

FCC Test Report

Report No.: RF170426C21-3

FCC ID: 2AFD7-P3303-C

Test Model: P3303-C

Received Date: Apr. 26, 2017

Test Date: May 11, 2017 ~ May 16, 2017

Issued Date: Jun. 02, 2017

Applicant: Poynt Co.

Address: 490 S California Avenue Suite 200 Palo Alto, CA 94306 USA

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

Lab Address: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
(R.O.C)

Test Location (1): No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan
Hsien 333, Taiwan, R.O.C.



This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification. The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

Table of Contents

Release Control Record	4
1 Certificate of Conformity	5
2 Summary of Test Results.....	6
2.1 Measurement Uncertainty.....	6
2.2 Modification Record	6
3 General Information	7
3.1 General Description of EUT	7
3.2 Description of Test Modes.....	9
3.2.1 Test Mode Applicability and Tested Channel Detail.....	11
3.3 Duty Cycle of Test Signal	13
3.4 Description of Support Units	14
3.4.1 Configuration of System under Test	14
3.5 General Description of Applied Standards.....	14
4 Test Types and Results	15
4.1 Radiated Emission and Bandedge Measurement	15
4.1.1 Limits of Radiated Emission and Bandedge Measurement	15
4.1.2 Limits of Unwanted Emission Out of the Restricted Bands	16
4.1.3 Test Instruments	17
4.1.4 Test Procedures.....	18
4.1.5 Deviation from Test Standard	18
4.1.6 Test Set Up	19
4.1.7 EUT Operating Conditions.....	20
4.1.8 Test Results	21
4.2 Conducted Emission Measurement.....	58
4.2.1 Limits of Conducted Emission Measurement	58
4.2.2 Test Instruments	58
4.2.3 Test Procedures.....	59
4.2.4 Deviation from Test Standard	59
4.2.5 Test Setup.....	59
4.2.6 EUT Operating Conditions.....	59
4.2.7 Test Results	60
4.3 Transmit Power Measurement.....	64
4.3.1 Limits of Transmit Power Measurement	64
4.3.2 Test Setup.....	64
4.3.3 Test Instruments	65
4.3.4 Test Procedure	65
4.3.5 Deviation from Test Standard	65
4.3.6 EUT Operating Conditions.....	65
4.3.7 Test Result	66
4.4 Peak Power Spectral Density Measurement	74
4.4.1 Limits of Peak Power Spectral Density Measurement	74
4.4.2 Test Setup.....	74
4.4.3 Test Instruments	74
4.4.4 Test Procedures.....	74
4.4.5 Deviation from Test Standard	75
4.4.6 EUT Operating Conditions.....	75
4.4.7 Test Results	76
4.5 Frequency Stability	80
4.5.1 Limit of Frequency Stability Measurement	80
4.5.2 Test Setup.....	80
4.5.3 Test Instruments	80
4.5.4 Test Procedure	80
4.5.5 Deviation from Test Standard	80

4.5.6 EUT Operating Condition	80
4.5.7 Test Results	81
4.6 6 dB Bandwidth Measurement.....	82
4.6.1 Limits of 6 dB Bandwidth Measurement.....	82
4.6.2 Test Setup.....	82
4.6.3 Test Instruments	82
4.6.4 Test Procedure	82
4.6.5 Deviation from Test Standard	82
4.6.6 EUT Operating Condition	82
4.6.7 Test Results	83
5 Pictures of Test Arrangements.....	85
Annex A- Radiated Out of Band Emisison (OOBE) Measurement (For U-NII-3 band)	86
Appendix – Information on the Testing Laboratories	89

Release Control Record

Issue No.	Description	Date Issued
RF170426C21-3	Original Release	Jun. 02, 2017

1 Certificate of Conformity

Product: Smart Terminal

Brand: POYNT

Test Model: P3303-C

Sample Status: Identical Prototype

Applicant: Poynt Co.

Test Date: May 11, 2017 ~ May 16, 2017

Standards: 47 CFR FCC Part 15, Subpart E (Section 15.407)
ANSI C63.10:2013

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

Prepared by :

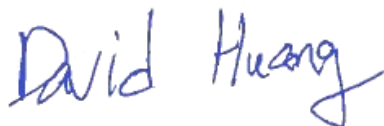


Date:

Jun. 02, 2017

Ivonne Wu / Supervisor

Approved by :



Date:

Jun. 02, 2017

David Huang / 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 -11.22 dB at 0.15811 MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -1.47 dB at 5149.25 MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6 dB Bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	No antenna connector is used.

*For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOB 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	Expanded 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	Smart Terminal
Brand	POYNT
Test Model	P3303-C
Status of EUT	Identical Prototype
Power Supply Rating	12 Vdc (adapter) 7.6 Vdc (battery)
Modulation Type	64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0 Mbps 802.11n: up to MCS7
Operating Frequency	5180 ~ 5240 MHz, 5260 ~ 5320 MHz, 5500 ~ 5700 MHz, 5745 ~ 5825 MHz
Number of Channel	5180 ~ 5240 MHz: 4 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 5260 ~ 5320 MHz: 4 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) 5500 ~ 5700 MHz: 11 for 802.11a, 802.11n (HT20) 5 for 802.11n (HT40) 5745 ~ 5825 MHz: 5 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40)
Output Power	22.080 mW for 5180 ~ 5240 MHz 22.284 mW for 5260 ~ 5320 MHz 19.588 mW for 5500 ~ 5700 MHz 17.701 mW for 5745 ~ 5825 MHz
Antenna Type	PIFA antenna with 2.50 dBi gain (5180 ~ 5240 MHz) PIFA antenna with 2.50 dBi gain (5260 ~ 5320 MHz) PIFA antenna with 1.84 dBi gain (5500 ~ 5700 MHz) PIFA antenna with -0.22 dBi gain (5745 ~ 5825 MHz)
Antenna Connector	N/A
Accessory Device	Refer to Note as below
Data Cable Supplied	Refer to Note as below

Note:

1. The EUT contains following accessory devices & components.

Product	Brand	Model	Description
Adapter	FSP Group Inc.	FSP040-RHBN2 B	I/P: 100-240 Vac, 50/60 Hz, 1.5 A O/P: 12 Vdc, 3.33 A
Battery	WELL Tech Energy Inc.	P61B	7.6 Vdc, 2000 mAh
Docking	Quanta	DA0P61TB6B0	--
BT/WLAN Module	MEDIATEK	MT6625LN	--
NFC Chip	NXP	CLRC663	--
WWAN Module	Fibocom	L816-AM	--

2. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.2 Description of Test Modes

For 5180 ~ 5240 MHz

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

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

2 channels are provided for 802.11n (HT40):

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

For 5260 ~ 5320 MHz

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

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

2 channels are provided for 802.11n (HT40):

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

For 5500 ~ 5700 MHz

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

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

5 channels are provided for 802.11n (HT40):

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

For 5745 ~ 5825 MHz:

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

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

2 channels are provided for 802.11n (HT40):

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

3.2.1 Test Mode Applicability and Tested Channel Detail

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

Where **RE≥1G**: Radiated Emission above 1 GHz

RE<1G: Radiated Emission below 1 GHz

PLC: Power Line Conducted Emission

APCM: Antenna Port Conducted Measurement

Note:

1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-plane**.
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, 44, 48	OFDM	BPSK	6.0
-		802.11n (HT20)	36 to 48	36, 44, 48	OFDM	BPSK	MCS0
-		802.11n (HT40)	38 to 46	38, 46	OFDM	BPSK	MCS0
-	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	MCS0
-		802.11n (HT40)	54 to 62	54, 62	OFDM	BPSK	MCS0
-	5500-5700	802.11a	100 to 140	100, 116, 140	OFDM	BPSK	6.0
-		802.11n (HT20)	100 to 140	100, 116, 140	OFDM	BPSK	MCS0
-		802.11n (HT40)	102 to 134	102, 110, 134	OFDM	BPSK	MCS0
-	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	MCS0
-		802.11n (HT40)	151 to 159	151, 159	OFDM	BPSK	MCS0

Radiated Emission Test (Below 1 GHz):

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

EUT Configure Mode	Frequency Band (MHz)	Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5180-5240	802.11n (HT40)	38 to 46	38	OFDM	BPSK	MCS0
-	5260-5320	802.11n (HT40)	54 to 62	62	OFDM	BPSK	MCS0
-	5500-5700	802.11n (HT40)	102 to 134	102	OFDM	BPSK	MCS0
-	5745-5825	802.11a	149 to 165	149	OFDM	BPSK	6.0

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)
-	5180-5320	802.11n (HT40)	38 to 46	38	OFDM	BPSK	MCS0

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, 44, 48	OFDM	BPSK	6.0
-		802.11n (HT20)	36 to 48	36, 44, 48	OFDM	BPSK	MCS0
-		802.11n (HT40)	38 to 46	38, 46	OFDM	BPSK	MCS0
-	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	MCS0
-		802.11n (HT40)	54 to 62	54, 62	OFDM	BPSK	MCS0
-	5500-5700	802.11a	100 to 140	100, 116, 140	OFDM	BPSK	6.0
-		802.11n (HT20)	100 to 140	100, 116, 140	OFDM	BPSK	MCS0
-		802.11n (HT40)	102 to 134	102, 110, 134	OFDM	BPSK	MCS0
-	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	MCS0
-		802.11n (HT40)	151 to 159	151, 159	OFDM	BPSK	MCS0

Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested by
RE $\geq$ 1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Getaz Yang
RE<1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Getaz Yang
PLC	25 deg. C, 65 % RH	120 Vac, 60 Hz	Getaz Yang
APCM	25 deg. C, 65 % RH	120 Vac, 60 Hz	Carlos Chen

3.3 Duty Cycle of Test Signal

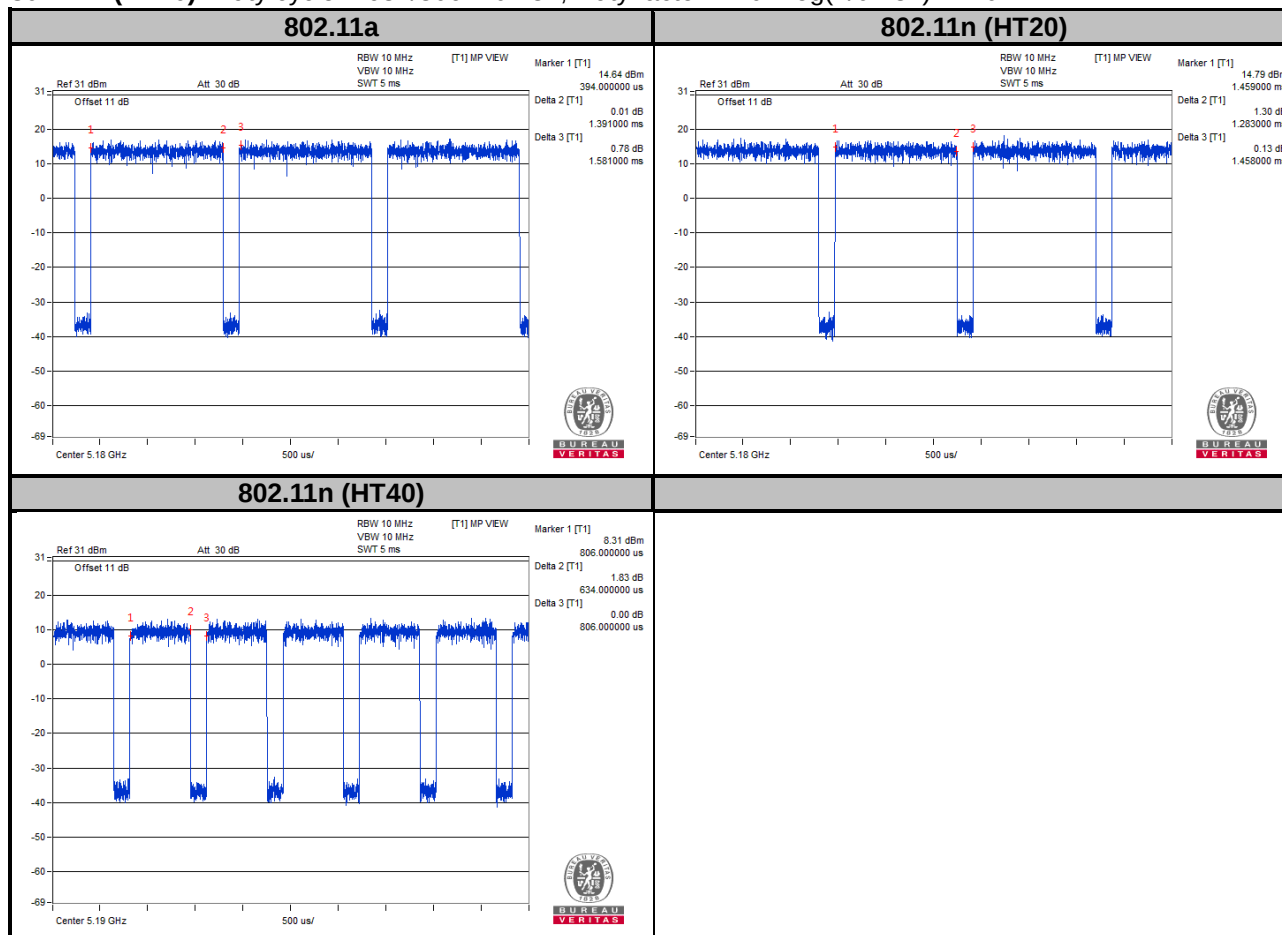
MODULATION TYPE: BPSK

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

802.11a: Duty cycle = $1.391/1.581 = 0.880$, Duty factor = $10 * \log(1/0.880) = 0.56$

802.11n (HT20): Duty cycle = $1.283/1.458 = 0.880$, Duty factor = $10 * \log(1/0.880) = 0.56$

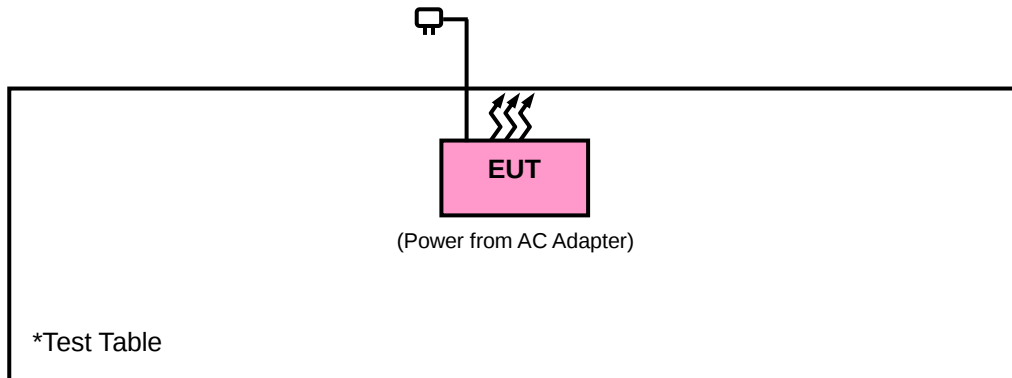
802.11n (HT40): Duty cycle = $634/806 = 0.787$, Duty factor = $10 * \log(1/0.787) = 1.04$



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)

789033 D02 General UNII Test Procedures New Rules v01r04

ANSI C63.10-2013

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

Note: The EUT has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC).
The test report has been issued separately.

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. 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 v01r03		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:

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

4.1.3 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent	N9038A	MY51210203	Feb. 17, 2017	Feb. 16, 2018
Spectrum Analyzer Agilent	N9010A	MY52220314	Dec. 16, 2016	Dec. 15, 2017
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Dec. 13, 2016	Dec. 12, 2017
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Dec. 26, 2016	Dec. 27, 2017
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-969	Dec. 12, 2016	Dec. 13, 2017
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Dec. 14, 2016	Dec. 13, 2017
Fixed Attenuator Mini-Circuits	BW-N10W5+	NA	Jul. 08, 2016	Jul. 07, 2017
Loop Antenna	EM-6879	269	Aug. 11, 2016	Aug. 10, 2017
Bluetooth Tester	CBT	100946	Jul. 29, 2016	Jul. 28, 2018
Preamplifier EMCI	EMC 012645	980115	Oct. 21, 2016	Oct. 20, 2017
Preamplifier EMCI	EMC 184045	980116	Oct. 21, 2016	Oct. 20, 2017
Preamplifier EMCI	EMC 330H	980112	Oct. 21, 2016	Oct. 20, 2017
Power Meter Anritsu	ML2495A	1232002	Sep. 08, 2016	Sep. 07, 2017
Power Sensor Anritsu	MA2411B	1207325	Sep. 08, 2016	Sep. 07, 2017
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309219/4 2950114	Oct. 21, 2016	Oct. 20, 2017
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250130/4	Oct. 21, 2016	Oct. 20, 2017
RF Coaxial Cable Worken	8D-FB	Cable-Ch10-01	Oct. 21, 2016	Oct. 20, 2017
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

- Note: 1. The calibration interval of the above test instruments is 12 / 24 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 FCC Site Registration No. is 690701.
5. The IC Site Registration No. is IC7450F-10.

4.1.4 Test Procedures

- a. The EUT was placed on the top of a rotating table 0.8 meters (for below 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:

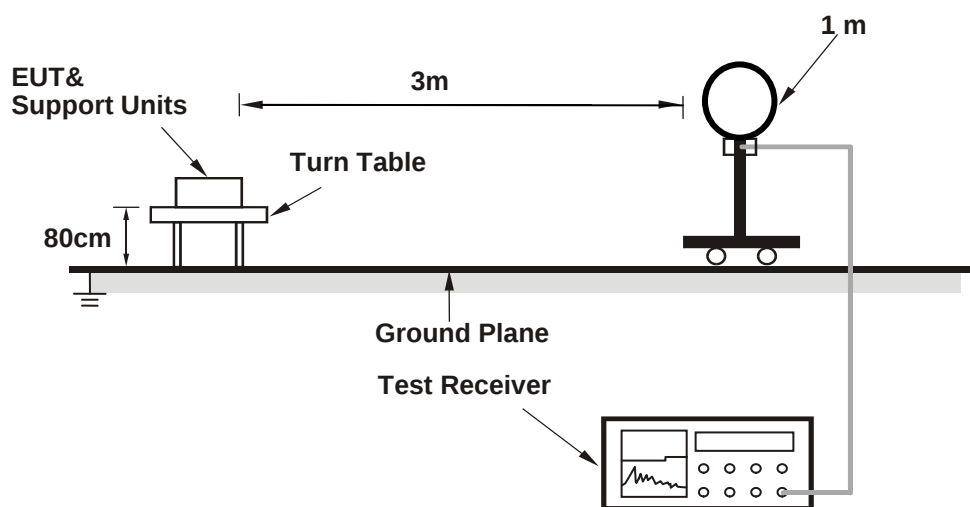
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz & 360 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 1/T for Average (Duty cycle < 98 %) detection at frequency above 1 GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz (Duty cycle ≥ 98 %) for Average detection (AV) at frequency above 1 GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

4.1.5 Deviation from Test Standard

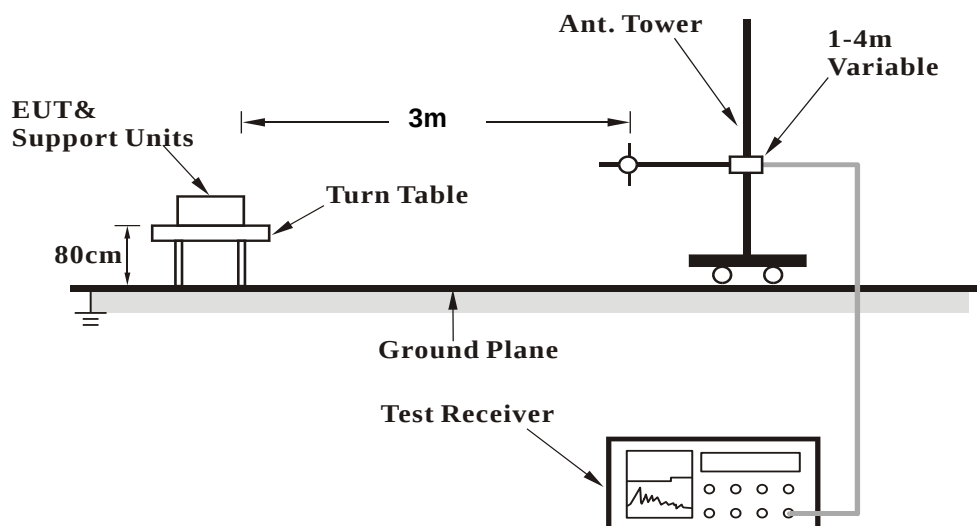
No deviation.

4.1.6 Test Set Up

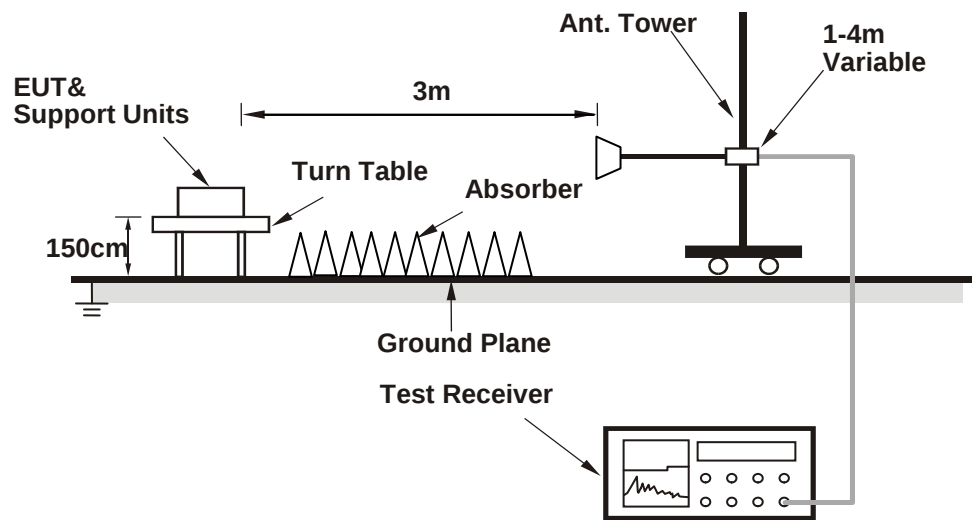
<Radiated emission below 30MHz>



<Frequency Range below 1 GHz>



<Frequency Range above 1 GHz>



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

4.1.7 EUT Operating Conditions

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

4.1.8 Test Results

Above 1 GHz Data :

802.11a

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5138.9	52.71	52.5	74	-21.29	31.31	6.2	37.3	214	104	Peak
5149.85	41.44	41.24	54	-12.56	31.32	6.2	37.32	214	104	Average
5180	93.38	93.15			31.35	6.22	37.34	214	104	Average
5180	102.64	102.41			31.35	6.22	37.34	214	104	Peak
*10360	55.67	59.57	68.2	-12.53	39.19	9.05	52.14	186	246	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
5145.2	53.93	53.73	74	-20.07	31.32	6.2	37.32	192	70	Peak
5150	42.63	42.43	54	-11.37	31.32	6.2	37.32	192	70	Average
5180	96.29	96.06			31.35	6.22	37.34	192	70	Average
5180	105.98	105.75			31.35	6.22	37.34	192	70	Peak
*10360	55.75	59.65	68.2	-12.45	39.19	9.05	52.14	149	292	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5180 MHz: Fundamental Frequency
- *: Out of Restricted Band

EUT Test Condition		Measurement Detail	
Channel	Channel 44	Frequency Range	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Getaz Yang

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5140.25	40.02	39.8	54	-13.98	31.32	6.2	37.3	214	105	Average
5144	52.2	52	74	-21.8	31.32	6.2	37.32	214	105	Peak
5220	93.5	93.25			31.37	6.24	37.36	214	105	Average
5220	102.78	102.53			31.37	6.24	37.36	214	105	Peak
5372.33	38.69	38.07	54	-15.31	31.49	6.31	37.18	214	105	Average
5392.9	51.02	50.38	74	-22.98	31.51	6.31	37.18	214	105	Peak
*10440	55	59.1	68.2	-13.2	39.29	9.09	52.48	176	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
5139.8	41.07	40.85	54	-12.93	31.32	6.2	37.3	193	71	Average
5145.8	52.51	52.31	74	-21.49	31.32	6.2	37.32	193	71	Peak
5220	96.51	96.26			31.37	6.24	37.36	193	71	Average
5220	105.95	105.7			31.37	6.24	37.36	193	71	Peak
5373.65	38.89	38.27	54	-15.11	31.49	6.31	37.18	193	71	Average
5420.84	51	50.33	74	-23	31.53	6.32	37.18	193	71	Peak
*10440	55.32	59.42	68.2	-12.88	39.29	9.09	52.48	157	296	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5220 MHz: Fundamental Frequency
- *: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5128.25	50.95	50.74	74	-23.05	31.31	6.2	37.3	214	102	Peak
5148.65	39.27	39.07	54	-14.73	31.32	6.2	37.32	214	102	Average
5240	93.56	93.24			31.39	6.25	37.32	214	102	Average
5240	102.66	102.34			31.39	6.25	37.32	214	102	Peak
5360.01	38.67	38.06	54	-15.33	31.48	6.31	37.18	214	102	Average
5416	50.65	49.98	74	-23.35	31.53	6.32	37.18	214	102	Peak
*10480	53.28	57.53	68.2	-14.92	39.37	9.09	52.71	191	249	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
5132.3	51.14	50.93	74	-22.86	31.31	6.2	37.3	191	68	Peak
5146.25	39.61	39.41	54	-14.39	31.32	6.2	37.32	191	68	Average
5240	96.54	96.22			31.39	6.25	37.32	191	68	Average
5240	105.98	105.66			31.39	6.25	37.32	191	68	Peak
5367.49	51.54	50.92	74	-22.46	31.49	6.31	37.18	191	68	Peak
5393.89	38.94	38.3	54	-15.06	31.51	6.31	37.18	191	68	Average
*10480	52.5	56.75	68.2	-15.7	39.37	9.09	52.71	143	287	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5240 MHz: Fundamental Frequency
- *: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5143.55	38.78	38.56	54	-15.22	31.32	6.2	37.3	189	106	Average
5143.7	51.16	50.94	74	-22.84	31.32	6.2	37.3	189	106	Peak
5260	91.96	91.57			31.41	6.25	37.27	189	106	Average
5260	101.23	100.84			31.41	6.25	37.27	189	106	Peak
5354.73	38.9	38.31	54	-15.1	31.48	6.29	37.18	189	106	Average
5392.24	50.73	50.09	74	-23.27	31.51	6.31	37.18	189	106	Peak
*10520	56.08	60.36	68.2	-12.12	39.43	9.12	52.83	176	162	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
5107.4	39.25	39.05	54	-14.75	31.29	6.19	37.28	183	82	Average
5136.2	51.83	51.62	74	-22.17	31.31	6.2	37.3	183	82	Peak
5260	95.16	94.77			31.41	6.25	37.27	183	82	Average
5260	104.53	104.14			31.41	6.25	37.27	183	82	Peak
5350.33	39.42	38.83	54	-14.58	31.48	6.29	37.18	183	82	Average
5368.92	51.11	50.49	74	-22.89	31.49	6.31	37.18	183	82	Peak
*10520	56.43	60.71	68.2	-11.77	39.43	9.12	52.83	139	243	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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5123.3	51.48	51.28	74	-22.52	31.31	6.19	37.3	191	110	Peak
5146.4	38.7	38.5	54	-15.3	31.32	6.2	37.32	191	110	Average
5300	91.86	91.34			31.44	6.27	37.19	191	110	Average
5300	101.18	100.66			31.44	6.27	37.19	191	110	Peak
5353.74	39.62	39.03	54	-14.38	31.48	6.29	37.18	191	110	Average
5371.34	51.32	50.7	74	-22.68	31.49	6.31	37.18	191	110	Peak
10600	45.02	48.7	54	-8.98	39.57	9.16	52.41	189	169	Average
10600	54.39	58.07	74	-19.61	39.57	9.16	52.41	189	169	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
5101.4	51.41	51.22	74	-22.59	31.28	6.19	37.28	185	80	Peak
5146.7	39.09	38.89	54	-14.91	31.32	6.2	37.32	185	80	Average
5300	95.12	94.6			31.44	6.27	37.19	185	80	Average
5300	104.45	103.93			31.44	6.27	37.19	185	80	Peak
5354.95	40.76	40.17	54	-13.24	31.48	6.29	37.18	185	80	Average
5365.51	51.95	51.33	74	-22.05	31.49	6.31	37.18	185	80	Peak
10600	44.83	48.51	54	-9.17	39.57	9.16	52.41	131	244	Average
10600	53.99	57.67	74	-20.01	39.57	9.16	52.41	131	244	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5300 MHz: Fundamental Frequency

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	91.91	91.36			31.45	6.29	37.19	190	108	Average
5320	101.1	100.55			31.45	6.29	37.19	190	108	Peak
5350.44	40.28	39.69	54	-13.72	31.48	6.29	37.18	190	108	Average
5350.44	51.76	51.17	74	-22.24	31.48	6.29	37.18	190	108	Peak
10640	45.31	48.76	54	-8.69	39.62	9.2	52.27	183	159	Average
10640	55.68	59.13	74	-18.32	39.62	9.2	52.27	183	159	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	95.2	94.65			31.45	6.29	37.19	186	77	Average
5320	104.32	103.77			31.45	6.29	37.19	186	77	Peak
5350	54.95	54.36	74	-19.05	31.48	6.29	37.18	186	77	Peak
5350.88	41.74	41.15	54	-12.26	31.48	6.29	37.18	186	77	Average
10640	45.08	48.53	54	-8.92	39.62	9.2	52.27	133	249	Average
10640	54.41	57.86	74	-19.59	39.62	9.2	52.27	133	249	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5320 MHz: Fundamental Frequency

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5435.44	52.56	51.82	74	-21.44	31.55	6.32	37.13	189	88	Peak
5456.08	40.15	39.33	54	-13.85	31.56	6.34	37.08	189	88	Average
*5468.24	55.07	54.24	68.2	-13.13	31.57	6.34	37.08	189	88	Peak
5500	90.63	89.7			31.6	6.36	37.03	189	88	Average
5500	99.52	98.59			31.6	6.36	37.03	189	88	Peak
*5725.72	51.34	50.06	68.2	-16.86	31.96	6.75	37.43	189	88	Peak
11000	48.53	52.43	54	-5.47	40.2	9.35	53.45	115	32	Average
11000	58.46	62.36	74	-15.54	40.2	9.35	53.45	115	32	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
5444.4	53.65	52.89	74	-20.35	31.55	6.34	37.13	187	89	Peak
5459.92	40.93	40.11	54	-13.07	31.56	6.34	37.08	187	89	Average
*5470.8	54.63	53.8	68.2	-13.57	31.57	6.34	37.08	187	89	Peak
5500	92.3	91.37			31.6	6.36	37.03	187	89	Average
5500	101.33	100.4			31.6	6.36	37.03	187	89	Peak
*5724.52	50.6	49.38	68.2	-17.6	31.96	6.69	37.43	187	89	Peak
11000	49.18	53.08	54	-4.82	40.2	9.35	53.45	116	237	Average
11000	57.61	61.51	74	-16.39	40.2	9.35	53.45	116	237	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5500 MHz: Fundamental Frequency
- *: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5426.16	50.7	49.98	74	-23.3	31.53	6.32	37.13	187	88	Peak
5426.8	39.05	38.33	54	-14.95	31.53	6.32	37.13	187	88	Average
*5470.32	49.66	48.83	68.2	-18.54	31.57	6.34	37.08	187	88	Peak
5580	91.11	90.07			31.71	6.49	37.16	187	88	Average
5580	100.21	99.17			31.71	6.49	37.16	187	88	Peak
*5725.8	50.56	49.28	68.2	-17.64	31.96	6.75	37.43	187	88	Peak
11160	49.22	52.94	54	-4.78	40.1	9.57	53.39	100	32	Average
11160	58.52	62.24	74	-15.48	40.1	9.57	53.39	100	32	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
5427.12	39.33	38.61	54	-14.67	31.53	6.32	37.13	191	89	Average
5441.36	50.92	50.16	74	-23.08	31.55	6.34	37.13	191	89	Peak
*5469.52	50.97	50.14	68.2	-17.23	31.57	6.34	37.08	191	89	Peak
5580	91.68	90.64			31.71	6.49	37.16	191	89	Average
5580	101.01	99.97			31.71	6.49	37.16	191	89	Peak
*5725.72	50.88	49.6	68.2	-17.32	31.96	6.75	37.43	191	89	Peak
11160	50.35	54.07	54	-3.65	40.1	9.57	53.39	104	236	Average
11160	60.31	64.03	74	-13.69	40.1	9.57	53.39	104	236	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5580 MHz: Fundamental Frequency
- *: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5409.04	38.65	37.99	54	-15.35	31.52	6.32	37.18	195	88	Average
5459.6	50.98	50.16	74	-23.02	31.56	6.34	37.08	195	88	Peak
*5470.64	49.67	48.84	68.2	-18.53	31.57	6.34	37.08	195	88	Peak
5700	92.39	91.2			31.9	6.69	37.4	195	88	Average
5700	101.59	100.4			31.9	6.69	37.4	195	88	Peak
*5723.96	54.2	52.98	68.2	-14	31.96	6.69	37.43	195	88	Peak
11400	49.72	51.98	54	-4.28	39.96	9.91	52.13	102	49	Average
11400	61.58	63.84	74	-12.42	39.96	9.91	52.13	102	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
5369.36	51.8	51.18	74	-22.2	31.49	6.31	37.18	190	89	Peak
5438.96	38.84	38.08	54	-15.16	31.55	6.34	37.13	190	89	Average
*5470.32	50.42	49.59	68.2	-17.78	31.57	6.34	37.08	190	89	Peak
5700	93	91.81			31.9	6.69	37.4	190	89	Average
5700	102.03	100.84			31.9	6.69	37.4	190	89	Peak
*5724.68	56.22	55	68.2	-11.98	31.96	6.69	37.43	190	89	Peak
11400	50.43	52.69	54	-3.57	39.96	9.91	52.13	106	238	Average
11400	60.71	62.97	74	-13.29	39.96	9.91	52.13	106	238	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5700 MHz: Fundamental Frequency
- *: Out of Restricted Band

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	91.72	90.45			31.99	6.75	37.47	204	81	Average
5745	101.27	100			31.99	6.75	37.47	204	81	Peak
11490	46.07	48.96	54	-7.93	39.91	10.03	52.83	152	114	Average
11490	59.26	62.15	74	-14.74	39.91	10.03	52.83	152	114	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	92.78	91.51			31.99	6.75	37.47	208	243	Average
5745	102.18	100.91			31.99	6.75	37.47	208	243	Peak
11490	46.02	48.91	54	-7.98	39.91	10.03	52.83	136	220	Average
11490	57.29	60.18	74	-16.71	39.91	10.03	52.83	136	220	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
*5589.425	51.46	50.39	68.2	-16.74	31.74	6.49	37.16	204	81	Peak
5655.925	50.62	49.49	72.6	-21.98	31.85	6.62	37.34	204	81	Peak
5920.025	51.15	49.38	71.87	-20.72	32.26	7.01	37.5	204	81	Peak
*5998.875	52.11	50.08	68.2	-16.09	32.4	7.14	37.51	204	81	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
*5569.475	50.38	49.3	68.2	-17.82	31.71	6.49	37.12	208	243	Peak
5653.55	52.17	50.98	70.84	-18.67	31.85	6.62	37.28	208	243	Peak
5917.65	53.17	51.4	73.62	-20.45	32.26	7.01	37.5	208	243	Peak
*6005.05	52.3	50.27	68.2	-15.9	32.4	7.14	37.51	208	243	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5745 MHz: Fundamental Frequency
- *: Out of Restricted Band

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	91.83	90.51			32.04	6.82	37.54	204	79	Average
5785	101.4	100.08			32.04	6.82	37.54	204	79	Peak
11570	45.49	48.95	54	-8.51	39.78	10.09	53.33	158	118	Average
11570	55.4	58.86	74	-18.6	39.78	10.09	53.33	158	118	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	93.2	91.88			32.04	6.82	37.54	206	244	Average
5785	102.53	101.21			32.04	6.82	37.54	206	244	Peak
11570	45.24	48.7	54	-8.76	39.78	10.09	53.33	148	215	Average
11570	55.42	58.88	74	-18.58	39.78	10.09	53.33	148	215	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
*5602.725	50.53	49.36	68.2	-17.67	31.77	6.56	37.16	204	79	Peak
5654.5	50.19	49.06	71.54	-21.35	31.85	6.62	37.34	204	79	Peak
5921.925	51.21	49.41	70.47	-19.26	32.29	7.01	37.5	204	79	Peak
*5970.375	52.48	50.57	68.2	-15.72	32.34	7.08	37.51	204	79	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
*5602.725	50.99	49.82	68.2	-17.21	31.77	6.56	37.16	206	244	Peak
5655.45	50.59	49.46	72.25	-21.66	31.85	6.62	37.34	206	244	Peak
5919.55	52.12	50.35	72.22	-20.1	32.26	7.01	37.5	206	244	Peak
*5968.95	52.55	50.64	68.2	-15.65	32.34	7.08	37.51	206	244	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5785 MHz: Fundamental Frequency
- *: Out of Restricted Band

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	91.98	90.51			32.12	6.88	37.53	204	81	Average
5825	101.5	100.03			32.12	6.88	37.53	204	81	Peak
11650	45.34	48.89	54	-8.66	39.65	10.15	53.35	147	122	Average
11650	56.58	60.13	74	-17.42	39.65	10.15	53.35	147	122	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	93.6	92.13			32.12	6.88	37.53	205	241	Average
5825	102.9	101.43			32.12	6.88	37.53	205	241	Peak
11650	45.14	48.69	54	-8.86	39.65	10.15	53.35	137	228	Average
11650	55.72	59.27	74	-18.28	39.65	10.15	53.35	137	228	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
*5572.325	51.06	49.98	68.2	-17.14	31.71	6.49	37.12	204	81	Peak
5656.875	50.87	49.74	73.31	-22.44	31.85	6.62	37.34	204	81	Peak
5920.5	52	50.23	71.52	-19.52	32.26	7.01	37.5	204	81	Peak
*5977.025	52.14	50.2	68.2	-16.06	32.37	7.08	37.51	204	81	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
*5575.175	50.79	49.71	68.2	-17.41	31.71	6.49	37.12	205	241	Peak
5656.875	51	49.87	73.31	-22.31	31.85	6.62	37.34	205	241	Peak
5918.125	51.78	50.01	73.27	-21.49	32.26	7.01	37.5	205	241	Peak
*5985.575	52.65	50.65	68.2	-15.55	32.37	7.14	37.51	205	241	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5825 MHz: Fundamental Frequency
- *: Out of Restricted Band

802.11n (HT20)

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5143.1	53.02	52.8	74	-20.98	31.32	6.2	37.3	214	106	Peak
5149.7	42.06	41.86	54	-11.94	31.32	6.2	37.32	214	106	Average
5180	93.49	93.26			31.35	6.22	37.34	214	106	Average
5180	102.65	102.42			31.35	6.22	37.34	214	106	Peak
*10360	53.58	57.48	68.2	-14.62	39.19	9.05	52.14	185	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
5150	43.62	43.42	54	-10.38	31.32	6.2	37.32	192	72	Average
5150	56.47	56.27	74	-17.53	31.32	6.2	37.32	192	72	Peak
5180	96.53	96.3			31.35	6.22	37.34	192	72	Average
5180	105.96	105.73			31.35	6.22	37.34	192	72	Peak
*10360	54.12	58.02	68.2	-14.08	39.19	9.05	52.14	152	309	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5180 MHz: Fundamental Frequency
- *: Out of Restricted Band

EUT Test Condition		Measurement Detail	
Channel	Channel 44	Frequency Range	1 GHz ~ 40 GHz
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Average (AV)
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Getaz Yang

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5140.1	40.4	40.18	54	-13.6	31.32	6.2	37.3	211	104	Average
5146.85	52.51	52.31	74	-21.49	31.32	6.2	37.32	211	104	Peak
5220	93.5	93.25			31.37	6.24	37.36	211	104	Average
5220	102.63	102.38			31.37	6.24	37.36	211	104	Peak
5371.89	38.8	38.18	54	-15.2	31.49	6.31	37.18	211	104	Average
5441.08	51.35	50.59	74	-22.65	31.55	6.34	37.13	211	104	Peak
*10440	53.8	57.9	68.2	-14.4	39.29	9.09	52.48	182	241	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
5139.95	41.26	41.04	54	-12.74	31.32	6.2	37.3	192	69	Average
5147.9	52.43	52.23	74	-21.57	31.32	6.2	37.32	192	69	Peak
5220	96.4	96.15			31.37	6.24	37.36	192	69	Average
5220	105.92	105.67			31.37	6.24	37.36	192	69	Peak
5372.11	39.01	38.39	54	-14.99	31.49	6.31	37.18	192	69	Average
5372.77	52.01	51.39	74	-21.99	31.49	6.31	37.18	192	69	Peak
*10440	53.29	57.39	68.2	-14.91	39.29	9.09	52.48	140	300	Peak

Remarks:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5220 MHz: Fundamental Frequency
3. *: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5130.2	51.3	51.09	74	-22.7	31.31	6.2	37.3	211	100	Peak
5149.55	39.15	38.95	54	-14.85	31.32	6.2	37.32	211	100	Average
5240	93.53	93.21			31.39	6.25	37.32	211	100	Average
5240	102.69	102.37			31.39	6.25	37.32	211	100	Peak
5402.14	51.34	50.68	74	-22.66	31.52	6.32	37.18	211	100	Peak
5405.55	38.76	38.1	54	-15.24	31.52	6.32	37.18	211	100	Average
*10480	53.28	57.53	68.2	-14.92	39.37	9.09	52.71	188	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
5137.85	51.46	51.25	74	-22.54	31.31	6.2	37.3	191	66	Peak
5148.2	39.74	39.54	54	-14.26	31.32	6.2	37.32	191	66	Average
5240	96.55	96.23			31.39	6.25	37.32	191	66	Average
5240	105.92	105.6			31.39	6.25	37.32	191	66	Peak
5352.53	38.89	38.3	54	-15.11	31.48	6.29	37.18	191	66	Average
5401.81	51.79	51.13	74	-22.21	31.52	6.32	37.18	191	66	Peak
*10480	53.28	57.53	68.2	-14.92	39.37	9.09	52.71	148	307	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5240 MHz: Fundamental Frequency
- *: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5038.85	50.71	50.56	74	-23.29	31.24	6.15	37.24	190	104	Peak
5133.65	38.76	38.55	54	-15.24	31.31	6.2	37.3	190	104	Average
5260	91.91	91.52			31.41	6.25	37.27	190	104	Average
5260	101.2	100.81			31.41	6.25	37.27	190	104	Peak
5371.23	51.26	50.64	74	-22.74	31.49	6.31	37.18	190	104	Peak
5411.82	38.89	38.22	54	-15.11	31.53	6.32	37.18	190	104	Average
*10520	53.6	57.88	68.2	-14.6	39.43	9.12	52.83	182	178	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
5077.4	51.23	51.06	74	-22.77	31.27	6.17	37.27	182	84	Peak
5106.8	39.22	39.02	54	-14.78	31.29	6.19	37.28	182	84	Average
5260	95.06	94.67			31.41	6.25	37.27	182	84	Average
5260	104.41	104.02			31.41	6.25	37.27	182	84	Peak
5350.88	39.67	39.08	54	-14.33	31.48	6.29	37.18	182	84	Average
5361.33	51.31	50.69	74	-22.69	31.49	6.31	37.18	182	84	Peak
*10520	54.54	58.82	68.2	-13.66	39.43	9.12	52.83	148	252	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

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5147.9	38.96	38.76	54	-15.04	31.32	6.2	37.32	189	107	Average
5148.05	51.43	51.23	74	-22.57	31.32	6.2	37.32	189	107	Peak
5300	91.86	91.34			31.44	6.27	37.19	189	107	Average
5300	101.11	100.59			31.44	6.27	37.19	189	107	Peak
5352.86	39.73	39.14	54	-14.27	31.48	6.29	37.18	189	107	Average
5371.34	51.75	51.13	74	-22.25	31.49	6.31	37.18	189	107	Peak
10600	44.97	48.65	54	-9.03	39.57	9.16	52.41	177	161	Average
10600	54.55	58.23	74	-19.45	39.57	9.16	52.41	177	161	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
5112.2	50.8	50.6	74	-23.2	31.29	6.19	37.28	183	80	Peak
5148.2	39.41	39.21	54	-14.59	31.32	6.2	37.32	183	80	Average
5300	95.22	94.7			31.44	6.27	37.19	183	80	Average
5300	104.52	104			31.44	6.27	37.19	183	80	Peak
5351.87	41.09	40.5	54	-12.91	31.48	6.29	37.18	183	80	Average
5358.47	54.12	53.51	74	-19.88	31.48	6.31	37.18	183	80	Peak
10600	44.92	48.6	54	-9.08	39.57	9.16	52.41	142	238	Average
10600	55.43	59.11	74	-18.57	39.57	9.16	52.41	142	238	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5300 MHz: Fundamental Frequency

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5320	92.13	91.58			31.45	6.29	37.19	188	109	Average
5320	101.35	100.8			31.45	6.29	37.19	188	109	Peak
5350.55	40.97	40.38	54	-13.03	31.48	6.29	37.18	188	109	Average
5353.3	53.34	52.75	74	-20.66	31.48	6.29	37.18	188	109	Peak
10640	45.23	48.68	54	-8.77	39.62	9.2	52.27	188	166	Average
10640	55.73	59.18	74	-18.27	39.62	9.2	52.27	188	166	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	95.25	94.7			31.45	6.29	37.19	184	77	Average
5320	104.63	104.08			31.45	6.29	37.19	184	77	Peak
5350	42.99	42.4	54	-11.01	31.48	6.29	37.18	184	77	Average
5350.66	56.02	55.43	74	-17.98	31.48	6.29	37.18	184	77	Peak
10640	45.26	48.71	54	-8.74	39.62	9.2	52.27	137	228	Average
10640	55.5	58.95	74	-18.5	39.62	9.2	52.27	137	228	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5320 MHz: Fundamental Frequency

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5453.84	52.31	51.49	74	-21.69	31.56	6.34	37.08	195	85	Peak
5458	40.38	39.56	54	-13.62	31.56	6.34	37.08	195	85	Average
*5468.08	54.87	54.04	68.2	-13.33	31.57	6.34	37.08	195	85	Peak
5500	91.44	90.51			31.6	6.36	37.03	195	85	Average
5500	100.84	99.91			31.6	6.36	37.03	195	85	Peak
*5726.04	50.2	48.92	68.2	-18	31.96	6.75	37.43	195	85	Peak
11000	47.34	51.24	54	-6.66	40.2	9.35	53.45	108	51	Average
11000	57.95	61.85	74	-16.05	40.2	9.35	53.45	108	51	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
5422.8	53.05	52.38	74	-20.95	31.53	6.32	37.18	189	88	Peak
5456.08	40.82	40	54	-13.18	31.56	6.34	37.08	189	88	Average
*5470.96	56.48	55.65	68.2	-11.72	31.57	6.34	37.08	189	88	Peak
5500	92.11	91.18			31.6	6.36	37.03	189	88	Average
5500	102.46	101.53			31.6	6.36	37.03	189	88	Peak
*5725.64	51	49.72	68.2	-17.2	31.96	6.75	37.43	189	88	Peak
11000	48.08	51.98	54	-5.92	40.2	9.35	53.45	107	221	Average
11000	58	61.9	74	-16	40.2	9.35	53.45	107	221	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5500 MHz: Fundamental Frequency
- *: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5427.92	39.28	38.56	54	-14.72	31.53	6.32	37.13	194	86	Average
5453.68	50.9	50.08	74	-23.1	31.56	6.34	37.08	194	86	Peak
*5468.4	50.02	49.19	68.2	-18.18	31.57	6.34	37.08	194	86	Peak
5580	91.76	90.72			31.71	6.49	37.16	194	86	Average
5580	100.86	99.82			31.71	6.49	37.16	194	86	Peak
*5724.2	51.19	49.97	68.2	-17.01	31.96	6.69	37.43	194	86	Peak
11600	47.08	50.69	54	-6.92	39.71	10.09	53.41	100	33	Average
11600	57.15	60.76	74	-16.85	39.71	10.09	53.41	100	33	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
5413.36	52	51.33	74	-22	31.53	6.32	37.18	187	88	Peak
5426.32	39.5	38.78	54	-14.5	31.53	6.32	37.13	187	88	Average
*5469.36	49.76	48.93	68.2	-18.44	31.57	6.34	37.08	187	88	Peak
5580	92.73	91.69			31.71	6.49	37.16	187	88	Average
5580	101.88	100.84			31.71	6.49	37.16	187	88	Peak
*5724.36	50.25	49.03	68.2	-17.95	31.96	6.69	37.43	187	88	Peak
11600	48.07	51.68	54	-5.93	39.71	10.09	53.41	106	236	Average
11600	57.7	61.31	74	-16.3	39.71	10.09	53.41	106	236	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5580 MHz: Fundamental Frequency
- *: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5437.84	50.68	49.92	74	-23.32	31.55	6.34	37.13	186	74	Peak
5458	38.63	37.81	54	-15.37	31.56	6.34	37.08	186	74	Average
*5468.72	49.52	48.69	68.2	-18.68	31.57	6.34	37.08	186	74	Peak
5700	91.35	90.16			31.9	6.69	37.4	186	74	Average
5700	100.8	99.61			31.9	6.69	37.4	186	74	Peak
*5724.12	57.04	55.82	68.2	-11.16	31.96	6.69	37.43	186	74	Peak
11400	47.42	49.68	54	-6.58	39.96	9.91	52.13	103	26	Average
11400	58.99	61.25	74	-15.01	39.96	9.91	52.13	103	26	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
5378.32	50.95	50.31	74	-23.05	31.51	6.31	37.18	179	72	Peak
5448.56	38.63	37.86	54	-15.37	31.56	6.34	37.13	179	72	Average
*5469.36	50.21	49.38	68.2	-17.99	31.57	6.34	37.08	179	72	Peak
5700	92.65	91.46			31.9	6.69	37.4	179	72	Average
5700	101.87	100.68			31.9	6.69	37.4	179	72	Peak
*5724.28	58.87	57.65	68.2	-9.33	31.96	6.69	37.43	179	72	Peak
11400	48.85	51.11	54	-5.15	39.96	9.91	52.13	108	227	Average
11400	60	62.26	74	-14	39.96	9.91	52.13	108	227	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5700 MHz: Fundamental Frequency
- *: Out of Restricted Band

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5745	91.76	90.49			31.99	6.75	37.47	207	77	Average
5745	101.41	100.14			31.99	6.75	37.47	207	77	Peak
11490	45.86	48.75	54	-8.14	39.91	10.03	52.83	149	129	Average
11490	55.61	58.5	74	-18.39	39.91	10.03	52.83	149	129	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	93.15	91.88			31.99	6.75	37.47	208	242	Average
5745	102.52	101.25			31.99	6.75	37.47	208	242	Peak
11490	45.77	48.66	54	-8.23	39.91	10.03	52.83	139	219	Average
11490	56.03	58.92	74	-17.97	39.91	10.03	52.83	139	219	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
*5595.6	50.99	49.92	68.2	-17.21	31.74	6.49	37.16	207	77	Peak
5657.35	50.42	49.29	73.66	-23.24	31.85	6.62	37.34	207	77	Peak
5922.875	50.75	48.95	69.77	-19.02	32.29	7.01	37.5	207	77	Peak
*5982.25	51.52	49.58	68.2	-16.68	32.37	7.08	37.51	207	77	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
*5558.075	50.77	49.79	68.2	-17.43	31.68	6.42	37.12	208	242	Peak
5654.5	50.74	49.61	71.54	-20.8	31.85	6.62	37.34	208	242	Peak
5916.7	51.57	49.8	74.32	-22.75	32.26	7.01	37.5	208	242	Peak
*5977.5	52.26	50.32	68.2	-15.94	32.37	7.08	37.51	208	242	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5745 MHz: Fundamental Frequency
- *: Out of Restricted Band

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5785	91.75	90.43			32.04	6.82	37.54	206	78	Average
5785	101.43	100.11			32.04	6.82	37.54	206	78	Peak
11570	45.23	48.69	54	-8.77	39.78	10.09	53.33	144	115	Average
11570	54.58	58.04	74	-19.42	39.78	10.09	53.33	144	115	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	93.23	91.91			32.04	6.82	37.54	208	245	Average
5785	102.6	101.28			32.04	6.82	37.54	208	245	Peak
11570	45.33	48.79	54	-8.67	39.78	10.09	53.33	132	223	Average
11570	55.51	58.97	74	-18.49	39.78	10.09	53.33	132	223	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
*5555.225	50.25	49.27	68.2	-17.95	31.68	6.42	37.12	206	78	Peak
5656.875	51.1	49.97	73.31	-22.21	31.85	6.62	37.34	206	78	Peak
5919.55	51.39	49.62	72.22	-20.83	32.26	7.01	37.5	206	78	Peak
*5963.725	52.07	50.16	68.2	-16.13	32.34	7.08	37.51	206	78	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
*5579.45	50.67	49.63	68.2	-17.53	31.71	6.49	37.16	208	245	Peak
5654.025	51.06	49.93	71.19	-20.13	31.85	6.62	37.34	208	245	Peak
5917.65	51.35	49.58	73.62	-22.27	32.26	7.01	37.5	208	245	Peak
*5970.85	52.98	51.07	68.2	-15.22	32.34	7.08	37.51	208	245	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5785 MHz: Fundamental Frequency
- *: Out of Restricted Band

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5825	98.84	97.37			32.12	6.88	37.53	205	83	Average
5825	101.42	99.95			32.12	6.88	37.53	205	83	Peak
11650	45.07	48.62	54	-8.93	39.65	10.15	53.35	156	126	Average
11650	53.02	56.57	74	-20.98	39.65	10.15	53.35	156	126	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	93.38	91.91			32.12	6.88	37.53	206	242	Average
5825	102.68	101.21			32.12	6.88	37.53	206	242	Peak
11650	44.94	48.49	54	-9.06	39.65	10.15	53.35	131	216	Average
11650	53.88	57.43	74	-20.12	39.65	10.15	53.35	131	216	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
*5592.275	51.49	50.42	68.2	-16.71	31.74	6.49	37.16	205	83	Peak
5653.55	50.16	48.97	70.84	-20.68	31.85	6.62	37.28	205	83	Peak
5921.45	51.92	50.15	70.82	-18.9	32.26	7.01	37.5	205	83	Peak
*5981.3	52.53	50.59	68.2	-15.67	32.37	7.08	37.51	205	83	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
*5592.275	50.35	49.28	68.2	-17.85	31.74	6.49	37.16	206	242	Peak
5654.5	51.16	50.03	71.54	-20.38	31.85	6.62	37.34	206	242	Peak
5916.225	51.71	49.94	74.67	-22.96	32.26	7.01	37.5	206	242	Peak
*5962.775	52.21	50.3	68.2	-15.99	32.34	7.08	37.51	206	242	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5825 MHz: Fundamental Frequency
- *: Out of Restricted Band

802.11n (HT40)

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5149.7	64.62	64.42	74	-9.38	31.32	6.2	37.32	214	102	Peak
5150	50.96	50.76	54	-3.04	31.32	6.2	37.32	214	102	Average
5190	90.03	89.8			31.35	6.22	37.34	214	102	Average
5190	99.75	99.52			31.35	6.22	37.34	214	102	Peak
5398.18	51.28	50.62	74	-22.72	31.52	6.32	37.18	214	102	Peak
5443.17	39.03	38.27	54	-14.97	31.55	6.34	37.13	214	102	Average
*10380	53.75	57.74	68.2	-14.45	39.21	9.05	52.25	174	260	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
5149.1	67.51	67.31	74	-6.49	31.32	6.2	37.32	192	68	Peak
5149.25	52.53	52.33	54	-1.47	31.32	6.2	37.32	192	68	Average
5190	92.67	92.44			31.35	6.22	37.34	192	68	Average
5190	102.47	102.24			31.35	6.22	37.34	192	68	Peak
5384.21	50.99	50.35	74	-23.01	31.51	6.31	37.18	192	68	Peak
5407.09	39.04	38.38	54	-14.96	31.52	6.32	37.18	192	68	Average
*10380	53.6	57.59	68.2	-14.6	39.21	9.05	52.25	142	302	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5190 MHz: Fundamental Frequency
- *: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5036.3	51.8	51.66	74	-22.2	31.23	6.15	37.24	214	108	Peak
5149.4	40.29	40.09	54	-13.71	31.32	6.2	37.32	214	108	Average
5230	90.49	90.18			31.39	6.24	37.32	214	108	Average
5230	99.52	99.21			31.39	6.24	37.32	214	108	Peak
5423.81	51.52	50.85	74	-22.48	31.53	6.32	37.18	214	108	Peak
5443.61	39.05	38.29	54	-14.95	31.55	6.34	37.13	214	108	Average
*10460	54.39	58.58	68.2	-13.81	39.32	9.09	52.6	189	255	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
5148.05	52.89	52.69	74	-21.11	31.32	6.2	37.32	192	70	Peak
5150	41.44	41.24	54	-12.56	31.32	6.2	37.32	192	70	Average
5230	93.6	93.29			31.39	6.24	37.32	192	70	Average
5230	102.85	102.54			31.39	6.24	37.32	192	70	Peak
5365.4	39.5	38.88	54	-14.5	31.49	6.31	37.18	192	70	Average
5374.2	51.53	50.91	74	-22.47	31.49	6.31	37.18	192	70	Peak
*10460	53.9	58.09	68.2	-14.3	39.32	9.09	52.6	158	294	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5230 MHz: Fundamental Frequency
- *: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5091.95	51.02	50.82	74	-22.98	31.28	6.19	37.27	189	108	Peak
5120	39.4	39.22	54	-14.6	31.29	6.19	37.3	189	108	Average
5270	90.15	89.76			31.41	6.25	37.27	189	108	Average
5270	99.25	98.86			31.41	6.25	37.27	189	108	Peak
5353.52	51.44	50.85	74	-22.56	31.48	6.29	37.18	189	108	Peak
5356.16	39.46	38.87	54	-14.54	31.48	6.29	37.18	189	108	Average
*10520	52.92	57.2	68.2	-15.28	39.43	9.12	52.83	172	176	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
5123.45	40.4	40.2	54	-13.6	31.31	6.19	37.3	185	82	Average
5149.4	51.11	50.91	74	-22.89	31.32	6.2	37.32	185	82	Peak
5270	93.65	93.26			31.41	6.25	37.27	185	82	Average
5270	102.69	102.3			31.41	6.25	37.27	185	82	Peak
5351.1	40.47	39.88	54	-13.53	31.48	6.29	37.18	185	82	Average
5354.4	52.13	51.54	74	-21.87	31.48	6.29	37.18	185	82	Peak
*10540	53.95	58.06	68.2	-14.25	39.46	9.12	52.69	132	247	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5270 MHz: Fundamental Frequency
- *: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5147.15	50.64	50.44	74	-23.36	31.32	6.2	37.32	187	105	Peak
5147.3	38.92	38.72	54	-15.08	31.32	6.2	37.32	187	105	Average
5310	88.59	88.06			31.45	6.27	37.19	187	105	Average
5310	98.59	98.06			31.45	6.27	37.19	187	105	Peak
5350.22	49.3	48.71	54	-4.7	31.48	6.29	37.18	187	105	Average
5350.44	63.39	62.8	74	-10.61	31.48	6.29	37.18	187	105	Peak
10620	44.73	48.32	54	-9.27	39.59	9.16	52.34	171	168	Average
10620	57.64	61.23	74	-16.36	39.59	9.16	52.34	171	168	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	51.08	50.87	74	-22.92	31.31	6.2	37.3	182	78	Peak
5139.5	39.42	39.2	54	-14.58	31.32	6.2	37.3	182	78	Average
5310	92.71	92.18			31.45	6.27	37.19	182	78	Average
5310	102	101.47			31.45	6.27	37.19	182	78	Peak
5350	52.3	51.71	54	-1.7	31.48	6.29	37.18	182	78	Average
5350	67.47	66.88	74	-6.53	31.48	6.29	37.18	182	78	Peak
10620	44.56	48.15	54	-9.44	39.59	9.16	52.34	141	256	Average
10620	57.02	60.61	74	-16.98	39.59	9.16	52.34	141	256	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5310 MHz: Fundamental Frequency

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5459.28	59.6	58.78	74	-14.4	31.56	6.34	37.08	182	75	Peak
5460.08	45.33	44.51	54	-8.67	31.56	6.34	37.08	182	75	Average
*5468.56	65.45	64.62	68.2	-2.75	31.57	6.34	37.08	182	75	Peak
5510	88.72	87.82			31.6	6.36	37.06	182	75	Average
5510	98.29	97.39			31.6	6.36	37.06	182	75	Peak
*5724.52	51.72	50.5	68.2	-16.48	31.96	6.69	37.43	182	75	Peak
11020	46.22	50.17	54	-7.78	40.19	9.35	53.49	102	38	Average
11020	56.12	60.07	74	-17.88	40.19	9.35	53.49	102	38	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
5458	61.06	60.24	74	-12.94	31.56	6.34	37.08	179	77	Peak
5460.08	47.83	47.01	54	-6.17	31.56	6.34	37.08	179	77	Average
*5470	66.2	65.37	68.2	-2	31.57	6.34	37.08	179	77	Peak
5510	89.94	89.04			31.6	6.36	37.06	179	77	Average
5510	99.48	98.58			31.6	6.36	37.06	179	77	Peak
*5725.16	51.07	49.79	68.2	-17.13	31.96	6.75	37.43	179	77	Peak
11020	47.63	51.58	54	-6.37	40.19	9.35	53.49	106	244	Average
11020	57.09	61.04	74	-16.91	40.19	9.35	53.49	106	244	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5510 MHz: Fundamental Frequency
- *: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5401.36	39.6	38.94	54	-14.4	31.52	6.32	37.18	181	69	Average
5451.76	50.75	49.93	74	-23.25	31.56	6.34	37.08	181	69	Peak
*5469.04	50.63	49.8	68.2	-17.57	31.57	6.34	37.08	181	69	Peak
5550	88.73	87.72			31.68	6.42	37.09	181	69	Average
5550	98.26	97.25			31.68	6.42	37.09	181	69	Peak
*5725.56	51.02	49.74	68.2	-17.18	31.96	6.75	37.43	181	69	Peak
11100	46.25	50.26	54	-7.75	40.14	9.46	53.61	106	37	Average
11100	55.71	59.72	74	-18.29	40.14	9.46	53.61	106	37	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
5402.32	40.33	39.67	54	-13.67	31.52	6.32	37.18	179	79	Average
5449.68	52.54	51.77	74	-21.46	31.56	6.34	37.13	179	79	Peak
*5469.84	51.59	50.76	68.2	-16.61	31.57	6.34	37.08	179	79	Peak
5550	90.07	89.06			31.68	6.42	37.09	179	79	Average
5550	99.41	98.4			31.68	6.42	37.09	179	79	Peak
*5725.64	51.04	49.76	68.2	-17.16	31.96	6.75	37.43	179	79	Peak
11100	47.25	51.26	54	-6.75	40.14	9.46	53.61	109	248	Average
11100	56.21	60.22	74	-17.79	40.14	9.46	53.61	109	248	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5550 MHz: Fundamental Frequency
- *: Out of Restricted Band

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

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5405.04	39.15	38.49	54	-14.85	31.52	6.32	37.18	184	71	Average
5439.28	50.22	49.46	74	-23.78	31.55	6.34	37.13	184	71	Peak
*5469.68	49.56	48.73	68.2	-18.64	31.57	6.34	37.08	184	71	Peak
5670	88.88	87.72			31.88	6.62	37.34	184	71	Average
5670	98.29	97.13			31.88	6.62	37.34	184	71	Peak
*5724.04	53.61	52.39	68.2	-14.59	31.96	6.69	37.43	184	71	Peak
11340	47.42	50.13	54	-6.58	40	9.8	52.51	108	25	Average
11340	57.76	60.47	74	-16.24	40	9.8	52.51	108	25	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
5420.4	50.61	49.94	74	-23.39	31.53	6.32	37.18	179	75	Peak
5434.8	39.08	38.34	54	-14.92	31.55	6.32	37.13	179	75	Average
*5470.64	50.09	49.26	68.2	-18.11	31.57	6.34	37.08	179	75	Peak
5670	89.95	88.79			31.88	6.62	37.34	179	75	Average
5670	99.46	98.3			31.88	6.62	37.34	179	75	Peak
*5725.32	55.21	53.93	68.2	-12.99	31.96	6.75	37.43	179	75	Peak
11340	48.28	50.99	54	-5.72	40	9.8	52.51	102	239	Average
11340	57.07	59.78	74	-16.93	40	9.8	52.51	102	239	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5670 MHz: Fundamental Frequency
- *: Out of Restricted Band

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5755	88.74	87.45			32.01	6.75	37.47	207	79	Average
5755	98.34	97.05			32.01	6.75	37.47	207	79	Peak
11510	45.58	48.72	54	-8.42	39.9	10.03	53.07	161	111	Average
11510	56.27	59.41	74	-17.73	39.9	10.03	53.07	161	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	90.92	89.63			32.01	6.75	37.47	208	244	Average
5755	100.53	99.24			32.01	6.75	37.47	208	244	Peak
11510	45.53	48.67	54	-8.47	39.9	10.03	53.07	128	211	Average
11510	55.33	58.47	74	-18.67	39.9	10.03	53.07	128	211	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
*5601.775	52.14	50.97	68.2	-16.06	31.77	6.56	37.16	207	79	Peak
5657.825	49.92	48.79	74.01	-24.09	31.85	6.62	37.34	207	79	Peak
5921.45	50.84	49.07	70.82	-19.98	32.26	7.01	37.5	207	79	Peak
*6005.525	51.8	49.77	68.2	-16.4	32.4	7.14	37.51	207	79	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
*5584.675	51.24	50.17	68.2	-16.96	31.74	6.49	37.16	208	244	Peak
5655.925	50.98	49.85	72.6	-21.62	31.85	6.62	37.34	208	244	Peak
5920.975	51.43	49.66	71.17	-19.74	32.26	7.01	37.5	208	244	Peak
*5983.2	52.14	50.2	68.2	-16.06	32.37	7.08	37.51	208	244	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5755 MHz: Fundamental Frequency
- *: Out of Restricted Band

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

<Spurious Emission>

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5795	88.95	87.6			32.07	6.82	37.54	205	80	Average
5795	98.41	97.06			32.07	6.82	37.54	205	80	Peak
11590	45	48.5	54	-9	39.74	10.09	53.33	157	127	Average
11590	53.79	57.29	74	-20.21	39.74	10.09	53.33	157	127	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	91.28	89.93			32.07	6.82	37.54	210	241	Average
5795	100.5	99.15			32.07	6.82	37.54	210	241	Peak
11590	44.94	48.44	54	-9.06	39.74	10.09	53.33	126	227	Average
11590	53.03	56.53	74	-20.97	39.74	10.09	53.33	126	227	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
*5594.175	50.32	49.25	68.2	-17.88	31.74	6.49	37.16	205	80	Peak
5652.125	50.93	49.74	69.78	-18.85	31.85	6.62	37.28	205	80	Peak
5917.65	50.98	49.21	73.62	-22.64	32.26	7.01	37.5	205	80	Peak
*5971.8	52.32	50.41	68.2	-15.88	32.34	7.08	37.51	205	80	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
*5597.025	51.1	50.03	68.2	-17.1	31.74	6.49	37.16	210	241	Peak
5657.35	51.87	50.74	73.66	-21.79	31.85	6.62	37.34	210	241	Peak
5920.025	52.53	50.76	71.87	-19.34	32.26	7.01	37.5	210	241	Peak
*5960.4	53.44	51.53	68.2	-14.76	32.34	7.08	37.51	210	241	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5795 MHz: Fundamental Frequency
- *: Out of Restricted Band

9 kHz ~ 30 MHz DATA:

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

30 MHz ~ 1 GHz WORST-CASE DATA:

802.11n (HT40)

EUT Test Condition		Measurement Detail	
Channel	Channel 38	Frequency Range	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Getaz Yang

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
43.58	21.49	38.34	40	-18.51	13.59	0.67	31.11	131	60	Peak
212.36	17.78	38.15	43.5	-25.72	9.89	1.35	31.61	129	151	Peak
241.46	24.55	43.79	46	-21.45	11.11	1.46	31.81	128	67	Peak
500.45	27	39.2	46	-19	17.33	2.09	31.62	138	310	Peak
598.42	25.97	36.38	46	-20.03	19.57	2.25	32.23	132	97	Peak
663.41	28.27	37.42	46	-17.73	20.37	2.38	31.9	116	268	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	30.72	49.3	40	-9.28	11.98	0.58	31.14	140	147	Peak
41.64	27.51	44.34	40	-12.49	13.56	0.66	31.05	127	32	Peak
241.46	19.01	38.25	46	-26.99	11.11	1.46	31.81	125	26	Peak
499.48	26.01	38.24	46	-19.99	17.31	2.09	31.63	130	286	Peak
600.36	26.46	36.84	46	-19.54	19.61	2.26	32.25	123	61	Peak
663.41	25.67	34.82	46	-20.33	20.37	2.38	31.9	110	285	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value

802.11n (HT40)

EUT Test Condition		Measurement Detail	
Channel	Channel 62	Frequency Range	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Getaz Yang

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
42.61	22.13	38.97	40	-17.87	13.58	0.66	31.08	130	76	Peak
250.19	25.91	44.88	46	-20.09	11.48	1.49	31.94	101	205	Peak
328.76	21.56	38.03	46	-24.44	13.64	1.71	31.82	110	64	Peak
500.45	27.37	39.57	46	-18.63	17.33	2.09	31.62	119	235	Peak
598.42	25.33	35.74	46	-20.67	19.57	2.25	32.23	135	287	Peak
663.41	29.04	38.19	46	-16.96	20.37	2.38	31.9	139	155	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	30.68	49.26	40	-9.32	11.98	0.58	31.14	136	348	Peak
41.64	27.77	44.6	40	-12.23	13.56	0.66	31.05	132	179	Peak
195.87	15.79	36.6	43.5	-27.71	9.64	1.28	31.73	103	51	Peak
241.46	20.19	39.43	46	-25.81	11.11	1.46	31.81	111	303	Peak
500.45	27.18	39.38	46	-18.82	17.33	2.09	31.62	127	175	Peak
663.41	27.32	36.47	46	-18.68	20.37	2.38	31.9	103	75	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value

802.11n (HT40)

EUT Test Condition		Measurement Detail	
Channel	Channel 102	Frequency Range	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Getaz Yang

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
42.61	20.88	37.72	40	-19.12	13.58	0.66	31.08	130	189	Peak
74.62	22.76	44.01	40	-17.24	9.57	0.86	31.68	116	70	Peak
241.46	24.17	43.41	46	-21.83	11.11	1.46	31.81	121	33	Peak
500.45	27.05	39.25	46	-18.95	17.33	2.09	31.62	112	109	Peak
598.42	25.57	35.98	46	-20.43	19.57	2.25	32.23	132	228	Peak
663.41	28.12	37.27	46	-17.88	20.37	2.38	31.9	100	185	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	30.63	49.21	40	-9.37	11.98	0.58	31.14	114	118	Peak
41.64	27.35	44.18	40	-12.65	13.56	0.66	31.05	112	231	Peak
250.19	19.5	38.47	46	-26.5	11.48	1.49	31.94	139	281	Peak
500.45	26.77	38.97	46	-19.23	17.33	2.09	31.62	132	201	Peak
600.36	24.85	35.23	46	-21.15	19.61	2.26	32.25	140	157	Peak
663.41	26.08	35.23	46	-19.92	20.37	2.38	31.9	115	295	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value

802.11a

EUT Test Condition		Measurement Detail	
Channel	Channel 149	Frequency Range	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Getaz Yang

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
43.58	20.44	37.29	40	-19.56	13.59	0.67	31.11	101	27	Peak
250.19	24.67	43.64	46	-21.33	11.48	1.49	31.94	102	125	Peak
322.94	22.81	39.48	46	-23.19	13.5	1.7	31.87	140	151	Peak
500.45	27.64	39.84	46	-18.36	17.33	2.09	31.62	103	48	Peak
598.42	27.05	37.46	46	-18.95	19.57	2.25	32.23	106	85	Peak
663.41	28.42	37.57	46	-17.58	20.37	2.38	31.9	139	176	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	31.1	49.68	40	-8.9	11.98	0.58	31.14	128	206	Peak
41.64	27.97	44.8	40	-12.03	13.56	0.66	31.05	107	59	Peak
241.46	18.87	38.11	46	-27.13	11.11	1.46	31.81	133	141	Peak
500.45	25.77	37.97	46	-20.23	17.33	2.09	31.62	128	106	Peak
600.36	26.15	36.53	46	-19.85	19.61	2.26	32.25	103	50	Peak
663.41	25.53	34.68	46	-20.47	20.37	2.38	31.9	132	29	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

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

Note: 1. The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 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. 21, 2016	Nov. 20, 2017
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond1-01	Dec. 22, 2016	Dec. 21, 2017
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Mar. 10, 2017	Mar. 09, 2018
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Jul. 28, 2016	Jul. 27, 2017
Software ADT	BV ADT_Conf_ V7.3.7.3	NA	NA	NA

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

4.2.3 Test Procedures

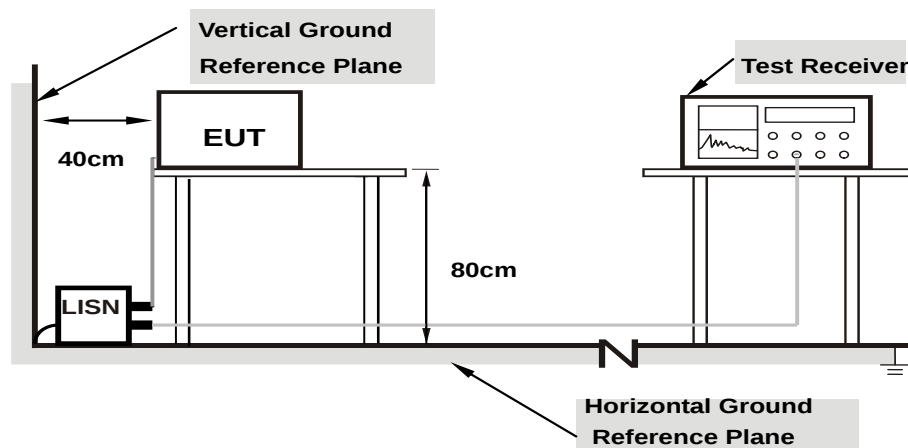
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

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

4.2.7 Test Results

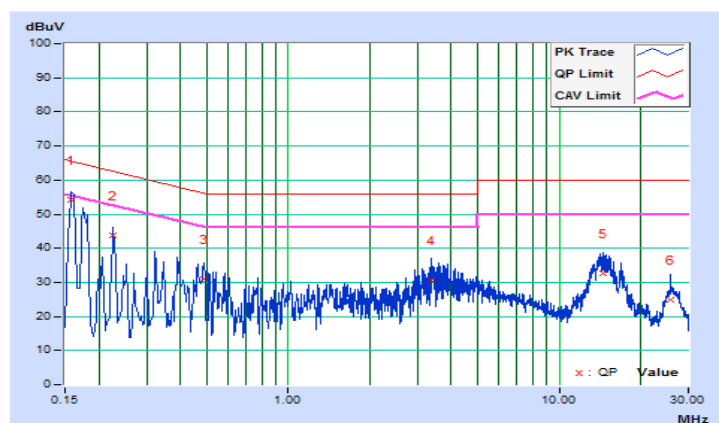
<EUT without Docking>

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25°C, 65%RH
Tested by	Getaz Yang	Test Date	2017/5/11

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	0.15811	10.35	43.99	23.65	54.34	34.00	65.56	55.56	-11.22	-21.56
2	0.22600	10.37	33.31	15.03	43.68	25.40	62.60	52.60	-18.92	-27.20
3	0.49000	10.40	20.55	8.58	30.95	18.98	56.17	46.17	-25.22	-27.19
4	3.39000	10.54	20.20	9.37	30.74	19.91	56.00	46.00	-25.26	-26.09
5	14.56200	11.06	21.52	12.94	32.58	24.00	60.00	50.00	-27.42	-26.00
6	25.70200	11.53	13.43	8.08	24.96	19.61	60.00	50.00	-35.04	-30.39

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

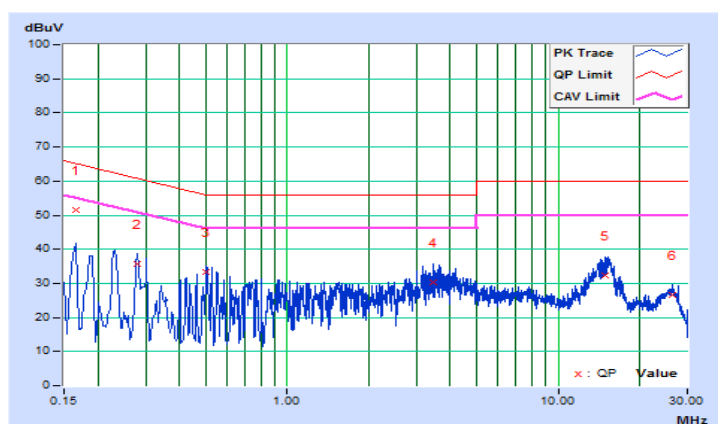


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25°C, 65%RH
Tested by	Getaz Yang	Test Date	2017/5/11

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	0.16600	10.12	41.53	23.89	51.65	34.01	65.16	55.16	-13.51	-21.15
2	0.27800	10.15	25.58	10.78	35.73	20.93	60.88	50.88	-25.15	-29.95
3	0.50264	10.16	23.13	11.55	33.29	21.71	56.00	46.00	-22.71	-24.29
4	3.45000	10.31	19.85	9.80	30.16	20.11	56.00	46.00	-25.84	-25.89
5	14.83000	10.74	21.51	11.80	32.25	22.54	60.00	50.00	-27.75	-27.46
6	26.36200	11.10	15.49	8.77	26.59	19.87	60.00	50.00	-33.41	-30.13

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



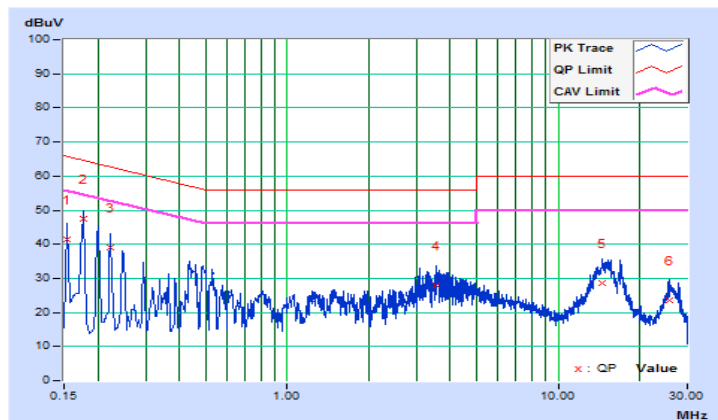
<EUT with Docking>

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25°C, 65%RH
Tested by	Getaz Yang	Test Date	2017/5/11

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	0.15400	10.35	31.23	13.31	41.58	23.66	65.78	55.78	-24.20	-32.12
2	0.17800	10.36	37.00	17.42	47.36	27.78	64.58	54.58	-17.22	-26.80
3	0.22200	10.37	28.57	6.66	38.94	17.03	62.74	52.74	-23.80	-35.71
4	3.54200	10.54	17.31	8.37	27.85	18.91	56.00	46.00	-28.15	-27.09
5	14.53395	11.06	17.72	10.05	28.78	21.11	60.00	50.00	-31.22	-28.89
6	25.70200	11.53	12.02	6.08	23.55	17.61	60.00	50.00	-36.45	-32.39

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

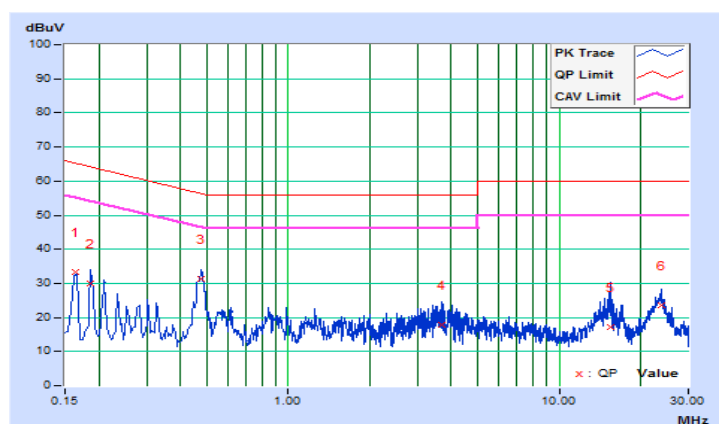


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25°C, 65%RH
Tested by	Getaz Yang	Test Date	2017/5/11

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	0.16319	10.11	23.07	1.78	33.18	11.89	65.30	55.30	-32.12	-43.41
2	0.18600	10.13	19.89	0.22	30.02	10.35	64.21	54.21	-34.19	-43.86
3	0.47810	10.16	21.09	8.13	31.25	18.29	56.37	46.37	-25.12	-28.08
4	3.70200	10.32	7.46	-2.46	17.78	7.86	56.00	46.00	-38.22	-38.14
5	15.56200	10.77	6.31	-3.58	17.08	7.19	60.00	50.00	-42.92	-42.81
6	23.77000	11.04	12.48	1.31	23.52	12.35	60.00	50.00	-36.48	-37.65

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

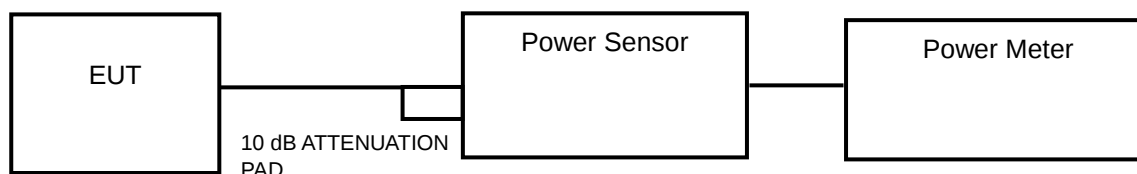
4.3.1 Limits of Transmit Power Measurement

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

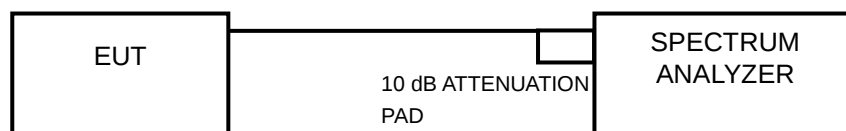
*B is the 26 dB emission bandwidth in megahertz

4.3.2 Test Setup

<Power Output Measurement>



<26 dB Bandwidth>



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

Average Power Measurement

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

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

26 dB Bandwidth

- 1) Set RBW = approximately 1 % of the emission bandwidth.
- 2) Set the VBW > RBW.
- 3) Detector = Peak.
- 4) Trace mode = max hold.
- 5) Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1 %.

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

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

4.3.7 Test Result

Power Output:

802.11a

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	22.080	13.44	24	Pass
44	5220	21.577	13.34	24	Pass
48	5240	21.677	13.36	24	Pass
52	5260	21.727	13.37	24	Pass
60	5300	22.080	13.44	24	Pass
64	5320	22.131	13.45	24	Pass
100	5500	18.239	12.61	24	Pass
116	5580	18.923	12.77	23.98	Pass
140	5700	19.320	12.86	24	Pass
149	5745	17.179	12.35	30	Pass
157	5785	17.539	12.44	30	Pass
165	5825	17.258	12.37	30	Pass

Note:

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

1. $11 \text{ dBm} + 10\log(28.93) = 25.61 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log(36.50) = 26.62 \text{ dBm} > 24 \text{ dBm}$.
3. $11 \text{ dBm} + 10\log(26.85) = 25.29 \text{ dBm} > 24 \text{ dBm}$.
4. $11 \text{ dBm} + 10\log(21.34) = 24.29 \text{ dBm} > 24 \text{ dBm}$.
5. $11 \text{ dBm} + 10\log(19.87) = 23.98 \text{ dBm} < 24 \text{ dBm}$.
6. $11 \text{ dBm} + 10\log(20.14) = 24.04 \text{ dBm} > 24 \text{ dBm}$.

802.11n (HT20)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	21.627	13.35	24	Pass
44	5220	21.777	13.38	24	Pass
48	5240	21.232	13.27	24	Pass
52	5260	22.233	13.47	24	Pass
60	5300	21.928	13.41	24	Pass
64	5320	22.284	13.48	24	Pass
100	5500	18.323	12.63	24	Pass
116	5580	18.880	12.76	24	Pass
140	5700	19.143	12.82	24	Pass
149	5745	17.022	12.31	30	Pass
157	5785	17.498	12.43	30	Pass
165	5825	17.338	12.39	30	Pass

Note:

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

1. $11 \text{ dBm} + 10\log(36.77) = 26.65 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log(37.62) = 26.75 \text{ dBm} > 24 \text{ dBm}$.
3. $11 \text{ dBm} + 10\log(38.71) = 26.88 \text{ dBm} > 24 \text{ dBm}$.
4. $11 \text{ dBm} + 10\log(22.92) = 24.60 \text{ dBm} > 24 \text{ dBm}$.
5. $11 \text{ dBm} + 10\log(21.78) = 24.38 \text{ dBm} > 24 \text{ dBm}$.
6. $11 \text{ dBm} + 10\log(21.04) = 24.23 \text{ dBm} > 24 \text{ dBm}$.

802.11n (HT40)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
38	5190	17.378	12.40	24	Pass
46	5230	21.777	13.38	24	Pass
54	5270	22.182	13.46	24	Pass
62	5310	15.812	11.99	24	Pass
102	5510	19.187	12.83	24	Pass
110	5550	19.454	12.89	24	Pass
134	5670	19.588	12.92	24	Pass
151	5755	17.458	12.42	30	Pass
159	5795	17.701	12.48	30	Pass

Note:

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

1. $11 \text{ dBm} + 10\log(78.72) = 29.96 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log(59.47) = 28.74 \text{ dBm} > 24 \text{ dBm}$.
3. $11 \text{ dBm} + 10\log(54.99) = 28.40 \text{ dBm} > 24 \text{ dBm}$.
4. $11 \text{ dBm} + 10\log(55.77) = 28.46 \text{ dBm} > 24 \text{ dBm}$.
5. $11 \text{ dBm} + 10\log(54.49) = 28.36 \text{ dBm} > 24 \text{ dBm}$.

26 dB Bandwidth:

802.11a

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
36	5180	29.36
44	5220	28.96
48	5240	37.69
52	5260	28.93
60	5300	36.50
64	5320	26.85
100	5500	21.34
116	5580	19.87
140	5700	20.14

802.11n (HT20)

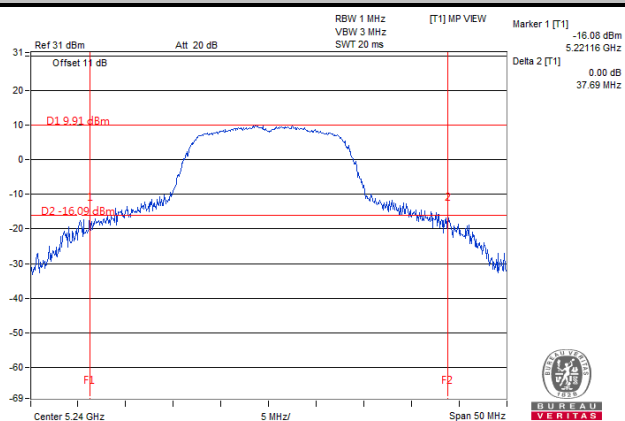
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
36	5180	29.80
44	5220	38.50
48	5240	37.29
52	5260	36.77
60	5300	37.62
64	5320	38.71
100	5500	22.92
116	5580	21.78
140	5700	21.04

802.11n (HT40)

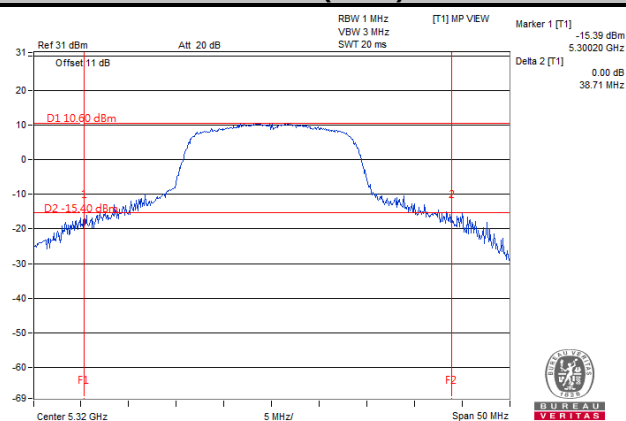
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)
38	5190	70.74
46	5230	74.76
54	5270	78.72
62	5310	59.47
102	5510	54.99
110	5550	55.77
134	5670	54.49

Spectrum Plot of Worst Value

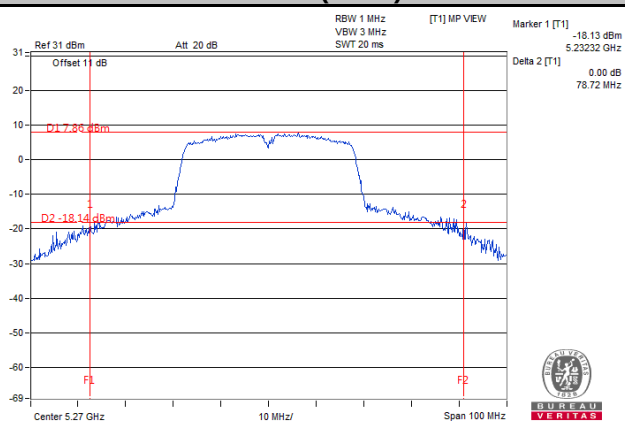
802.11a



802.11n (HT20)



802.11n (HT40)



Occupied Bandwidth

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
36	5180	17.25	Pass
44	5220	17.16	Pass
48	5240	17.16	Pass
52	5260	17.21	Pass
60	5300	17.06	Pass
64	5320	17.06	Pass
100	5500	16.82	Pass
116	5580	16.87	Pass
140	5700	16.92	Pass

802.11n (HT20)

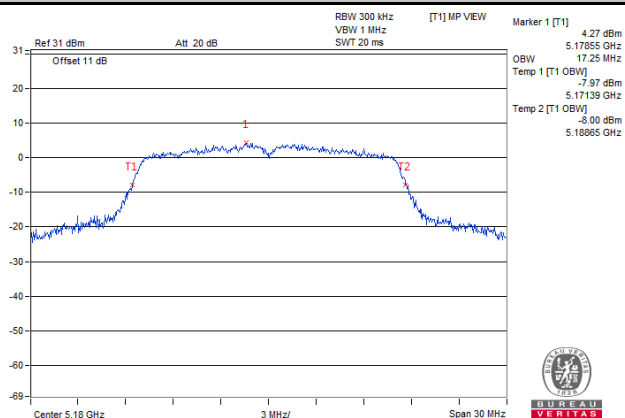
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
36	5180	18.07	Pass
44	5220	18.02	Pass
48	5240	18.02	Pass
52	5260	18.02	Pass
60	5300	17.98	Pass
64	5320	17.93	Pass
100	5500	17.83	Pass
116	5580	17.83	Pass
140	5700	17.78	Pass

802.11n (HT40)

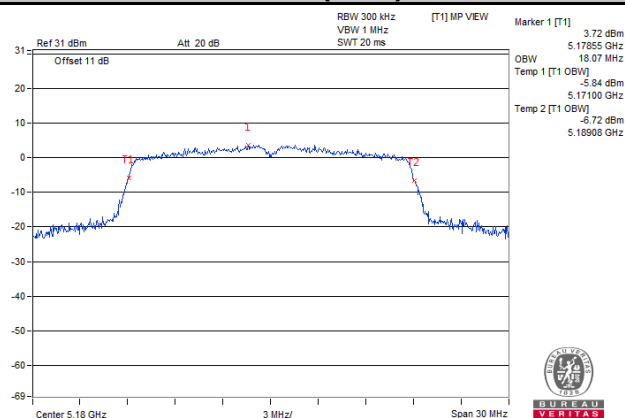
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
38	5190	37.17	Pass
46	5230	37.30	Pass
54	5270	37.30	Pass
62	5310	36.92	Pass
102	5510	36.79	Pass
110	5550	36.79	Pass
134	5670	36.66	Pass

Spectrum Plot of Worst Value

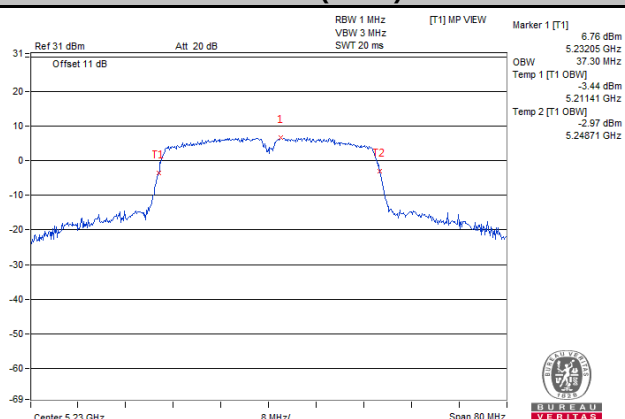
802.11a



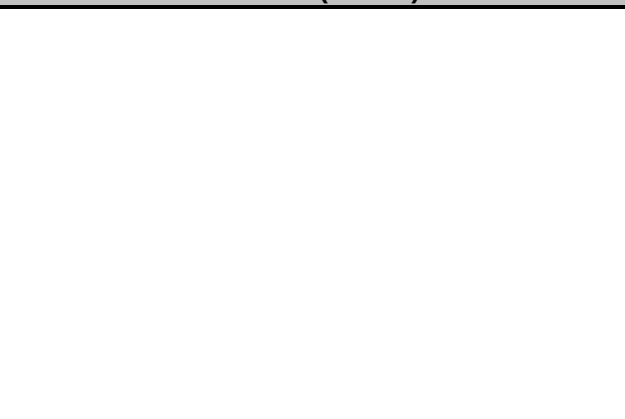
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)



Occupied Bandwidth

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
149	5745	16.73	Pass
157	5785	16.70	Pass
165	5825	16.80	Pass

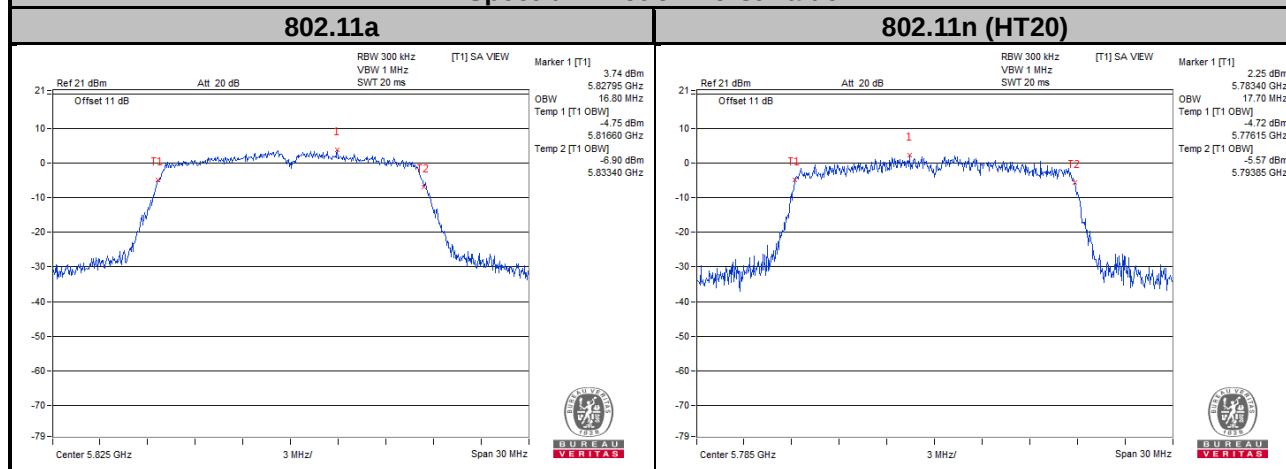
802.11n (HT20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
149	5745	17.69	Pass
157	5785	17.70	Pass
165	5825	17.65	Pass

802.11n (HT40)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
151	5755	36.21	Pass
159	5795	36.33	Pass

Spectrum Plot of Worst Value

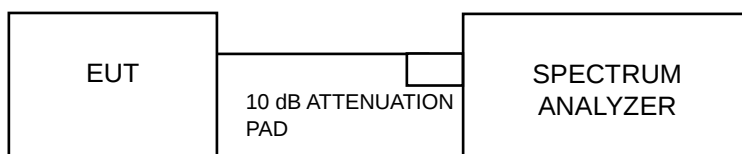


4.4 Peak Power Spectral Density Measurement

4.4.1 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

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.3 to get information of above instrument.

4.4.4 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 $\geq$ 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 $\geq$ 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)

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Conditions

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

4.4.7 Test Results

802.11a

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
36	5180	0.76	0.56	1.32	11	Pass
44	5220	1.03	0.56	1.59	11	Pass
48	5240	0.86	0.56	1.42	11	Pass
52	5260	1.46	0.56	2.02	11	Pass
60	5300	1.23	0.56	1.79	11	Pass
64	5320	1.30	0.56	1.86	11	Pass
100	5500	0.68	0.56	1.24	11	Pass
116	5580	1.07	0.56	1.63	11	Pass
140	5700	0.86	0.56	1.42	11	Pass

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

802.11n (HT20)

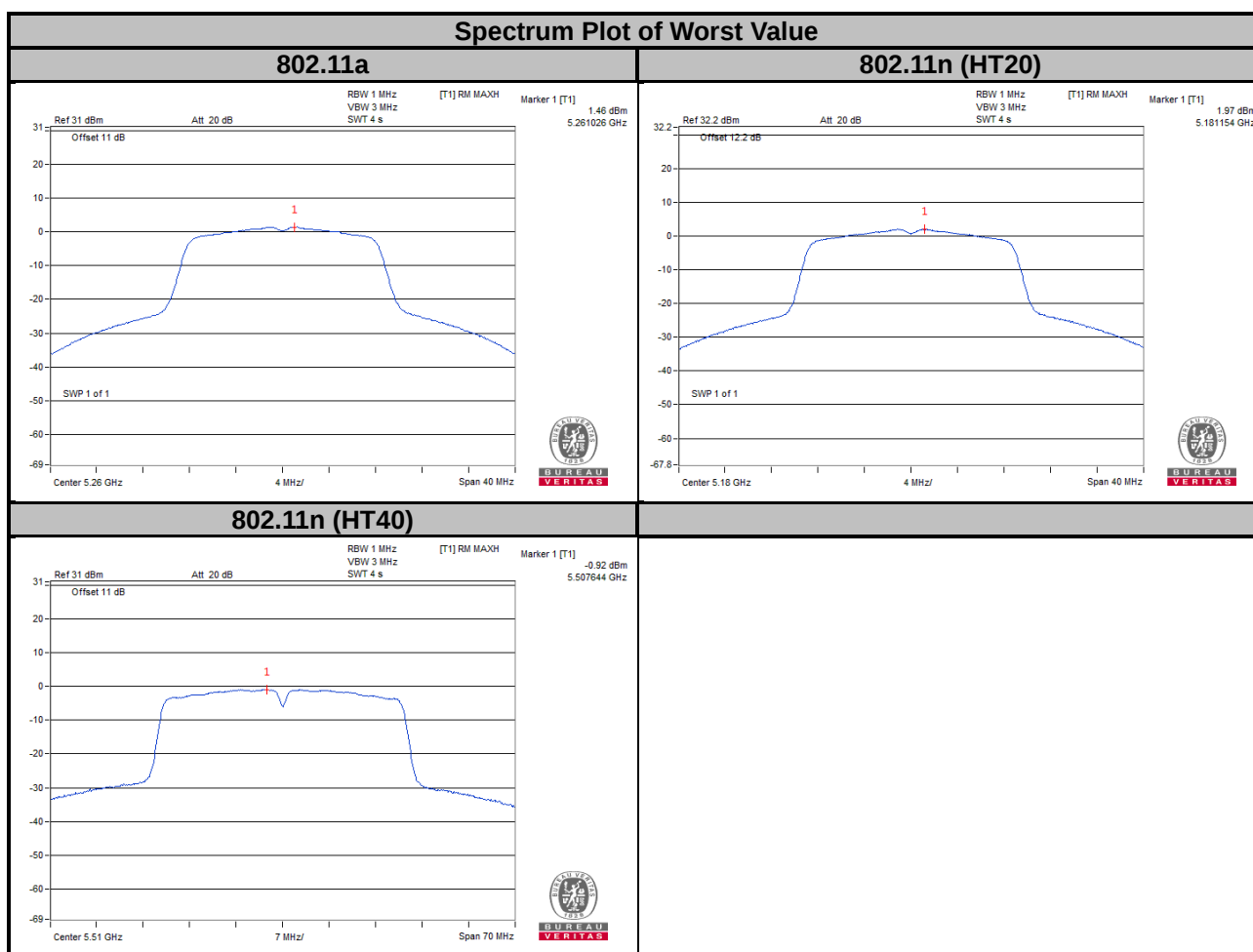
Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
36	5180	1.97	0.56	2.53	11	Pass
44	5220	0.62	0.56	1.18	11	Pass
48	5240	0.75	0.56	1.31	11	Pass
52	5260	1.09	0.56	1.65	11	Pass
60	5300	0.00	0.56	0.56	11	Pass
64	5320	1.67	0.56	2.23	11	Pass
100	5500	1.77	0.56	2.33	11	Pass
116	5580	1.54	0.56	2.10	11	Pass
140	5700	0.23	0.56	0.79	11	Pass

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

802.11n (HT40)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/MHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/MHz)	Maximum Limit (dBm/MHz)	Pass / Fail
38	5190	-2.94	1.04	-1.90	11	Pass
46	5230	-1.96	1.04	-0.92	11	Pass
54	5270	-1.33	1.04	-0.29	11	Pass
62	5310	-2.36	1.04	-1.32	11	Pass
102	5510	-0.92	1.04	0.12	11	Pass
110	5550	-0.92	1.04	0.12	11	Pass
134	5670	-2.32	1.04	-1.28	11	Pass

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



For U-NII-3 Band

802.11a

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/500 kHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
149	5745	-3.30	0.56	-2.74	30	Pass
157	5785	-3.12	0.56	-2.56	30	Pass
165	5825	-2.50	0.56	-1.94	30	Pass

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

802.11n (HT20)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/500 kHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
149	5745	-3.33	0.56	-2.77	30	Pass
157	5785	-2.81	0.56	-2.25	30	Pass
165	5825	-2.58	0.56	-2.02	30	Pass

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

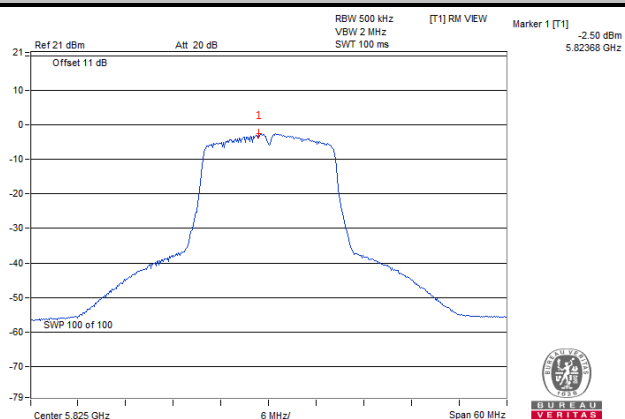
802.11n (HT40)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm/500 kHz)	Duty Factor (dB)	PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
151	5755	-7.30	1.04	-6.26	30	Pass
159	5795	-6.82	1.04	-5.78	30	Pass

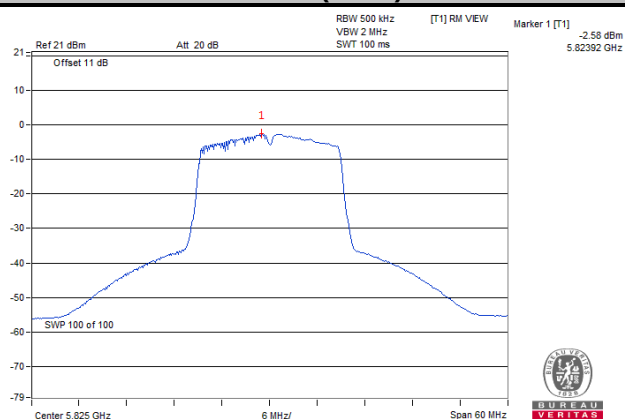
Note: Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

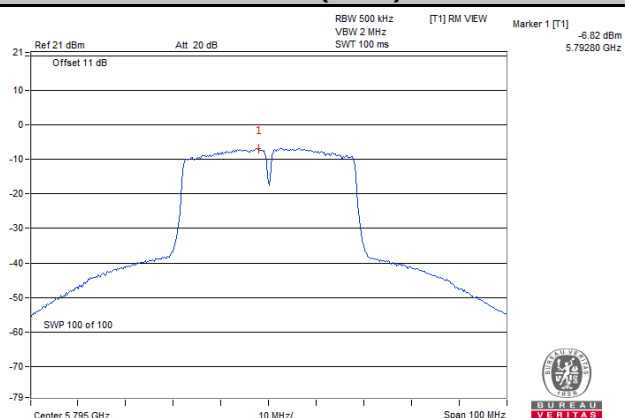
802.11a



802.11n (HT20)



802.11n (HT40)

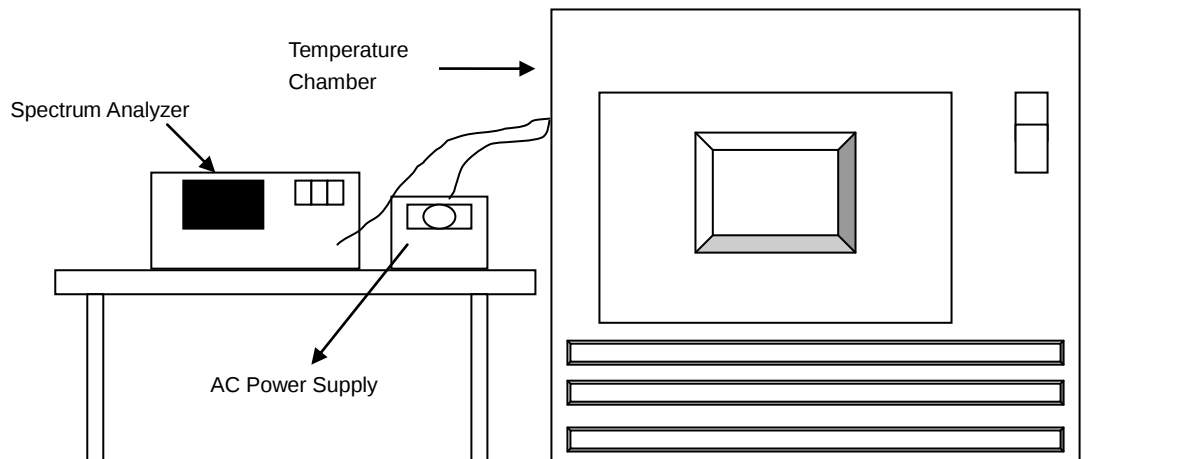


4.5 Frequency Stability

4.5.1 Limit of Frequency Stability Measurement

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

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 Procedure

- 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.
- 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.
- 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.

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

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

4.5.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5320 MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
50	120	5180.0044	0.00008	5180.0046	0.00009	5180.0053	0.00010	5180.0032	0.00006
40	120	5179.9875	-0.00024	5179.989	-0.00021	5179.9855	-0.00028	5179.9878	-0.00024
30	120	5179.9765	-0.00045	5179.9792	-0.00040	5179.9796	-0.00039	5179.9796	-0.00039
20	120	5179.9954	-0.00009	5179.9963	-0.00007	5179.9953	-0.00009	5179.9956	-0.00008
10	120	5180.0215	0.00042	5180.0191	0.00037	5180.02	0.00039	5180.0194	0.00037
0	120	5179.9965	-0.00007	5179.9944	-0.00011	5179.9934	-0.00013	5179.9976	-0.00005
-10	120	5180.023	0.00044	5180.0216	0.00042	5180.0211	0.00041	5180.0225	0.00043
-20	120	5179.9979	-0.00004	5179.9991	-0.00002	5179.9956	-0.00008	5179.9981	-0.00004
-30	120	5180.0026	0.00005	5180.0067	0.00013	5180.0034	0.00007	5180.0053	0.00010

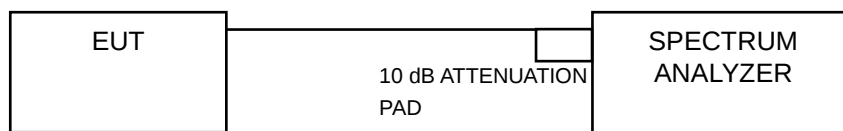
Frequency Stability Versus Temp.									
Operating Frequency: 5320 MHz									
Temp. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
20	138	5179.9945	-0.00011	5179.9955	-0.00009	5179.996	-0.00008	5179.9946	-0.00010
	120	5179.9954	-0.00009	5179.9963	-0.00007	5179.9953	-0.00009	5179.9956	-0.00008
	102	5179.9946	-0.00010	5179.9964	-0.00007	5179.995	-0.00010	5179.9948	-0.00010

4.6 6 dB Bandwidth Measurement

4.6.1 Limits of 6 dB Bandwidth Measurement

The minimum of 6 dB Bandwidth Measurement is 0.5 MHz.

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

MEASUREMENT PROCEDURE REF

- Set resolution bandwidth (RBW) = 100 kHz
- Set the video bandwidth (VBW) $\geq 3 \times$ RBW, Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- 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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

802.11a

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	15.80	0.5	Pass
157	5785	15.19	0.5	Pass
165	5825	15.01	0.5	Pass

802.11n (HT20)

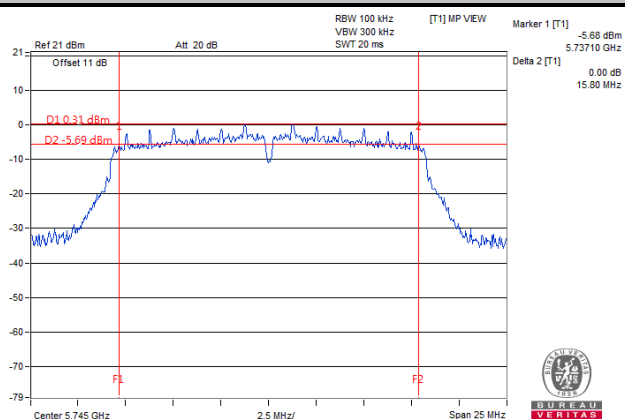
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	15.16	0.5	Pass
157	5785	15.17	0.5	Pass
165	5825	15.95	0.5	Pass

802.11n (HT40)

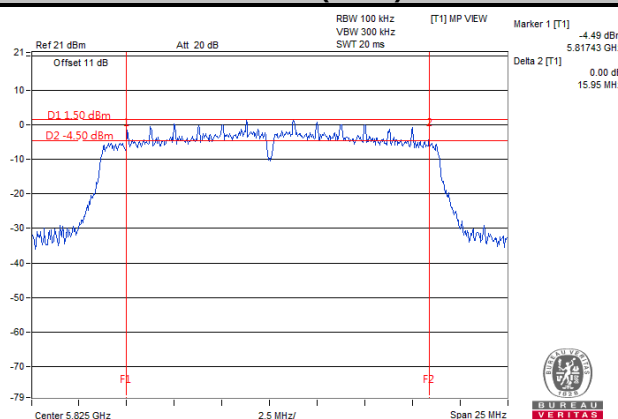
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
151	5755	35.20	0.5	Pass
159	5795	35.20	0.5	Pass

Spectrum Plot of Worst Value

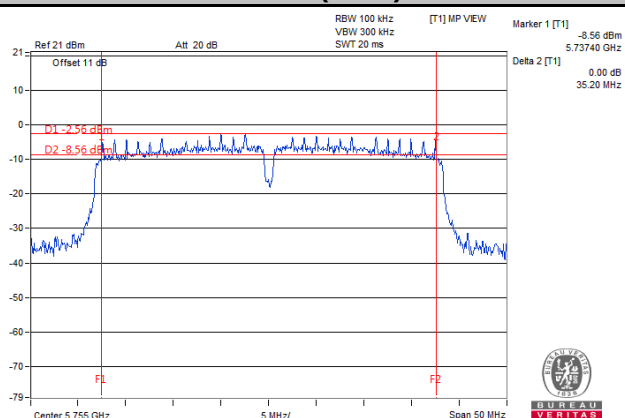
802.11a



802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

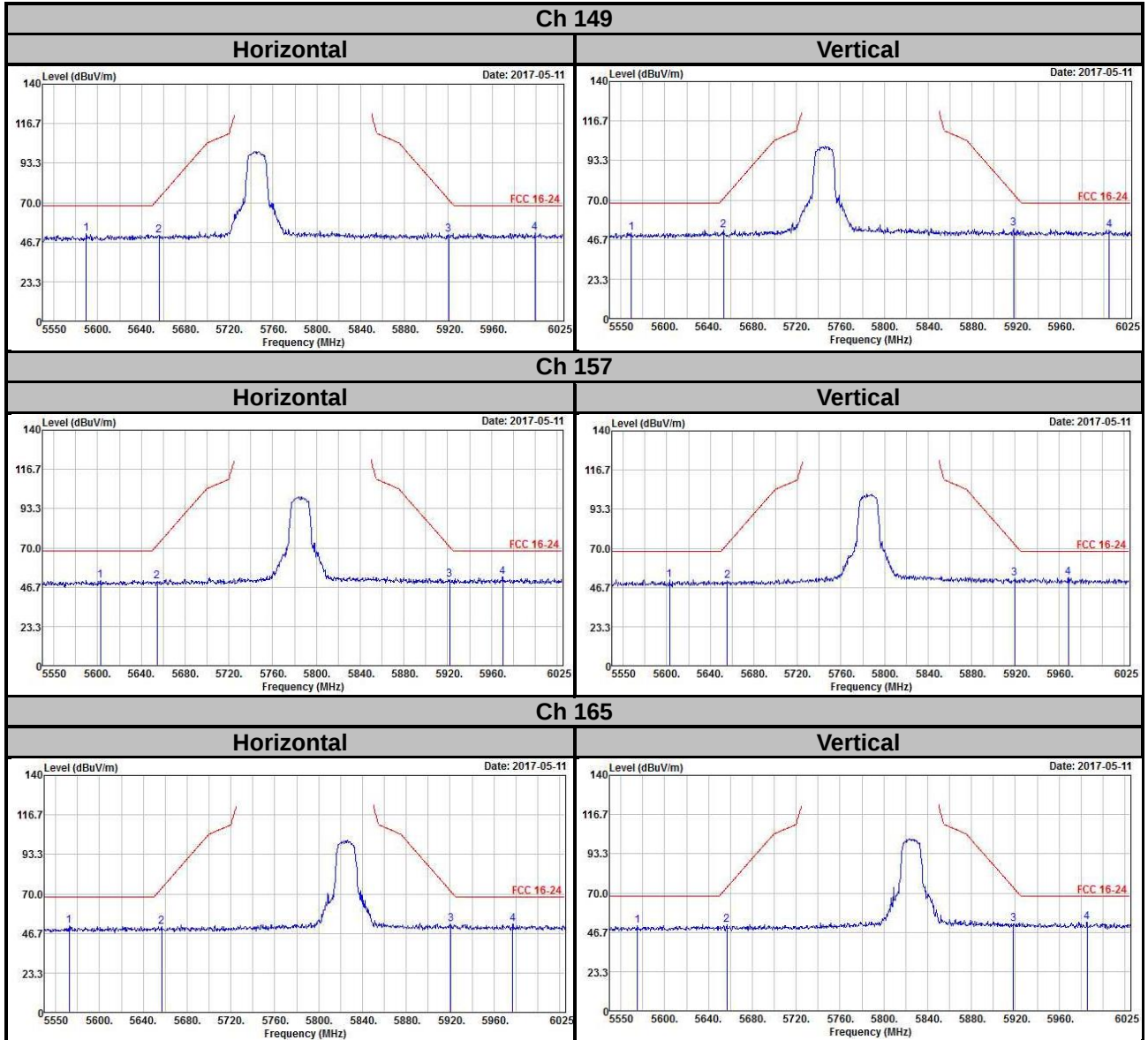


5 Pictures of Test Arrangements

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

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

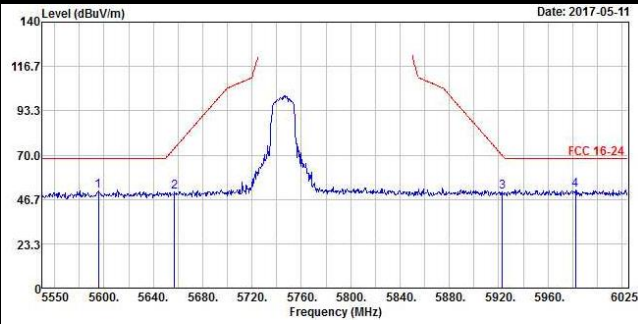
802.11a



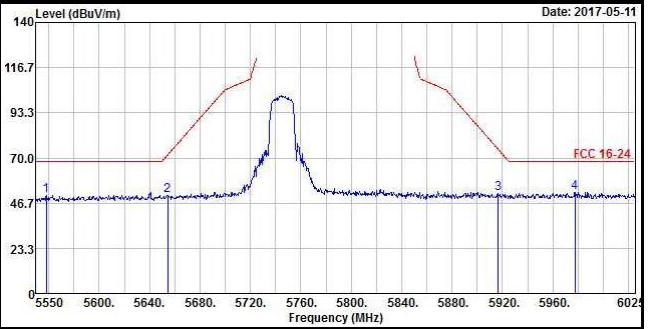
802.11n (HT20)

Ch 149

Horizontal

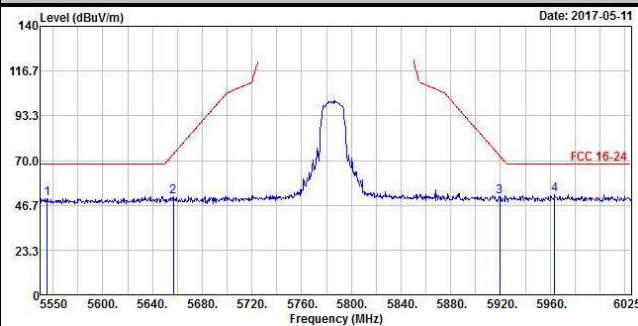


Vertical

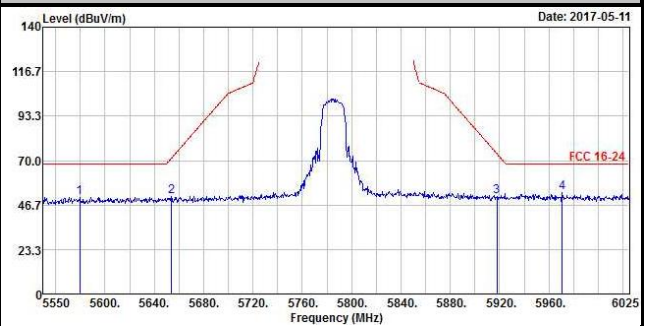


Ch 157

Horizontal

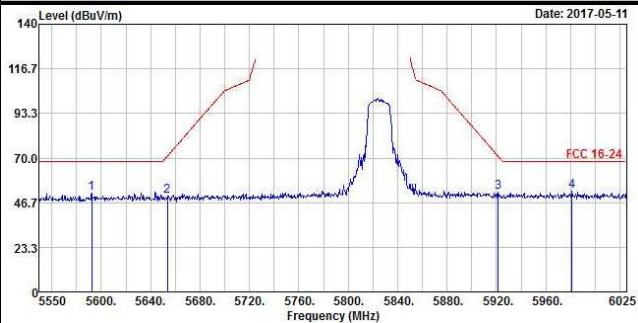


Vertical

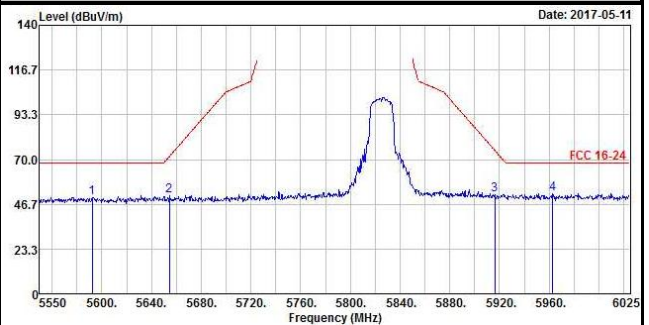


Ch 165

Horizontal



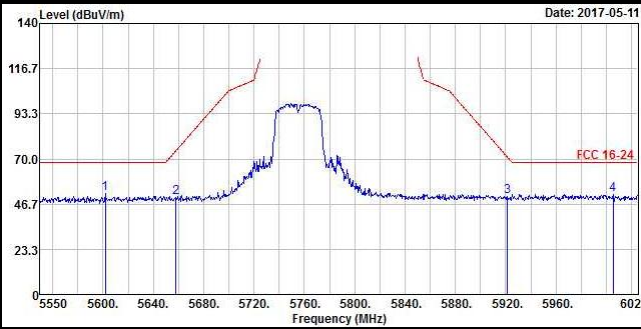
Vertical



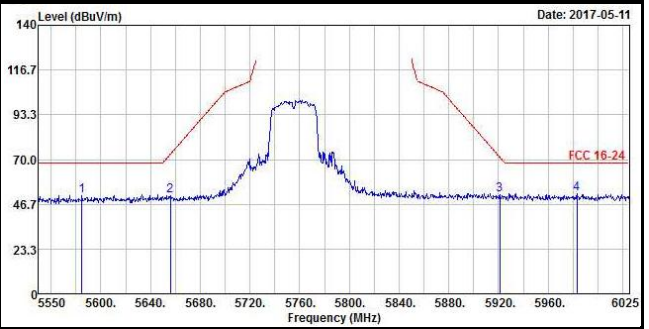
802.11n (HT40)

Ch 151

Horizontal

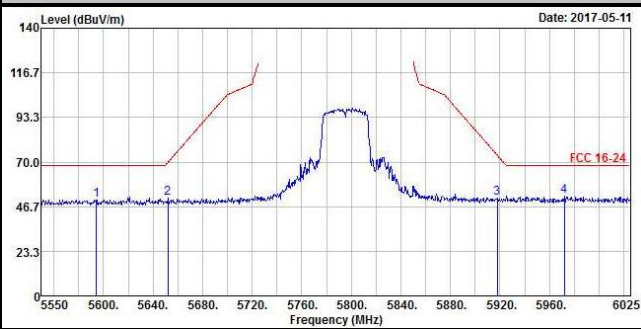


Vertical

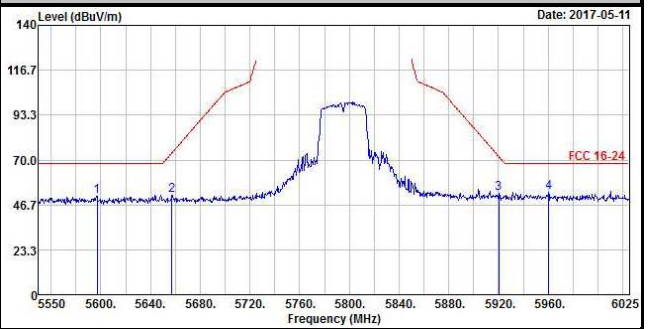


Ch 159

Horizontal



Vertical



Appendix – Information on the Testing Laboratories

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

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

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 ---