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FCC REPORT

Application No:	HKES1501000090IT
Applicant:	Pismo Labs Technology Limited
Product Name:	Multi-Cellular Mobile Router (trade name: Pepwave, Peplink, Pismo)
Item No.(EUT):	MAX HD4
Add Item No.:	MAX-HD4-MFA, MAX-HD2-MFA, MFA-200
FCC ID:	U8G-P1803
Standards:	47 CFR Part 15, Subpart E (2014)
Date of Receipt:	2015-01-19
Date of Test:	2015-02-02 to 2015-02-09
Date of Issue:	2015-03-10
Test Result:	**PASS ***

. * In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Jack Zhang
EMC Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.
The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.

2 Version

Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
00		2015-03-10		*Original*

Authorized for issue by:				
Tested By		Chris-Zhong **(Chris Zhong) /Project Engineer**		2015-02-09 **Date**
Prepared By		Hedy Wen **(Hedy Wen) /Clerk**		2015-03-10 **Date**
Checked By		Emen_Li **(Emen Li) /Reviewer**		2015-03-10 **Date**

3 Test Summary

Test Item	Test Requirement	Test method	Result
Antenna Requirement	47 CFR Part 15 Section 15.203	ANSI C63.10: 2013	PASS
AC Power Line Conducted Emission	47 CFR Part 15 Section 15.207	ANSI C63.10: 2013	PASS
Duty Cycle	FCC KDB 789033 D02 General UNIT Test Procedures New Rules v01	ANSI C63.10: 2013	PASS
Conducted Peak Output Power	47 CFR Part 15 Section 15.407(a)	FCC KDB 789033 D02 General UNIT Test Procedures New Rules v01	PASS
6dB Occupied Bandwidth	47 CFR Part 15 Section 15.407(a)	FCC KDB 789033 D02 General UNIT Test Procedures New Rules v01	PASS
26 dB Emission Bandwidth & 99% Occupied Bandwidth	47 CFR Part 15 Section 15.407(a)	FCC KDB 789033 D02 General UNIT Test Procedures New Rules v01	PASS
Power Spectral Density	47 CFR Part 15 Section 15.407(a)	FCC KDB 789033 D02 General UNIT Test Procedures New Rules v01	PASS
Radiated Spurious Emissions	47 CFR Part 15 Section 15.407(a)	FCC KDB 789033 D02 General UNIT Test Procedures New Rules v01	PASS
Restricted bands around fundamental frequency (Radiated Emission)	47 CFR Part 15 Section 15.407(b)	FCC KDB 789033 D02 General UNIT Test Procedures New Rules v01	PASS

Remark:
Item No.: MAX HD4, MAX-HD4-MFA, MAX-HD2-MFA, MFA-200

Only the item MAX HD4 was tested, since the electrical circuit design, layout, components used and internal wiring were identical for all above items. The difference is below,

MAX HD4 contains all the function.
MAX-HD4-MFA, MAX-HD2-MFA, MFA-200 are disable some functions base on MAX HD4.

4 Contents

5 General Information

5.1 Client Information

Applicant:	Pismo Labs Technology Limited
Address of Applicant:	FLAT/RM A5, 5/F HK SPINNERS IND BLDG PHASE 6, 481 CASTLE PEAK ROAD, CHEUNG SHA WAN, HONG KONG

5.2 General Description of EUT

Product Name:	Multi-Cellular Mobile Router (trade name: Pepwave, Peplink, Pismo)
Item No.:	MAX HD4
Quote :	EE 1412105R2
Operation Frequency:	IEEE 802.11a/ n(HT20/40): 5150MHz to 5250MHz IEEE 802.11a/ n(HT20/40): 5725MHz to 5850MHz
Type of Modulation:	IEEE for 802.11a: OFDM(BPSK/QPSK/16QAM/64QAM) IEEE for 802.11n : OFDM(BPSK/QPSK/16QAM/64QAM)
Sample Type:	Fixed production
Antenna Type:	Dual band Omni directional (Dipole)
Antenna Gain:	5.5dBi
Number of transmitter chains	4
Power Supply:	MODEL: ATS050-P121 INPUT: AC 100-240V 50/60Hz 1.2A MAX OUTPUT: DC 12V 4.2A
LTE module:	Model Number: MC7354
	FCC ID: N7NMC7355
DC Output Line:	146cm (Unshielded with a ferrite core)

Operation Frequency of channel			
Band I (5.15-5.25GHz)		Band IV(5.725-5.85 GHz)	
Channel	Frequency	Channel	Frequency
36	5180MHz	149	5745MHz
38	5190MHz	151	5755MHz
40	5200MHz	153	5765MHz
42	5210MHz	155	5775MHz
44	5220MHz	157	5785MHz
46	5230MHz	159	5795MHz
48	5240MHz	161	5805MHz
		165	5825MHz

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

For 802.11a/n(HT20):

Channel	Frequency	Channel	Frequency
36	5180MHz	149	5745
40	5200MHz	157	5785
48	5240MHz	165	5825

For 802.11 n(HT40):

Channel	Frequency	Channel	Frequency
38	5190MHz	151	5755
46	5230MHz	159	5795

5.3 Test Environment and Mode

Operating Environment:	
Temperature:	24.0 °C
Humidity:	52 % RH
Atmospheric Pressure:	1020 mbar
Test mode:	
Transmitting mode:	Keep the EUT in transmitting mode with all kind of modulation and all kind of data rate.
Note: During the test, we use the PC to configure the power, modulation, data rate and channels.	

5.4 Description of Support Units

The EUT has been tested independently.

The EUT has been tested with associated equipment below.

Description	Manufacturer	Model No.
PC1	IBM	2662
PC2	Lenovo	B490
Mouse1	IBM	MO28UO
Mouse2	Lenovo	MO28UOL

5.5 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch E&E Lab,
No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China. 518057.
Tel: +86 755 2601 2053 Fax: +86 755 2671 0594
No tests were sub-contracted.

5.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS (No. CNAS L2929)**

  CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- **VCCI**

  The 10m Semi-anechoic chamber and Shielded Room (7.5m x 4.0m x 3.0m) of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-823, R-4188, T-1153 and C-2383 respectively.

- **FCC – Registration No.: 556682**

  SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 556682.

- **Industry Canada (IC)**

  Two 3m Semi-anechoic chambers of SGS-CSTC Standards Technical Services Co., Ltd. have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1 & 4620C-2.

5.7 Deviation from Standards

None.

5.8 Abnormalities from Standard Conditions

None.

5.9 Other Information Requested by the Customer

None.

5.10 Equipment List

Conducted Emission					
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Due date (yyyy-mm-dd)**
1	Shielding Room	ZhongYu Electron	GB-88	SEL0042	2015-06-10
2	LISN	Rohde & Schwarz	ENV216	SEL0152	2015-10-24
3	LISN	ETS-LINDGREN	3816/2	SEL0021	2015-05-16
4	8 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN-T8-02	SEL0162	2015-08-30
5	4 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN-T4-02	SEL0163	2015-08-30
6	2 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN-T2-02	SEL0164	2015-08-30
7	EMI Test Receiver	Rohde & Schwarz	ESCI	SEL0022	2015-05-16
8	Coaxial Cable	SGS	N/A	SEL0025	2015-05-29
9	DC Power Supply	Zhao Xin	RXN-305D	SEL0117	2015-10-24
10	Humidity/ Temperature Indicator	Shanhai Qixiang	ZJ1-2B	SEL0103	2015-10-24
11	Barometer	Chang Chun	DYM3	SEL0088	2015-05-16

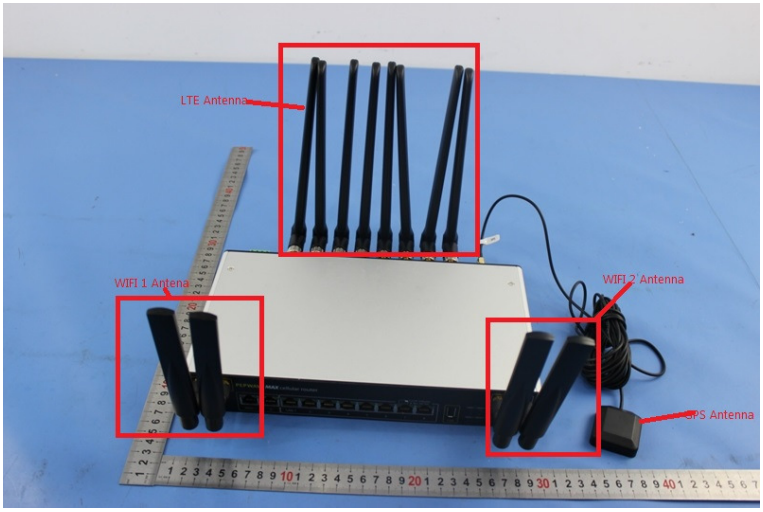
RE in Chamber					
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Due date (yyyy-mm-dd)**
1	3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEL0017	2015-06-10
2	Spectrum Analyzer	Rohde & Schwarz	FSU43	SEL0270	2015-07-28
3	EMI Test software	AUDIX	E3	SEL0050	N/A
4	BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEL0015	2015-10-24
5	Double-ridged horn (1-18GHz)	ETS-LINDGREN	3117	SEL0006	2015-10-24
6	Horn Antenna (18-26GHz)	ETS-LINDGREN	3160	SEL0076	2015-10-24
7	Horn Antenna(26GHz-40GHz)	A.H.Systems, inc.	SAS-573	SEL0349	2016-03-20
8	Pre-amplifier (0.1-1300MHz)	Agilent Technologies	8447D	SEL0053	2015-05-16
9	Pre-Amplifier (0.1-26.5GHz)	Compliance Directions Systems Inc.	PAP-0126	SEL0168	2015-10-24
10	Pre-amplifier(26GHz-40GHz)	Compliance Directions Systems Inc.	PAP-2640-50	SEL0350	2016-03-20
11	Coaxial cable	SGS	N/A	SEL0027	2015-05-29
12	Coaxial cable	SGS	N/A	SEL0189	2015-05-29
13	Coaxial cable	SGS	N/A	SEL0121	2015-05-29
14	Coaxial cable	SGS	N/A	SEL0178	2015-05-29
15	Band filter	Amindeon	82346	SEL0094	2015-05-16
16	Barometer	Chang Chun	DYM3	SEL0088	2015-05-16
17	DC Power Supply	Zhao Xin	RXN-305D	SEL0117	2015-10-24
18	Humidity/ Temperature Indicator	Shanhai Qixiang	ZJ1-2B	SEL0103	2015-10-24
19	Signal Generator (10M-27GHz)	Rohde & Schwarz	SMR27	SEL0067	2015-05-16
20	Signal Generator	Rohde & Schwarz	SMY01	SEL0155	2015-10-24
21	Loop Antenna	Beijing Daze	ZN30401	SEL0203	2015-06-04

RF connected test					
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Due date (yyyy-mm-dd)**
1	DC Power Supply	Zhao Xin	RXN-305D	SEL0117	2015-10-24
2	Humidity/ Temperature Indicator	HYGRO	ZJ1-2B	SEL0033	2015-10-24
3	Spectrum Analyzer	Rohde & Schwarz	FSP	SEL0154	2015-10-24
4	Coaxial cable	SGS	N/A	SEL0178	2015-05-29
5	Coaxial cable	SGS	N/A	SEL0179	2015-05-29
6	Barometer	ChangChun	DYM3	SEL0088	2015-05-16
7	Signal Generator	Rohde & Schwarz	SML03	SEL0068	2015-05-16
8	Band filter	amideon	82346	SEL0094	2015-05-16
9	POWER METER	R & S	NRVS	SEL0144	2015-10-24
10	Attenuator	Beijin feihang taida	TST-2-6dB	SEL0205	2015-05-16
11	Power Divider(splitter)	Agilent Technologies	11636B	SEL0130	2015-10-24

Note: The calibration interval is one year, all the instruments are valid.

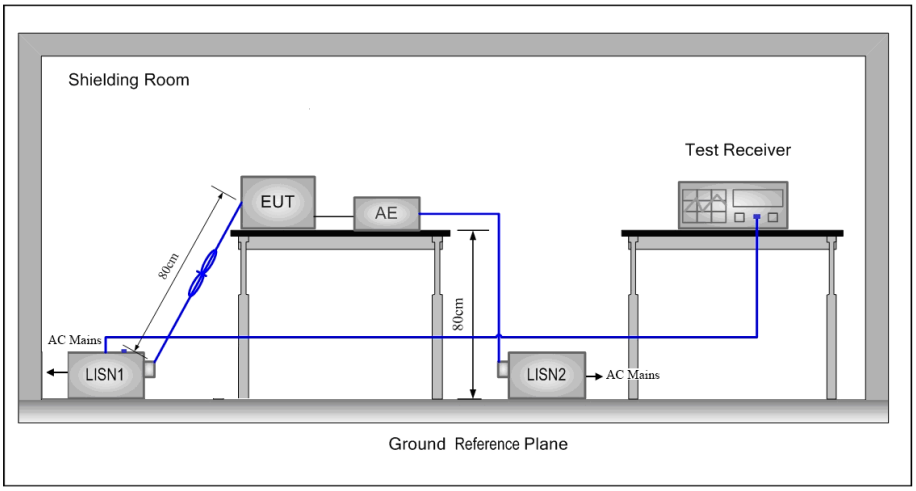
6 Test results and Measurement Data

6.1 Antenna Requirement

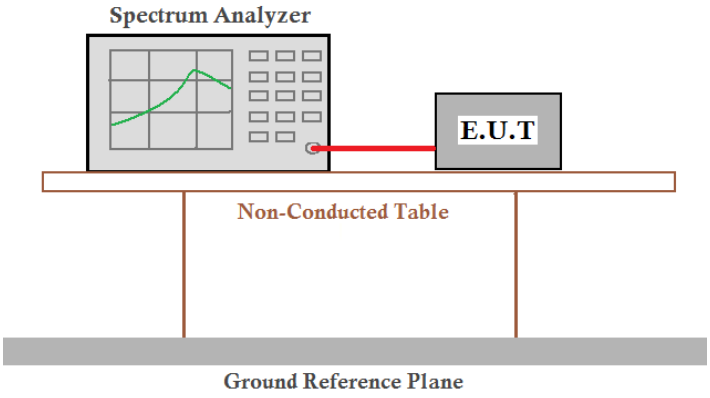
Standard requirement:	47 CFR Part 15C Section 15.203
15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.	
EUT Antenna:	
The antenna is reverse polarity SMA antenna and it connects to antenna port of WIFI module via antennae connector, so it doesn't consideration of replacement. The best case gain of the antenna is 5.5dBi.	

6.2 Conducted Emissions

<table>
<tr><td>Test Requirement:</td><td>47 CFR Part 15C Section 15.207</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10: 2013</td></tr>
<tr><td>Test Frequency Range:</td><td>150kHz to 30MHz</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><td rowspan="2">Frequency range (MHz)</td><td colspan="2">Limit (dBuV)</td></tr>
<tr><td>Quasi-peak</td><td>Average</td></tr>
<tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr>
<tr><td>0.5-5</td><td>56</td><td>46</td></tr>
<tr><td>5-30</td><td>60</td><td>50</td></tr>
</table>
* Decreases with the logarithm of the frequency.
</td></tr>
<tr><td>Test Procedure:</td><td>1) The mains terminal disturbance voltage test was conducted in a shielded room.
2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane.
4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2009 on conducted measurement.</td></tr>
</table>

Test Setup:	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates at lowest, middle and highest channel. Transmitting mode, Wi-Fi 1 is on, Wi-Fi 2 is on, Both Wi-Fi is on.
Final Test Mode:	Through Pre-scan, and found the 6Mbps of rate of 802.11a at lowest channel and power supply by DC 12V adapter is the worst case. Only the worst case is recorded in the report.
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass
	Remark: Please refer to the Appendix B.

6.3 Duty Cycle

Test Requirement:	47 CFR Part 15C 15.407 and 789033 D02 General UNII Test Procedures New Rules v01, Section (B)
Test Method:	ANSI C63.10: 2013
Test Setup:	
Limit:	N/A
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates.
Final Test Mode:	Through Pre-scan, find the 6Mbps of rate is the worst case of 802.11a; 65Mbps of rate is the worst case of 802.11n(HT20); 130Mbps of rate is the worst case of 802.11n(HT40) Only the worst cases were recorded in the report.
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass
	Remark: 1) Please refer to the Appendix B; 2) Through Pre-scan, find the duty cycle of all antenna port is 100%, and find the power of antenna 1 is larger than antenna 2, so only the antenna 1 test data include in this report.

Measurement Data

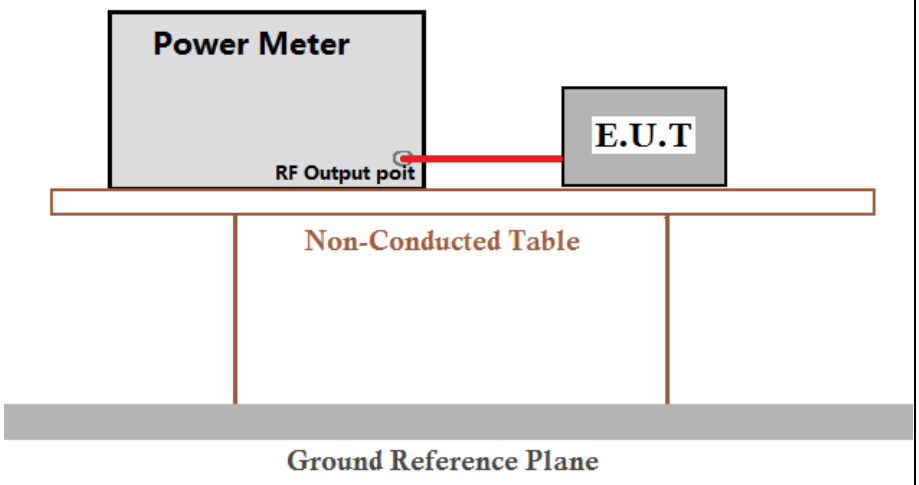
Wi-Fi 1

802.11a mode			
Test channel	On time	Period	Duty Cycle(%)
165	100	100	100
802.11n(HT20) mode			
Test channel	On time	Period	Duty Cycle
165	100	100	100
802.11n(HT40) mode			
Test channel	On time	Period	Duty Cycle
159	100	100	100

Wi-Fi 2

802.11a mode			
Test channel	On time	Period	Duty Cycle(%)
165	100	100	100
802.11n(HT20) mode			
Test channel	On time	Period	Duty Cycle
165	100	100	100
802.11n(HT40) mode			
Test channel	On time	Period	Duty Cycle
159	100	100	100

6.4 Conducted Output Power

Test Requirement:	47 CFR Part 15C Section 15.407 (a)
Test Method:	KDB662911 D01 Multiple Transmitter Output v02r01 KDB789033 D02 General UNII Test Procedures New Rules v01 Section E, 3, a
Test Setup:	 *Remark:* *Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.*
Test Instruments:	Refer to section 5.10 for details.
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates.
Final Test Mode:	Through Pre-scan, and found the 6Mbps of rate is the worst case of 802.11a, 65Mbps of rate is the worst case of 802.11n(HT20), 130Mbps of rate is the worst case of 802.11n(HT40). Only the worst cases were recorded in the report.
Limit:	30dBm
Test Results:	Pass
	Remark: 1. Please refer to the Appendix B. 2. Conducted output power= measurement power+10log(1/x) X is duty cycle=1, so 10log(1/1)=0 Conducted output power= measurement power

Wi-Fi 1

Measurement Data of band I(5150-5250MHz)

802.11a mode					
Test channel	Conducted Output Power (dBm)			Limit (dBm)	Result
	Antenna 1	Antenna 2			
36	19.06	17.97		30.00	Pass
40	18.83	18.04		30.00	Pass
48	19.86	18.65		30.00	Pass
802.11n(HT20) mode					
Test channel	Conducted Output Power (dBm)			Limit (dBm)	Result
	Antenna 1	Antenna 2	Total		
36	17.96	18.21	21.10	30.00	Pass
40	18.45	17.88	21.18	30.00	Pass
48	19.72	18.55	22.18	30.00	Pass
802.11n(HT40) mode					
Test channel	Conducted Output Power (dBm)			Limit (dBm)	Result
	Antenna 1	Antenna 2	Total		
38	19.16	18.15	21.69	30.00	Pass
46	19.40	18.76	22.10	30.00	Pass

Measurement Data of band IV(5725-5850MHz)

802.11a mode					
Test channel	Conducted Output Power (dBm)			Limit (dBm)	Result
	Antenna 1	Antenna 2			
149	20.95	19.17		30.00	Pass
157	21.44	19.88		30.00	Pass
165	21.02	19.79		30.00	Pass
802.11n(HT20) mode					
Test channel	Conducted Output Power (dBm)			Limit (dBm)	Result
	Antenna 1	Antenna 2	Total		
149	20.12	19.02	22.62	30.00	Pass
157	20.57	19.76	23.19	30.00	Pass
165	20.10	19.71	22.92	30.00	Pass
802.11n(HT40) mode					
Test channel	Conducted Output Power (dBm)			Limit (dBm)	Result
	Antenna 1	Antenna 2	Total		
151	21.40	20.07	23.80	30.00	Pass
159	20.92	19.83	23.42	30.00	Pass

Wi-Fi 2

Measurement Data of band I(5150-5250MHz)

802.11a mode					
Test channel	Conducted Output Power (dBm)			Limit (dBm)	Result
	Antenna 1	Antenna 2			
36	18.99	18.43		30.00	Pass
40	18.99	18.71		30.00	Pass
48	19.05	19.08		30.00	Pass
802.11n(HT20) mode					
Test channel	Conducted Output Power (dBm)			Limit (dBm)	Result
	Antenna 1	Antenna 2	Total		
36	18.64	17.56	21.14	30.00	Pass
40	19.18	18.25	21.75	30.00	Pass
48	19.39	18.62	22.03	30.00	Pass
802.11n(HT40) mode					
Test channel	Conducted Output Power (dBm)			Limit (dBm)	Result
	Antenna 1	Antenna 2	Total		
38	19.46	18.65	22.08	30.00	Pass
46	19.21	19.66	22.45	30.00	Pass

Measurement Data of band IV(5725-5850MHz)

802.11a mode					
Test channel	Conducted Output Power (dBm)			Limit (dBm)	Result
	Antenna 1	Antenna 2			
149	19.90	21.02		30.00	Pass
157	19.73	20.80		30.00	Pass
165	19.15	21.01		30.00	Pass
802.11n(HT20) mode					
Test channel	Conducted Output Power (dBm)			Limit (dBm)	Result
	Antenna 1	Antenna 2	Total		
149	19.69	20.21	22.97	30.00	Pass
157	19.80	20.08	22.95	30.00	Pass
165	18.83	19.97	22.45	30.00	Pass
802.11n(HT40) mode					
Test channel	Conducted Output Power (dBm)			Limit (dBm)	Result
	Antenna 1	Antenna 2	Total		
151	19.94	20.75	23.37	30.00	Pass
159	19.31	20.40	22.90	30.00	Pass

Wi-Fi 1 + Wi-Fi 2

Measurement Data of band I(5150-5250MHz)

802.11a mode					
Test channel	Conducted Output Power (dBm)			Limit (dBm)	Result
	Wi-Fi 1	Wi-Fi 2	Total		
36	19.06	18.99	22.04	30.00	Pass
40	18.83	18.99	21.92	30.00	Pass
48	19.86	19.08	22.50	30.00	Pass
802.11n(HT20) mode					
Test channel	Conducted Output Power (dBm)			Limit (dBm)	Result
	Wi-Fi 1	Wi-Fi 2	Total		
36	21.10	21.14	24.13	30.00	Pass
40	21.18	21.75	24.48	30.00	Pass
48	22.18	22.03	25.12	30.00	Pass
802.11n(HT40) mode					
Test channel	Conducted Output Power (dBm)			Limit (dBm)	Result
	Wi-Fi 1	Wi-Fi 2	Total		
38	21.69	22.08	24.90	30.00	Pass
46	22.10	22.45	25.29	30.00	Pass

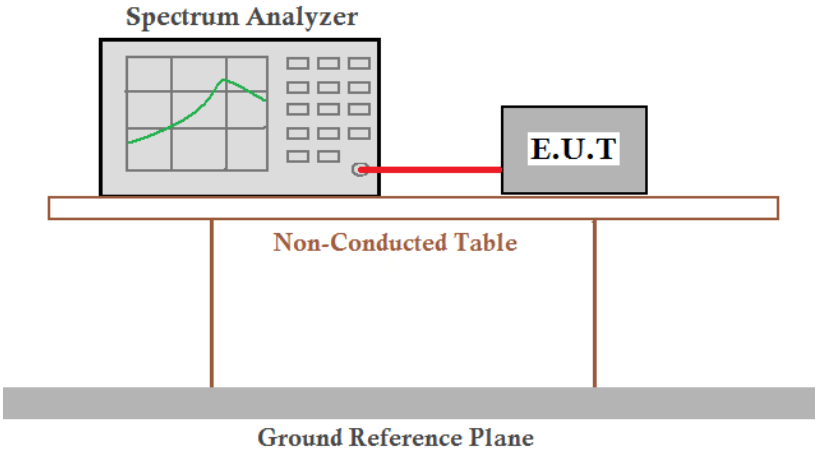
Measurement Data of band IV(5725-5850MHz)

802.11a mode					
Test channel	Conducted Output Power (dBm)			Limit (dBm)	Result
	Wi-Fi 1	Wi-Fi 2	Total		
149	20.95	21.02	24.00	30.00	Pass
157	21.44	20.80	24.14	30.00	Pass
165	21.02	21.01	24.03	30.00	Pass
802.11n(HT20) mode					
Test channel	Conducted Output Power (dBm)			Limit (dBm)	Result
	Wi-Fi 1	Wi-Fi 2	Total		
149	22.62	22.97	25.81	30.00	Pass
157	23.19	22.95	26.08	30.00	Pass
165	22.92	22.45	25.70	30.00	Pass
802.11n(HT40) mode					
Test channel	Conducted Output Power (dBm)			Limit (dBm)	Result
	Wi-Fi 1	Wi-Fi 2	Total		
151	23.80	23.37	26.60	30.00	Pass
159	23.42	22.90	26.18	30.00	Pass

Remark: For 802.11a, the total output power = Max output power (come from the Max antenna port of WI-FI 1) + Max output power (come from the Max antenna port of WI-FI 2)

For 802.11n, the total output power =total output power of Wi-Fi 1 +output power of Wi-Fi 2

6.5 26dB Emission Bandwidth and 99% Occupied Bandwidth

Test Requirement:	47 CFR Part 15C Section 15.407 (a)
Test Method:	KDB662911 D01 Multiple Transmitter Output v02r01 KDB789033 D02 General UNII Test Procedures New Rules v01 Section C, 1 and Section D
Test Setup:	
Instruments Used:	Refer to section 5.10 for details
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates.
Final Test Mode:	Through Pre-scan, and found the 6Mbps of rate is the worst case of 802.11a, 65Mbps of rate is the worst case of 802.11n(HT20), 130Mbps of rate is the worst case of 802.11n(HT40). Only the worst cases were recorded in the report.
Limit:	No restriction limits
Test Results:	Pass
	Remark: Please refer to the Appendix B.

Wi-Fi 1

Measurement Data of band I(5150-5250MHz)

802.11a mode		
Test channel	26dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	21.25	16.63
40	20.77	16.49
48	20.48	16.39
802.11n(HT20) mode		
Test channel	26dB Occupy Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	44.63	36.62
40	43.75	35.90
48	21.35	16.59
802.11n(HT40) mode		
Test channel	26dB Occupy Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
38	22.69	17.84
46	22.40	17.74

Measurement Data of band IV(5725-5850MHz)

802.11a mode		
Test channel	26dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
149	21.68	17.74
157	22.16	17.93
165	22.50	18.08
802.11n(HT20) mode		
Test channel	26dB Occupy Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
149	21.88	16.63
157	21.83	16.59
165	22.36	17.79
802.11n(HT40) mode		
Test channel	26dB Occupy Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
151	47.04	36.86
159	46.88	36.86

Wi-Fi 2

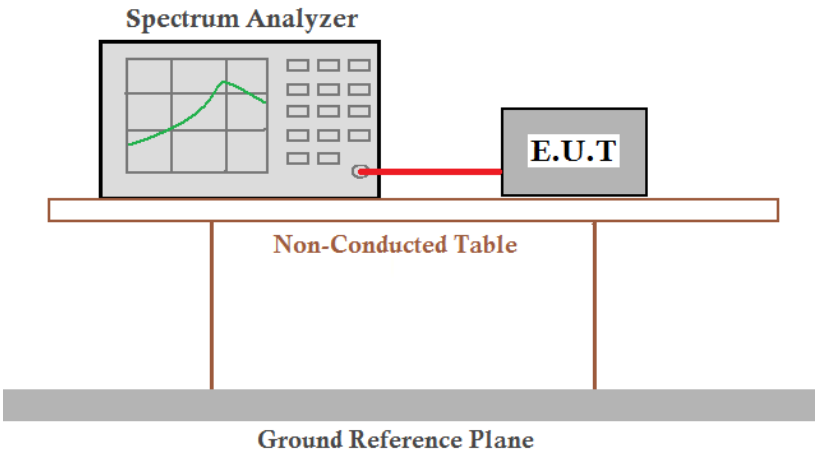
Measurement Data of band I(5150-5250MHz)

802.11a mode		
Test channel	26dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	21.63	16.63
40	21.92	16.83
48	21.83	16.63
802.11n(HT20) mode		
Test channel	26dB Occupy Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
36	47.44	37.18
40	47.20	37.26
48	22.36	16.78
802.11n(HT40) mode		
Test channel	26dB Occupy Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
38	22.02	17.64
46	22.93	17.98

Measurement Data of band IV(5725-5850MHz)

802.11a mode		
Test channel	26dB Emission Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
149	22.16	17.64
157	22.40	17.64
165	22.98	17.98
802.11n(HT20) mode		
Test channel	26dB Occupy Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
149	22.16	16.88
157	22.07	16.88
165	22.79	17.93
802.11n(HT40) mode		
Test channel	26dB Occupy Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
151	46.71	36.86
159	46.79	36.86

6.6 6dB Emission Bandwidth

Test Requirement:	47 CFR Part 15C Section 15.407 (e)
Test Method:	KDB662911 D01 Multiple Transmitter Output v02r01 KDB789033 D02 General UNII Test Procedures New Rules v01 Section C, 2
Test Setup:	
Instruments Used:	Refer to section 5.10 for details.
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates.
Final Test Mode:	Through Pre-scan, and found the 6Mbps of rate is the worst case of 802.11a, 65Mbps of rate is the worst case of 802.11n(HT20), 130Mbps of rate is the worst case of 802.11n(HT40). Only the worst cases were recorded in the report.
Limit:	≥ 500 kHz
Test Results:	Pass
	Remark: Please refer to the Appendix B.

Wi-Fi 1

Measurement Data of band IV(5725-5850MHz)

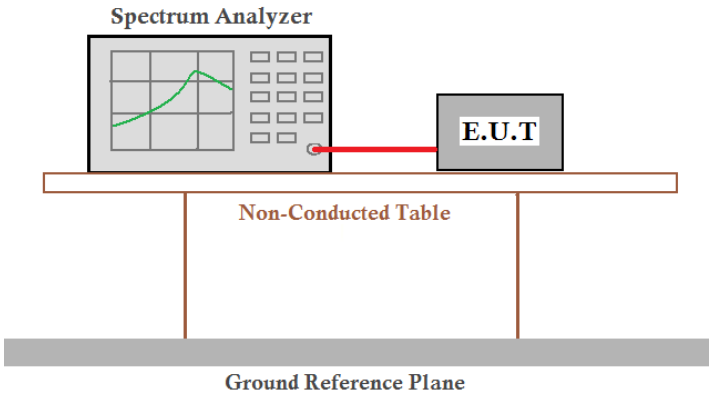
802.11a mode			
Test channel	6dB Occupy Bandwidth (MHz)	Limit (kHz)	Result
149	16.49	≥500	Pass
157	16.49	≥500	Pass
165	16.49	≥500	Pass
802.11n(HT20) mode			
Test channel	6dB Occupy Bandwidth (MHz)	Limit (kHz)	Result
149	17.74	≥500	Pass
157	17.79	≥500	Pass
165	17.69	≥500	Pass
802.11n(HT40) mode			
Test channel	6dB Occupy Bandwidth (MHz)	Limit (kHz)	Result
151	36.62	≥500	Pass
159	36.52	≥500	Pass

Wi-Fi 2

Measurement Data of band IV(5725-5850MHz)

802.11a mode			
Test channel	6dB Occupy Bandwidth (MHz)	Limit (kHz)	Result
149	16.63	≥500	Pass
157	16.44	≥500	Pass
165	16.44	≥500	Pass
802.11n(HT20) mode			
Test channel	6dB Occupy Bandwidth (MHz)	Limit (kHz)	Result
149	17.69	≥500	Pass
157	17.69	≥500	Pass
165	17.88	≥500	Pass
802.11n(HT40) mode			
Test channel	6dB Occupy Bandwidth (MHz)	Limit (kHz)	Result
151	36.70	≥500	Pass
159	36.68	≥500	Pass

6.7 Power Spectral Density

Test Requirement:	47 CFR Part 15C Section 15.407 (a)
Test Method:	KDB662911 D01 Multiple Transmitter Output v02r01 KDB789033 D02 General UNII Test Procedures New Rules v01, Section F
Test Setup:	 *Remark:* *Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.*
Test Instruments:	Refer to section 5.10 for details.
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates.
Final Test Mode:	Through Pre-scan, and found the 6Mbps of rate is the worst case of 802.11a, 65Mbps of rate is the worst case of 802.11n(HT20), 130Mbps of rate is the worst case of 802.11n(HT40). Only the worst cases were recorded in the report.
Limit:	≤17.00dBm/MHz for Operation in the band I(5150MHz-5250MHz)of device ≤30.00dBm/500KHz for Operation in the band IV(5725MHz-5850MHz)of device
Test Results:	Pass
	Remark: Please refer to the Appendix B.

Wi-Fi 1

Measurement Data of Band I (5150-5250MHz)

802.11a mode					
Test channel	Power Spectral Density (dBm)			Limit (dBm)	Result
	Antenna 1	Antenna 2			
36	10.18	7.78		≤17.00/MHz	Pass
40	10.57	7.59		≤17.00/MHz	Pass
48	11.49	8.99		≤17.00/MHz	Pass
802.11n(HT20) mode					
Test channel	Power Spectral Density (dBm)			Limit (dBm)	Result
	Antenna 1	Antenna 2	Total		
36	7.65	4.49	9.36	≤17.00/MHz	Pass
40	8.01	5.63	9.99	≤17.00/MHz	Pass
48	12.11	9.53	14.02	≤17.00/MHz	Pass
802.11n(HT40) mode					
Test channel	Power Spectral Density (dBm)			Limit (dBm)	Result
	Antenna 1	Antenna 2	Total		
38	10.83	9.99	13.44	≤17.00/MHz	Pass
46	10.24	9.68	12.98	≤17.00/MHz	Pass

Measurement Data of Band IV (5725-5850MHz)

802.11a mode					
Test channel	Power Spectral Density (dBm)			Limit (dBm)	Result
	Antenna 1	Antenna 2			
149	8.79	7.73		≤30.00dBm/500KHz	Pass
157	10.51	8.61		≤30.00dBm/500KHz	Pass
165	11.02	8.03		≤30.00dBm/500KHz	Pass
802.11n(HT20) mode					
Test channel	Power Spectral Density (dBm)			Limit (dBm)	Result
	Antenna 1	Antenna 2	Total		
149	12.21	9.54	14.09	≤30.00dBm/500KHz	Pass
157	11.82	9.88	13.97	≤30.00dBm/500KHz	Pass
165	10.25	8.69	12.55	≤30.00dBm/500KHz	Pass
802.11n(HT40) mode					
Test channel	Power Spectral Density (dBm)			Limit (dBm)	Result
	Antenna 1	Antenna 2	Total		
151	8.95	6.62	10.95	≤30.00dBm/500KHz	Pass
159	8.49	7.07	10.85	≤30.00dBm/500KHz	Pass

Wi-Fi 2

Measurement Data of Band I (5150-5250MHz)

802.11a mode					
Test channel	Power Spectral Density (dBm)			Limit (dBm)	Result
	Antenna 1	Antenna 2			
36	8.55	9.07		≤17.00/MHz	Pass
40	9.38	10.00		≤17.00/MHz	Pass
48	8.78	10.19		≤17.00/MHz	Pass
802.11n(HT20) mode					
Test channel	Power Spectral Density (dBm)			Limit (dBm)	Result
	Antenna 1	Antenna 2	Total		
36	6.82	5.88	9.39	≤17.00/MHz	Pass
40	5.99	7.18	9.64	≤17.00/MHz	Pass
48	9.49	11.42	13.57	≤17.00/MHz	Pass
802.11n(HT40) mode					
Test channel	Power Spectral Density (dBm)			Limit (dBm)	Result
	Antenna 1	Antenna 2	Total		
38	9.55	10.06	12.82	≤17.00/MHz	Pass
46	8.69	10.60	12.76	≤17.00/MHz	Pass

Measurement Data of Band IV (5725-5850MHz)

802.11a mode					
Test channel	Power Spectral Density (dBm)			Limit (dBm)	Result
	Antenna 1	Antenna 2			
149	8.66	7.47		≤30.00dBm/500KHz	Pass
157	8.99	8.67		≤30.00dBm/500KHz	Pass
165	9.45	8.87		≤30.00dBm/500KHz	Pass
802.11n(HT20) mode					
Test channel	Power Spectral Density (dBm)			Limit (dBm)	Result
	Antenna 1	Antenna 2	Total		
149	9.41	11.34	13.49	≤30.00dBm/500KHz	Pass
157	9.14	11.23	13.32	≤30.00dBm/500KHz	Pass
165	9.64	10.57	13.14	≤30.00dBm/500KHz	Pass
802.11n(HT40) mode					
Test channel	Power Spectral Density (dBm)			Limit (dBm)	Result
	Antenna 1	Antenna 2	Total		
151	7.60	8.60	11.14	≤30.00dBm/500KHz	Pass
159	6.11	7.57	9.91	≤30.00dBm/500KHz	Pass

Wi-Fi 1 + Wi-Fi 2

Measurement Data of Band I (5150-5250MHz)

802.11a mode					
Test channel	Power Spectral Density (dBm)			Limit (dBm)	Result
	Wi-Fi 1	Wi-Fi 2	Total		
36	10.18	9.07	12.96	≤17.00/MHz	Pass
40	10.57	10.00	13.30	≤17.00/MHz	Pass
48	11.49	10.19	13.90	≤17.00/MHz	Pass
802.11n(HT20) mode					
Test channel	Power Spectral Density (dBm)			Limit (dBm)	Result
	Wi-Fi 1	Wi-Fi 2	Total		
36	9.36	9.39	12.39	≤17.00/MHz	Pass
40	9.99	9.64	12.83	≤17.00/MHz	Pass
48	14.02	13.57	16.81	≤17.00/MHz	Pass
802.11n(HT40) mode					
Test channel	Power Spectral Density (dBm)			Limit (dBm)	Result
	Wi-Fi 1	Wi-Fi 2	Total		
38	13.44	12.82	16.15	≤17.00/MHz	Pass
46	12.98	12.76	15.88	≤17.00/MHz	Pass

Measurement Data of Band IV (5725-5850MHz)

802.11a mode					
Test channel	Power Spectral Density (dBm)			Limit (dBm)	Result
	Wi-Fi 1	Wi-Fi 2	Total		
149	8.79	8.66	11.74	≤30.00dBm/500KHz	Pass
157	10.51	8.99	12.83	≤30.00dBm/500KHz	Pass
165	11.02	9.45	13.32	≤30.00dBm/500KHz	Pass
802.11n(HT20) mode					
Test channel	Power Spectral Density (dBm)			Limit (dBm)	Result
	Wi-Fi 1	Wi-Fi 2	Total		
149	14.09	13.49	16.81	≤30.00dBm/500KHz	Pass
157	13.97	13.32	16.67	≤30.00dBm/500KHz	Pass
165	12.55	13.14	15.87	≤30.00dBm/500KHz	Pass
802.11n(HT40) mode					
Test channel	Power Spectral Density (dBm)			Limit (dBm)	Result
	Wi-Fi 1	Wi-Fi 2	Total		
151	10.95	11.14	14.06	≤30.00dBm/500KHz	Pass
159	10.85	9.91	13.42	≤30.00dBm/500KHz	Pass

Remark: For 802.11a, the total power spectral density = Max power spectral density (come from the Max antenna port of WI-FI 1) + Max power spectral density (come from the Max antenna port of WI-FI 2)
For 802.11n, the total power spectral density =total power spectral density of Wi-Fi 1 + total power spectral density of Wi-Fi 2

6.8 Radiated Spurious Emissions

Test Requirement:	47 CFR Part 15C Section 15.407 (b) and 15.205 and 15.209
Test Method:	ANSI C63.10: 2013
Test Site:	Measurement Distance: 3m (Semi-Anechoic Chamber)

Receiver Setup:

Frequency	Detector	RBW	VBW	Remark
0.009MHz-0.090MHz	Peak	10kHz	30kHz	Peak
0.009MHz-0.090MHz	Average	10kHz	30kHz	Average
0.090MHz-0.110MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
0.110MHz-0.490MHz	Peak	10kHz	30kHz	Peak
0.110MHz-0.490MHz	Average	10kHz	30kHz	Average
0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
30MHz-1GHz	Quasi-peak	100 kHz	300kHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10Hz	Average

Limit:

Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
1.705MHz-30MHz	30	-	-	30
30MHz-88MHz	100	40.0	Quasi-peak	3
88MHz-216MHz	150	43.5	Quasi-peak	3
216MHz-960MHz	200	46.0	Quasi-peak	3
960MHz-1GHz	500	54.0	Quasi-peak	3
Above 1GHz	500	54.0	Average	3

Note: 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.

Test Setup:	

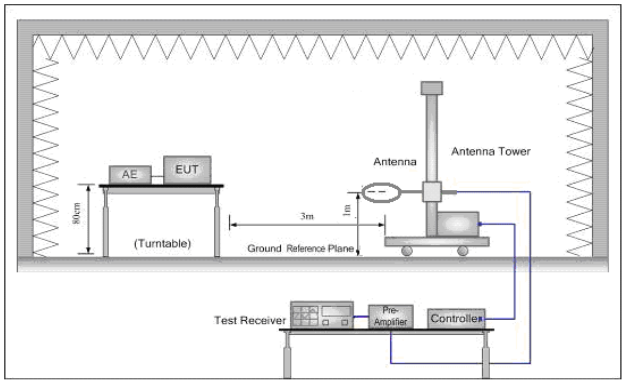


Figure 1. Below 30MHz

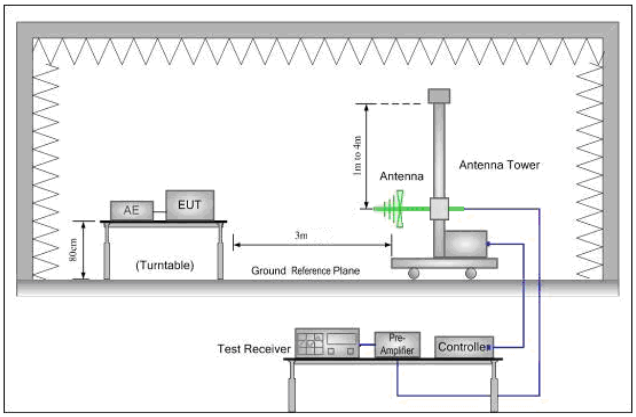


Figure 2. 30MHz to 1GHz

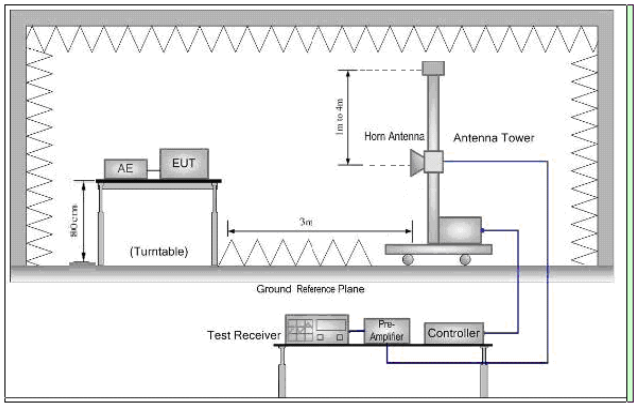


Figure 3. Above 1 GHz

Test Procedure:	a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. 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 antenna height 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(for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) 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 Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. g. Test the EUT in the lowest channel ,the middle channel ,the Highest

	channel h. Repeat above procedures until all frequencies measured was complete.
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates. Transmitting mode, Wi-Fi 1 is on, Wi-Fi 2 is on, Both Wi-Fi is on.
Final Test Mode:	Through Pre-scan, find the 6Mbps of rate is the worst case of 802.11a; 65Mbps of rate is the worst case of 802.11n(HT20); 130Mbps of rate is the worst case of 802.11n(HT40). For below 1GHz, through Pre-scan, find the 6Mbps of rate of 802.11a at lowest channel and power supply by DC 12V adapter is the worst case. Only the worst case is recorded in the report.
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass
	Remark: Please refer to the Appendix B.

6.8.1Transmitter emission above 1GHz

Wi-Fi 1								
Test mode:	802.11a	Test channel:	36	Remark:	Peak			
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
3660.126	6.88	33.05	38.81	47.59	48.71	74	-25.29	Vertical
4840.471	6.50	34.74	39.25	47.46	49.45	74	-24.55	Vertical
7937.019	9.41	35.76	39.01	42.17	48.33	74	-25.67	Vertical
9511.536	10.04	37.14	37.99	43.76	52.95	74	-21.05	Vertical
10360.000	9.92	37.13	37.89	44.24	53.40	74	-20.60	Vertical
15540.000	12.97	39.38	41.17	41.60	52.78	74	-21.22	Vertical
3222.904	7.51	32.31	38.61	45.75	46.96	74	-27.04	Horizontal
5228.151	7.05	34.84	39.27	48.01	50.63	74	-23.37	Horizontal
7361.648	9.13	35.46	39.05	45.40	50.94	74	-23.06	Horizontal
9579.950	10.00	37.26	37.95	42.80	52.11	74	-21.89	Horizontal
10360.000	9.92	37.13	37.89	43.08	52.24	74	-21.76	Horizontal
15540.000	12.97	39.38	41.17	41.05	52.23	74	-21.77	Horizontal

Test mode:	802.11a	Test channel:	40	Remark:	Peak			
Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Polarization
3518.655	6.96	32.91	38.75	46.62	47.74	74	-26.26	Vertical
4521.868	5.78	34.46	39.14	46.14	47.24	74	-26.76	Vertical
7671.363	9.35	35.54	39.03	45.30	51.16	74	-22.84	Vertical
9494.509	10.05	37.11	38.00	43.15	52.31	74	-21.69	Vertical
10400.000	9.94	37.02	37.92	43.08	52.12	74	-21.88	Vertical
15600.000	12.97	39.50	41.19	40.89	52.17	74	-21.83	Vertical
3352.483	7.25	32.66	38.67	46.07	47.31	74	-26.69	Horizontal
4857.848	6.54	34.76	39.25	47.05	49.10	74	-24.90	Horizontal
7838.091	9.39	35.69	39.01	45.01	51.08	74	-22.92	Horizontal
9460.546	10.03	37.05	38.02	43.60	52.66	74	-21.34	Horizontal
10400.000	9.94	37.02	37.92	44.58	53.62	74	-20.38	Horizontal
15600.000	12.97	39.50	41.19	41.54	52.82	74	-21.18	Horizontal

Test mode:	802.11a	Test channel:	48	Remark:	Peak

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
3506.069	6.97	32.90	38.74	46.99	48.12	74	-25.88	Vertical
4771.583	6.35	34.68	39.23	47.46	49.26	74	-24.74	Vertical
7824.060	9.38	35.68	39.01	45.33	51.38	74	-22.62	Vertical
9143.897	9.85	36.37	38.22	44.29	52.29	74	-21.71	Vertical
10480.000	9.97	37.30	37.96	42.19	51.50	74	-22.50	Vertical
15720.000	12.96	39.74	41.23	41.31	52.78	74	-21.22	Vertical
3443.808	7.08	32.83	38.72	46.37	47.56	74	-26.44	Horizontal
4678.458	6.14	34.63	39.20	46.81	48.38	74	-25.62	Horizontal
7374.850	9.15	35.45	39.05	45.12	50.67	74	-23.33	Horizontal
9477.513	10.04	37.08	38.01	43.36	52.47	74	-21.53	Horizontal
10480.000	9.97	37.30	37.96	43.61	52.92	74	-21.08	Horizontal
15720.000	12.96	39.74	41.23	41.20	52.67	74	-21.33	Horizontal

Test mode:	802.11a	Test channel:	149	Remark:	Peak

Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Polarization
3666.690	6.87	33.05	38.81	46.32	47.43	74	-26.57	Vertical
4670.083	6.12	34.62	39.19	48.17	49.72	74	-24.28	Vertical
7852.148	9.39	35.70	39.01	43.37	49.45	74	-24.55	Vertical
9494.509	10.05	37.11	38.00	42.48	51.64	74	-22.36	Vertical
11490.000	10.39	38.22	38.46	42.02	52.17	74	-21.83	Vertical
17235.000	16.31	41.01	41.69	37.27	52.90	74	-21.10	Vertical
3706.322	6.85	33.08	38.83	47.59	48.69	74	-25.31	Horizontal
4771.583	6.35	34.68	39.23	47.46	49.26	74	-24.74	Horizontal
7589.333	9.33	35.48	39.03	44.26	50.04	74	-23.96	Horizontal
9275.910	9.92	36.67	38.14	42.25	50.70	74	-23.30	Horizontal
11490.000	10.39	38.22	38.46	42.08	52.23	74	-21.77	Horizontal
17235.000	16.31	41.01	41.69	37.37	53.00	74	-21.00	Horizontal

Test mode:	802.11a	Test channel:	157	Remark:	Peak

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
3773.328	6.81	33.13	38.86	47.25	48.33	74	-25.67	Vertical
4763.041	6.33	34.68	39.22	47.19	48.98	74	-25.02	Vertical
7630.237	9.34	35.51	39.03	43.88	49.70	74	-24.30	Vertical
9494.509	10.05	37.11	38.00	43.28	52.44	74	-21.56	Vertical
11570.000	10.42	38.28	38.50	42.52	52.72	74	-21.28	Vertical
17355.000	16.08	40.96	41.72	37.26	52.58	74	-21.42	Vertical
3531.287	6.95	32.93	38.76	47.37	48.49	74	-25.51	Horizontal
4729.026	6.25	34.66	39.21	48.13	49.83	74	-24.17	Horizontal
7908.627	9.40	35.74	39.01	43.29	49.42	74	-24.58	Horizontal
9511.536	10.04	37.14	37.99	44.01	53.20	74	-20.80	Horizontal
11570.000	10.42	38.28	38.50	42.18	52.38	74	-21.62	Horizontal
17355.000	16.08	40.96	41.72	37.49	52.81	74	-21.19	Horizontal

Test mode:	802.11a	Test channel:	165	Remark:	Peak

Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Polarization
3456.171	7.05	32.84	38.72	46.25	47.42	74	-26.58	Vertical
4720.560	6.23	34.65	39.21	47.69	49.36	74	-24.64	Vertical
7361.648	9.13	35.46	39.05	44.45	49.99	74	-24.01	Vertical
9477.513	10.04	37.08	38.01	43.43	52.54	74	-21.46	Vertical
11650.000	10.46	38.35	38.54	42.17	52.44	74	-21.56	Vertical
17475.000	15.86	40.91	41.75	37.54	52.56	74	-21.44	Vertical
3686.453	6.86	33.07	38.82	46.84	47.95	74	-26.05	Horizontal
4645.047	6.06	34.61	39.18	47.56	49.05	74	-24.95	Horizontal
7401.325	9.18	35.42	39.05	45.29	50.84	74	-23.16	Horizontal
9494.509	10.05	37.11	38.00	43.28	52.44	74	-21.56	Horizontal
11650.000	10.46	38.35	38.54	41.77	52.04	74	-21.96	Horizontal
17475.000	15.86	40.91	41.75	38.00	53.02	74	-20.98	Horizontal

Test mode:	802.11n(HT20)	Test channel:	36	Remark:	Peak

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
3334.511	7.29	32.61	38.67	47.07	48.30	74	-25.70	Vertical
3988.846	6.70	33.48	38.95	46.93	48.16	74	-25.84	Vertical
5135.310	6.96	34.87	39.28	48.00	50.55	74	-23.45	Vertical
8197.173	9.50	35.85	38.86	42.91	49.40	74	-24.60	Vertical
10360.000	9.92	37.13	37.89	42.34	51.50	74	-22.50	Vertical
15540.000	12.97	39.38	41.17	41.94	53.12	74	-20.88	Vertical
3298.855	7.36	32.52	38.65	45.45	46.68	74	-27.32	Horizontal
3910.999	6.74	33.35	38.92	45.62	46.79	74	-27.21	Horizontal
4505.693	5.74	34.43	39.14	47.00	48.03	74	-25.97	Horizontal
8588.079	9.65	35.90	38.59	40.34	47.30	74	-26.70	Horizontal
10360.000	9.92	37.13	37.89	43.43	52.59	74	-21.41	Horizontal
15540.000	12.97	39.38	41.17	40.41	51.59	74	-22.41	Horizontal

Test mode:	802.11n(HT20)	Test channel:	40	Remark:	Peak

Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Polarization
3310.698	7.33	32.55	38.65	46.88	48.11	74	-25.89	Vertical
4216.674	6.26	34.00	39.03	47.22	48.45	74	-25.55	Vertical
4866.560	6.56	34.77	39.26	47.77	49.84	74	-24.16	Vertical
8153.229	9.49	35.84	38.89	43.23	49.67	74	-24.33	Vertical
10400.000	9.94	37.02	37.92	43.79	52.83	74	-21.17	Vertical
15600.000	12.97	39.50	41.19	41.29	52.57	74	-21.43	Vertical
3292.950	7.37	32.50	38.65	45.08	46.30	74	-27.70	Horizontal
4231.812	6.23	34.03	39.04	45.67	46.89	74	-27.11	Horizontal
5448.107	7.24	34.94	39.25	47.64	50.57	74	-23.43	Horizontal
8981.520	9.76	36.00	38.33	42.17	49.60	74	-24.40	Horizontal
10400.000	9.94	37.02	37.92	42.28	51.32	74	-22.68	Horizontal
15600.000	12.97	39.50	41.19	40.75	52.03	74	-21.97	Horizontal

Test mode:	802.11n(HT20)	Test channel:	48	Remark:	Peak

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
3269.434	7.42	32.44	38.63	45.58	46.81	74	-27.19	Vertical
4216.674	6.26	34.00	39.03	45.95	47.18	74	-26.82	Vertical
5135.310	6.96	34.87	39.28	47.03	49.58	74	-24.42	Vertical
8182.499	9.50	35.85	38.87	42.19	48.67	74	-25.33	Vertical
10480.000	9.97	37.30	37.96	43.21	52.52	74	-21.48	Vertical
15720.000	12.96	39.74	41.23	42.12	53.59	74	-20.41	Vertical
3328.542	7.30	32.59	38.66	46.14	47.37	74	-26.63	Horizontal
3960.360	6.71	33.43	38.93	45.29	46.50	74	-27.50	Horizontal
4857.848	6.54	34.76	39.25	46.51	48.56	74	-25.44	Horizontal
8109.521	9.47	35.83	38.92	44.84	51.22	74	-22.78	Horizontal
10480.000	9.97	37.30	37.96	42.30	51.61	74	-22.39	Horizontal
15720.000	12.96	39.74	41.23	40.75	52.22	74	-21.78	Horizontal

Test mode:	802.11n(HT20)	Test channel:	149	Remark:	Peak

Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Polarization
3425.346	7.11	32.81	38.71	45.62	46.83	74	-27.17	Vertical
4703.674	6.20	34.64	39.20	46.53	48.17	74	-25.83	Vertical
7685.120	9.35	35.56	39.03	44.71	50.59	74	-23.41	Vertical
9511.536	10.04	37.14	37.99	42.09	51.28	74	-22.72	Vertical
11490.000	10.39	38.22	38.46	41.60	51.75	74	-22.25	Vertical
17235.000	16.31	41.01	41.69	36.76	52.39	74	-21.61	Vertical
3419.214	7.12	32.80	38.70	46.48	47.70	74	-26.30	Horizontal
4703.674	6.20	34.64	39.20	47.72	49.36	74	-24.64	Horizontal
7685.120	9.35	35.56	39.03	46.29	52.17	74	-21.83	Horizontal
9494.509	10.05	37.11	38.00	42.48	51.64	74	-22.36	Horizontal
11490.000	10.39	38.22	38.46	42.31	52.46	74	-21.54	Horizontal
17235.000	16.31	41.01	41.69	37.27	52.90	74	-21.10	Horizontal

Test mode:	802.11n(HT20)	Test channel:	157	Remark:	Peak

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
3543.964	6.94	32.94	38.76	47.20	48.32	74	-25.68	Vertical
4831.806	6.48	34.73	39.25	47.96	49.92	74	-24.08	Vertical
7908.627	9.40	35.74	39.01	42.76	48.89	74	-25.11	Vertical
9292.546	9.93	36.71	38.13	42.71	51.22	74	-22.78	Vertical
11570.000	10.42	38.28	38.50	42.98	53.18	74	-20.82	Vertical
17355.000	16.08	40.96	41.72	37.55	52.87	74	-21.13	Vertical
3537.620	6.95	32.93	38.76	46.10	47.22	74	-26.78	Horizontal
4831.806	6.48	34.73	39.25	46.68	48.64	74	-25.36	Horizontal
7657.630	9.35	35.53	39.03	44.85	50.70	74	-23.30	Horizontal
9562.801	10.01	37.23	37.96	43.38	52.66	74	-21.34	Horizontal
11570.000	10.42	38.28	38.50	42.39	52.59	74	-21.41	Horizontal
17355.000	16.08	40.96	41.72	37.76	53.08	74	-20.92	Horizontal

Test mode:	802.11n(HT20)	Test channel:	165	Remark:	Peak

Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Polarization
3246.085	7.46	32.38	38.62	46.67	47.89	74	-26.11	Vertical
4570.743	5.89	34.53	39.16	47.50	48.76	74	-25.24	Vertical
7866.230	9.39	35.71	39.01	43.06	49.15	74	-24.85	Vertical
9494.509	10.05	37.11	38.00	43.48	52.64	74	-21.36	Vertical
11650.000	10.46	38.35	38.54	42.12	52.39	74	-21.61	Vertical
17475.000	15.86	40.91	41.75	37.10	52.12	74	-21.88	Vertical
3582.269	6.92	32.98	38.78	45.32	46.44	74	-27.56	Horizontal
4670.083	6.12	34.62	39.19	47.89	49.44	74	-24.56	Horizontal
7322.183	9.08	35.50	39.06	46.11	51.63	74	-22.37	Horizontal
9460.546	10.03	37.05	38.02	44.23	53.29	74	-20.71	Horizontal
11650.000	10.46	38.35	38.54	42.59	52.86	74	-21.14	Horizontal
17475.000	15.86	40.91	41.75	37.32	52.34	74	-21.66	Horizontal

Test mode:	802.11n(HT40)	Test channel:	38	Remark:	Peak

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
3563.065	6.93	32.96	38.77	45.61	46.73	74	-27.27	Vertical
4331.540	6.04	34.17	39.08	47.08	48.21	74	-25.79	Vertical
5135.310	6.96	34.87	39.28	46.94	49.49	74	-24.51	Vertical
8241.354	9.52	35.84	38.83	41.05	47.58	74	-26.42	Vertical
10380.000	9.93	37.07	37.90	43.70	52.80	74	-21.20	Vertical
15570.000	12.97	39.44	41.18	41.77	53.00	74	-21.00	Vertical
3620.989	6.90	33.02	38.79	43.17	44.30	74	-29.70	Horizontal
4546.240	5.84	34.50	39.15	44.03	45.22	74	-28.78	Horizontal
5200.124	7.02	34.85	39.27	44.86	47.46	74	-26.54	Horizontal
8182.499	9.50	35.85	38.87	40.92	47.40	74	-26.60	Horizontal
10380.000	9.93	37.07	37.90	41.73	50.83	74	-23.17	Horizontal
15570.000	12.97	39.44	41.18	40.66	51.89	74	-22.11	Horizontal

Test mode:	802.11n(HT40)	Test channel:	46	Remark:	Peak

Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Polarization
3575.856	6.93	32.97	38.77	45.67	46.80	74	-27.20	Vertical
3932.078	6.73	33.38	38.92	46.16	47.35	74	-26.65	Vertical
5153.745	6.98	34.86	39.28	46.73	49.29	74	-24.71	Vertical
8618.910	9.66	35.91	38.57	39.97	46.97	74	-27.03	Vertical
10460.000	9.96	37.23	37.95	41.32	50.56	74	-23.44	Vertical
15690.000	12.96	39.68	41.22	39.98	51.40	74	-22.60	Vertical
3328.542	7.30	32.59	38.66	46.48	47.71	74	-26.29	Horizontal
4216.674	6.26	34.00	39.03	47.14	48.37	74	-25.63	Horizontal
4840.471	6.50	34.74	39.25	47.87	49.86	74	-24.14	Horizontal
8315.519	9.55	35.83	38.77	43.41	50.02	74	-23.98	Horizontal
10460.000	9.96	37.23	37.95	42.28	51.52	74	-22.48	Horizontal
15690.000	12.96	39.68	41.22	41.01	52.43	74	-21.57	Horizontal

Test mode:	802.11n(HT40)	Test channel:	151	Remark:	Peak

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
3693.064	6.86	33.07	38.83	46.27	47.37	74	-26.63	Vertical
5026.073	6.86	34.89	39.30	47.17	49.62	74	-24.38	Vertical
7401.325	9.18	35.42	39.05	44.53	50.08	74	-23.92	Vertical
9292.546	9.93	36.71	38.13	42.91	51.42	74	-22.58	Vertical
11510.000	10.39	38.23	38.47	42.45	52.60	74	-21.40	Vertical
17265.000	16.25	40.99	41.69	36.90	52.45	74	-21.55	Vertical
3376.597	7.21	32.72	38.69	47.24	48.48	74	-25.52	Horizontal
4695.254	6.18	34.64	39.20	48.80	50.42	74	-23.58	Horizontal
7852.148	9.39	35.70	39.01	44.19	50.27	74	-23.73	Horizontal
9494.509	10.05	37.11	38.00	43.96	53.12	74	-20.88	Horizontal
11510.000	10.39	38.23	38.47	42.17	52.32	74	-21.68	Horizontal
17265.000	16.25	40.99	41.69	36.65	52.20	74	-21.80	Horizontal

Test mode:	802.11n(HT40)	Test channel:	159	Remark:	Peak

Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Polarization
3531.287	6.95	32.93	38.76	46.03	47.15	74	-26.85	Vertical
4729.026	6.25	34.66	39.21	48.14	49.84	74	-24.16	Vertical
7838.091	9.39	35.69	39.01	44.04	50.11	74	-23.89	Vertical
9460.546	10.03	37.05	38.02	43.57	52.63	74	-21.37	Vertical
11590.000	10.43	38.29	38.51	41.84	52.05	74	-21.95	Vertical
17385.000	16.03	40.95	41.73	37.68	52.93	74	-21.07	Vertical
3449.984	7.06	32.84	38.72	47.64	48.82	74	-25.18	Horizontal
4670.083	6.12	34.62	39.19	47.88	49.43	74	-24.57	Horizontal
7852.148	9.39	35.70	39.01	43.75	49.83	74	-24.17	Horizontal
9545.682	10.02	37.20	37.97	43.04	52.29	74	-21.71	Horizontal
11590.000	10.43	38.29	38.51	41.83	52.04	74	-21.96	Horizontal
17385.000	16.03	40.95	41.73	36.90	52.15	74	-21.85	Horizontal

Wi-Fi 2								
Test mode:	802.11a	Test channel:	36	Remark:	Peak			
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
3449.984	7.06	32.84	38.72	47.57	48.75	74	-25.25	Vertical
4661.723	6.10	34.62	39.19	48.81	50.34	74	-23.66	Vertical
7838.091	9.39	35.69	39.01	44.42	50.49	74	-23.51	Vertical
9094.878	9.82	36.24	38.25	44.88	52.69	74	-21.31	Vertical
10360.000	9.92	37.13	37.89	42.92	52.08	74	-21.92	Vertical
15540.000	12.97	39.38	41.17	41.10	52.28	74	-21.72	Vertical
3449.984	7.06	32.84	38.72	46.49	47.67	74	-26.33	Horizontal
4670.083	6.12	34.62	39.19	47.38	48.93	74	-25.07	Horizontal
7282.930	9.02	35.55	39.06	46.80	52.31	74	-21.69	Horizontal
9545.682	10.02	37.20	37.97	43.07	52.32	74	-21.68	Horizontal
10360.000	9.93	37.07	37.90	43.87	52.97	74	-21.03	Horizontal
15540.000	12.97	39.44	41.18	40.95	52.18	74	-21.82	Horizontal

Test mode:	802.11a	Test channel:	40	Remark:	Peak			
Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Polarization
3413.093	7.13	32.79	38.70	46.99	48.21	74	-25.79	Vertical
4603.619	5.97	34.58	39.17	48.26	49.64	74	-24.36	Vertical
7824.060	9.38	35.68	39.01	45.24	51.29	74	-22.71	Vertical
9511.536	10.04	37.14	37.99	44.01	53.20	74	-20.80	Vertical
10400.000	9.94	37.02	37.92	43.28	52.32	74	-21.68	Vertical
15600.000	12.97	39.50	41.19	41.56	52.84	74	-21.16	Vertical
3746.382	6.83	33.11	38.85	48.24	49.33	74	-24.67	Horizontal
4611.875	5.99	34.59	39.17	48.09	49.50	74	-24.50	Horizontal
7852.148	9.39	35.70	39.01	44.47	50.55	74	-23.45	Horizontal
9477.513	10.04	37.08	38.01	43.87	52.98	74	-21.02	Horizontal
10400.000	9.94	37.02	37.92	43.91	52.95	74	-21.05	Horizontal
15600.000	12.97	39.50	41.19	41.04	52.32	74	-21.68	Horizontal

Test mode:	802.11a	Test channel:	48	Remark:	Peak

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
3506.069	6.97	32.90	38.74	46.49	47.62	74	-26.38	Vertical
4620.146	6.01	34.59	39.18	47.47	48.89	74	-25.11	Vertical
7348.469	9.11	35.48	39.05	45.41	50.95	74	-23.05	Vertical
9209.667	9.88	36.53	38.18	43.29	51.52	74	-22.48	Vertical
10480.000	9.97	37.30	37.96	42.73	52.04	74	-21.96	Vertical
15720.000	12.96	39.74	41.23	40.58	52.05	74	-21.95	Vertical
3537.620	6.95	32.93	38.76	47.80	48.92	74	-25.08	Horizontal
4620.146	6.01	34.59	39.18	48.32	49.74	74	-24.26	Horizontal
7335.314	9.09	35.49	39.06	47.28	52.80	74	-21.20	Horizontal
9460.546	10.03	37.05	38.02	43.81	52.87	74	-21.13	Horizontal
10480.000	9.97	37.30	37.96	43.41	52.72	74	-21.28	Horizontal
15720.000	12.96	39.74	41.23	41.44	52.91	74	-21.09	Horizontal

Test mode:	802.11a	Test channel:	149	Remark:	Peak

Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Polarization
3316.635	7.32	32.56	38.66	47.11	48.33	74	-25.67	Vertical
4578.940	5.91	34.55	39.16	47.34	48.64	74	-25.36	Vertical
7575.747	9.33	35.47	39.03	44.81	50.58	74	-23.42	Vertical
9127.528	9.84	36.33	38.23	44.89	52.83	74	-21.17	Vertical
11490.000	10.39	38.22	38.46	41.93	52.08	74	-21.92	Vertical
17235.000	16.31	41.01	41.69	36.97	52.60	74	-21.40	Vertical
3352.483	7.25	32.66	38.67	47.04	48.28	74	-25.72	Horizontal
4645.047	6.06	34.61	39.18	48.47	49.96	74	-24.04	Horizontal
6587.637	8.09	35.73	39.12	48.98	53.68	74	-20.32	Horizontal
9460.546	10.03	37.05	38.02	43.77	52.83	74	-21.17	Horizontal
11490.000	10.39	38.22	38.46	42.51	52.66	74	-21.34	Horizontal
17235.000	16.31	41.01	41.69	37.34	52.97	74	-21.03	Horizontal

Test mode:	802.11a	Test channel:	157	Remark:	Peak

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
3939.129	6.72	33.40	38.93	47.02	48.21	74	-25.79	Vertical
4797.300	6.40	34.70	39.24	48.01	49.87	74	-24.13	Vertical
7427.896	9.22	35.43	39.05	46.35	51.95	74	-22.05	Vertical
9226.184	9.89	36.57	38.17	43.16	51.45	74	-22.55	Vertical
11570.000	10.42	38.28	38.50	42.78	52.98	74	-21.02	Vertical
17355.000	16.08	40.96	41.72	38.62	53.94	74	-20.06	Vertical
3394.796	7.17	32.77	38.69	46.52	47.77	74	-26.23	Horizontal
4754.514	6.31	34.67	39.22	46.49	48.25	74	-25.75	Horizontal
7852.148	9.39	35.70	39.01	43.37	49.45	74	-24.55	Horizontal
9443.610	10.02	37.02	38.03	42.34	51.35	74	-22.65	Horizontal
11570.000	10.42	38.28	38.50	40.63	50.83	74	-23.17	Horizontal
17355.000	16.08	40.96	41.72	37.12	52.44	74	-21.56	Horizontal

Test mode:	802.11a	Test channel:	165	Remark:	Peak

Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Polarization
3487.273	6.99	32.88	38.74	46.62	47.75	74	-26.25	Vertical
4661.723	6.10	34.62	39.19	48.08	49.61	74	-24.39	Vertical
7256.878	8.99	35.58	39.06	47.17	52.68	74	-21.32	Vertical
9392.984	9.99	36.93	38.06	42.60	51.46	74	-22.54	Vertical
11650.000	10.46	38.35	38.54	42.25	52.52	74	-21.48	Vertical
17475.000	15.86	40.91	41.75	37.23	52.25	74	-21.75	Vertical
3406.983	7.15	32.79	38.70	46.64	47.88	74	-26.12	Horizontal
4771.583	6.35	34.68	39.23	47.27	49.07	74	-24.93	Horizontal
7374.850	9.15	35.45	39.05	44.99	50.54	74	-23.46	Horizontal
9392.984	9.99	36.93	38.06	43.14	52.00	74	-22.00	Horizontal
11650.000	10.46	38.35	38.54	42.68	52.95	74	-21.05	Horizontal
17475.000	15.86	40.91	41.75	37.80	52.82	74	-21. 18	Horizontal

Test mode:	802.11n(HT20)	Test channel:	36	Remark:	Peak

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
3910.999	6.74	33.35	38.92	45.84	47.01	74	-26.99	Vertical
4884.031	6.59	34.79	39.26	46.26	48.38	74	-25.62	Vertical
7282.930	9.02	35.55	39.06	46.27	51.78	74	-22.22	Vertical
9292.546	9.93	36.71	38.13	42.92	51.43	74	-22.57	Vertical
10360.000	9.92	37.13	37.89	42.26	51.42	74	-22.58	Vertical
15540.000	12.97	39.38	41.17	41.60	52.78	74	-21.22	Vertical
3499.792	6.97	32.89	38.74	45.42	46.54	74	-27.46	Horizontal
4712.109	6.22	34.65	39.21	47.61	49.27	74	-24.73	Horizontal
7768.185	9.37	35.63	39.02	45.28	51.26	74	-22.74	Horizontal
9460.546	10.03	37.05	38.02	42.69	51.75	74	-22.25	Horizontal
10360.000	9.92	37.13	37.89	43.19	52.35	74	-21.65	Horizontal
15540.000	12.97	39.38	41.17	41.01	52.19	74	-21.81	Horizontal

Test mode:	802.11n(HT20)	Test channel:	40	Remark:	Peak

Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Polarization
3468.578	7.03	32.86	38.73	45.81	46.97	74	-27.03	Vertical
4409.850	5.89	34.28	39.10	46.85	47.92	74	-26.08	Vertical
7295.991	9.04	35.53	39.06	46.57	52.08	74	-21.92	Vertical
9359.385	9.97	36.85	38.09	42.33	51.06	74	-22.94	Vertical
10400.000	9.94	37.02	37.92	43.47	52.51	74	-21.49	Vertical
15600.000	12.97	39.50	41.19	41.59	52.87	74	-21.13	Vertical
3524.966	6.96	32.92	38.75	46.62	47.75	74	-26.25	Horizontal
4703.674	6.20	34.64	39.20	47.87	49.51	74	-24.49	Horizontal
7454.562	9.25	35.44	39.05	45.06	50.70	74	-23.30	Horizontal
8981.520	9.76	36.00	38.33	42.75	50.18	74	-23.82	Horizontal
10400.000	9.94	37.02	37.92	44.09	53.13	74	-20.87	Horizontal
15600.000	12.97	39.50	41.19	41.06	52.34	74	-21.66	Horizontal

Test mode:	802.11n(HT20)	Test channel:	48	Remark:	Peak

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
3746.382	6.83	33.11	38.85	47.79	48.88	74	-25.12	Vertical
4695.254	6.18	34.64	39.20	48.11	49.73	74	-24.27	Vertical
7454.562	9.25	35.44	39.05	44.66	50.30	74	-23.70	Vertical
9511.536	10.04	37.14	37.99	43.76	52.95	74	-21.05	Vertical
10480.000	9.97	37.30	37.96	44.12	53.43	74	-20.57	Vertical
15720.000	12.96	39.74	41.23	41.31	52.78	74	-21.22	Vertical
3653.574	6.88	33.04	38.81	46.33	47.44	74	-26.56	Horizontal
4780.140	6.37	34.69	39.23	47.20	49.03	74	-24.97	Horizontal
7269.892	9.01	35.56	39.06	47.26	52.77	74	-21.23	Horizontal
9309.210	9.94	36.75	38.12	42.49	51.06	74	-22.94	Horizontal
10480.000	9.97	37.30	37.96	42.48	51.79	74	-22.21	Horizontal
15720.000	12.96	39.74	41.23	41.46	52.93	74	-21.07	Horizontal

Test mode:	802.11n(HT20)	Test channel:	149	Remark:	Peak

Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Polarization
3627.482	6.89	33.02	38.80	45.61	46.72	74	-27.28	Vertical
4578.940	5.91	34.55	39.16	47.11	48.41	74	-25.59	Vertical
7335.314	9.09	35.49	39.06	45.28	50.80	74	-23.20	Vertical
9545.682	10.02	37.20	37.97	43.37	52.62	74	-21.38	Vertical
11490.000	10.39	38.22	38.46	42.44	52.59	74	-21.41	Vertical
17235.000	16.31	41.01	41.69	37.31	52.94	74	-21.06	Vertical
3647.033	6.88	33.04	38.81	44.47	45.58	74	-28.42	Horizontal
4823.156	6.46	34.72	39.24	45.20	47.14	74	-26.86	Horizontal
7401.325	9.18	35.42	39.05	43.90	49.45	74	-24.55	Horizontal
9545.682	10.02	37.20	37.97	42.83	52.08	74	-21.92	Horizontal
11490.000	10.39	38.22	38.46	42.71	52.86	74	-21.14	Horizontal
17235.000	16.31	41.01	41.69	36.78	52.41	74	-21.59	Horizontal

Test mode:	802.11n(HT20)	Test channel:	157	Remark:	Peak

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
3666.690	6.87	33.05	38.81	47.58	48.69	74	-25.31	Vertical
4788.712	6.39	34.69	39.23	47.94	49.79	74	-24.21	Vertical
7922.810	9.40	35.75	39.01	42.90	49.04	74	-24.96	Vertical
9460.546	10.03	37.05	38.02	43.77	52.83	74	-21.17	Vertical
11570.000	10.42	38.28	38.50	41.88	52.08	74	-21.92	Vertical
17355.000	16.08	40.96	41.72	37.41	52.73	74	-21.27	Vertical
3706.322	6.85	33.08	38.83	47.47	48.57	74	-25.43	Horizontal
4840.471	6.50	34.74	39.25	47.87	49.86	74	-24.14	Horizontal
7796.073	9.38	35.66	39.02	47.15	53.17	74	-20.83	Horizontal
9409.829	10.00	36.96	38.05	43.23	52.14	74	-21.86	Horizontal
11570.000	10.42	38.28	38.50	41.98	52.18	74	-21.82	Horizontal
17355.000	16.08	40.96	41.72	37.26	52.58	74	-21.42	Horizontal

Test mode:	802.11n(HT20)	Test channel:	165	Remark:	Peak

Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Polarization
3425.346	7.11	32.81	38.71	48.60	49.81	74	-24.19	Vertical
4670.083	6.12	34.62	39.19	48.63	50.18	74	-23.82	Vertical
7348.469	9.11	35.48	39.05	46.22	51.76	74	-22.24	Vertical
9013.763	9.77	36.04	38.30	44.60	52.11	74	-21.89	Vertical
11650.000	10.46	38.35	38.54	41.84	52.11	74	-21.89	Vertical
17475.000	15.86	40.91	41.75	37.91	52.93	74	-21.07	Vertical
3499.792	6.97	32.89	38.74	47.08	48.20	74	-25.80	Horizontal
4703.674	6.20	34.64	39.20	49.49	51.13	74	-22.87	Horizontal
7838.091	9.39	35.69	39.01	45.51	51.58	74	-22.42	Horizontal
9392.984	9.99	36.93	38.06	42.95	51.81	74	-22.19	Horizontal
11650.000	10.46	38.35	38.54	42.96	53.23	74	-20.77	Horizontal
17475.000	15.86	40.91	41.75	38.47	53.49	74	-20.51	Horizontal

Test mode:	802.11n(HT40)	Test channel:	38	Remark:	Peak

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
3550.320	6.94	32.95	38.76	46.47	47.60	74	-26.40	Vertical
4578.940	5.91	34.55	39.16	47.11	48.41	74	-25.59	Vertical
7698.902	9.35	35.57	39.02	46.74	52.64	74	-21.36	Vertical
8806.232	9.71	35.96	38.44	42.82	50.05	74	-23.95	Vertical
10380.000	9.93	37.07	37.90	43.28	52.38	74	-21.62	Vertical
15570.000	12.97	39.44	41.18	41.46	52.69	74	-21.31	Vertical
3773.328	6.81	33.13	38.86	48.65	49.73	74	-24.27	Horizontal
4703.674	6.20	34.64	39.20	50.20	51.84	74	-22.16	Horizontal
7796.073	9.38	35.66	39.02	47.15	53.17	74	-20.83	Horizontal
9494.509	10.05	37.11	38.00	44.13	53.29	74	-20.71	Horizontal
10380.000	9.93	37.07	37.90	43.01	52.11	74	-21.89	Horizontal
15570.000	12.97	39.44	41.18	40.99	52.22	74	-21.78	Horizontal

Test mode:	802.11n(HT40)	Test channel:	46	Remark:	Peak

Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Polarization
3456.171	7.05	32.84	38.72	47.63	48.80	74	-25.20	Vertical
4720.560	6.23	34.65	39.21	48.48	50.15	74	-23.85	Vertical
7965.512	9.41	35.78	39.00	42.54	48.73	74	-25.27	Vertical
9409.829	10.00	36.96	38.05	42.28	51.19	74	-22.81	Vertical
10460.000	9.96	37.23	37.95	42.95	52.19	74	-21.81	Vertical
15690.000	12.96	39.68	41.22	41.49	52.91	74	-21.09	Vertical
3334.511	7.29	32.61	38.67	47.07	48.30	74	-25.70	Horizontal
4231.812	6.23	34.03	39.04	46.63	47.85	74	-26.15	Horizontal
5089.509	6.92	34.88	39.29	47.30	49.81	74	-24.19	Horizontal
8618.910	9.66	35.91	38.57	41.23	48.23	74	-25.77	Horizontal
10420.000	9.96	37.23	37.95	43.50	52.74	74	-21.26	Horizontal
15630.000	12.96	39.68	41.22	42.32	53.74	74	-20.26	Horizontal

Test mode:	802.11n(HT40)	Test channel:	151	Remark:	Peak

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
3468.578	7.03	32.86	38.73	47.77	48.93	74	-25.07	Vertical
4703.674	6.20	34.64	39.20	48.76	50.40	74	-23.60	Vertical
7535.134	9.32	35.46	39.04	44.69	50.43	74	-23.57	Vertical
9511.536	10.04	37.14	37.99	44.01	53.20	74	-20.80	Vertical
11510.000	10.39	38.23	38.47	43.62	53.77	74	-20.23	Vertical
17265.000	16.25	40.99	41.69	36.88	52.43	74	-21.57	Vertical
3481.030	7.01	32.87	38.73	47.25	48.40	74	-25.60	Horizontal
4661.723	6.10	34.62	39.19	48.88	50.41	74	-23.59	Horizontal
8420.471	9.60	35.82	38.70	45.34	52.06	74	-21.94	Horizontal
9275.910	9.92	36.67	38.14	42.90	51.35	74	-22.65	Horizontal
11510.000	10.39	38.23	38.47	41.87	52.02	74	-21.98	Horizontal
17265.000	16.25	40.99	41.69	36.87	52.42	74	-21.58	Horizontal

Test mode:	802.11n(HT40)	Test channel:	159	Remark:	Peak

Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Polarization
3304.771	7.35	32.53	38.65	45.89	47.12	74	-26.88	Vertical
4653.378	6.08	34.61	39.19	47.83	49.33	74	-24.67	Vertical
7348.469	9.11	35.48	39.05	45.41	50.95	74	-23.05	Vertical
9460.546	10.03	37.05	38.02	43.35	52.41	74	-21.59	Vertical
11590.000	10.43	38.29	38.51	42.59	52.80	74	-21.20	Vertical
17385.000	16.03	40.95	41.73	37.14	52.39	74	-21.61	Vertical
3524.966	6.96	32.92	38.75	46.89	48.02	74	-25.98	Horizontal
4712.109	6.22	34.65	39.21	47.52	49.18	74	-24.82	Horizontal
7348.469	9.11	35.48	39.05	45.56	51.10	74	-22.90	Horizontal
9342.630	9.96	36.82	38.10	42.70	51.38	74	-22.62	Horizontal
11590.000	10.43	38.29	38.51	42.38	52.59	74	-21.41	Horizontal
17385.000	16.03	40.95	41.73	36.79	52.04	74	-21.96	Horizontal

Wi-Fi 1 + Wi-Fi 2								
Test mode:	802.11a	Test channel:	36	Remark:	Peak			
Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
3759.831	6.82	33.12	38.85	46.20	47.29	74	-26.71	Vertical
4805.903	6.42	34.71	39.24	46.70	48.59	74	-25.41	Vertical
5748.972	7.69	35.79	39.21	48.75	53.02	74	-20.98	Vertical
8435.572	9.60	35.83	38.69	44.47	51.21	74	-22.79	Vertical
10360.000	9.92	37.13	37.89	44.20	53.36	74	-20.64	Vertical
15540.000	12.97	39.38	41.17	41.43	52.61	74	-21.39	Vertical
3800.469	6.80	33.15	38.87	47.83	48.91	74	-25.09	Horizontal
4963.428	6.76	34.86	39.29	48.80	51.13	74	-22.87	Horizontal
8345.370	9.57	35.82	38.75	46.19	52.83	74	-21.17	Horizontal
9735.688	9.92	37.72	37.86	43.56	53.34	74	-20.66	Horizontal
10360.000	9.92	37.13	37.89	41.96	51.12	74	-22.88	Horizontal
15540.000	12.97	39.38	41.17	40.94	52.12	74	-21.88	Horizontal

Test mode:	802.11a	Test channel:	40	Remark:	Peak			
Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Polarization
3499.792	6.97	32.89	38.74	48.45	49.57	74	-24.43	Vertical
4354.885	6.00	34.20	39.08	49.83	50.95	74	-23.05	Vertical
6587.637	8.09	35.73	39.12	48.21	52.91	74	-21.09	Vertical
8080.512	9.45	35.82	38.94	44.86	51.19	74	-22.81	Vertical
10400.000	9.94	37.02	37.92	43.62	52.66	74	-21.34	Vertical
15600.000	12.97	39.50	41.19	41.42	52.70	74	-21.30	Vertical
3706.322	6.85	33.08	38.83	47.83	48.93	74	-25.07	Horizontal
5017.076	6.86	34.90	39.30	48.38	50.84	74	-23.16	Horizontal
7414.599	9.20	35.42	39.05	44.15	49.72	74	-24.28	Horizontal
8330.431	9.56	35.82	38.76	44.52	51.14	74	-22.86	Horizontal
10400.000	9.94	37.02	37.92	43.57	52.61	74	-21.39	Horizontal
15600.000	12.97	39.50	41.19	41.33	52.61	74	-21.39	Horizontal

Test mode:	802.11a	Test channel:	48	Remark:	Peak

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
3364.519	7.23	32.69	38.68	47.95	49.19	74	-24.81	Vertical
4097.506	6.49	33.74	38.99	48.46	49.70	74	-24.30	Vertical
4999.129	6.84	34.90	39.30	49.78	52.22	74	-21.78	Vertical
8080.512	9.45	35.82	38.94	44.48	50.81	74	-23.19	Vertical
10480.000	9.97	37.30	37.96	43.18	52.49	74	-21.51	Vertical
15720.000	12.96	39.74	41.23	40.02	51.49	74	-22.51	Vertical
3376.597	7.21	32.72	38.69	48.12	49.36	74	-24.64	Horizontal
4039.191	6.61	33.60	38.97	48.72	49.96	74	-24.04	Horizontal
8109.521	9.47	35.83	38.92	44.46	50.84	74	-23.16	Horizontal
8853.696	9.72	35.97	38.41	43.90	51.18	74	-22.82	Horizontal
10480.000	9.97	37.30	37.96	42.20	51.51	74	-22.49	Horizontal
15720.000	12.96	39.74	41.23	40.91	52.38	74	-21.62	Horizontal

Test mode:	802.11a	Test channel:	149	Remark:	Peak

Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Polarization
3413.093	7.13	32.79	38.70	47.72	48.94	74	-25.06	Vertical
4737.506	6.27	34.66	39.22	48.60	50.31	74	-23.69	Vertical
7282.930	9.02	35.55	39.06	47.39	52.90	74	-21.10	Vertical
9562.801	10.01	37.23	37.96	43.82	53.10	74	-20.90	Vertical
11490.000	10.39	38.22	38.46	43.02	53.17	74	-20.83	Vertical
17235.000	16.31	41.01	41.69	36.61	52.24	74	-21.76	Vertical
3364.519	7.23	32.69	38.68	47.95	49.19	74	-24.81	Horizontal
4729.026	6.25	34.66	39.21	48.78	50.48	74	-23.52	Horizontal
7685.120	9.35	35.56	39.03	47.42	53.30	74	-20.70	Horizontal
9259.305	9.91	36.64	38.15	43.85	52.25	74	-21.75	Horizontal
11490.000	10.39	38.22	38.46	41.88	52.03	74	-21.97	Horizontal
17235.000	16.31	41.01	41.69	37.64	53.27	74	-20.73	Horizontal

Test mode:	802.11a	Test channel:	157	Remark:	Peak

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
3512.356	6.96	32.91	38.75	47.75	48.87	74	-25.13	Vertical
4670.083	6.12	34.62	39.19	48.67	50.22	74	-23.78	Vertical
7782.116	9.37	35.64	39.02	46.72	52.71	74	-21.29	Vertical
9443.610	10.02	37.02	38.03	43.16	52.17	74	-21.83	Vertical
11570.000	10.42	38.28	38.50	42.51	52.71	74	-21.29	Vertical
17355.000	16.08	40.96	41.72	36.71	52.03	74	-21.97	Vertical
3413.093	7.13	32.79	38.70	49.36	50.58	74	-23.42	Horizontal
4703.674	6.20	34.64	39.20	49.77	51.41	74	-22.59	Horizontal
7712.709	9.36	35.58	39.02	47.14	53.06	74	-20.94	Horizontal
9443.610	10.02	37.02	38.03	43.76	52.77	74	-21.23	Horizontal
11570.000	10.42	38.28	38.50	42.06	52.26	74	-21.74	Horizontal
17355.000	16.08	40.96	41.72	37.80	53.12	74	-20.88	Horizontal

Test mode:	802.11a	Test channel:	165	Remark:	Peak

Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Polarization
3228.683	7.50	32.33	38.62	47.11	48.32	74	-25.68	Vertical
4695.254	6.18	34.64	39.20	48.80	50.42	74	-23.58	Vertical
7685.120	9.35	35.56	39.03	47.18	53.06	74	-20.94	Vertical
9193.181	9.87	36.49	38.19	44.14	52.31	74	-21.69	Vertical
11650.000	10.46	38.35	38.54	42.11	52.38	74	-21.62	Vertical
17475.000	15.86	40.91	41.75	37.87	52.89	74	-21.11	Vertical
3269.434	7.42	32.44	38.63	46.53	47.76	74	-26.24	Horizontal
4578.940	5.91	34.55	39.16	47.32	48.62	74	-25.38	Horizontal
7754.279	9.37	35.62	39.02	47.12	53.09	74	-20.91	Horizontal
9029.928	9.78	36.08	38.29	46.42	53.99	74	-20.01	Horizontal
11650.000	10.46	38.35	38.54	43.33	53.60	74	-20.40	Horizontal
17475.000	15.86	40.91	41.75	37.63	52.65	74	-21.35	Horizontal

Test mode:	802.11n(HT20)	Test channel:	36	Remark:	Peak

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
3346.482	7.26	32.64	38.67	46.62	47.85	74	-26.15	Vertical
4209.125	6.27	33.99	39.03	46.73	47.96	74	-26.04	Vertical
4910.354	6.65	34.81	39.27	47.24	49.43	74	-24.57	Vertical
8138.634	9.48	35.83	38.90	43.26	49.67	74	-24.33	Vertical
10360.000	9.92	37.13	37.89	43.04	52.20	74	-21.80	Vertical
15540.000	12.97	39.38	41.17	40.69	51.87	74	-22.13	Vertical
3298.855	7.36	32.52	38.65	45.76	46.99	74	-27.01	Horizontal
3932.078	6.73	33.38	38.92	46.25	47.44	74	-26.56	Horizontal
4814.522	6.44	34.71	39.24	47.59	49.50	74	-24.50	Horizontal
8037.194	9.44	35.81	38.97	43.38	49.66	74	-24.34	Horizontal
10360.000	9.92	37.13	37.89	42.34	51.50	74	-22.50	Horizontal
15540.000	12.97	39.38	41.17	41.95	53.13	74	-20.87	Horizontal

Test mode:	802.11n(HT20)	Test channel:	40	Remark:	Peak

Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Polarization
3456.171	7.05	32.84	38.72	46.47	47.64	74	-26.36	Vertical
4277.551	6.14	34.09	39.06	45.97	47.14	74	-26.86	Vertical
5351.359	7.15	34.80	39.26	47.46	50.15	74	-23.85	Vertical
8618.910	9.66	35.91	38.57	39.13	46.13	74	-27.87	Vertical
10400.000	9.94	37.02	37.92	42.87	51.91	74	-22.09	Vertical
15600.000	12.97	39.50	41.19	41.62	52.90	74	-21.10	Vertical
3640.505	6.89	33.03	38.80	46.99	48.11	74	-25.89	Horizontal
4186.561	6.32	33.95	39.02	46.91	48.16	74	-25.84	Horizontal
5135.310	6.96	34.87	39.28	47.82	50.37	74	-23.63	Horizontal
8241.354	9.52	35.84	38.83	41.76	48.29	74	-25.71	Horizontal
10400.000	9.94	37.02	37.92	43.69	52.73	74	-21.27	Horizontal
15600.000	12.97	39.50	41.19	42.10	53.38	74	-20.62	Horizontal

Test mode:	802.11n(HT20)	Test channel:	48	Remark:	Peak

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
3653.574	6.88	33.04	38.81	46.27	47.38	74	-26.62	Vertical
4262.250	6.17	34.07	39.05	47.50	48.69	74	-25.31	Vertical
4919.161	6.67	34.82	39.27	48.32	50.54	74	-23.46	Vertical
7575.747	9.33	35.47	39.03	43.54	49.31	74	-24.69	Vertical
10480.000	9.97	37.30	37.96	42.94	52.25	74	-21.75	Vertical
15720.000	12.96	39.74	41.23	42.02	53.49	74	-20.51	Vertical
3640.505	6.89	33.03	38.80	45.53	46.65	74	-27.35	Horizontal
4370.519	5.97	34.22	39.09	47.48	48.58	74	-25.42	Horizontal
5218.792	7.04	34.84	39.27	48.06	50.67	74	-23.33	Horizontal
8696.472	9.68	35.93	38.51	40.65	47.75	74	-26.25	Horizontal
10480.000	9.97	37.30	37.96	43.90	53.21	74	-20.79	Horizontal
15720.000	12.96	39.74	41.23	41.57	53.04	74	-20.96	Horizontal

Test mode:	802.11n(HT20)	Test channel:	149	Remark:	Peak

Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Polarization
3468.578	7.03	32.86	38.73	47.31	48.47	74	-25.53	Vertical
4729.026	6.25	34.66	39.21	47.69	49.39	74	-24.61	Vertical
7322.183	9.08	35.50	39.06	46.82	52.34	74	-21.66	Vertical
9359.385	9.97	36.85	38.09	42.40	51.13	74	-22.87	Vertical
11490.000	10.39	38.22	38.46	42.98	53.13	74	-20.87	Vertical
17235.000	16.31	41.01	41.69	36.75	52.38	74	-21.62	Vertical
3481.030	7.01	32.87	38.73	46.86	48.01	74	-25.99	Horizontal
4729.026	6.25	34.66	39.21	47.69	49.39	74	-24.61	Horizontal
7282.930	9.02	35.55	39.06	47.02	52.53	74	-21.47	Horizontal
9545.682	10.02	37.20	37.97	43.04	52.29	74	-21.71	Horizontal
11490.000	10.39	38.22	38.46	42.93	53.08	74	-20.92	Horizontal
17235.000	16.31	41.01	41.69	37.06	52.69	74	-21.31	Horizontal

Test mode:	802.11n(HT20)	Test channel:	157	Remark:	Peak

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
3340.491	7.28	32.63	38.67	45.36	46.60	74	-27.40	Vertical
4754.514	6.31	34.67	39.22	46.37	48.13	74	-25.87	Vertical
7838.091	9.39	35.69	39.01	44.16	50.23	74	-23.77	Vertical
9443.610	10.02	37.02	38.03	43.43	52.44	74	-21.56	Vertical
11570.000	10.42	38.28	38.50	42.86	53.06	74	-20.94	Vertical
17355.000	16.08	40.96	41.72	36.98	52.30	74	-21.70	Vertical
3431.489	7.10	32.82	38.71	46.24	47.45	74	-26.55	Horizontal
4703.674	6.20	34.64	39.20	47.64	49.28	74	-24.72	Horizontal
7866.230	9.39	35.71	39.01	42.63	48.72	74	-25.28	Horizontal
9376.170	9.98	36.89	38.08	42.22	51.01	74	-22.99	Horizontal
11570.000	10.42	38.28	38.50	41.12	51.32	74	-22.68	Horizontal
17355.000	16.08	40.96	41.72	37.64	52.96	74	-21.04	Horizontal

Test mode:	802.11n(HT20)	Test channel:	165	Remark:	Peak

Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Polarization
3499.792	6.97	32.89	38.74	45.67	46.79	74	-27.21	Vertical
4670.083	6.12	34.62	39.19	47.22	48.77	74	-25.23	Vertical
7782.116	9.37	35.64	39.02	45.20	51.19	74	-22.81	Vertical
9805.714	9.88	37.94	37.81	42.86	52.87	74	-21.13	Vertical
11650.000	10.46	38.35	38.54	42.82	53.09	74	-20.91	Vertical
17475.000	15.86	40.91	41.75	38.13	53.15	74	-20.85	Vertical
3334.511	7.29	32.61	38.67	46.03	47.26	74	-26.74	Horizontal
4936.820	6.71	34.84	39.28	48.53	50.80	74	-23.20	Horizontal
7838.091	9.39	35.69	39.01	44.44	50.51	74	-23.49	Horizontal
9443.610	10.02	37.02	38.03	42.56	51.57	74	-22.43	Horizontal
11650.000	10.46	38.35	38.54	43.05	53.32	74	-20.68	Horizontal
17475.000	15.86	40.91	41.75	37.78	52.80	74	-21.20	Horizontal

Test mode:	802.11n(HT40)	Test channel:	38	Remark:	Peak

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
3413.093	7.13	32.79	38.70	48.61	49.83	74	-24.17	Vertical
4661.723	6.10	34.62	39.19	48.88	50.41	74	-23.59	Vertical
7740.397	9.36	35.61	39.02	47.79	53.74	74	-20.26	Vertical
9494.509	10.05	37.11	38.00	44.10	53.26	74	-20.74	Vertical
10380.000	9.93	37.07	37.90	43.19	52.29	74	-21.71	Vertical
15570.000	12.97	39.44	41.18	42.08	53.31	74	-20.69	Vertical
3773.328	6.81	33.13	38.86	48.65	49.73	74	-24.27	Horizontal
4703.674	6.20	34.64	39.20	50.20	51.84	74	-22.16	Horizontal
7796.073	9.38	35.66	39.02	47.15	53.17	74	-20.83	Horizontal
9494.509	10.05	37.11	38.00	44.13	53.29	74	-20.71	Horizontal
10380.000	9.93	37.07	37.90	43.01	52.11	74	-21.89	Horizontal
15570.000	12.97	39.44	41.18	40.99	52.22	74	-21.78	Horizontal

Test mode:	802.11n(HT40)	Test channel:	46	Remark:	Peak

Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Polarization
3370.552	7.22	32.70	38.68	47.52	48.76	74	-25.24	Vertical
3918.012	6.73	33.36	38.92	46.82	47.99	74	-26.01	Vertical
4840.471	6.50	34.74	39.25	46.83	48.82	74	-25.18	Vertical
8665.363	9.67	35.93	38.53	40.32	47.39	74	-26.61	Vertical
10420.000	9.96	37.23	37.95	43.11	52.35	74	-21.65	Vertical
15630.000	12.96	39.68	41.22	41.00	52.42	74	-21.58	Vertical
3334.511	7.29	32.61	38.67	47.07	48.30	74	-25.70	Horizontal
4231.812	6.23	34.03	39.04	46.63	47.85	74	-26.15	Horizontal
5089.509	6.92	34.88	39.29	47.30	49.81	74	-24.19	Horizontal
8618.910	9.66	35.91	38.57	41.23	48.23	74	-25.77	Horizontal
10420.000	9.96	37.23	37.95	43.50	52.74	74	-21.26	Horizontal
15630.000	12.96	39.68	41.22	42.32	53.74	74	-20.26	Horizontal

Test mode:	802.11n(HT40)	Test channel:	151	Remark:	Peak

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
3419.214	7.12	32.80	38.70	48.14	49.36	74	-24.64	Vertical
4746.002	6.29	34.67	39.22	47.97	49.71	74	-24.29	Vertical
7282.930	9.02	35.55	39.06	47.77	53.28	74	-20.72	Vertical
9494.509	10.05	37.11	38.00	43.48	52.64	74	-21.36	Vertical
11510.000	10.39	38.23	38.47	42.45	52.60	74	-21.40	Vertical
17265.000	16.25	40.99	41.69	36.99	52.54	74	-21.46	Vertical
3481.030	7.01	32.87	38.73	47.25	48.40	74	-25.60	Horizontal
4661.723	6.10	34.62	39.19	48.88	50.41	74	-23.59	Horizontal
8420.471	9.60	35.82	38.70	45.34	52.06	74	-21.94	Horizontal
9275.910	9.92	36.67	38.14	42.90	51.35	74	-22.65	Horizontal
11510.000	10.39	38.23	38.47	41.87	52.02	74	-21.98	Horizontal
17265.000	16.25	40.99	41.69	36.87	52.42	74	-21.58	Horizontal

Test mode:	802.11n(HT40)	Test channel:	159	Remark:	Peak

Frequency (MHz)	Cable loss (dB)	Antenna factors (dB/m)	Preamp factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Polarization
3388.719	7.18	32.75	38.69	48.29	49.53	74	-24.47	Vertical
4754.514	6.31	34.67	39.22	48.21	49.97	74	-24.03	Vertical
7838.091	9.39	35.69	39.01	45.30	51.37	74	-22.63	Vertical
9309.210	9.94	36.75	38.12	43.42	51.99	74	-22.01	Vertical
11590.000	10.43	38.29	38.51	43.07	53.28	74	-20.72	Vertical
17385.000	16.03	40.95	41.73	37.01	52.26	74	-21.74	Vertical
3524.966	6.96	32.92	38.75	46.89	48.02	74	-25.98	Horizontal
4712.109	6.22	34.65	39.21	47.52	49.18	74	-24.82	Horizontal
7348.469	9.11	35.48	39.05	45.56	51.10	74	-22.90	Horizontal
9342.630	9.96	36.82	38.10	42.70	51.38	74	-22.62	Horizontal
11590.000	10.43	38.29	38.51	42.38	52.59	74	-21.41	Horizontal
17385.000	16.03	40.95	41.73	36.79	52.04	74	-21.96	Horizontal

Remark:

1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:
   Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor
2) Scan from 9kHz to 25GHz,The disturbance above 13GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported .
3) As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. 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. So, only the peak measurements were shown in the report.

6.9 Restricted bands edge

Test Requirement:	47 CFR Part 15C Section 15.407
Test Method:	ANSI C63.10: 2013
Test Site:	Measurement Distance: 3m (Semi-Anechoic Chamber)
Limit:	(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz. (2) For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of −17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of –27 dBm/MHz.
Test Setup:	

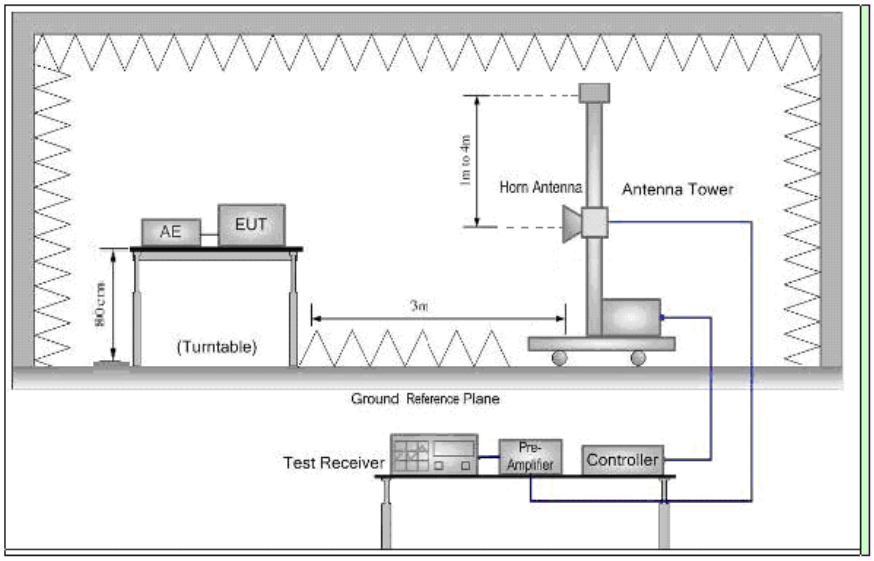


Figure 1.

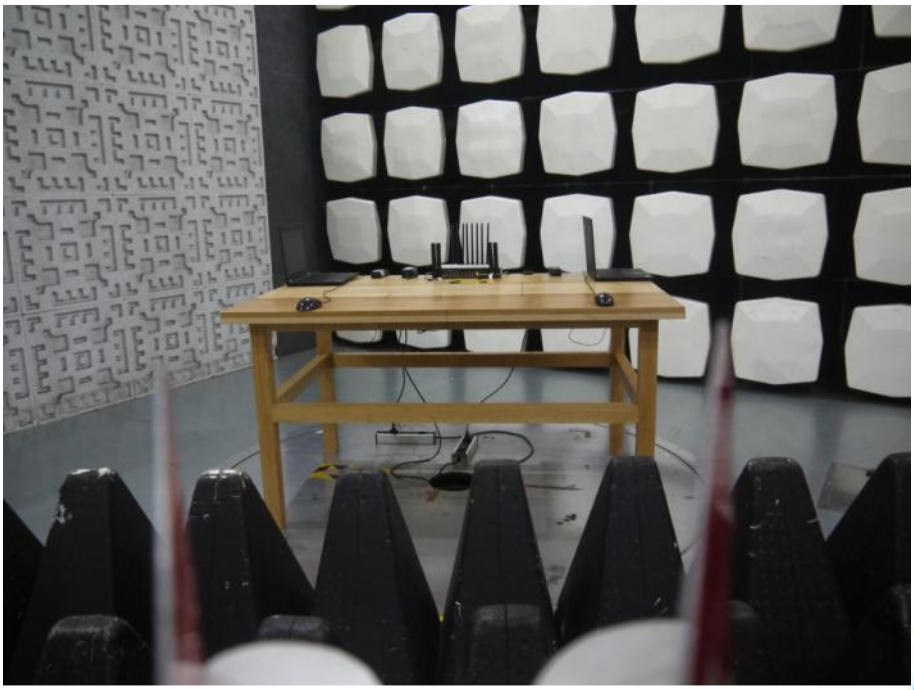
Test Procedure:	a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation. b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. c. The antenna height 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 Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. f. Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel g. Test the EUT in the lowest channel , the Highest channel h. Repeat above procedures until all frequencies measured was complete.
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates. Transmitting mode, Wi-Fi 1 is on, Wi-Fi 2 is on, Both Wi-Fi is on.
Final Test Mode:	Through Pre-scan, and found the 6Mbps of rate is the worst case of 802.11a, 65Mbps of rate is the worst case of 802.11n(HT20), 130Mbps of rate is the worst case of 802.11n(HT40). Only the worst case is recorded in the report.
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass
	Remark: Please refer to the Appendix B. The limit other than restricted band as 68.2dBuV/m because –27dBm/MHz is the limit for 15.407

7 Photographs - EUT Test Setup

Test model No.: MAX HD4

7.1 Conducted Emission

7.2 Radiated Spurious Emission



8 Photographs - EUT Constructional Details

Test model No.: MAX HD4

Refer to Appendix A - Photographs of EUT Constructional Details for HKES1501000090IT