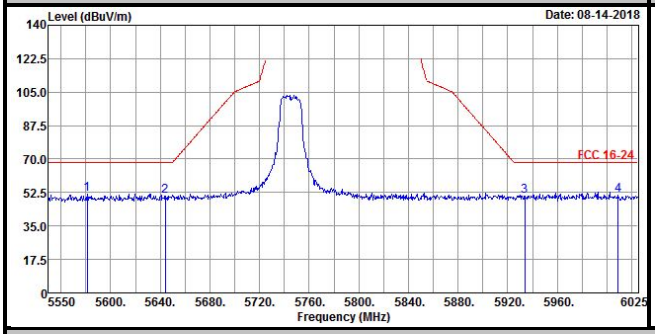
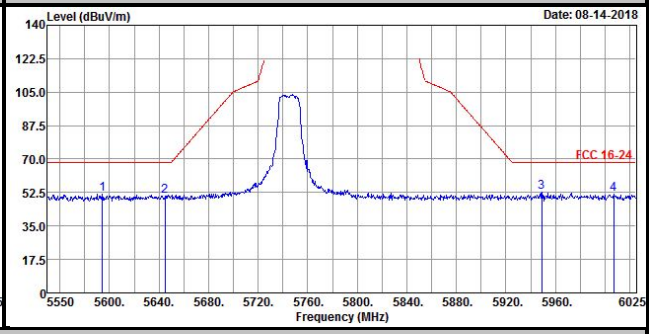
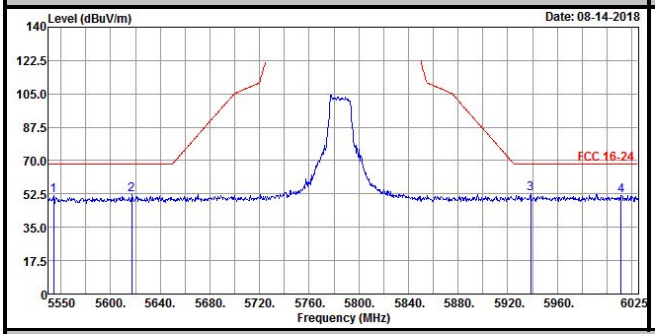
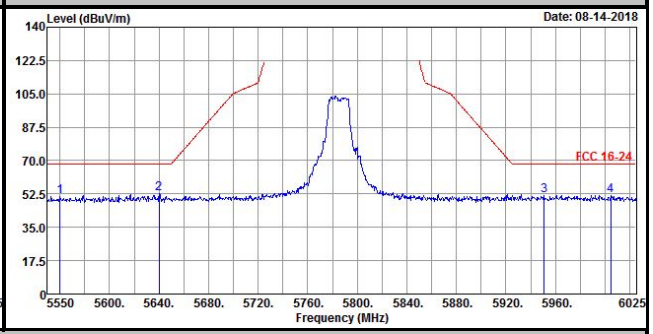
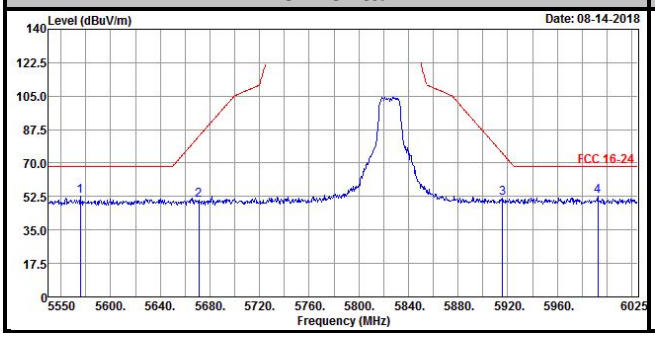
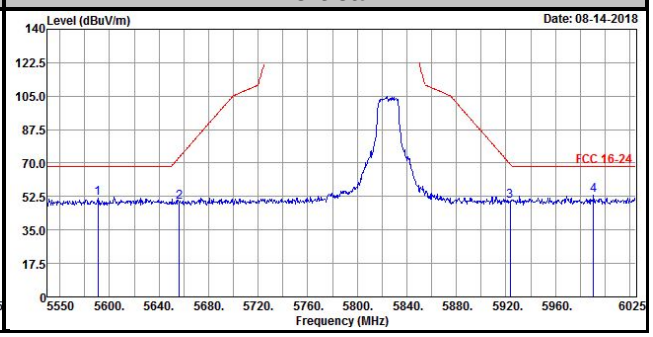
PIFA Antenna

802.11a

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

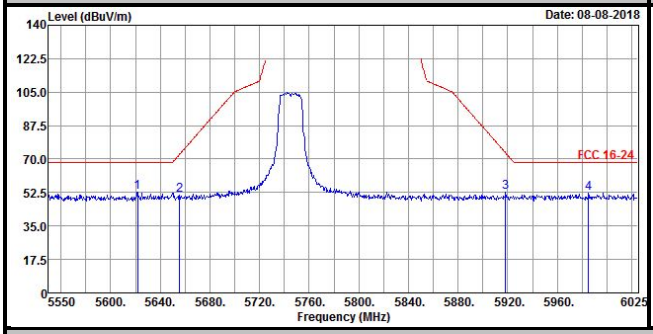
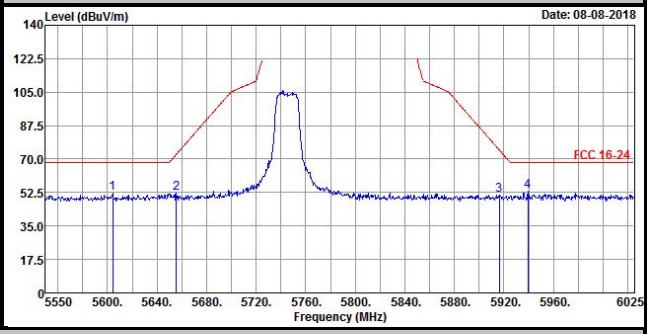
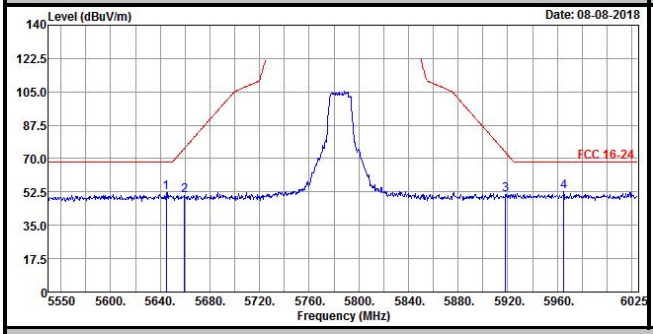
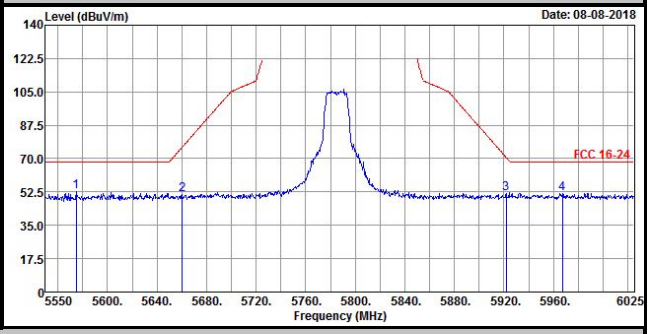
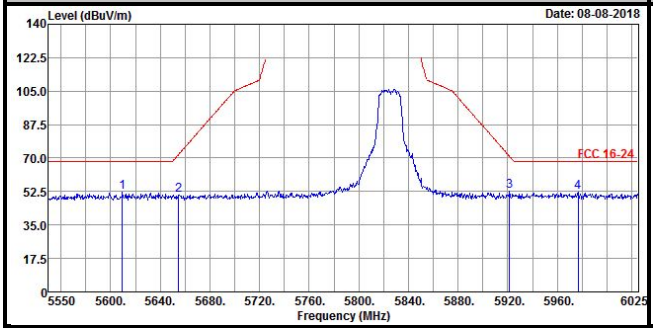
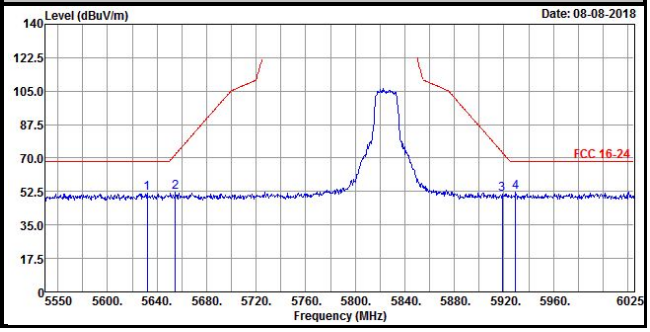
PCB Antenna

802.11a

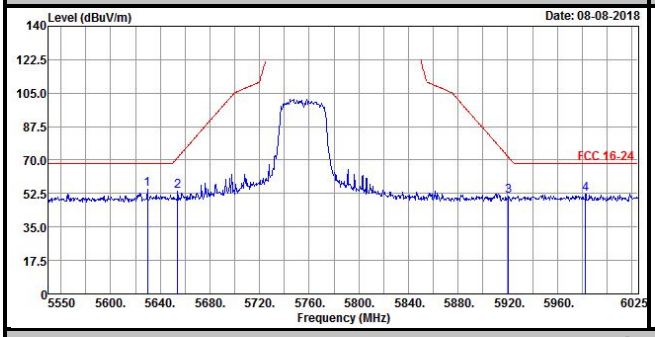
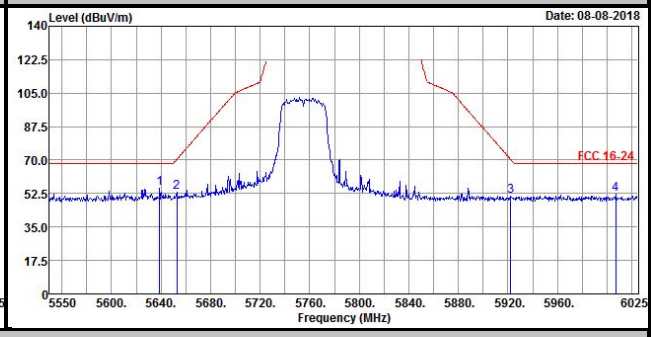
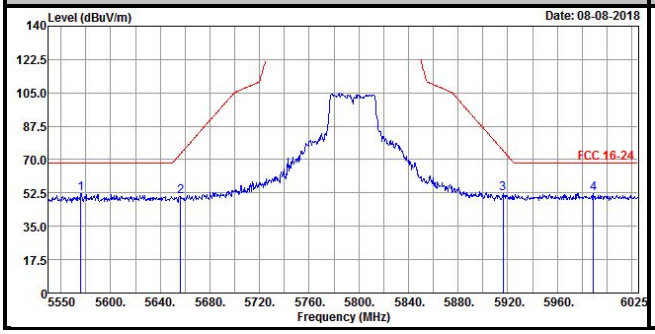
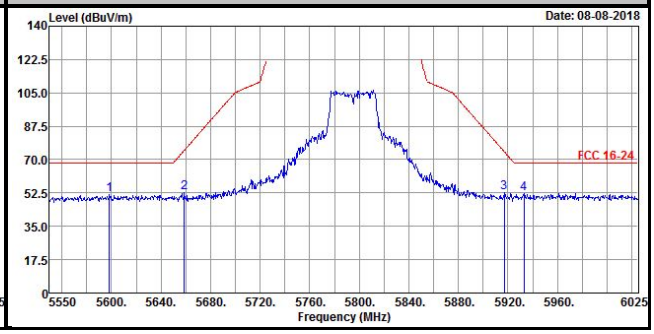
Ch 149	
Horizontal	Vertical
	
Ch 157	
Horizontal	Vertical
	
Ch 165	
Horizontal	Vertical
	

<MIMO>

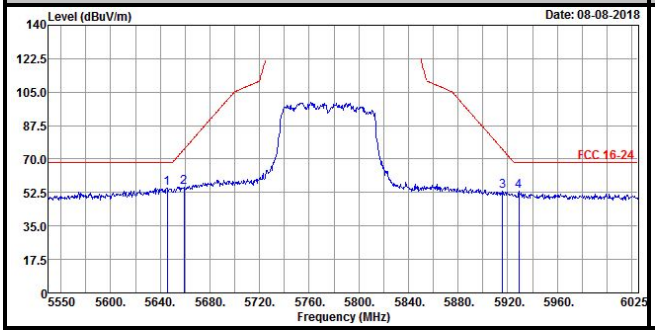
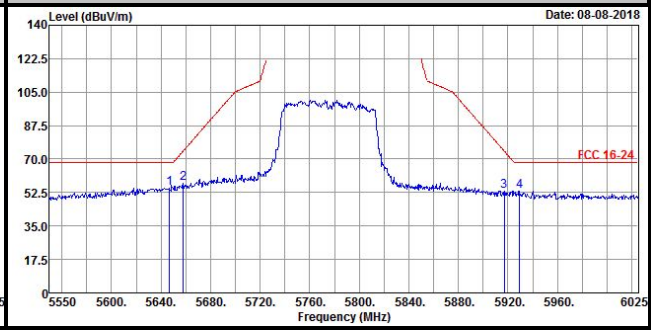
802.11n (HT20)

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

802.11n (HT40)

Ch 151	
Horizontal	Vertical
	
Ch 159	
Horizontal	Vertical
	

802.11ac (VHT80)

Ch 155	
Horizontal	Vertical
	

Appendix – Information on the Testing Laboratories

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

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

Linko EMC/RF Lab
Tel: 886-2-26052180
Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab
Tel: 886-3-6668565
Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety
Tel: 886-3-3183232
Fax: 886-3-3270892

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

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

--- END ---