

FCC Test Report

Report No.: RF160225C02-1

FCC ID: MSQP00A

Test Model: P00A

Received Date: Feb. 25, 2016

Test Date: Mar. 05, 2016 ~ Mar. 12, 2016

Issued Date: Mar. 21, 2016

Applicant: ASUSTek COMPUTER INC.

Address: 4F, No. 150, LI-TE Rd., PEITOU, TAIPEI 112, TAIWAN

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

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

Test Location No.215, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City 231, 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.....	10
3.2.1 Test Mode Applicability and Tested Channel Detail.....	12
3.3 Duty Cycle of Test Signal	14
3.4 Description of Support Units	18
3.4.1 Configuration of System under Test	18
3.5 General Description of Applied Standards.....	18
4 Test Types and Results	19
4.1 Radiated Emission and Bandedge Measurement	19
4.1.1 Limits of Radiated Emission and Bandedge Measurement	19
4.1.2 Limits of Unwanted Emission Out of The Restricted Bands.....	19
4.1.3 Test Instruments	20
4.1.4 Test Procedures.....	21
4.1.5 Deviation from Test Standard	21
4.1.6 Test Set Up	22
4.1.7 EUT Operating Conditions.....	22
4.1.8 Test Results	23
4.2 Conducted Emission Measurement.....	68
4.2.1 Limits of Conducted Emission Measurement	68
4.2.2 Test Instruments	68
4.2.3 Test Procedures.....	69
4.2.4 Deviation from Test Standard	69
4.2.5 Test Setup.....	69
4.2.6 EUT Operating Conditions.....	69
4.2.7 Test Results	70
4.3 Transmit Power Measurement.....	74
4.3.1 Limits of Transmit Power Measurement	74
4.3.2 Test Setup.....	74
4.3.3 Test Instruments	75
4.3.4 Test Procedure	75
4.3.5 Deviation from Test Standard	75
4.3.6 EUT Operating Conditions.....	75
4.3.7 Test Result	76
4.4 Peak Power Spectral Density Measurement	81
4.4.1 Limits of Peak Power Spectral Density Measurement	81
4.4.2 Test Setup.....	81
4.4.3 Test Instruments	81
4.4.4 Test Procedures.....	81
4.4.5 Deviation from Test Standard	82
4.4.6 EUT Operating Conditions.....	82
4.4.7 Test Results	83
4.5 Frequency Stability	87
4.5.1 Limit of Frequency Stability Measurement	87
4.5.2 Test Setup.....	87
4.5.3 Test Instruments	87
4.5.4 Test Procedure	87
4.5.5 Deviation from Test Standard	87

4.5.6 EUT Operating Condition	87
4.5.7 Test Results	88
4.6 6dB Bandwidth Measurment.....	89
4.6.1 Limits of 6dB Bandwidth Measurement.....	89
4.6.2 Test Setup.....	89
4.6.3 Test Instruments	89
4.6.4 Test Procedure	89
4.6.5 Deviation from Test Standard	89
4.6.6 EUT Operating Condition	89
4.6.7 Test Results	90
5 Pictures of Test Arrangements.....	92
Appendix – Information on the Testing Laboratories	93



A D T

Release Control Record

Issue No.	Description	Date Issued
RF160225C02-1	Original Release	Mar. 21, 2016

1 Certificate of Conformity

Product: ASUS Tablet

Brand: ASUS

Test Model: P00A

Sample Status: Production Unit

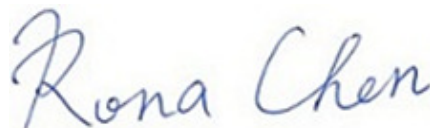
Applicant: ASUSTek COMPUTER INC.

Test Date: Mar. 05, 2016 ~ Mar. 12, 2016

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 :

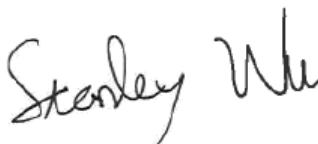


Date:

Mar. 21, 2016

Rona Chen / Specialist

Approved by :



Date:

Mar. 21, 2016

Stanley Wu / Assistant Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -10.79 dB at 0.18600 MHz.
15.407(b) (1/2/3/4/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -1.49 dB at 5714 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.

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	2.0153 dB
	200 MHz ~ 1000 MHz	2.0224 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	1.0121 dB
	18 GHz ~ 40 GHz	1.1508 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	ASUS Tablet
Brand	ASUS
Test Model	P00A
Status of EUT	Production Unit
Power Supply Rating	3.8Vdc (Battery) 5.2Vdc (Adapter) 5.0Vdc (Host equipment)
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	16.56 mW for 5180 ~ 5240 MHz 15.67 mW for 5260 ~ 5320 MHz 16.52 mW for 5500 ~ 5700 MHz 16.90 mW for 5745 ~ 5825 MHz
Antenna Type	PIFA antenna with 2.6 dBi gain (5180 ~ 5240 MHz) PIFA antenna with 2.72 dBi gain (5260 ~ 5320 MHz) PIFA antenna with 2.15 dBi gain (5500 ~ 5700 MHz) PIFA antenna with 1.32 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:

- The EUT provides 1 completed transmitter and 1 receiver.

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

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

2. The EUT contains following accessory devices.

Product	Brand	Model	Description
Adapter 1	ASUS	PA-1050-39	I/P: 100-240Vac, 50/60Hz, 0.25A O/P: 5.2Vdc, 1A
Adapter 2	ASUS	AS0102	I/P: 100-240Vac, 50/60Hz, 0.13A O/P: 5.2Vdc, 1A
Adapter 3	ASUS	AD2061320	I/P: 100-240Vac, 50/60Hz, 0.13A O/P: 5.2Vdc, 1A
Battery	SIMPLO	C11P1505	3.8Vdc, 15.2Wh
USB Cable 1	DAEC	AA781000	0.9m shielded cable w/o core
USB Cable 2	LUXSHARE-ICT	L65U2009-CS-B	0.9m shielded cable w/o core
USB Cable 3	FOXCONN	CUBB04M-AS0D0-EF	0.9m shielded cable w/o core
LCD Panel	AUO	B080EAB02	8 inch
CPU	MEDIATEK	MT8163	393 Pin , 1.3GHz
Main Board	ASUS	Z380M MB	--
BT/WLAN Module	MEDIATEK	MT6625L	--
Camera 1 (Front)	SUNWIN	SW08572E221B-VB	2M
Camera 2 (Back)	SUNWIN	SWCN5725602A-VB	5M
Camera 3 (Front)	Chicony	CIFF21920003870LH	2M
Camera 4 (Back)	Chicony	CJAF52720003870LH	5M
eMMC 1	HYNIX	FLASH HYNIX H26M52208FPR	16G
eMMC 2	HYNIX	FLASH HYNIX H26M41204HPR	8G
eMMC 3	SAMSUNG	FLASH SAMSUNG KLMAG1JENB-B041	16G
eMMC 4	SAMSUNG	FLASH SAMSUNG KLM8G1GEND-B031	8G
DDR 1	MICRON	MT41K512M8DA-107:P	2G
DDR 2	NANYA	NT5CC256M8IN-DI	1G
DDR 3	SAMSUNG	K4B4G0846E-BYK0	2G

3. The EUT contains two SKU listed as below.

Part	Brand	Model	Specification	SKU	
				1	2
Battery	SIMPLO	C11P1505	3.8Vdc, 15.2Wh	V	V
LCD Panel	AUO	B080EAB02	8 inch	V	V
CPU	MEDIATEK	MT8163	393 Pin , 1.3GHz	V	V
Main Board	ASUS	Z380M MB	--	V	V
BT/WLAN Module	MEDIATEK	MT6625L	--	V	V
eMMC	HYNIX	FLASH HYNIX H26M52208FPR	16G	V	
	HYNIX	FLASH HYNIX H26M41204HPR	8G		V
DDR	MICRON	MT41K512M8DA-107:P	2G	V	
	NANYA	NT5CC256M8IN-DI	1G		V
Camera (Front)	SUNWIN	SW08572E221B-VB	2M	V	
	Chicony	CIFF21920003870LH	2M		V
Camera (Back)	SUNWIN	SWCN5725602A-VB	5M	V	
	Chicony	CJAF52720003870LH	5M		V

4. 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 $\geq$ 1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

Where **RE $\geq$ 1G**: Radiated Emission above 1 GHz

RE<1G: Radiated Emission below 1 GHz

PLC: Power Line Conducted Emission

APCM: Antenna Port Conducted Measurement

NOTE:

- The EUT had been pre-tested on the positioned of each 3 axis. The worst case of SKU 1 was found when positioned on **Y-plane** in 5180-5240 & 5500-5700 and **X-plane** in 5260-5320 & 5745-5825. The worst case of SKU 2 was found when positioned on **Y-plane**.

Radiated Emission Test (Above 1 GHz):

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	802.11a	5180-5240	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
-	802.11a	5260-5320	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
-	802.11a	5500-5700	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
-	802.11a	5745-5825	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	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	802.11n (HT40)	5180-5240	38 to 46	38	OFDM	BPSK	MCS0
-	802.11n (HT40)	5260-5320	54 to 62	62	OFDM	BPSK	MCS0
-	802.11n (HT40)	5500-5700	102 to 134	102	OFDM	BPSK	MCS0
-	802.11n (HT40)	5745-5825	151 to 159	151	OFDM	BPSK	MCS0

Power Line Conducted Emission Test:

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	802.11n (HT40)	5745-5825	151 to 159	151	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	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	802.11a	5180-5240	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
-	802.11a	5260-5320	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
-	802.11a	5500-5700	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
-	802.11a	5745-5825	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≥1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Karl Lee
RE<1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Karl Lee
PLC	25 deg. C, 65 % RH	120 Vac, 60 Hz	Toby Tian
APCM	25 deg. C, 65 % RH	3.8 Vdc	Taylor Liu

3.3 Duty Cycle of Test Signal

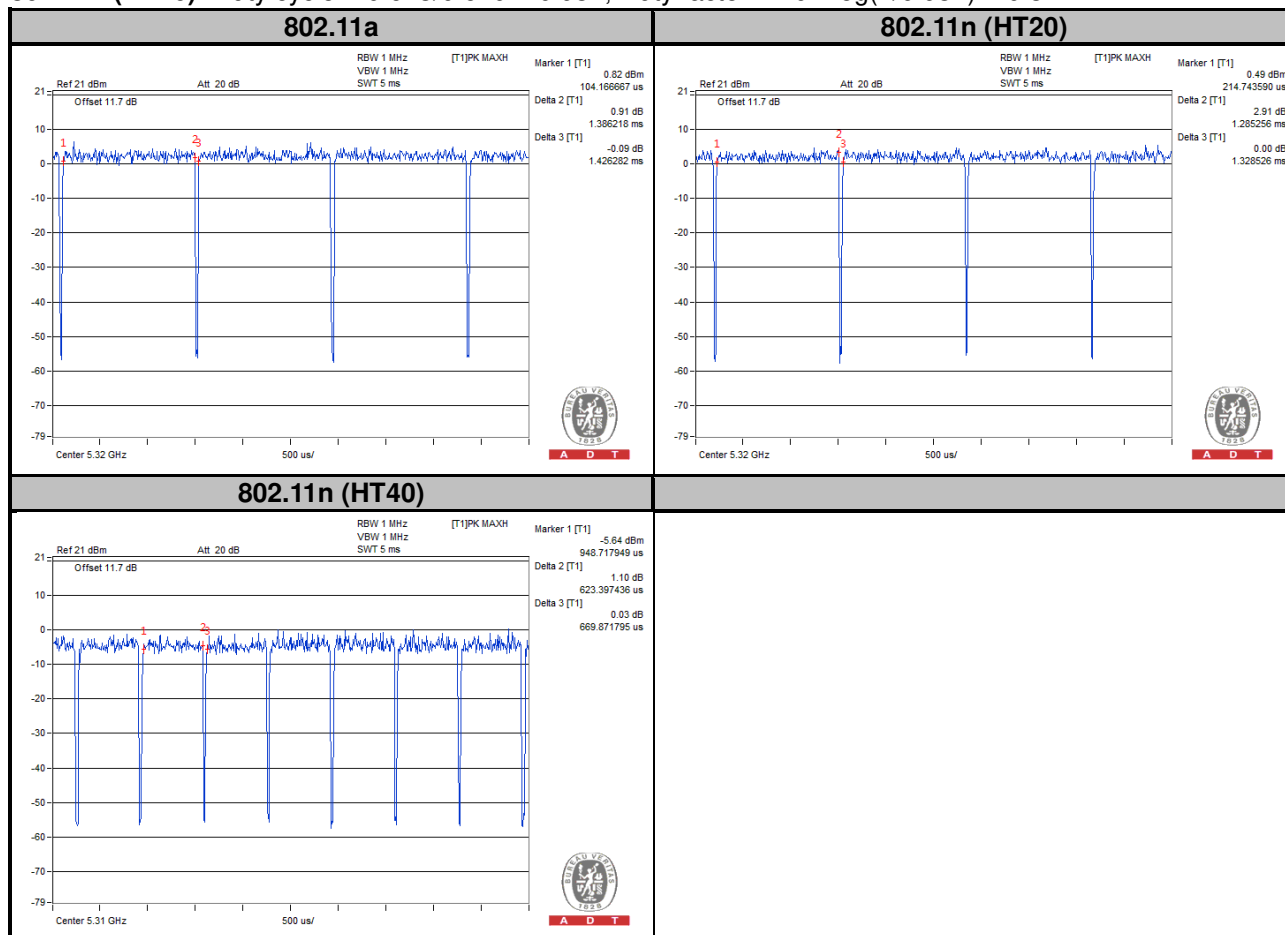
MODULATION TYPE: BPSK

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

802.11a: Duty cycle = $1.386/1.426 = 0.972$, Duty factor = $10 * \log(1/0.972) = 0.12$

802.11n (HT20): Duty cycle = $1.285/1.329 = 0.967$, Duty factor = $10 * \log(1/0.967) = 0.14$

802.11n (HT40): Duty cycle = $0.623/0.670 = 0.931$, Duty factor = $10 * \log(1/0.931) = 0.31$



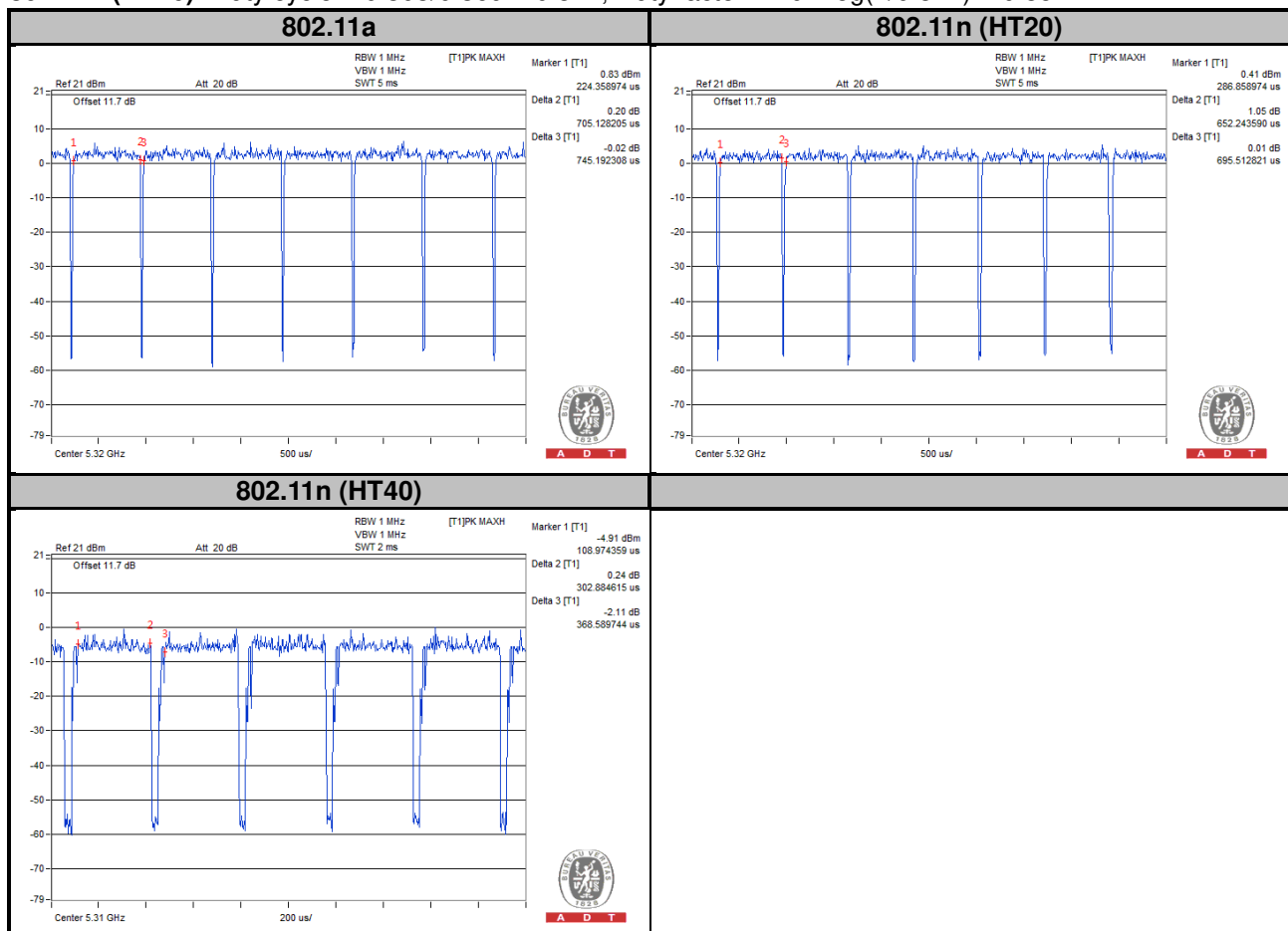
MODULATION TYPE: QPSK

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

802.11a: Duty cycle = $0.705/0.745 = 0.946$, Duty factor = $10 * \log(1/0.946) = 0.24$

802.11n (HT20): Duty cycle = $0.652/0.696 = 0.938$, Duty factor = $10 * \log(1/0.938) = 0.28$

802.11n (HT40): Duty cycle = $0.303/0.369 = 0.822$, Duty factor = $10 * \log(1/0.822) = 0.85$



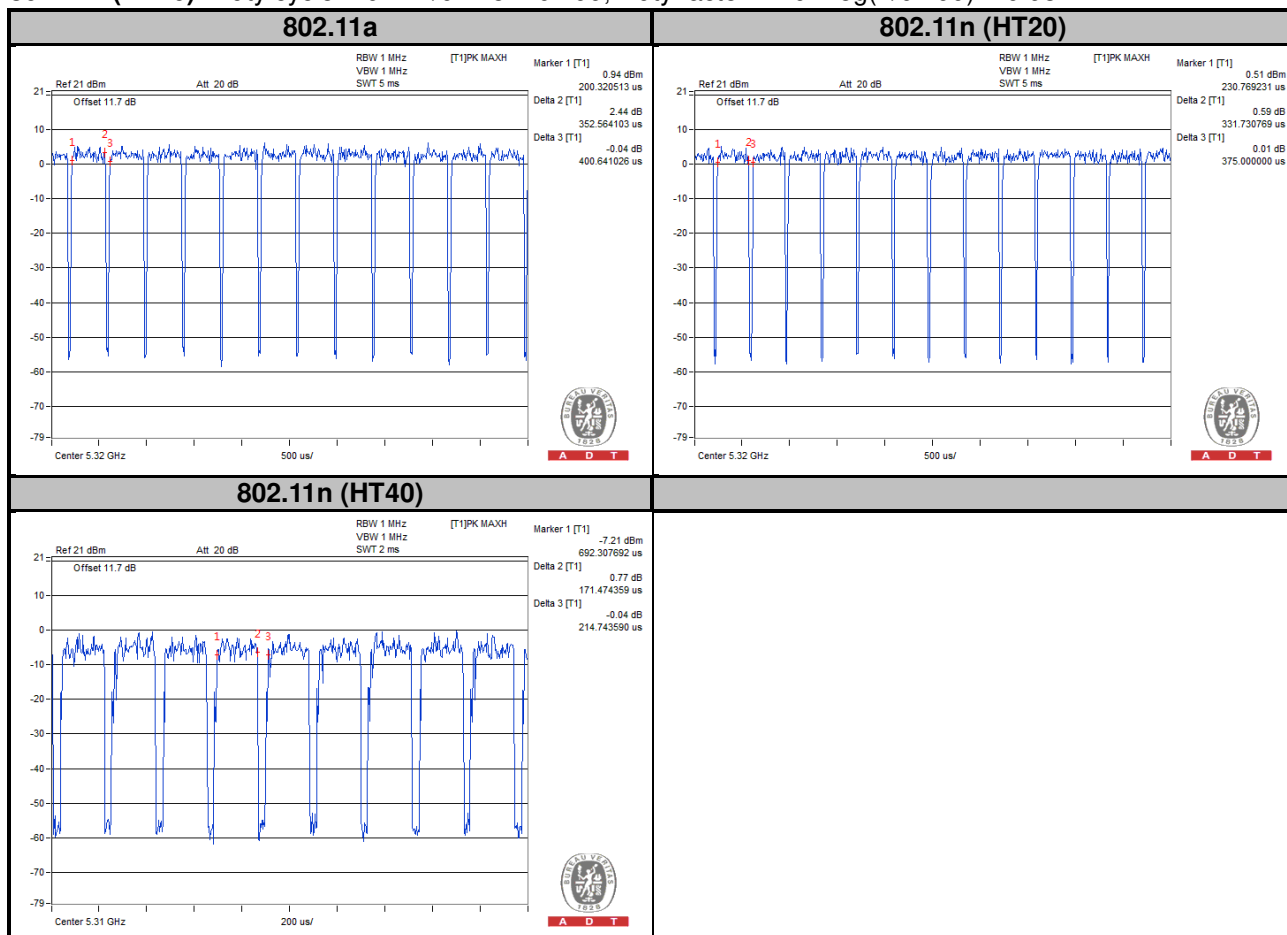
MODULATION TYPE: 16QAM

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

802.11a: Duty cycle = $0.353/0.401 = 0.880$, Duty factor = $10 * \log(1/0.880) = 0.56$

802.11n (HT20): Duty cycle = $0.332/0.375 = 0.885$, Duty factor = $10 * \log(1/0.885) = 0.53$

802.11n (HT40): Duty cycle = $0.171/0.215 = 0.799$, Duty factor = $10 * \log(1/0.799) = 0.98$



MODULATION TYPE: 64QAM

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

802.11a: Duty cycle = $0.179/0.231 = 0.778$, Duty factor = $10 * \log(1/0.778) = 1.09$

802.11n (HT20): Duty cycle = $0.175/0.222 = 0.788$, Duty factor = $10 * \log(1/0.790) = 1.02$

802.11n (HT40): Duty cycle = $0.079/0.141 = 0.557$, Duty factor = $10 * \log(1/0.557) = 2.54$



3.4 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

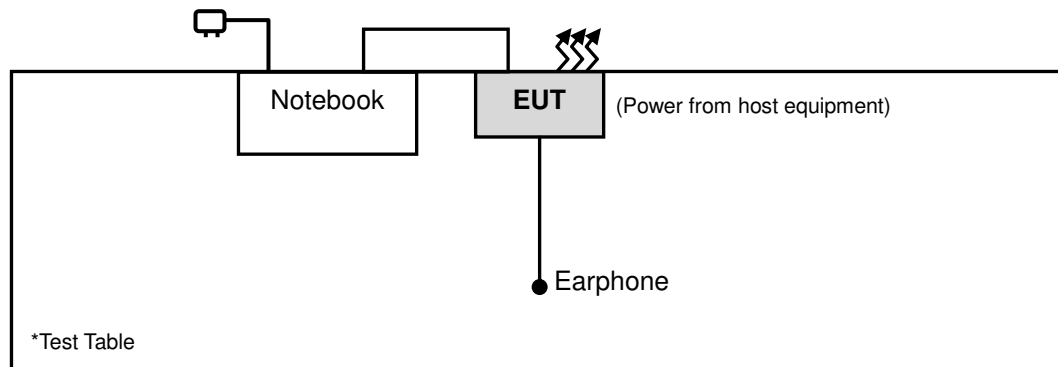
No.	Product	Brand	Model No.	Serial No.	FCC ID
1.	Earphone	N/A	N/A	N/A	N/A
2.	Notebook	DELL	Inspiron 14R	8LRKKW1	N/A

No.	Signal Cable Description Of The Above Support Units
1.	N/A
2.	N/A

Note:

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

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 v01r01

662911 D01 Multiple Transmitter Output v02r01

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:

- The lower limit shall apply at the transition frequencies.
- Emission level (dBuV/m) = 20 log Emission level (uV/m).
- 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 v01r01	Field Strength at 3 m	
	PK: 74 (dBμV/m)	AV: 54 (dBμV/m)
Applicable To	EIRP Limit	Equivalent Field Strength at 3 m
15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m)
15.407(b)(2)		
15.407(b)(3)		
15.407(b)(4)	PK: -27 (dBm/MHz) ^{*1} PK: -17 (dBm/MHz) ^{*2}	PK: 68.2 (dBμV/m) ^{*1} PK: 78.2 (dBμV/m) ^{*2}

NOTE: ^{*1} beyond 10 MHz of the band edge ^{*2} within 10 MHz of band edge

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 Technologies	N9038A	MY52260177	May 19, 2015	May 18, 2016
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Dec. 17, 2015	Dec. 16, 2016
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Jan. 07, 2016	Jan. 06, 2017
HORN Antenna Schwarzbeck	BBHA 9170	9170-480	Jan. 08, 2016	Jan. 07, 2017
HORN Antenna ETS-Lindgren	3117	00143293	Jan. 04, 2016	Jan. 03, 2017
Bluetooth Tester	CBT	100980	Apr. 27, 2015	Apr. 26, 2017
Loop Antenna	EM-6879	269	Jul. 31, 2015	Jul. 30, 2016
Agilent Communications Tester-Wireless	8960 Series 10	MY53201073	Jul. 03, 2015	Jul. 02, 2017
Preamplifier Agilent	310N	187226	Jun. 29, 2015	Jun. 28, 2016
Preamplifier Agilent	83017A	MY39501357	Jun. 29, 2015	Jun. 28, 2016
Power Meter Anritsu	ML2495A	1232002	Sep. 21, 2015	Sep. 20, 2016
Power Sensor Anritsu	MA2411B	1207325	Sep. 21, 2015	Sep. 20, 2016
RF signal cable ETS-LINDGREN	5D-FB	Cable-CH1-01(R FC-SMS-100-SM S-120+RFC-SMS -100-SMS-400)	Jun. 27, 2015	Jun. 26, 2016
RF signal cable ETS-LINDGREN	8D-FB	Cable-CH1-02(R FC-SMS-100-SM S-24)	Jun. 27, 2015	Jun. 26, 2016
Software BV ADT	E3 8.130425b	NA	NA	NA
Antenna Tower MF	NA	NA	NA	NA
Turn Table MF	NA	NA	NA	NA
Antenna Tower & Turn Table Controller MF	MF-7802	NA	NA	NA

- Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HsinTien Chamber 1.
3. The horn antenna and preamplifier (model: 83017A) are used only for the measurement of emission frequency above 1 GHz if tested.
4. The FCC Site Registration No. is 149147.
5. The IC Site Registration No. is IC7450I-1.

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:

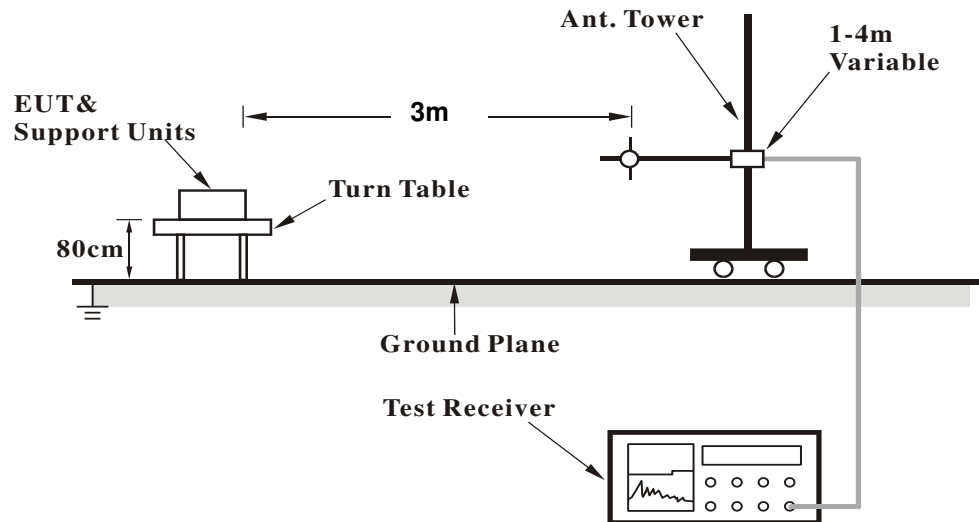
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for RMS Average (Duty cycle < 98 %) for Average detection (AV) at frequency above 1 GHz, then the measurement results was added to a correction factor ($10 \log(1/\text{duty cycle})$).
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

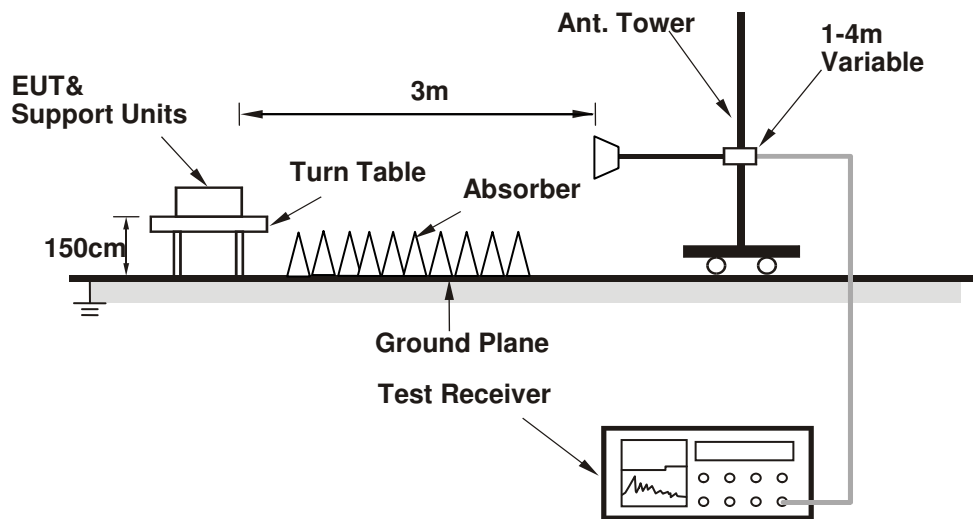
No deviation.

4.1.6 Test Set Up

<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 :

For SKU 1

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	Karl Lee

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
5150	45.04	36.79	54	-8.96	34.12	8.13	34	232	66	Average
5150	57.23	48.98	74	-16.77	34.12	8.13	34	232	66	Peak
5180	96.75	88.44			34.15	8.16	34	232	66	Average
5180	103.76	95.45			34.15	8.16	34	232	66	Peak
5446	42.78	33.95	54	-11.22	34.36	8.51	34.04	232	66	Average
5446	57.66	48.83	74	-16.34	34.36	8.51	34.04	232	66	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	46.79	38.54	54	-7.21	34.12	8.13	34	107	86	Average
5150	58.3	50.05	74	-15.7	34.12	8.13	34	107	86	Peak
5180	97.01	88.7			34.15	8.16	34	107	86	Average
5180	104.51	96.2			34.15	8.16	34	107	86	Peak
5360	42.87	34.24	54	-11.13	34.28	8.38	34.03	107	86	Average
5360	57.24	48.61	74	-16.76	34.28	8.38	34.03	107	86	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5180 MHz: Fundamental frequency.

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	Karl Lee

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
5080	44.45	36.33	54	-9.55	34.07	8.03	33.98	232	66	Average
5080	57.38	49.26	74	-16.62	34.07	8.03	33.98	232	66	Peak
5220	95.86	87.47			34.17	8.22	34	232	66	Average
5220	103.43	95.04			34.17	8.22	34	232	66	Peak
5456	43.11	34.29	54	-10.89	34.36	8.51	34.05	232	66	Average
5456	56.92	48.1	74	-17.08	34.36	8.51	34.05	232	66	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
5140	44.86	36.6	54	-9.14	34.12	8.13	33.99	113	86	Average
5140	57.26	49	74	-16.74	34.12	8.13	33.99	113	86	Peak
5220	97.46	89.07			34.17	8.22	34	113	86	Average
5220	104.75	96.36			34.17	8.22	34	113	86	Peak
5450	42.68	33.86	54	-11.32	34.36	8.51	34.05	113	86	Average
5450	57.78	48.96	74	-16.22	34.36	8.51	34.05	113	86	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5220 MHz: Fundamental frequency.

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	Karl Lee

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
5122	43.39	35.19	54	-10.61	34.09	8.1	33.99	232	66	Average
5122	56.51	48.31	74	-17.49	34.09	8.1	33.99	232	66	Peak
5240	96.07	87.63			34.19	8.26	34.01	232	66	Average
5240	103.7	95.26			34.19	8.26	34.01	232	66	Peak
5436	42.97	34.18	54	-11.03	34.35	8.48	34.04	232	66	Average
5436	57.38	48.59	74	-16.62	34.35	8.48	34.04	232	66	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	43.52	35.27	54	-10.48	34.12	8.13	34	106	86	Average
5148	57.36	49.11	74	-16.64	34.12	8.13	34	106	86	Peak
5240	97.19	88.75			34.19	8.26	34.01	106	86	Average
5240	104.78	96.34			34.19	8.26	34.01	106	86	Peak
5430	42.82	34.03	54	-11.18	34.35	8.48	34.04	106	86	Average
5430	56.94	48.15	74	-17.06	34.35	8.48	34.04	106	86	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5240 MHz: Fundamental frequency.

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	Karl Lee

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
5050	42.96	34.9	54	-11.04	34.04	8	33.98	149	348	Average
5050	56.85	48.79	74	-17.15	34.04	8	33.98	149	348	Peak
5260	96.64	88.18			34.21	8.26	34.01	149	348	Average
5260	103.43	94.97			34.21	8.26	34.01	149	348	Peak
5458	43.24	34.42	54	-10.76	34.36	8.51	34.05	149	348	Average
5458	58.05	49.23	74	-15.95	34.36	8.51	34.05	149	348	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
5026	42.73	34.7	54	-11.27	34.03	7.97	33.97	251	19	Average
5026	56.41	48.38	74	-17.59	34.03	7.97	33.97	251	19	Peak
5260	96.09	87.63			34.21	8.26	34.01	251	19	Average
5260	102.72	94.26			34.21	8.26	34.01	251	19	Peak
5452	43.14	34.32	54	-10.86	34.36	8.51	34.05	251	19	Average
5452	58.02	49.2	74	-15.98	34.36	8.51	34.05	251	19	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5260 MHz: Fundamental frequency.

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	Karl Lee

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
5048	42.91	34.85	54	-11.09	34.04	8	33.98	112	348	Average
5048	56.75	48.69	74	-17.25	34.04	8	33.98	112	348	Peak
5300	96.26	87.72			34.24	8.32	34.02	112	348	Average
5300	103.85	95.31			34.24	8.32	34.02	112	348	Peak
5452	43.95	35.13	54	-10.05	34.36	8.51	34.05	112	348	Average
5452	57.35	48.53	74	-16.65	34.36	8.51	34.05	112	348	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
5096	42.95	34.79	54	-11.05	34.08	8.07	33.99	247	19	Average
5096	56.91	48.75	74	-17.09	34.08	8.07	33.99	247	19	Peak
5300	96.2	87.66			34.24	8.32	34.02	247	19	Average
5300	102.94	94.4			34.24	8.32	34.02	247	19	Peak
5454	43.68	34.86	54	-10.32	34.36	8.51	34.05	247	19	Average
5454	58.19	49.37	74	-15.81	34.36	8.51	34.05	247	19	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	Karl Lee

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
5110	42.41	34.21	54	-11.59	34.09	8.1	33.99	111	344	Average
5110	56.7	48.5	74	-17.3	34.09	8.1	33.99	111	344	Peak
5320	96.42	87.84			34.25	8.35	34.02	111	344	Average
5320	103.71	95.13			34.25	8.35	34.02	111	344	Peak
5362	44.23	35.59	54	-9.77	34.29	8.38	34.03	111	344	Average
5362	57.59	48.95	74	-16.41	34.29	8.38	34.03	111	344	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
5070	42.27	34.17	54	-11.73	34.05	8.03	33.98	247	19	Average
5070	57.36	49.26	74	-16.64	34.05	8.03	33.98	247	19	Peak
5320	95.38	86.8			34.25	8.35	34.02	247	19	Average
5320	102.66	94.08			34.25	8.35	34.02	247	19	Peak
5360	43.81	35.18	54	-10.19	34.28	8.38	34.03	247	19	Average
5360	57.35	48.72	74	-16.65	34.28	8.38	34.03	247	19	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	Karl Lee

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
5456	43.59	34.77	54	-10.41	34.36	8.51	34.05	198	73	Average
5456	58.43	49.61	74	-15.57	34.36	8.51	34.05	198	73	Peak
5470	57.64	48.81	68.2	-10.56	34.37	8.51	34.05	198	73	Peak
5500	93.36	84.44			34.4	8.57	34.05	198	73	Average
5500	100.15	91.23			34.4	8.57	34.05	198	73	Peak
5725	56.67	47.51	68.2	-11.53	34.62	8.65	34.11	198	73	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	44.25	35.43	54	-9.75	34.36	8.51	34.05	107	89	Average
5458	57.79	48.97	74	-16.21	34.36	8.51	34.05	107	89	Peak
5470	57.73	48.9	68.2	-10.47	34.37	8.51	34.05	107	89	Peak
5500	95.78	86.86			34.4	8.57	34.05	107	89	Average
5500	102.83	93.91			34.4	8.57	34.05	107	89	Peak
5725	55.19	46.03	68.2	-13.01	34.62	8.65	34.11	107	89	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5500 MHz: Fundamental frequency.
- 5470 MHz & 5725 MHz: 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	Karl Lee

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
5436	42.67	33.88	54	-11.33	34.35	8.48	34.04	198	74	Average
5436	57.39	48.6	74	-16.61	34.35	8.48	34.04	198	74	Peak
5470	56.86	48.03	68.2	-11.34	34.37	8.51	34.05	198	74	Peak
5580	93.63	84.64			34.47	8.6	34.08	198	74	Average
5580	100.53	91.54			34.47	8.6	34.08	198	74	Peak
5725	56.53	47.37	68.2	-11.67	34.62	8.65	34.11	198	74	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
5460	42.78	33.96	54	-11.22	34.36	8.51	34.05	105	89	Average
5460	58.06	49.24	74	-15.94	34.36	8.51	34.05	105	89	Peak
5470	56.29	47.46	68.2	-11.91	34.37	8.51	34.05	105	89	Peak
5580	95.94	86.95			34.47	8.6	34.08	105	89	Average
5580	102.26	93.27			34.47	8.6	34.08	105	89	Peak
5725	56.64	47.48	68.2	-11.56	34.62	8.65	34.11	105	89	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5580 MHz: Fundamental frequency.
- 5470 MHz & 5725 MHz: 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	Karl Lee

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
5460	42.59	33.77	54	-11.41	34.36	8.51	34.05	198	74	Average
5460	56.41	47.59	74	-17.59	34.36	8.51	34.05	198	74	Peak
5470	55.29	46.46	68.2	-12.91	34.37	8.51	34.05	198	74	Peak
5700	93.36	84.23			34.59	8.64	34.1	198	74	Average
5700	100.49	91.36			34.59	8.64	34.1	198	74	Peak
5725	58.72	49.56	68.2	-9.48	34.62	8.65	34.11	198	74	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
5438	42.66	33.87	54	-11.34	34.35	8.48	34.04	102	89	Average
5438	57.14	48.35	74	-16.86	34.35	8.48	34.04	102	89	Peak
5470	55.59	46.76	68.2	-12.61	34.37	8.51	34.05	102	89	Peak
5700	95.4	86.27			34.59	8.64	34.1	102	89	Average
5700	102.64	93.51			34.59	8.64	34.1	102	89	Peak
5725	60.82	51.66	68.2	-7.38	34.62	8.65	34.11	102	89	Peak
11400	50.31	35.21	54	-3.69	37.84	12.67	35.41	100	184	Average
11400	59.69	44.59	74	-14.31	37.84	12.67	35.41	100	184	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5700 MHz: Fundamental frequency.
- 5470 MHz & 5725 MHz: 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	Karl Lee

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
*5712	57.37	48.22	68.2	-10.83	34.61	8.65	34.11	192	138	Peak
*5724	66.05	56.89	78.2	-12.15	34.62	8.65	34.11	192	138	Peak
5745	95.9	86.71			34.64	8.66	34.11	192	138	Average
5745	102.32	93.13			34.64	8.66	34.11	192	138	Peak
*5858	56.24	46.92	78.2	-21.96	34.76	8.7	34.14	192	138	Peak
*5866	55.97	46.64	68.2	-12.23	34.76	8.71	34.14	192	138	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
*5712	56.88	47.73	68.2	-11.32	34.61	8.65	34.11	233	198	Peak
*5724	66.22	57.06	78.2	-11.98	34.62	8.65	34.11	233	198	Peak
5745	94.89	85.7			34.64	8.66	34.11	233	198	Average
5745	101.78	92.59			34.64	8.66	34.11	233	198	Peak
*5860	56.5	47.18	78.2	-21.7	34.76	8.7	34.14	233	198	Peak
*5866	55.56	46.23	68.2	-12.64	34.76	8.71	34.14	233	198	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	Karl Lee

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
*5710	56.73	47.58	68.2	-11.47	34.61	8.65	34.11	215	138	Peak
*5716	56.95	47.8	78.2	-21.25	34.61	8.65	34.11	215	138	Peak
5785	96.36	87.13			34.68	8.68	34.13	215	138	Average
5785	103.68	94.45			34.68	8.68	34.13	215	138	Peak
*5860	56.07	46.75	78.2	-22.13	34.76	8.7	34.14	215	138	Peak
*5862	57.13	47.8	68.2	-11.07	34.76	8.71	34.14	215	138	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
*5714	56.96	47.81	68.2	-11.24	34.61	8.65	34.11	233	198	Peak
*5724	56.32	47.16	78.2	-21.88	34.62	8.65	34.11	233	198	Peak
5785	95.57	86.34			34.68	8.68	34.13	233	198	Average
5785	102.61	93.38			34.68	8.68	34.13	233	198	Peak
*5858	57.31	47.99	78.2	-20.89	34.76	8.7	34.14	233	198	Peak
*5866	56.66	47.33	68.2	-11.54	34.76	8.71	34.14	233	198	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	Karl Lee

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
*5708	57.02	47.87	68.2	-11.18	34.61	8.65	34.11	199	138	Peak
*5716	56.87	47.72	78.2	-21.33	34.61	8.65	34.11	199	138	Peak
5825	95.67	86.38			34.73	8.69	34.13	199	138	Average
5825	102.78	93.49			34.73	8.69	34.13	199	138	Peak
*5856	56.72	47.4	78.2	-21.48	34.76	8.7	34.14	199	138	Peak
*5866	57.04	47.71	68.2	-11.16	34.76	8.71	34.14	199	138	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
*5710	56.33	47.18	68.2	-11.87	34.61	8.65	34.11	233	198	Peak
*5720	56.07	46.91	78.2	-22.13	34.62	8.65	34.11	233	198	Peak
5825	94.23	84.94			34.73	8.69	34.13	233	198	Average
5825	101.3	92.01			34.73	8.69	34.13	233	198	Peak
*5852	57.58	48.28	78.2	-20.62	34.74	8.7	34.14	233	198	Peak
*5868	56.75	47.42	68.2	-11.45	34.76	8.71	34.14	233	198	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	Karl Lee

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	45.3	37.08	54	-8.7	34.11	8.1	33.99	232	66	Average
5128	58.39	50.17	74	-15.61	34.11	8.1	33.99	232	66	Peak
5180	95.44	87.13			34.15	8.16	34	232	66	Average
5180	103.1	94.79			34.15	8.16	34	232	66	Peak
5442	42.67	33.88	54	-11.33	34.35	8.48	34.04	232	66	Average
5442	56.71	47.92	74	-17.29	34.35	8.48	34.04	232	66	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5146	45.92	37.67	54	-8.08	34.12	8.13	34	107	86	Average
5146	59.63	51.38	74	-14.37	34.12	8.13	34	107	86	Peak
5180	97.16	88.85			34.15	8.16	34	107	86	Average
5180	104.73	96.42			34.15	8.16	34	107	86	Peak
5368	42.39	33.72	54	-11.61	34.29	8.41	34.03	107	86	Average
5368	57	48.33	74	-17	34.29	8.41	34.03	107	86	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5180 MHz: Fundamental frequency.

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	Karl Lee

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
5122	44.35	36.15	54	-9.65	34.09	8.1	33.99	232	66	Average
5122	57.32	49.12	74	-16.68	34.09	8.1	33.99	232	66	Peak
5220	96.53	88.14			34.17	8.22	34	232	66	Average
5220	103.28	94.89			34.17	8.22	34	232	66	Peak
5386	43.36	34.68	54	-10.64	34.31	8.41	34.04	232	66	Average
5386	57.32	48.64	74	-16.68	34.31	8.41	34.04	232	66	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5142	44.85	36.59	54	-9.15	34.12	8.13	33.99	113	86	Average
5142	57.9	49.64	74	-16.1	34.12	8.13	33.99	113	86	Peak
5220	97.12	88.73			34.17	8.22	34	113	86	Average
5220	104.72	96.33			34.17	8.22	34	113	86	Peak
5386	42.63	33.95	54	-11.37	34.31	8.41	34.04	113	86	Average
5386	57.53	48.85	74	-16.47	34.31	8.41	34.04	113	86	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5220 MHz: Fundamental frequency.

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	Karl Lee

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
5136	43.64	35.39	54	-10.36	34.11	8.13	33.99	232	66	Average
5136	57.24	48.99	74	-16.76	34.11	8.13	33.99	232	66	Peak
5240	96.71	88.27			34.19	8.26	34.01	232	66	Average
5240	103.79	95.35			34.19	8.26	34.01	232	66	Peak
5446	43.06	34.23	54	-10.94	34.36	8.51	34.04	232	66	Average
5446	56.89	48.06	74	-17.11	34.36	8.51	34.04	232	66	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
5124	43.07	34.85	54	-10.93	34.11	8.1	33.99	106	86	Average
5124	57.1	48.88	74	-16.9	34.11	8.1	33.99	106	86	Peak
5240	97.26	88.82			34.19	8.26	34.01	106	86	Average
5240	104.83	96.39			34.19	8.26	34.01	106	86	Peak
5356	42.49	33.86	54	-11.51	34.28	8.38	34.03	106	86	Average
5356	58.02	49.39	74	-15.98	34.28	8.38	34.03	106	86	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5240 MHz: Fundamental frequency.

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	Karl Lee

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
5048	43.08	35.02	54	-10.92	34.04	8	33.98	149	348	Average
5048	56.92	48.86	74	-17.08	34.04	8	33.98	149	348	Peak
5260	96.44	87.98			34.21	8.26	34.01	149	348	Average
5260	103.79	95.33			34.21	8.26	34.01	149	348	Peak
5444	43.21	34.42	54	-10.79	34.35	8.48	34.04	149	348	Average
5444	57.62	48.83	74	-16.38	34.35	8.48	34.04	149	348	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
5138	43.12	34.87	54	-10.88	34.11	8.13	33.99	251	19	Average
5138	56.79	48.54	74	-17.21	34.11	8.13	33.99	251	19	Peak
5260	95.74	87.28			34.21	8.26	34.01	251	19	Average
5260	102.45	93.99			34.21	8.26	34.01	251	19	Peak
5416	43	34.27	54	-11	34.33	8.44	34.04	251	19	Average
5416	57.63	48.9	74	-16.37	34.33	8.44	34.04	251	19	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5260 MHz: Fundamental frequency.

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	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5148	43.3	35.05	54	-10.7	34.12	8.13	34	112	348	Average
5148	57.44	49.19	74	-16.56	34.12	8.13	34	112	348	Peak
5300	95.91	87.37			34.24	8.32	34.02	112	348	Average
5300	103.01	94.47			34.24	8.32	34.02	112	348	Peak
5382	43.88	35.2	54	-10.12	34.31	8.41	34.04	112	348	Average
5382	58.22	49.54	74	-15.78	34.31	8.41	34.04	112	348	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
5102	42.81	34.65	54	-11.19	34.08	8.07	33.99	247	19	Average
5102	56.04	47.88	74	-17.96	34.08	8.07	33.99	247	19	Peak
5300	94.97	86.43			34.24	8.32	34.02	247	19	Average
5300	102.02	93.48			34.24	8.32	34.02	247	19	Peak
5354	43.51	34.88	54	-10.49	34.28	8.38	34.03	247	19	Average
5354	57.75	49.12	74	-16.25	34.28	8.38	34.03	247	19	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	Karl Lee

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
5044	42.27	34.21	54	-11.73	34.04	8	33.98	111	344	Average
5044	56.24	48.18	74	-17.76	34.04	8	33.98	111	344	Peak
5320	96.22	87.64			34.25	8.35	34.02	111	344	Average
5320	103.15	94.57			34.25	8.35	34.02	111	344	Peak
5350	44.26	35.63	54	-9.74	34.28	8.38	34.03	111	344	Average
5350	57.91	49.28	74	-16.09	34.28	8.38	34.03	111	344	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
5036	42.17	34.11	54	-11.83	34.03	8	33.97	247	19	Average
5036	56	47.94	74	-18	34.03	8	33.97	247	19	Peak
5320	95.21	86.63			34.25	8.35	34.02	247	19	Average
5320	102.05	93.47			34.25	8.35	34.02	247	19	Peak
5350	44	35.37	54	-10	34.28	8.38	34.03	247	19	Average
5350	57.23	48.6	74	-16.77	34.28	8.38	34.03	247	19	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	Karl Lee

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
5418	43.56	34.83	54	-10.44	34.33	8.44	34.04	198	73	Average
5418	58.17	49.44	74	-15.83	34.33	8.44	34.04	198	73	Peak
5470	56.51	47.68	68.2	-11.69	34.37	8.51	34.05	198	73	Peak
5500	92.82	83.9			34.4	8.57	34.05	198	73	Average
5500	100.88	91.96			34.4	8.57	34.05	198	73	Peak
5725	55.28	46.12	68.2	-12.92	34.62	8.65	34.11	198	73	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
5434	44.31	35.52	54	-9.69	34.35	8.48	34.04	107	89	Average
5434	57.97	49.18	74	-16.03	34.35	8.48	34.04	107	89	Peak
5470	56.8	47.97	68.2	-11.4	34.37	8.51	34.05	107	89	Peak
5500	95.17	86.25			34.4	8.57	34.05	107	89	Average
5500	102.79	93.87			34.4	8.57	34.05	107	89	Peak
5725	56.63	47.47	68.2	-11.57	34.62	8.65	34.11	107	89	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5500 MHz: Fundamental frequency.
- 5470 MHz & 5725 MHz: 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	Karl Lee

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
5434	42.68	33.89	54	-11.32	34.35	8.48	34.04	198	74	Average
5434	56.82	48.03	74	-17.18	34.35	8.48	34.04	198	74	Peak
5470	55.62	46.79	68.2	-12.58	34.37	8.51	34.05	198	74	Peak
5580	93.77	84.78			34.47	8.6	34.08	198	74	Average
5580	100.74	91.75			34.47	8.6	34.08	198	74	Peak
5725	57.8	48.64	68.2	-10.4	34.62	8.65	34.11	198	74	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	42.52	33.73	54	-11.48	34.35	8.48	34.04	105	89	Average
5444	56.25	47.46	74	-17.75	34.35	8.48	34.04	105	89	Peak
5470	54.06	45.23	68.2	-14.14	34.37	8.51	34.05	105	89	Peak
5580	95.78	86.79			34.47	8.6	34.08	105	89	Average
5580	102.36	93.37			34.47	8.6	34.08	105	89	Peak
5725	55.48	46.32	68.2	-12.72	34.62	8.65	34.11	105	89	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5580 MHz: Fundamental frequency.
- 5470 MHz & 5725 MHz: 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	Karl Lee

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
5382	42.46	33.78	54	-11.54	34.31	8.41	34.04	198	74	Average
5382	56.87	48.19	74	-17.13	34.31	8.41	34.04	198	74	Peak
5470	54.73	45.9	68.2	-13.47	34.37	8.51	34.05	198	74	Peak
5700	93.23	84.1			34.59	8.64	34.1	198	74	Average
5700	100.24	91.11			34.59	8.64	34.1	198	74	Peak
5725	61.41	52.25	68.2	-6.79	34.62	8.65	34.11	198	74	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	42.63	33.84	54	-11.37	34.35	8.48	34.04	102	89	Average
5444	56.99	48.2	74	-17.01	34.35	8.48	34.04	102	89	Peak
5470	54.71	45.88	68.2	-13.49	34.37	8.51	34.05	102	89	Peak
5700	95.34	86.21			34.59	8.64	34.1	102	89	Average
5700	102.39	93.26			34.59	8.64	34.1	102	89	Peak
5725	62.91	53.75	68.2	-5.29	34.62	8.65	34.11	102	89	Peak
11400	49.21	34.11	54	-4.79	37.84	12.67	35.41	100	184	Average
11400	58.88	43.78	74	-15.12	37.84	12.67	35.41	100	184	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5700 MHz: Fundamental frequency.
- 5470 MHz & 5725 MHz: 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	Karl Lee

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
*5712	57.53	48.38	68.2	-10.67	34.61	8.65	34.11	192	138	Peak
*5724	68.58	59.42	78.2	-9.62	34.62	8.65	34.11	192	138	Peak
5745	95.77	86.58			34.64	8.66	34.11	192	138	Average
5745	102.04	92.85			34.64	8.66	34.11	192	138	Peak
*5856	55.83	46.51	78.2	-22.37	34.76	8.7	34.14	192	138	Peak
*5870	56.18	46.85	68.2	-12.02	34.76	8.71	34.14	192	138	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
*5714	57.3	48.15	68.2	-10.9	34.61	8.65	34.11	233	198	Peak
*5724	68.83	59.67	78.2	-9.37	34.62	8.65	34.11	233	198	Peak
5745	94.08	84.89			34.64	8.66	34.11	233	198	Average
5745	101.79	92.6			34.64	8.66	34.11	233	198	Peak
*5854	56.66	47.34	78.2	-21.54	34.76	8.7	34.14	233	198	Peak
*5866	56.14	46.81	68.2	-12.06	34.76	8.71	34.14	233	198	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	Karl Lee

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
*5706	56.72	47.57	68.2	-11.48	34.61	8.65	34.11	215	138	Peak
*5724	57.02	47.86	78.2	-21.18	34.62	8.65	34.11	215	138	Peak
5785	95.87	86.64			34.68	8.68	34.13	215	138	Average
5785	102.08	92.85			34.68	8.68	34.13	215	138	Peak
*5856	56.02	46.7	78.2	-22.18	34.76	8.7	34.14	215	138	Peak
*5870	55.61	46.28	68.2	-12.59	34.76	8.71	34.14	215	138	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
*5708	56.3	47.15	68.2	-11.9	34.61	8.65	34.11	233	198	Peak
*5718	55.97	46.81	78.2	-22.23	34.62	8.65	34.11	233	198	Peak
5785	94.21	84.98			34.68	8.68	34.13	233	198	Average
5785	101.7	92.47			34.68	8.68	34.13	233	198	Peak
*5858	57.26	47.94	78.2	-20.94	34.76	8.7	34.14	233	198	Peak
*5864	56.3	46.97	68.2	-11.9	34.76	8.71	34.14	233	198	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	Karl Lee

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
*5710	56.63	47.48	68.2	-11.57	34.61	8.65	34.11	199	138	Peak
*5718	56.67	47.51	78.2	-21.53	34.62	8.65	34.11	199	138	Peak
5825	95.53	86.24			34.73	8.69	34.13	199	138	Average
5825	102.06	92.77			34.73	8.69	34.13	199	138	Peak
*5856	58.21	48.89	78.2	-19.99	34.76	8.7	34.14	199	138	Peak
*5866	58.27	48.94	68.2	-9.93	34.76	8.71	34.14	199	138	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
*5710	55.45	46.3	68.2	-12.75	34.61	8.65	34.11	233	198	Peak
*5718	56.19	47.03	78.2	-22.01	34.62	8.65	34.11	233	198	Peak
5825	94.58	85.29			34.73	8.69	34.13	233	198	Average
5825	101.11	91.82			34.73	8.69	34.13	233	198	Peak
*5854	57.4	48.08	78.2	-20.8	34.76	8.7	34.14	233	198	Peak
*5870	57.57	48.24	68.2	-10.63	34.76	8.71	34.14	233	198	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	Karl Lee

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)	Preamplifier Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5150	51.04	42.79	54	-2.96	34.12	8.13	34	232	66	Average
5150	64.85	56.6	74	-9.15	34.12	8.13	34	232	66	Peak
5190	92.19	83.85			34.15	8.19	34	232	66	Average
5190	99.36	91.02			34.15	8.19	34	232	66	Peak
5438	43.03	34.24	54	-10.97	34.35	8.48	34.04	232	66	Average
5438	57.28	48.49	74	-16.72	34.35	8.48	34.04	232	66	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)	Preamplifier Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5150	52.35	44.1	54	-1.65	34.12	8.13	34	107	86	Average
5150	66.67	58.42	74	-7.33	34.12	8.13	34	107	86	Peak
5190	93.78	85.44			34.15	8.19	34	107	86	Average
5190	100.87	92.53			34.15	8.19	34	107	86	Peak
5448	43.01	34.18	54	-10.99	34.36	8.51	34.04	107	86	Average
5448	56.84	48.01	74	-17.16	34.36	8.51	34.04	107	86	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamplifier Factor
Margin value = Emission level – Limit value
- 5190 MHz: Fundamental frequency.



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	Karl Lee

Antenna Polarity & Test Distance: Horizontal at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5144	43.83	35.58	54	-10.17	34.12	8.13	34	232	66	Average
5144	57.52	49.27	74	-16.48	34.12	8.13	34	232	66	Peak
5230	93.86	85.46			34.19	8.22	34.01	232	66	Average
5230	100.96	92.56			34.19	8.22	34.01	232	66	Peak
5450	43.49	34.67	54	-10.51	34.36	8.51	34.05	232	66	Average
5450	57.9	49.08	74	-16.1	34.36	8.51	34.05	232	66	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
5120	44.08	35.88	54	-9.92	34.09	8.1	33.99	106	86	Average
5120	56.31	48.11	74	-17.69	34.09	8.1	33.99	106	86	Peak
5230	93.68	85.28			34.19	8.22	34.01	106	86	Average
5230	101.38	92.98			34.19	8.22	34.01	106	86	Peak
5456	43.02	34.2	54	-10.98	34.36	8.51	34.05	106	86	Average
5456	57.39	48.57	74	-16.61	34.36	8.51	34.05	106	86	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5230 MHz: Fundamental frequency.

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	Karl Lee

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
5122	43.64	35.44	54	-10.36	34.09	8.1	33.99	149	348	Average
5122	57.08	48.88	74	-16.92	34.09	8.1	33.99	149	348	Peak
5270	93.57	85.08			34.21	8.29	34.01	149	348	Average
5270	100.76	92.27			34.21	8.29	34.01	149	348	Peak
5444	43.56	34.77	54	-10.44	34.35	8.48	34.04	149	348	Average
5444	57.01	48.22	74	-16.99	34.35	8.48	34.04	149	348	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
5064	43.25	35.15	54	-10.75	34.05	8.03	33.98	251	19	Average
5064	56.66	48.56	74	-17.34	34.05	8.03	33.98	251	19	Peak
5270	92.97	84.48			34.21	8.29	34.01	251	19	Average
5270	99.49	91			34.21	8.29	34.01	251	19	Peak
5450	43.61	34.79	54	-10.39	34.36	8.51	34.05	251	19	Average
5450	58.04	49.22	74	-15.96	34.36	8.51	34.05	251	19	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5270 MHz: Fundamental frequency.

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	Karl Lee

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	44.74	36.52	54	-9.26	34.11	8.1	33.99	111	344	Average
5130	56.56	48.34	74	-17.44	34.11	8.1	33.99	111	344	Peak
5310	93.63	85.08			34.25	8.32	34.02	111	344	Average
5310	100.49	91.94			34.25	8.32	34.02	111	344	Peak
5350	51.38	42.75	54	-2.62	34.28	8.38	34.03	111	344	Average
5350	62.96	54.33	74	-11.04	34.28	8.38	34.03	111	344	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
5042	42.87	34.81	54	-11.13	34.04	8	33.98	247	19	Average
5042	57.06	49	74	-16.94	34.04	8	33.98	247	19	Peak
5310	92.25	83.7			34.25	8.32	34.02	247	19	Average
5310	99.87	91.32			34.25	8.32	34.02	247	19	Peak
5350	48.99	40.36	54	-5.01	34.28	8.38	34.03	247	19	Average
5350	64.28	55.65	74	-9.72	34.28	8.38	34.03	247	19	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	Karl Lee

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
5452	43.96	35.14	54	-10.04	34.36	8.51	34.05	198	74	Average
5452	58.21	49.39	74	-15.79	34.36	8.51	34.05	198	74	Peak
5470	61.12	52.29	68.2	-7.08	34.37	8.51	34.05	198	74	Peak
5510	90.23	81.32			34.4	8.57	34.06	198	74	Average
5510	97.17	88.26			34.4	8.57	34.06	198	74	Peak
5725	56.31	47.15	68.2	-11.89	34.62	8.65	34.11	198	74	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
5460	45.17	36.35	54	-8.83	34.36	8.51	34.05	107	89	Average
5460	59.82	51	74	-14.18	34.36	8.51	34.05	107	89	Peak
5470	66.63	57.8	68.2	-1.57	34.37	8.51	34.05	107	89	Peak
5510	91.27	82.36			34.4	8.57	34.06	107	89	Average
5510	99.95	91.04			34.4	8.57	34.06	107	89	Peak
5725	55.87	46.71	68.2	-12.33	34.62	8.65	34.11	107	89	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5510 MHz: Fundamental frequency.
- 5470 MHz & 5725 MHz: 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	Karl Lee

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
5438	42.87	34.08	54	-11.13	34.35	8.48	34.04	198	74	Average
5438	57.08	48.29	74	-16.92	34.35	8.48	34.04	198	74	Peak
5470	56.69	47.86	68.2	-11.51	34.37	8.51	34.05	198	74	Peak
5550	90.04	81.07			34.45	8.59	34.07	198	74	Average
5550	97.34	88.37			34.45	8.59	34.07	198	74	Peak
5725	55.3	46.14	68.2	-12.9	34.62	8.65	34.11	198	74	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
5448	42.93	34.1	54	-11.07	34.36	8.51	34.04	105	89	Average
5448	57.16	48.33	74	-16.84	34.36	8.51	34.04	105	89	Peak
5470	56.28	47.45	68.2	-11.92	34.37	8.51	34.05	105	89	Peak
5550	92.54	83.57			34.45	8.59	34.07	105	89	Average
5550	99.12	90.15			34.45	8.59	34.07	105	89	Peak
5725	57.1	47.94	68.2	-11.1	34.62	8.65	34.11	105	89	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5550 MHz: Fundamental frequency.
- 5470 MHz & 5725 MHz: 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	Karl Lee

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
5460	42.96	34.14	54	-11.04	34.36	8.51	34.05	198	74	Average
5460	57.96	49.14	74	-16.04	34.36	8.51	34.05	198	74	Peak
5470	54.45	45.62	68.2	-13.75	34.37	8.51	34.05	198	74	Peak
5670	90.35	81.25			34.57	8.63	34.1	198	74	Average
5670	97.15	88.05			34.57	8.63	34.1	198	74	Peak
5725	57.05	47.89	68.2	-11.15	34.62	8.65	34.11	198	74	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
5460	42.97	34.15	54	-11.03	34.36	8.51	34.05	103	89	Average
5460	57.67	48.85	74	-16.33	34.36	8.51	34.05	103	89	Peak
5470	58.03	49.2	68.2	-10.17	34.37	8.51	34.05	103	89	Peak
5670	92.65	83.55			34.57	8.63	34.1	103	89	Average
5670	99.97	90.87			34.57	8.63	34.1	103	89	Peak
5725	58.12	48.96	68.2	-10.08	34.62	8.65	34.11	103	89	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5670 MHz: Fundamental frequency.
- 5470 MHz & 5725 MHz: 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	Karl Lee

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
*5714	65.14	55.99	68.2	-3.06	34.61	8.65	34.11	201	138	Peak
*5724	71.14	61.98	78.2	-7.06	34.62	8.65	34.11	201	138	Peak
5755	92.32	83.11			34.66	8.66	34.11	201	138	Average
5755	99.06	89.85			34.66	8.66	34.11	201	138	Peak
*5854	56.22	46.9	78.2	-21.98	34.76	8.7	34.14	201	138	Peak
*5870	57.22	47.89	68.2	-10.98	34.76	8.71	34.14	201	138	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
*5714	66.71	57.56	68.2	-1.49	34.61	8.65	34.11	233	198	Peak
*5722	71.86	62.7	78.2	-6.34	34.62	8.65	34.11	233	198	Peak
5755	91.95	82.74			34.66	8.66	34.11	233	198	Average
5755	98.83	89.62			34.66	8.66	34.11	233	198	Peak
*5856	56.94	47.62	78.2	-21.26	34.76	8.7	34.14	233	198	Peak
*5870	56.19	46.86	68.2	-12.01	34.76	8.71	34.14	233	198	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	Karl Lee

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
*5714	57.5	48.35	68.2	-10.7	34.61	8.65	34.11	215	138	Peak
*5716	56.89	47.74	78.2	-21.31	34.61	8.65	34.11	215	138	Peak
5795	92.6	83.36			34.69	8.68	34.13	215	138	Average
5795	99.6	90.36			34.69	8.68	34.13	215	138	Peak
*5854	57.59	48.27	78.2	-20.61	34.76	8.7	34.14	215	138	Peak
*5866	58.14	48.81	68.2	-10.06	34.76	8.71	34.14	215	138	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
*5708	56.08	46.93	68.2	-12.12	34.61	8.65	34.11	233	198	Peak
*5720	57.82	48.66	78.2	-20.38	34.62	8.65	34.11	233	198	Peak
5795	91.71	82.47			34.69	8.68	34.13	233	198	Average
5795	98.76	89.52			34.69	8.68	34.13	233	198	Peak
*5854	57.26	47.94	78.2	-20.94	34.76	8.7	34.14	233	198	Peak
*5868	56.55	47.22	68.2	-11.65	34.76	8.71	34.14	233	198	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

For SKU 2

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	Karl Lee

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
5150	52.16	43.91	54	-1.84	34.12	8.13	34	261	67	Average
5150	66.15	57.9	74	-7.85	34.12	8.13	34	261	67	Peak
5190	92.65	84.31			34.15	8.19	34	261	67	Average
5190	100.46	92.12			34.15	8.19	34	261	67	Peak
5418	43.09	34.36	54	-10.91	34.33	8.44	34.04	261	67	Average
5418	57.91	49.18	74	-16.09	34.33	8.44	34.04	261	67	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	52.31	44.06	54	-1.69	34.12	8.13	34	100	94	Average
5150	68.17	59.92	74	-5.83	34.12	8.13	34	100	94	Peak
5190	94.23	85.89			34.15	8.19	34	100	94	Average
5190	101.65	93.31			34.15	8.19	34	100	94	Peak
5446	43.31	34.48	54	-10.69	34.36	8.51	34.04	100	94	Average
5446	57.42	48.59	74	-16.58	34.36	8.51	34.04	100	94	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5190 MHz: Fundamental frequency.



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	Karl Lee

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
5044	42.54	34.48	54	-11.46	34.04	8	33.98	221	70	Average
5044	55.68	47.62	74	-18.32	34.04	8	33.98	221	70	Peak
5310	93.27	84.72			34.25	8.32	34.02	221	70	Average
5310	100.96	92.41			34.25	8.32	34.02	221	70	Peak
5350	50.84	42.21	54	-3.16	34.28	8.38	34.03	221	70	Average
5350	65.72	57.09	74	-8.28	34.28	8.38	34.03	221	70	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
5034	42.49	34.43	54	-11.51	34.03	8	33.97	111	92	Average
5034	56.48	48.42	74	-17.52	34.03	8	33.97	111	92	Peak
5310	95.1	86.55			34.25	8.32	34.02	111	92	Average
5310	102.39	93.84			34.25	8.32	34.02	111	92	Peak
5350	51.24	42.61	54	-2.76	34.28	8.38	34.03	111	92	Average
5350	66.29	57.66	74	-7.71	34.28	8.38	34.03	111	92	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	Karl Lee

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
5460	45.59	36.77	54	-8.41	34.36	8.51	34.05	219	71	Average
5460	58.66	49.84	74	-15.34	34.36	8.51	34.05	219	71	Peak
5470	62.18	53.35	68.2	-6.02	34.37	8.51	34.05	219	71	Peak
5510	91.13	82.22			34.4	8.57	34.06	219	71	Average
5510	98.76	89.85			34.4	8.57	34.06	219	71	Peak
5725	56.48	47.32	68.2	-11.72	34.62	8.65	34.11	219	71	Peak
Antenna Polarity & Test Distance: Vertical at 3 m										
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
5452	45.65	36.83	54	-8.35	34.36	8.51	34.05	106	90	Average
5452	58.5	49.68	74	-15.5	34.36	8.51	34.05	106	90	Peak
5470	66.48	57.65	68.2	-1.72	34.37	8.51	34.05	106	90	Peak
5510	92.53	83.62			34.4	8.57	34.06	106	90	Average
5510	100.31	91.4			34.4	8.57	34.06	106	90	Peak
5725	56.53	47.37	68.2	-11.67	34.62	8.65	34.11	106	90	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5510 MHz: Fundamental frequency.
- 5470 MHz & 5725 MHz: 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	Karl Lee

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
*5712	66.5	57.35	68.2	-1.7	34.61	8.65	34.11	214	74	Peak
*5724	71.48	62.32	78.2	-6.72	34.62	8.65	34.11	214	74	Peak
5755	92.33	83.12			34.66	8.66	34.11	214	74	Average
5755	99.33	90.12			34.66	8.66	34.11	214	74	Peak
*5854	56.35	47.03	78.2	-21.85	34.76	8.7	34.14	214	74	Peak
*5868	56.7	47.37	68.2	-11.5	34.76	8.71	34.14	214	74	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
*5714	66.35	57.2	68.2	-1.85	34.61	8.65	34.11	102	84	Peak
*5724	71.82	62.66	78.2	-6.38	34.62	8.65	34.11	102	84	Peak
5755	93.32	84.11			34.66	8.66	34.11	102	84	Average
5755	100.66	91.45			34.66	8.66	34.11	102	84	Peak
*5852	56	46.7	78.2	-22.2	34.74	8.7	34.14	102	84	Peak
*5862	56.36	47.03	68.2	-11.84	34.76	8.71	34.14	102	84	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

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:

For SKU 1

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)
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Karl Lee

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
92.1	18.35	40	43.5	-25.15	9.06	1.11	31.82	192	110	Peak
163.92	21.46	41.69	43.5	-22.04	10.51	1.52	32.26	105	110	Peak
183.09	19.47	39.7	43.5	-24.03	10.4	1.61	32.24	183	9	Peak
575.8	20.71	29.99	46	-25.29	20.1	2.82	32.2	120	201	Peak
673.1	25.36	31.03	46	-20.64	23.4	3.05	32.12	143	309	Peak
799.1	25.66	29.8	46	-20.34	24.6	3.32	32.06	199	179	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
32.97	28.94	44.86	40	-11.06	15.59	0.74	32.25	128	228	Peak
54.84	26.37	50.4	40	-13.63	7.3	0.9	32.23	170	29	Peak
93.45	12.91	34.5	43.5	-30.59	9.18	1.11	31.88	173	198	Peak
492.5	20.13	30.62	46	-25.87	18.98	2.63	32.1	120	210	Peak
680.1	24.32	30.07	46	-21.68	23.31	3.05	32.11	133	305	Peak
783	24.62	29.57	46	-21.38	23.87	3.27	32.09	124	295	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)
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Karl Lee

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)	Preamplifier Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
91.83	19.35	41	43.5	-24.15	9.06	1.11	31.82	197	80	Peak
165.27	23.52	43.9	43.5	-19.98	10.36	1.52	32.26	143	89	Peak
184.44	18.73	38.96	43.5	-24.77	10.4	1.61	32.24	104	161	Peak
514.2	19.72	29.2	46	-26.28	19.94	2.7	32.12	197	205	Peak
636.7	22.51	29.64	46	-23.49	22.1	2.93	32.16	122	211	Peak
720	26.24	31.88	46	-19.76	23.31	3.16	32.11	126	318	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)	Preamplifier Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
32.7	29.27	44.94	40	-10.73	15.84	0.74	32.25	129	274	Peak
48.09	26.48	49.4	40	-13.52	8.4	0.9	32.22	183	9	Peak
81.57	19.13	41.71	40	-20.87	8.47	1.11	32.16	181	70	Peak
519.8	20.63	29.75	46	-25.37	20.32	2.7	32.14	170	51	Peak
720	25.94	31.58	46	-20.06	23.31	3.16	32.11	135	315	Peak
799.1	25.41	29.55	46	-20.59	24.6	3.32	32.06	171	199	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)
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Karl Lee

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
90.48	18.46	40.12	43.5	-25.04	8.94	1.11	31.71	190	148	Peak
166.35	25.78	46.22	43.5	-17.72	10.29	1.52	32.25	152	35	Peak
182.28	23.8	44.03	43.5	-19.7	10.4	1.61	32.24	104	161	Peak
624.1	22.58	29.72	46	-23.42	22.1	2.93	32.17	122	211	Peak
720	25.17	30.81	46	-20.83	23.31	3.16	32.11	130	309	Peak
867.7	25.98	29.62	46	-20.02	24.6	3.44	31.68	187	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
32.7	29.18	44.85	40	-10.82	15.84	0.74	32.25	176	7	Peak
48.09	27.13	50.05	40	-12.87	8.4	0.9	32.22	189	29	Peak
87.51	17.74	39.71	40	-22.26	8.78	1.11	31.86	111	318	Peak
597.5	21.78	30.12	46	-24.22	20.98	2.87	32.19	170	217	Peak
720	25.84	31.48	46	-20.16	23.31	3.16	32.11	133	165	Peak
859.3	25.59	29.69	46	-20.41	24.2	3.44	31.74	185	193	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 151	Frequency Range	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK)
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Karl Lee

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)	Preamplifier Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
90.48	19.58	41.24	43.5	-23.92	8.94	1.11	31.71	195	185	Peak
164.19	27.62	47.92	43.5	-15.88	10.44	1.52	32.26	104	152	Peak
186.06	23.57	43.81	43.5	-19.93	10.4	1.61	32.25	186	6	Peak
596.1	21.44	29.78	46	-24.56	20.98	2.87	32.19	190	190	Peak
720	27.02	32.66	46	-18.98	23.31	3.16	32.11	170	162	Peak
769.7	26.09	31.53	46	-19.91	23.45	3.22	32.11	123	325	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)	Preamplifier Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
32.97	30.55	46.47	40	-9.45	15.59	0.74	32.25	130	55	Peak
47.82	28.17	51.01	40	-11.83	8.48	0.9	32.22	184	38	Peak
160.41	18.27	38.22	43.5	-25.23	10.8	1.52	32.27	140	241	Peak
590.5	20.78	29.37	46	-25.22	20.73	2.87	32.19	159	105	Peak
654.9	22.71	29.54	46	-23.29	22.32	2.99	32.14	164	229	Peak
720	25.55	31.19	46	-20.45	23.31	3.16	32.11	148	22	Peak

Remarks:

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

For SKU 2

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)
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Karl Lee

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
90.21	21.8	43.46	43.5	-21.7	8.94	1.11	31.71	110	110	Peak
155.28	18.97	39.27	43.5	-24.53	10.45	1.52	32.27	104	150	Peak
182.82	17.4	37.63	43.5	-26.1	10.4	1.61	32.24	182	82	Peak
682.2	23.75	29.5	46	-22.25	23.31	3.05	32.11	160	169	Peak
720	27.76	33.4	46	-18.24	23.31	3.16	32.11	170	180	Peak
938.4	27.89	29.27	46	-18.11	26.2	3.62	31.2	193	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
32.97	28.45	44.37	40	-11.55	15.59	0.74	32.25	132	197	Peak
48.9	26.78	49.96	40	-13.22	8.14	0.9	32.22	181	111	Peak
87.24	16.85	38.84	40	-23.15	8.76	1.11	31.86	165	149	Peak
514.9	19.92	29.22	46	-26.08	20.13	2.7	32.13	180	130	Peak
672.4	24.01	29.68	46	-21.99	23.4	3.05	32.12	180	240	Peak
720	24.48	30.12	46	-21.52	23.31	3.16	32.11	142	229	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)
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Karl Lee

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
89.94	19.26	40.96	43.5	-24.24	8.9	1.11	31.71	192	140	Peak
156.09	18.46	38.7	43.5	-25.04	10.51	1.52	32.27	105	152	Peak
194.43	17.16	37.21	43.5	-26.34	10.62	1.61	32.28	160	69	Peak
573.7	21.25	30.53	46	-24.75	20.1	2.82	32.2	157	212	Peak
720	27.49	33.13	46	-18.51	23.31	3.16	32.11	149	314	Peak
799.8	25.26	29.4	46	-20.74	24.6	3.32	32.06	125	261	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
32.7	28.32	43.99	40	-11.68	15.84	0.74	32.25	128	319	Peak
48.36	27.57	50.58	40	-12.43	8.31	0.9	32.22	127	9	Peak
89.94	19.12	40.82	43.5	-24.38	8.9	1.11	31.71	189	171	Peak
484.8	19.93	30.47	46	-26.07	18.94	2.63	32.11	148	199	Peak
687.1	24.12	29.94	46	-21.88	23.23	3.05	32.1	130	103	Peak
798.4	26.24	30.56	46	-19.76	24.42	3.32	32.06	124	144	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)
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Karl Lee

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
90.75	19.87	41.55	43.5	-23.63	8.98	1.11	31.77	190	175	Peak
155.28	19.1	39.4	43.5	-24.4	10.45	1.52	32.27	199	155	Peak
195.51	16.79	36.78	43.5	-26.71	10.68	1.61	32.28	161	36	Peak
590.5	21.39	29.98	46	-24.61	20.73	2.87	32.19	120	214	Peak
665.4	23.07	29.24	46	-22.93	22.97	2.99	32.13	171	230	Peak
720	28.68	34.32	46	-17.32	23.31	3.16	32.11	186	286	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
33.24	27.97	44.01	40	-12.03	15.47	0.74	32.25	133	24	Peak
48.09	27.92	50.84	40	-12.08	8.4	0.9	32.22	150	248	Peak
87.51	18.1	40.07	40	-21.9	8.78	1.11	31.86	111	247	Peak
619.2	22.28	29.57	46	-23.72	21.96	2.93	32.18	161	227	Peak
673.1	22.91	28.58	46	-23.09	23.4	3.05	32.12	150	360	Peak
799.1	25.34	29.48	46	-20.66	24.6	3.32	32.06	200	246	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 151	Frequency Range	30 MHz ~ 1 GHz
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK)
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Karl Lee

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)	Preamplifier Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
89.94	20.49	42.19	43.5	-23.01	8.9	1.11	31.71	198	194	Peak
155.01	18.9	39.2	43.5	-24.6	10.45	1.52	32.27	180	104	Peak
191.19	17.26	37.45	43.5	-26.24	10.46	1.61	32.26	180	180	Peak
509.3	19.99	29.71	46	-26.01	19.76	2.63	32.11	197	63	Peak
612.2	22.25	29.89	46	-23.75	21.67	2.87	32.18	170	276	Peak
720	27.66	33.3	46	-18.34	23.31	3.16	32.11	172	248	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)	Preamplifier Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
32.97	28	43.92	40	-12	15.59	0.74	32.25	124	180	Peak
54.84	27.02	51.05	40	-12.98	7.3	0.9	32.23	190	260	Peak
86.97	17.85	39.84	40	-22.15	8.76	1.11	31.86	170	186	Peak
472.9	18.83	29.58	46	-27.17	18.81	2.56	32.12	188	157	Peak
642.3	22.66	29.73	46	-23.34	22.1	2.99	32.16	122	299	Peak
847.4	25.08	29.76	46	-20.92	23.75	3.38	31.81	147	74	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamplifier 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. 16, 2015	Nov. 15, 2016
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond1-01	Dec. 26, 2015	Dec. 25, 2016
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Feb. 26, 2016	Feb. 25, 2017
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Jul. 24, 2015	Jul. 23, 2016
Software ADT	BV ADT_Conc_ 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

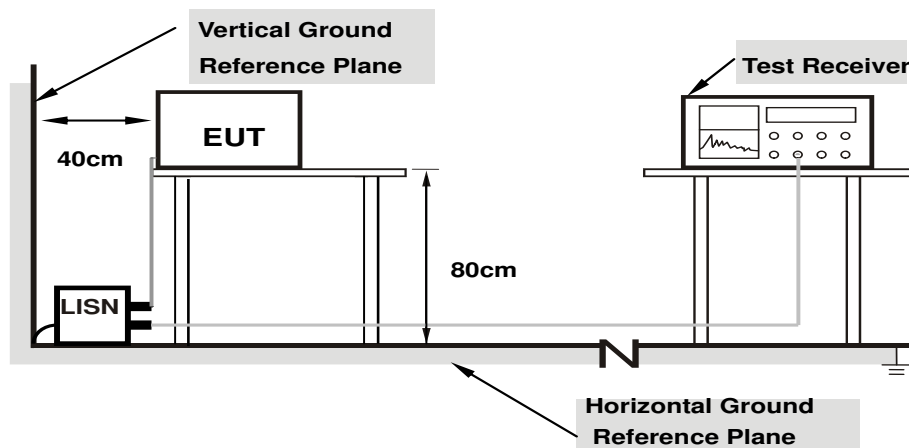
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance 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: 1.Support units were connected to second LISN.

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

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

4.2.6 EUT Operating Conditions

- 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

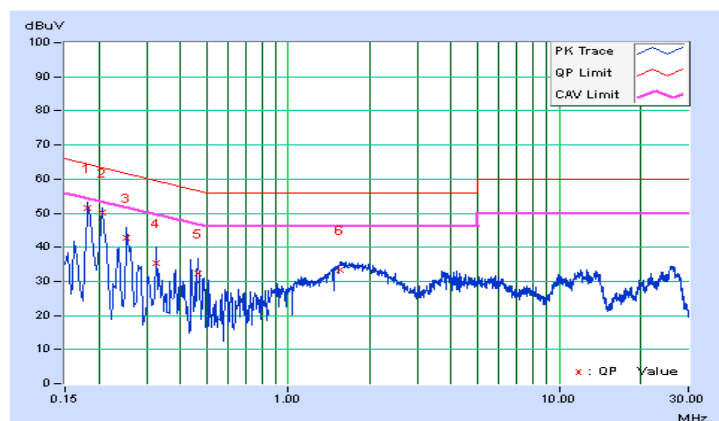
For SKU 1

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	Toby Tian	Test Date	2016/3/12

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	0.18200	10.08	41.51	20.36	51.59	30.44	64.39	54.39	-12.80	-23.95
2	0.20600	10.12	40.12	24.17	50.24	34.29	63.37	53.37	-13.12	-19.07
3	0.25405	10.12	32.55	18.24	42.67	28.36	61.62	51.62	-18.95	-23.26
4	0.32600	10.13	25.24	9.75	35.37	19.88	59.55	49.55	-24.19	-29.68
5	0.46200	10.15	22.27	8.83	32.42	18.98	56.66	46.66	-24.24	-27.68
6	1.56200	10.28	23.16	12.67	33.44	22.95	56.00	46.00	-22.56	-23.05

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

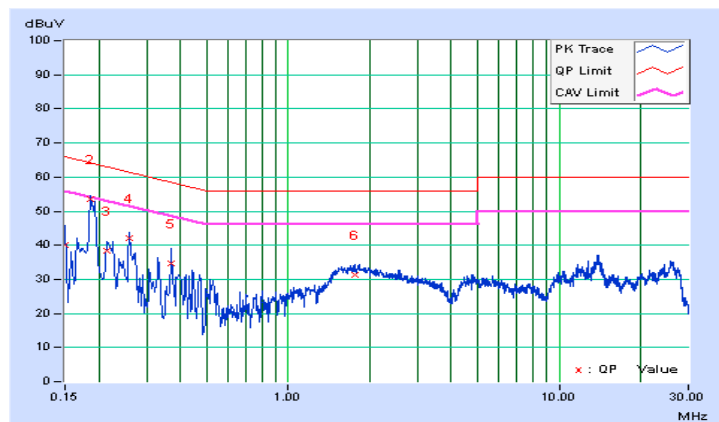


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25°C, 65%RH
Tested by	Toby Tian	Test Date	2016/3/12

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	0.15000	10.00	30.18	13.03	40.18	23.03	66.00	56.00	-25.82	-32.97
2	0.18600	10.03	43.39	24.96	53.42	34.99	64.21	54.21	-10.79	-19.22
3	0.21406	10.05	28.48	14.07	38.53	24.12	63.05	53.05	-24.52	-28.93
4	0.25810	10.07	31.99	18.19	42.06	28.26	61.49	51.49	-19.43	-23.23
5	0.37000	10.13	24.41	8.54	34.54	18.67	58.50	48.50	-23.96	-29.83
6	1.76200	10.27	21.19	11.07	31.46	21.34	56.00	46.00	-24.54	-24.66

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



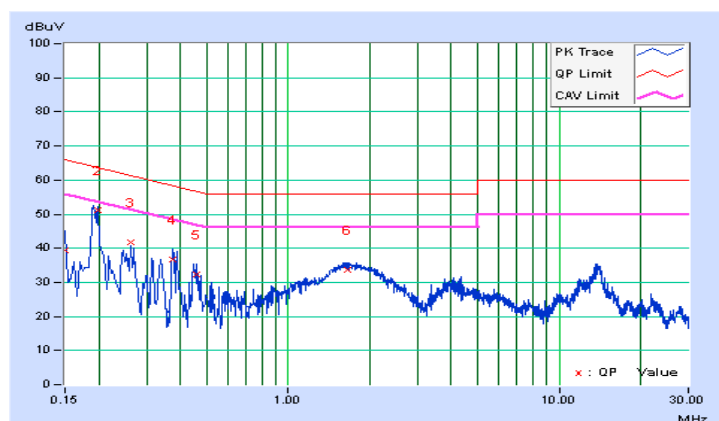
For SKU 2

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	Toby Tian	Test Date	2016/3/12

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	0.15000	10.01	29.48	12.46	39.49	22.47	66.00	56.00	-26.51	-33.53
2	0.19800	10.12	41.13	26.99	51.25	37.11	63.69	53.69	-12.45	-16.59
3	0.26200	10.12	31.67	18.20	41.79	28.32	61.37	51.37	-19.57	-23.04
4	0.37421	10.13	26.43	12.10	36.56	22.23	58.41	48.41	-21.85	-26.18
5	0.45800	10.15	22.16	8.60	32.31	18.75	56.73	46.73	-24.42	-27.98
6	1.66600	10.28	23.25	12.00	33.53	22.28	56.00	46.00	-22.47	-23.72

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

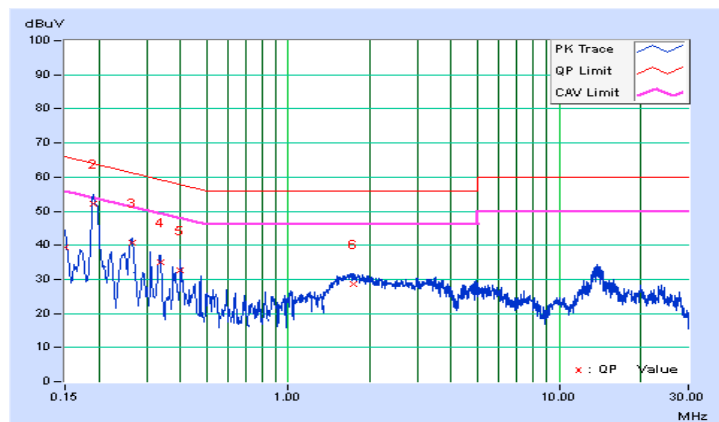


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz	Environmental Conditions	25°C, 65%RH
Tested by	Toby Tian	Test Date	2016/3/12

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	0.15000	10.00	29.41	12.75	39.41	22.75	66.00	56.00	-26.59	-33.25
2	0.19013	10.03	42.16	26.23	52.19	36.26	64.03	54.03	-11.84	-17.77
3	0.26569	10.08	30.81	18.11	40.89	28.19	61.25	51.25	-20.37	-23.07
4	0.33678	10.12	24.80	9.96	34.92	20.08	59.28	49.28	-24.37	-29.21
5	0.39800	10.15	22.36	9.10	32.51	19.25	57.90	47.90	-25.39	-28.65
6	1.74307	10.27	18.42	8.22	28.69	18.49	56.00	46.00	-27.31	-27.51

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

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

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

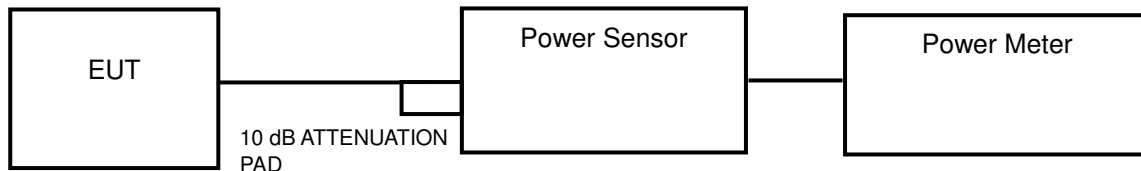
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT} ;

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

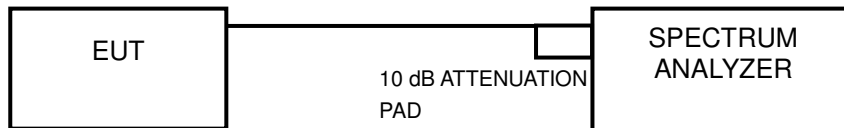
For power measurements on all other devices: Array Gain = $10 \log(N_{ANT}/N_{SS})$ dB.

4.3.2 Test Setup

<Power Output Measurement>



<26 dB Bandwidth>



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

Average Power Measurement

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	15.38	11.87	24	Pass
44	5220	15.92	12.02	24	Pass
48	5240	16.07	12.06	24	Pass
52	5260	15.07	11.78	24	Pass
60	5300	15.10	11.79	24	Pass
64	5320	15.63	11.94	24	Pass
100	5500	14.93	11.74	24	Pass
116	5580	14.03	11.47	24	Pass
140	5700	15.96	12.03	24	Pass
149	5745	16.90	12.28	30	Pass
157	5785	16.07	12.06	30	Pass
165	5825	15.45	11.89	30	Pass

NOTE:

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

1. $11 \text{ dBm} + 10\log(20.13) = 24.04 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log(20.08) = 24.03 \text{ dBm} > 24 \text{ dBm}$.
3. $11 \text{ dBm} + 10\log(20.09) = 24.03 \text{ dBm} > 24 \text{ dBm}$.
4. $11 \text{ dBm} + 10\log(20.03) = 24.02 \text{ dBm} > 24 \text{ dBm}$.
5. $11 \text{ dBm} + 10\log(20.05) = 24.02 \text{ dBm} > 24 \text{ dBm}$.
6. $11 \text{ dBm} + 10\log(22.88) = 24.59 \text{ dBm} > 24 \text{ dBm}$.

802.11n (HT20)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
36	5180	16.56	12.19	24	Pass
44	5220	15.38	11.87	24	Pass
48	5240	15.21	11.82	24	Pass
52	5260	14.59	11.64	24	Pass
60	5300	14.69	11.67	24	Pass
64	5320	15.03	11.77	24	Pass
100	5500	14.35	11.57	24	Pass
116	5580	13.68	11.36	24	Pass
140	5700	15.35	11.86	24	Pass
149	5745	16.44	12.16	30	Pass
157	5785	15.74	11.97	30	Pass
165	5825	15.96	12.03	30	Pass

NOTE:

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

1. $11 \text{ dBm} + 10\log(20.41) = 24.10 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log(20.50) = 24.12 \text{ dBm} > 24 \text{ dBm}$.
3. $11 \text{ dBm} + 10\log(20.46) = 24.11 \text{ dBm} > 24 \text{ dBm}$.
4. $11 \text{ dBm} + 10\log(20.30) = 24.07 \text{ dBm} > 24 \text{ dBm}$.
5. $11 \text{ dBm} + 10\log(20.37) = 24.09 \text{ dBm} > 24 \text{ dBm}$.
6. $11 \text{ dBm} + 10\log(25.38) = 25.04 \text{ dBm} > 24 \text{ dBm}$.

802.11n (HT40)

Channel	Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass / Fail
38	5190	15.31	11.85	24	Pass
46	5230	16.18	12.09	24	Pass
54	5270	15.67	11.95	24	Pass
62	5310	15.60	11.93	24	Pass
102	5510	14.59	11.64	24	Pass
110	5550	14.39	11.58	24	Pass
134	5670	16.52	12.18	24	Pass
151	5755	16.71	12.23	30	Pass
159	5795	15.92	12.02	30	Pass

NOTE:

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

1. $11 \text{ dBm} + 10\log(41.43) = 27.17 \text{ dBm} > 24 \text{ dBm}$.
2. $11 \text{ dBm} + 10\log(41.67) = 27.20 \text{ dBm} > 24 \text{ dBm}$.
3. $11 \text{ dBm} + 10\log(41.60) = 27.19 \text{ dBm} > 24 \text{ dBm}$.
4. $11 \text{ dBm} + 10\log(41.31) = 27.16 \text{ dBm} > 24 \text{ dBm}$.
5. $11 \text{ dBm} + 10\log(60.10) = 28.79 \text{ dBm} > 24 \text{ dBm}$.

26 dB Bandwidth:

802.11a

Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	Pass / Fail
36	5180	20.14	Pass
44	5220	20.12	Pass
48	5240	20.10	Pass
52	5260	20.13	Pass
60	5300	20.08	Pass
64	5320	20.09	Pass
100	5500	20.03	Pass
116	5580	20.05	Pass
140	5700	22.88	Pass

802.11n (HT20)

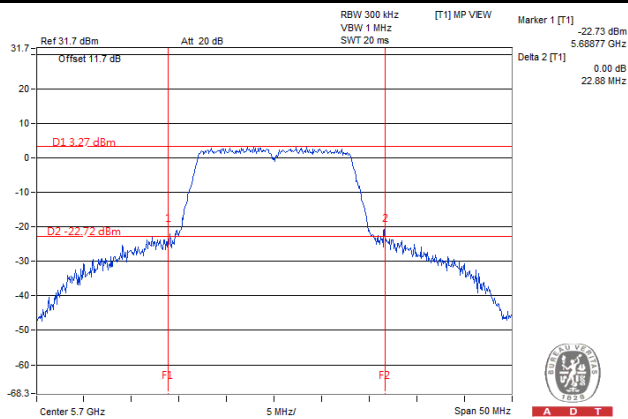
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	Pass / Fail
36	5180	20.33	Pass
44	5220	20.40	Pass
48	5240	20.33	Pass
52	5260	20.41	Pass
60	5300	20.50	Pass
64	5320	20.46	Pass
100	5500	20.30	Pass
116	5580	20.37	Pass
140	5700	25.38	Pass

802.11n (HT40)

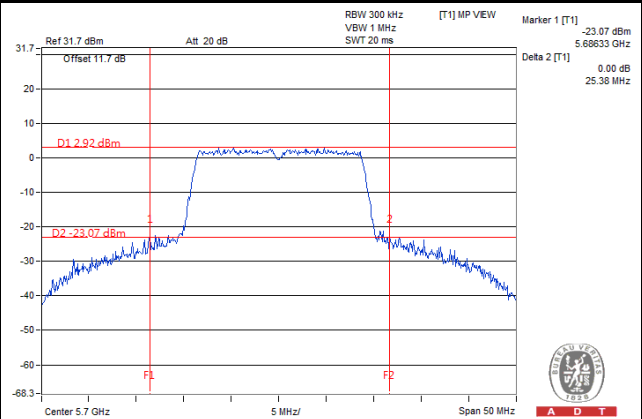
Channel	Frequency (MHz)	26 dBc Bandwidth (MHz)	Pass / Fail
38	5190	41.49	Pass
46	5230	41.42	Pass
54	5270	41.43	Pass
62	5310	41.67	Pass
102	5510	41.60	Pass
110	5550	41.31	Pass
134	5670	60.10	Pass

Spectrum Plot of Worst Value

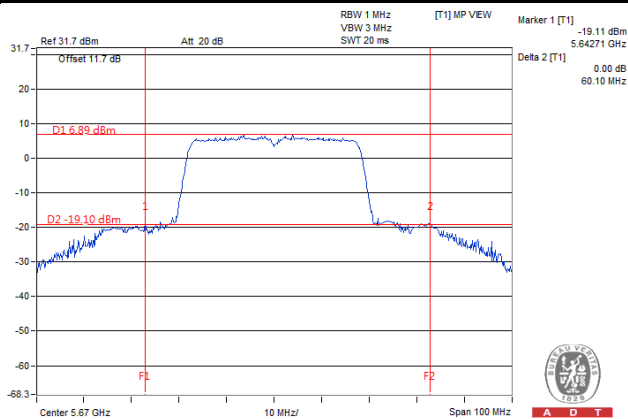
802.11a



802.11n (HT20)



802.11n (HT40)

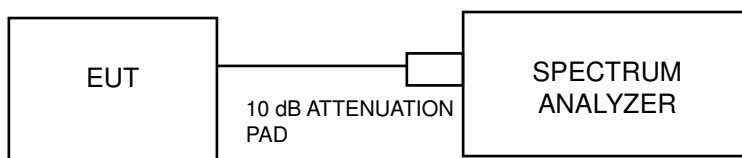


4.4 Peak Power Spectral Density Measurement

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:

Using method SA-1

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz, Set VBW ≥ 3 MHz, 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

For U-NII-3:

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 300 kHz, Set VBW ≥ 1 MHz, Detector = RMS
3. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
4. Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where $BWCF = 10\log(500\text{ kHz}/300\text{ kHz})$
5. Sweep time = auto, trigger set to “free run”.
6. Trace average at least 100 traces in power averaging mode.
7. Record the max value and add $10\log(1/\text{duty cycle})$

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

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

802.11a

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor	PSD with Duty Factor (dBm)	Maximum Limit (dBm)	Pass / Fail
36	5180	-0.87	0.12	-0.75	11	Pass
44	5220	-0.60	0.12	-0.48	11	Pass
48	5240	-0.56	0.12	-0.44	11	Pass
52	5260	-0.65	0.12	-0.53	11	Pass
60	5300	-0.18	0.12	-0.06	11	Pass
64	5320	-0.06	0.12	0.06	11	Pass
100	5500	0.41	0.12	0.53	11	Pass
116	5580	0.01	0.12	0.13	11	Pass
140	5700	-0.19	0.12	-0.07	11	Pass

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

802.11n (HT20)

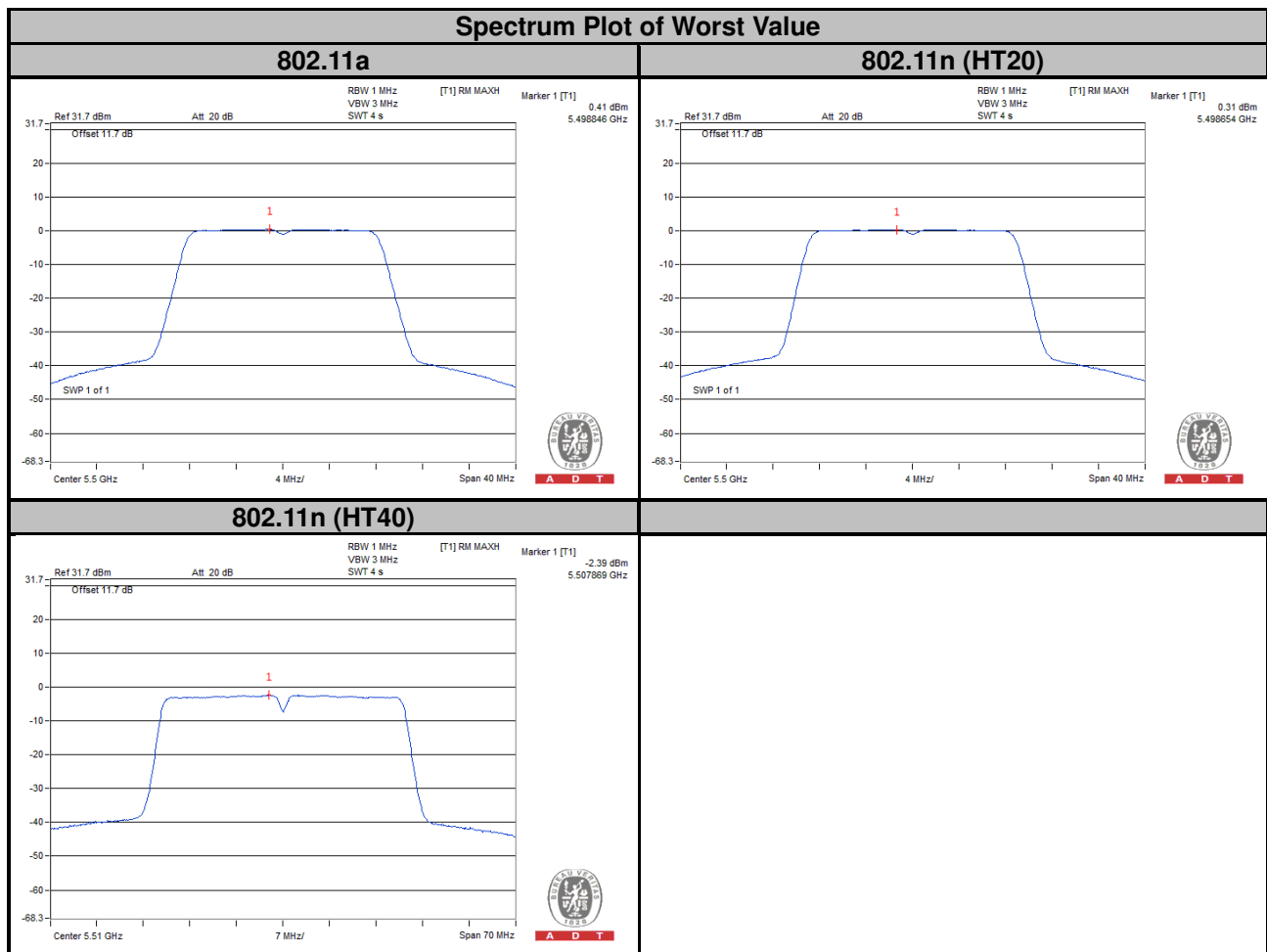
Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor	PSD with Duty Factor (dBm)	Maximum Limit (dBm)	Pass / Fail
36	5180	-1.18	0.14	-1.04	11	Pass
44	5220	-0.89	0.14	-0.75	11	Pass
48	5240	-0.86	0.14	-0.72	11	Pass
52	5260	-0.91	0.14	-0.77	11	Pass
60	5300	-0.55	0.14	-0.41	11	Pass
64	5320	-0.30	0.14	-0.16	11	Pass
100	5500	0.31	0.14	0.45	11	Pass
116	5580	-0.38	0.14	-0.24	11	Pass
140	5700	-0.53	0.14	-0.39	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)	Duty Factor	PSD with Duty Factor (dBm)	Maximum Limit (dBm)	Pass / Fail
38	5190	-3.72	0.31	-3.41	11	Pass
46	5230	-3.40	0.31	-3.09	11	Pass
54	5270	-3.36	0.31	-3.05	11	Pass
62	5310	-2.90	0.31	-2.59	11	Pass
102	5510	-2.39	0.31	-2.08	11	Pass
110	5550	-2.60	0.31	-2.29	11	Pass
134	5670	-2.80	0.31	-2.49	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)	Duty Factor	PSD with Duty Factor (dBm)	Limit (dBm/500 kHz)	Pass / Fail
149	5745	-2.48	0.12	-2.36	30	Pass
157	5785	-2.26	0.12	-2.14	30	Pass
165	5825	-1.90	0.12	-1.78	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)	Duty Factor	PSD with Duty Factor (dBm)	Limit (dBm/500 kHz)	Pass / Fail
149	5745	-2.46	0.14	-2.32	30	Pass
157	5785	-2.51	0.14	-2.37	30	Pass
165	5825	-1.93	0.14	-1.79	30	Pass

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

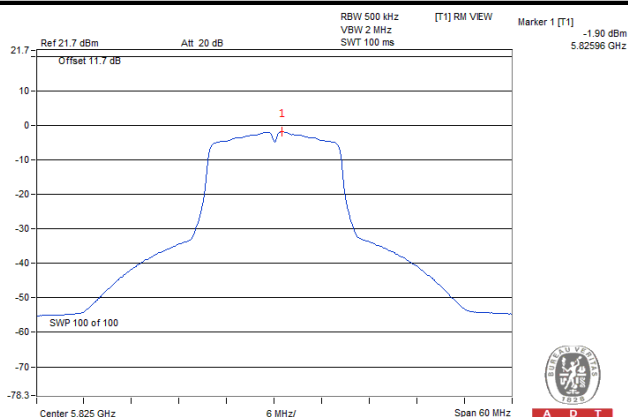
802.11n (HT40)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor	PSD with Duty Factor (dBm)	Limit (dBm/500 kHz)	Pass / Fail
151	5755	-6.19	0.31	-5.88	30	Pass
159	5795	-5.68	0.31	-5.37	30	Pass

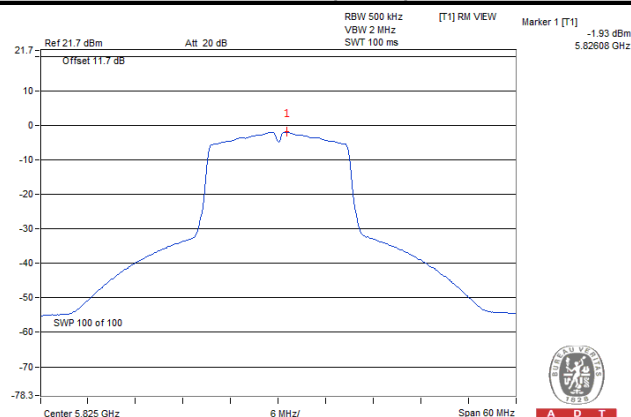
NOTE: Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

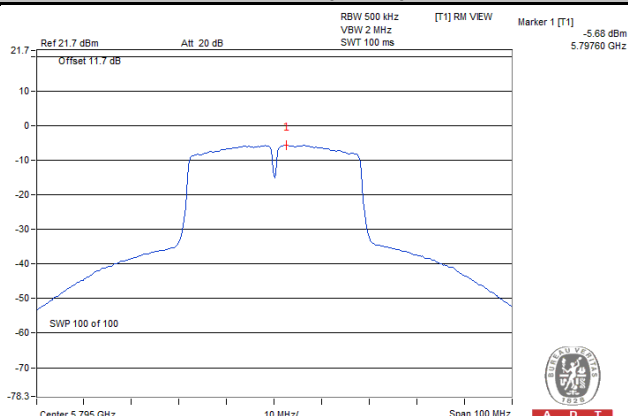
802.11a



802.11n (HT20)



802.11n (HT40)

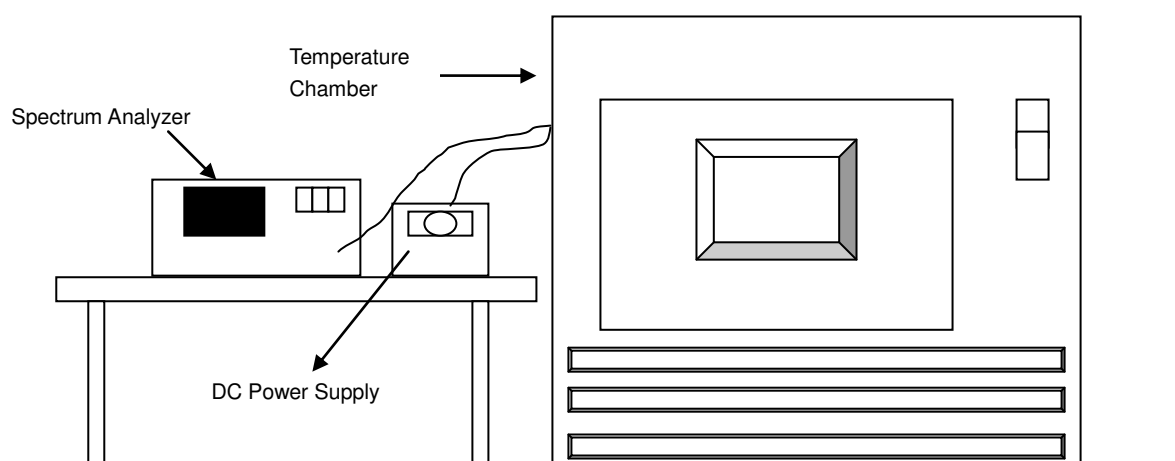


4.5 Frequency Stability

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 (Vdc)	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)
55	3.8	5320.032123	6.038	5320.032380	6.086	5320.032490	6.107	5320.032412	6.092
50	3.8	5320.032844	6.174	5320.032995	6.202	5320.032719	6.150	5320.032805	6.166
40	3.8	5320.032589	6.126	5320.032816	6.168	5320.033069	6.216	5320.032812	6.168
30	3.8	5320.033801	6.354	5320.034397	6.466	5320.034595	6.503	5320.034202	6.429
20	3.8	5320.034771	6.536	5320.035382	6.651	5320.034696	6.522	5320.035401	6.654
10	3.8	5320.036629	6.885	5320.036197	6.804	5320.036610	6.882	5320.036596	6.879
0	3.8	5320.034725	6.527	5320.035136	6.605	5320.035204	6.617	5320.035067	6.592
-10	3.8	5320.033668	6.329	5320.033490	6.295	5320.033499	6.297	5320.033391	6.277
-20	3.8	5320.032816	6.168	5320.033207	6.242	5320.032839	6.173	5320.033122	6.226
-30	3.8	5320.031972	6.010	5320.031799	5.977	5320.032275	6.067	5320.031595	5.939

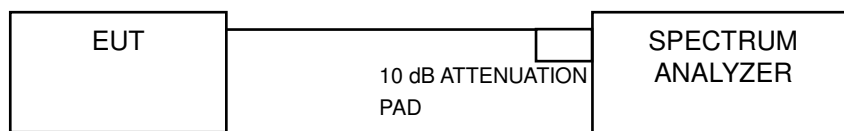
Frequency Stability Versus Temp.									
Operating Frequency: 5320 MHz									
Temp. (°C)	Power Supply (Vdc)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
20	3.6	5320.044869	8.434	5320.044663	8.395	5320.044332	8.333	5320.045108	8.479
	3.8	5320.034771	6.536	5320.035382	6.651	5320.034696	6.522	5320.035401	6.654
	4.3	5320.046003	8.647	5320.046114	8.668	5320.046305	8.704	5320.046571	8.754

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	15.49	0.5	Pass
157	5785	15.35	0.5	Pass
165	5825	15.51	0.5	Pass

802.11n (HT20)

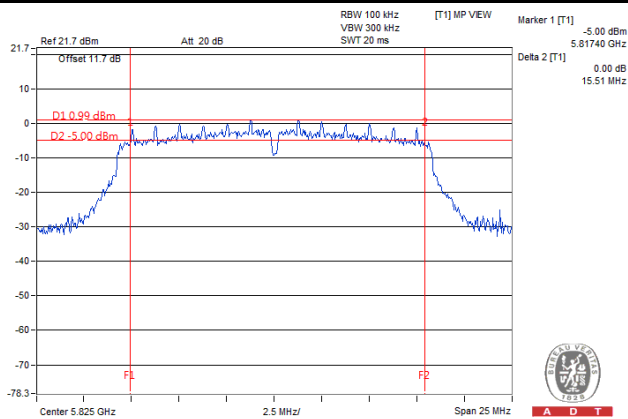
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	15.67	0.5	Pass
157	5785	16.55	0.5	Pass
165	5825	15.45	0.5	Pass

802.11n (HT40)

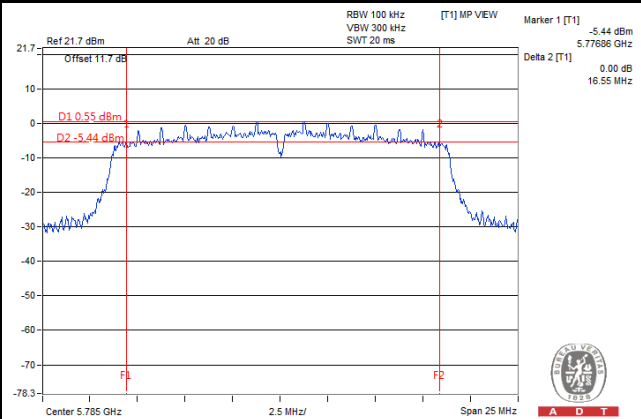
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
151	5755	35.27	0.5	Pass
159	5795	35.27	0.5	Pass

Spectrum Plot of Worst Value

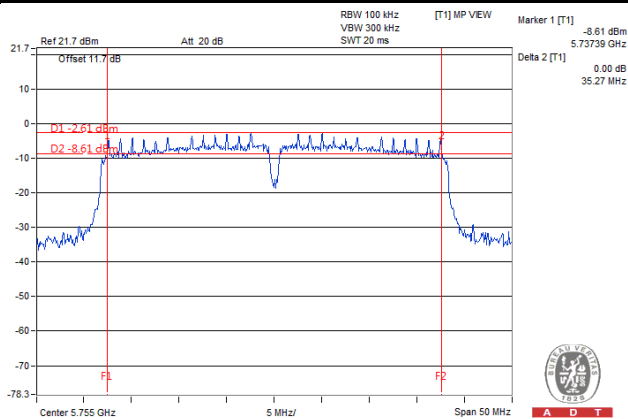
802.11a



802.11n (HT20)



802.11n (HT40)



5 Pictures of Test Arrangements

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

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 ---