MEASUREMENT REPORT

FCC PART 15 Subpart E / RSS-247 WLAN 802.11a/n/ac

FCC ID:	2AD8UFZCWO4A1
IC:	109D-FZCWO4A1
APPLICANT:	Nokia Solutions and Networks
Application Type:	Certification
Product:	Wi-Fi AP 4x4 OD ext. antenna US Wi-Fi AP 4x4 OD omni antenna US Wi-Fi AP 4x4 OD direct antenna US Wi-Fi AP 4x4 OD small omni antenna US
Model No.:	WO4C-AC400
Brand Name:	Nokia
FCC Classification:	Unlicensed National Information Infrastructure (UNII)
FCC Rule Part(s):	Part 15 Subpart E (Section 15.407)
IC Rule(s):	RSS-247 Issue 2, RSS-Gen Issue 4
Test Procedure(s):	ANSI C63.10-2013, KDB 789033 D02v01r03, KDB 662911 D01v02r01, KDB 644545 D03v01
Test Date:	July 28, 2016 ~ April 07, 2017

Reviewed By : Paddy Chen
(Paddy Chen)

Approved By : Chenz Ker
(Chenz Ker)

Testing Laboratory
3261

The test results relate only to the samples tested.
This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in KDB 789033 D02v01r03. Test results reported herein relate only to the item(s) tested.
The test report shall not be reproduced except in full without the written approval of MRT Technology (Taiwan) Co., Ltd.

Revision History

Report No.	Version	Description	Issue Date	Note
1608TW0110-U14	Rev. 01	Initial Report	07-31-2017	Valid

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Description Page

§2.1033 General Information

Applicant:	Nokia Solutions and Networks
Applicant Address:	Karaportti 3, FI-02610 Espoo, Finland
Manufacturer:	Nokia Solutions and Networks
Manufacturer Address:	Karaportti 3, FI-02610 Espoo, Finland
Test Site:	MRT Technology (Taiwan) Co., Ltd
Test Site Address:	No. 38, Fuxing Second Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C)
MRT FCC Registration No.:	153292
MRT IC Registration No.:	21723-1
FCC Rule Part(s):	Part 15 Subpart E (Section 15.407)
IC Rule(s):	RSS-247 Issue 2, RSS-Gen Issue 4
Model No.:	WO4C-AC400
Test Device Serial No.:	N/A ☐ Production ☒ Pre-Production ☐ Engineering
FCC Classification:	Unlicensed National Information Infrastructure (UNII)

Test Facility / Accreditations

Measurements were performed at MRT Laboratory located in Fuxing Rd., Taoyuan, Taiwan (R.O.C)

- **MRT facility is a FCC registered (Reg. No. 153292) test facility with the site description report on file and is designated by the FCC as an Accredited Test Film.**
- **MRT facility is an IC registered (MRT Reg. No. 21723-1) test laboratory with the site description on file at Industry Canada.**
- **MRT Lab is accredited to ISO 17025 by the American Association for Laboratory Accreditation (TAF) under the American Association for Laboratory Accreditation Program (TAF Cert. No. 3261) in EMC, Telecommunications and Radio testing for FCC, Industry Taiwan, EU and TELEC Rules.**

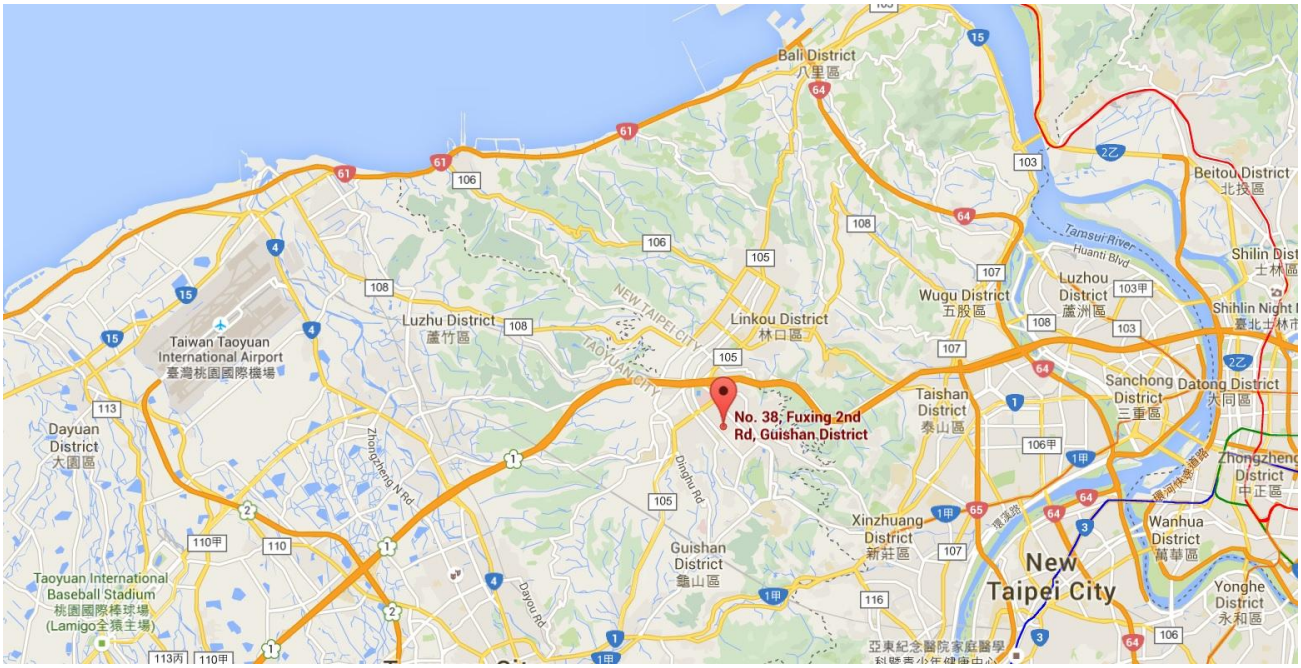
1. INTRODUCTION

1.1. Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Industry Canada Certification and Engineering Bureau.

1.2. MRT Test Location

The map below shows the location of the MRT LABORATORY, its proximity to the Taoyuan City. These measurement tests were conducted at the MRT Technology (Taiwan) Co., Ltd. Facility located at No.38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 33377, Taiwan (R.O.C).



2. PRODUCT INFORMATION

2.1. Equipment Description

Product Name	Wi-Fi AP 4X4 OD ext. antenna US; Wi-Fi AP 4x4 OD omni antenna US; Wi-Fi AP 4x4 OD direct. antenna US; Wi-Fi AP 4x4 OD small omni antenna US
Model No.	WO4C-AC400
Brand Name	Nokia
Hardware Version	AM3
Frequency Range	**2.4GHz:** For 802.11b/g/n-HT20: 2412 ~ 2462 MHz For 802.11n-HT40: 2422 ~ 2452 MHz **5GHz:** For 802.11a/n-HT20: 5180~5320MHz, 5500~5700MHz, 5745~5825MHz For 802.11ac-VHT20: 5180~5320MHz, 5500~5720MHz, 5745~5825MHz For 802.11n-HT40: 5190~5310MHz, 5510~5670MHz, 5755~5795MHz For 802.11ac-VHT40: 5190~5310MHz, 5510~5710MHz, 5755~5795MHz For 802.11ac-VHT80: 5210MHz, 5290MHz, 5530MHz, 5610MHz, 5690MHz, 5775MHz For 802.11ac-VHT80+80: 5210 MHz + 5290 MHz, 5210 MHz + 5530 MHz, 5210 MHz + 5610 MHz, 5210 MHz + 5690 MHz, 5210 MHz + 5775 MHz, 5290 MHz + 5530 MHz, 5290 MHz + 5610 MHz, 5290 MHz + 5690 MHz, 5290 MHz + 5775 MHz, 5530 MHz + 5610 MHz, 5530 MHz + 5690 MHz, 5530 MHz + 5775 MHz, 5610 MHz + 5690 MHz, 5610 MHz + 5775 MHz, 5690 MHz + 5775 MHz

Maximum Output Power	**CDD Mode:** 802.11a: 27.63dBm **Beam-Forming Mode:** 802.11n-HT20: 25.11dBm, 802.11n-HT40: 25.18dBm, 802.11ac-VHT20: 25.22dBm, 802.11ac-VHT40: 25.13dBm, 802.11ac-VHT80: 24.76dBm 802.11ac-VHT80+80: 22.25dBm(5210MHz), 19.46dBm(5775MHz)
Type of Modulation	802.11a/n/ac: OFDM
Modulation Type	16QAM, 64QAM, QPSK, BPSK for OFDM 802.11a/n/ac: OFDM

Note 1: We select the POE adapter (M/N: PoE35-54A) to perform all RF testing.

Note 2: The product name difference as below:

- when the device has been connected the Galtronics Omni antenna, the product name is “Wi-Fi AP 4x4 OD omni antenna US”;
- when the device has been connected the Galtronics Directional antenna, the product name is “Wi-Fi AP 4x4 OD direct. antenna US”;
- when the device has been connected the PCTEL antenna & HUBER+SUHNER, the product name is “Wi-Fi AP 4X4 OD ext. antenna US”;
- when the device has been connected the Galtronics Small Omni antenna, the product name is “Wi-Fi AP 4x4 OD small omni antenna US”;

2.2. Operation Frequencies and Channel List

802.11a/n-HT20

Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180 MHz	40	5200 MHz	44	5220 MHz
48	5240 MHz	52	5260 MHz	56	5280 MHz
60	5300 MHz	64	5320 MHz	100	5500 MHz
104	5520 MHz	108	5540 MHz	112	5560 MHz
116	5580 MHz	120	5600 MHz	124	5620 MHz
128	5640 MHz	132	5660 MHz	136	5680 MHz
140	5700 MHz	149	5745 MHz	153	5765 MHz
157	5785 MHz	161	5805 MHz	165	5825 MHz

802.11ac-VHT20

Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180 MHz	40	5200 MHz	44	5220 MHz
48	5240 MHz	52	5260 MHz	56	5280 MHz
60	5300 MHz	64	5320 MHz	100	5500 MHz
104	5520 MHz	108	5540 MHz	112	5560 MHz
116	5580 MHz	120	5600 MHz	124	5620 MHz
128	5640 MHz	132	5660 MHz	136	5680 MHz
140	5700 MHz	144	5720 MHz	149	5745 MHz
153	5765 MHz	157	5785 MHz	161	5805 MHz
165	5825 MHz	--	--	--	--

802.11n-HT40

Channel	Frequency	Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz	54	5270 MHz
62	5310 MHz	102	5510 MHz	110	5550 MHz
118	5590 MHz	126	5630 MHz	134	5670 MHz
151	5755 MHz	159	5795 MHz	--	--

802.11ac-VHT40

Channel	Frequency	Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz	54	5270 MHz
62	5310 MHz	102	5510 MHz	110	5550 MHz
118	5590 MHz	126	5630 MHz	134	5670 MHz
142	5710 MHz	151	5755 MHz	159	5795 MHz

802.11ac-VHT80

Channel	Frequency	Channel	Frequency	Channel	Frequency
42	5210 MHz	58	5290 MHz	106	5530 MHz
122	5610 MHz	138	5690 MHz	155	5775 MHz

802.11ac-VHT80+80

Channel	Frequency	Channel	Frequency
42 + 58	5210 MHz + 5290 MHz	42 + 106	5210 MHz + 5530 MHz
42 + 122	5210 MHz + 5610 MHz	42 + 138	5210 MHz + 5690 MHz
42 + 155	5210 MHz + 5775 MHz	58 + 106	5290 MHz + 5530 MHz
58 + 122	5290 MHz + 5610 MHz	58 + 138	5290 MHz + 5690 MHz
58 + 155	5290 MHz + 5775 MHz	106 + 122	5530 MHz + 5610 MHz
106 + 138	5530 MHz + 5690 MHz	106 + 155	5530 MHz + 5775 MHz
122 + 138	5610 MHz + 5690 MHz	122 + 155	5610 MHz + 5775 MHz
138+ 155	5690 MHz + 5775 MHz	--	--

Note: The device can’t operate in 5600~5650 MHz band in Canada (The frequency of blue font).

2.3. Description of Available Antennas

Antenna	Manufacturer	Frequency Band (GHz)	Product Number	Tx Paths
	PCTEL, Inc.	2.4	FPMI2458-DP4RPSMA	4
		5		4
		2.4	FPMI2458-DP2RPSMA	2
		5		2
	Galtronics	2.4	Galtronics Omni Antenna	2
		5		2
		2.4	Galtronics Directional Antenna	2
		5		2
		2.4	Galtronics Small Omni Antenna	2
		5		2
	HUBER+ SUHNER	5	Sector-Antenna 1356.17.0011	1
		5	Directional Antenna 1356.17.0077	1

Note 1: This device make the transmission with two “FPMI2458-DP2RPSMA” directional antenna, there is not any superposition of transmit signal between two antennas.

Note 2: For “FPMI2458-DP2RPSMA” directional antenna, one antenna port be connected with device’s Ant 0 & Ant 1, the other antenna port be connect with device’s Ant 2 & Ant 3, and this installation has been showed in the professional installation manual.

Note 3: For HUBER+SUHNER antenna, this device make the transmission with four antenna, they

were installed by the four sides of the perpendicular. So the antenna was Independent of each other and had no MIMO, CDD or Beamforming mode.

Product Number	Frequency Band (MHz)	Tx Paths	Per Chain Max Antenna Gain (dBi)				Beam Forming Directional Gain (dBi)	CDD Directional Gain (dBi)
			Ant 0	Ant 1	Ant 2	Ant 3		
FPMI2458-DP4RPSMA	2412 ~2462	4	6.70	6.40	6.80	6.80	12.70	12.70
	5150 ~ 5250	4	5.79	5.57	5.89	5.05	11.60	11.60
	5150 ~ 5250 30°elevation angle	4	5.10	2.27	4.94	4.06	N/A	N/A
	5250 ~ 5350	4	5.68	5.53	5.65	4.91	11.47	11.47
	5470 ~ 5725	4	5.46	5.21	6.06	5.65	11.62	11.62
	5725 ~ 5850	4	5.24	5.09	6.73	5.62	11.71	11.71
FPMI2458-DP2RPSMA	2412 ~2462	2	6.70	6.40	--	--	9.56	9.56
			--	--	6.70	6.40	9.56	9.56
	5150 ~ 5250	2	5.79	5.57	--	--	8.69	8.69
			--	--	5.79	5.57	8.69	8.69
	5150 ~ 5250 30°elevation angle	2	5.10	2.27	--	--	N/A	N/A
			--	--	5.10	2.27	N/A	N/A
	5250 ~ 5350	2	5.68	5.53	--	--	8.62	8.62
			--	--	5.68	5.53	8.62	8.62
	5470 ~ 5725	2	5.46	5.21	--	--	8.35	8.35
			--	--	5.46	5.21	8.35	8.35
	5725 ~ 5850	2	5.24	5.09	--	--	8.18	8.18
			--	--	5.24	5.09	8.18	8.18

Product Number	Frequency Band (MHz)	Tx Paths	Per Chain Max Antenna Gain (dBi)				Beam Forming Directional Gain (dBi)	CDD Directional Gain (dBi)
			Ant 0	Ant 1	Ant 2	Ant 3		
Galtronics Omni Antenna	2412 ~2462	2	2.93	3.02	2.93	3.02	9.00	9.00
	5150 ~ 5250	2	6.68	6.53	6.68	6.53	12.63	12.63
	5150 ~ 5250 30°elevation angle	2	-1.32	-1.53	-1.32	-1.53	N/A	N/A
	5250 ~ 5350	2	6.68	6.53	6.68	6.53	12.63	12.63
	5470 ~ 5725	2	6.60	5.92	6.60	5.92	12.29	12.29
	5725 ~ 5850	2	6.78	6.55	6.78	6.55	12.69	12.69
Galtronics Directional Antenna	2412 ~2462	2	6.75	6.75	6.75	6.75	12.77	12.77
	5150 ~ 5250	2	8.39	8.16	8.39	8.16	14.30	14.30
	5150 ~ 5250 30°elevation angle	2	-1.54	-2.86	-1.54	-2.86	N/A	N/A
	5250 ~ 5350	2	8.39	8.16	8.39	8.16	14.30	14.30
	5470 ~ 5725	2	8.49	8.57	8.49	8.57	14.55	14.55
	5725 ~ 5850	2	8.92	8.82	8.92	8.82	14.89	14.89
Galtronics Small Omni Antenna	2412 ~2462	2	2.69	2.41	2.69	2.41	8.57	8.57
	5150 ~ 5250	2	3.27	3.85	3.27	3.85	9.59	9.59
	5150 ~ 5250 30°elevation angle	2	3.20	3.81	3.20	3.81	N/A	N/A
	5250 ~ 5350	2	2.77	3.30	2.77	3.30	9.06	9.06
	5470 ~ 5725	2	3.43	3.81	3.43	3.81	9.64	9.64
	5725 ~ 5850	2	4.35	4.30	4.35	4.30	10.35	10.35

Product Number	Frequency Band (MHz)	Tx Paths	Per Chain Max Antenna Gain (dBi)				Beam Forming Directional Gain (dBi)	CDD Directional Gain (dBi)
			Ant 0	Ant 1	Ant 2	Ant 3		
Sector-Antenna 1356.17.0011	5150 ~ 5250	1	16.00	16.00	16.00	16.00	N/A	N/A
	5150 ~ 5250 30°elevation angle	1	-1.22	-1.22	-1.22	-1.22	N/A	N/A
	5250 ~ 5350	1	16.00	16.00	16.00	16.00	N/A	N/A
	5470 ~ 5725	1	16.50	16.50	16.50	16.50	N/A	N/A
	5725 ~ 5850	1	17.00	17.00	17.00	17.00	N/A	N/A
Directional Antenna 1356.17.0077	5150 ~ 5250	1	14.00	14.00	14.00	14.00	N/A	N/A
	5150 ~ 5250 30°elevation angle	1	1.52	1.52	1.52	1.52	N/A	N/A
	5250 ~ 5350	1	14.00	14.00	14.00	14.00	N/A	N/A
	5470 ~ 5725	1	14.00	14.00	14.00	14.00	N/A	N/A
	5725 ~ 5850	1	14.00	14.00	14.00	14.00	N/A	N/A

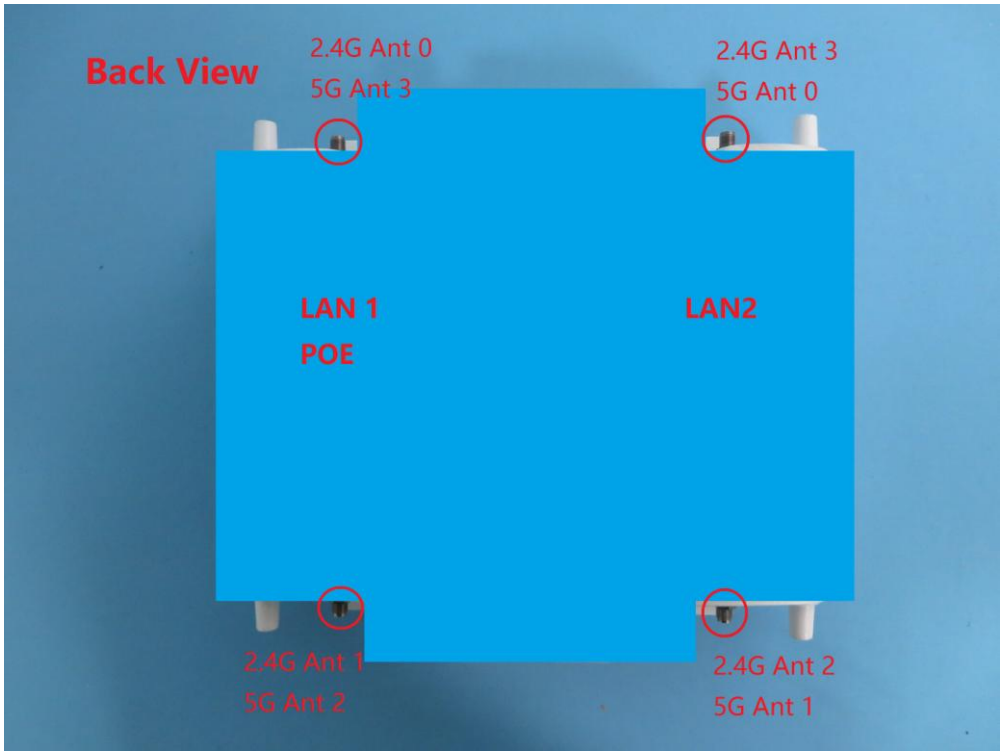
Note

1. The EUT supports Cyclic Delay Diversity (CDD) technology for 802.11a/b/g mode, and CDD signals are correlated.
2. The EUT supports Beam Forming technology for 802.11n/ac mode, and exclude 802.11b/g mode. Correlated signals include, but are not limited to, signals transmitted in any of the following modes:
   - Any transmit Beam Forming mode, whether fixed or adaptive (e.g., phased array modes, closed loop MIMO modes, Transmitter Adaptive Antenna modes, Maximum Ratio Transmission (MRT) modes, and Statistical Eigen Beam Forming (EBF) modes).
   - CDD signals are correlated and create unintended array gain that varies with signal bandwidth, antenna geometry, and cyclic delay values. Consequently, depending on system parameters, it may be appropriate to use different values of array gain for compliance with power limits versus compliance with powerspectral density limits.
3. Unequal Antenna gains, with equal transmit powers. For Antenna gains given by G_1, G_2, …, G_N dBi transmit signals are correlated, then
   - Directional gain = $10*\log[(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2/N_{ANT}]$ dBi [Note the “20”s in the denominator of each exponent and the square of the sum of terms; the object is to combine the signal levels coherently.]

- For example (FPMI2458-DP4RPSMA Antenna): 5150 ~ 5250MHz Directional Gain = $10*\log[(10^{5.79/20} + 10^{5.57/20} + 10^{5.89/20} + 10^{5.05/20})^2/4] = 11.60$ dBi

2.4. Description of Antenna RF Port

Antenna RF Port								
---	2.4GHz RF Port				5GHz RF Port			
Software Control Port	Ant 0	Ant 1	Ant 2	Ant 3	Ant 0	Ant 1	Ant 2	Ant 3



2.5. Test Mode

Test Mode	Mode 1: Transmit by 802.11a
	Mode 2: Transmit by 802.11n-HT20
	Mode 3: Transmit by 802.11n-HT40
	Mode 4: Transmit by 802.11ac-VHT20
	Mode 5: Transmit by 802.11ac-VHT40
	Mode 6: Transmit by 802.11ac-VHT80
	Mode 7: Transmit by 802.11ac-VHT80+80

2.6. Test Software

The test utility software used during testing was “QCARCT 3.0.174.0”.

2.7. Device Capabilities

This device contains the following capabilities:
2.4GHz WLAN (DTS) and 5GHz WLAN (NII).
Note: 5GHz (NII) operation is possible in 20MHz, 40MHz and 80MHz channel bandwidths. The maximum achievable duty cycles for all modes were determined based on measurements performed on a spectrum analyzer in zero-span mode with RBW = 8MHz, VBW = 50MHz, and detector = average per the guidance of Section B)2)b) of KDB 789033 D02v01r03. The RBW and VBW were both greater than 50/T, where T is the minimum transmission duration, and the number of sweep points across T was greater than 100. The duty cycles are as follows:

Test Mode	Duty Cycle
802.11a	97.18 %
802.11n-HT20	98.81 %
802.11n-HT40	97.55 %
802.11ac-VHT20	98.82 %
802.11ac-VHT40	97.40 %
802.11ac-VHT80	94.30 %
802.11ac-VHT80+80	94.30 %

2.8. Test Configuration

The device was tested per the guidance of KDB 789033 D02v01r03. ANSI C63.10-2013 was used to reference the appropriate EUT setup for radiated spurious emissions testing and AC line conducted testing.

2.9. EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and/or no modifications were made during testing.

2.10. Labeling Requirements

Per 2.1074 & 15.19; Docket 95-19
The label shall be permanently affixed at a conspicuous location on the device; instruction manual or pamphlet supplied to the user and be readily visible to the purchaser at the time of purchase. However, when the device is so small wherein placement of the label with specified statement is not practical, only the FCC ID must be displayed on the device per Section 15.19(a)(5). Please see attachment for FCC ID label and label location.

3. DESCRIPTION OF TEST

3.1. Evaluation Procedure

The measurement procedures described in the American National Standard for Testing Unlicensed Wireless Devices (ANSI C63.10-2013), and the guidance provided in KDB 789033 D02v01r03 were used in the measurement of the device.

Deviation from measurement procedure…….....None

3.2. AC Line Conducted Emissions

The line-conducted facility is located inside a 9'x4'x3' shielded enclosure. A 1m x 2m wooden table 80cm high is placed 40cm away from the vertical wall and 80cm away from the sidewall of the shielded room. Two 10kHz-30MHz, 50Ω/50uH Line-Impedance Stabilization Networks (LISNs) are bonded to the shielded room floor. Power to the LISNs is filtered by external high-current high-insertion loss power line filters. These filters attenuate ambient signal noise from entering the measurement lines. These filters are also bonded to the shielded enclosure.

The EUT is powered from one LISN and the support equipment is powered from the second LISN. All interconnecting cables more than 1 meter were shortened to a 1 meter length by non-inductive bundling (serpentine fashion) and draped over the back edge of the test table. All cables were at least 40cm above the horizontal reference ground-plane. Power cables for support equipment were routed down to the second LISN while ensuring that that cables were not draped over the second LISN.

Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The RF output of the LISN was connected to the receiver and exploratory measurements were made to determine the frequencies producing the maximum emission from the EUT. The receiver was scanned from 150kHz to 30MHz. The detector function was set to peak mode for exploratory measurements while the bandwidth of the analyzer was set to 9kHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Each emission was also maximized by varying: power lines, the mode of operation or data exchange speed, or support equipment whichever determined the worst-case emission. Once the worst case emissions have been identified, the one EUT cable configuration/arrangement and mode of operation that produced these emissions are used for final measurements on the same test site. The analyzer is set to CISPR quasi-peak and average detectors with a 9kHz resolution bandwidth for final measurements.

An extension cord was used to connect to a single LISN which powered by EUT. The extension cord was calibrated with LISN, the impedance and insertion loss are compliance with the requirements as stated in ANSI C63.10-2013.

Line conducted emissions test results are shown in Section 7.11.

3.3. Radiated Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. For measurements above 1GHz absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1GHz, the absorbers are removed. An MF Model 210SS turntable is used for radiated measurement. It is a continuously rotatable, remote controlled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. An 80cm high PVC support structure is placed on top of the turntable.
For all measurements, the spectrum was scanned through all EUT azimuths and from 1 to 4 meter receive antenna height using a broadband antenna from 30MHz up to the upper frequency shown in 15.33(b)(1) depending on the highest frequency generated or used in the device or on which the device operates or tunes. For frequencies above 1GHz, linearly polarized double ridge horn antennas were used. For frequencies below 30MHz, a calibrated loop antenna was used. When exploratory measurements were necessary, they were performed at 1 meter test distance inside the semi-anechoic chamber using broadband antennas, broadband amplifiers, and spectrum analyzers to determine the frequencies and modes producing the maximum emissions. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The test set-up for frequencies below 1GHz was placed on top of the 0.8 meter high, 1 x 1.5 meter table; and test set-up for frequencies 1-40GHz was placed on top of the 1.5 meter high, 1 x 1.5 meter table. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Appropriate precaution was taken to ensure that all emissions from the EUT were maximized and investigated. The system configuration, clock speed, mode of operation or video resolution, if applicable, turntable azimuth, and receive antenna height was noted for each frequency found.
Final measurements were made in the semi-anechoic chamber using calibrated, linearly polarized broadband and horn antennas. The test setup was configured to the setup that produced the worst case emissions. The spectrum analyzer was set to investigate all frequencies required for testing to compare the highest radiated disturbances with respect to the specified limits. The turntable containing the EUT was rotated through 360 degrees and the height of the receive antenna was varied 1 to 4 meters and stopped at the azimuth and height producing the maximum emission. Each emission was maximized by changing the orientation of the EUT through three orthogonal planes and changing the polarity of the receive antenna, whichever produced the worst-case emissions. According to 3dB Beam-Width of horn antenna, the horn antenna should be always directed to the EUT when rising height.

4. ANTENNA REQUIREMENTS

Excerpt from §15.203 of the FCC Rules/Regulations:

"An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can 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 shall be considered sufficient to comply with the provisions of this section."

- There are provisions for reverse connecter to an external antenna.
- FPMI2458-DP4RPSMA: reverse SMA connecter.
- FPMI2458-DP2RPSMA: reverse SMA connecter.
- Galtronics Omni Antenna: reverse SMA connecter.
- Galtronics Directional Antenna: reverse SMA connecter.
- Sector-Antenna 1356.17.0011: N Type connecter
- Directional Antenna 1356.17.007: N Type connecter
- Galtronics Small Omni Antenna: reverse SMA connecter.

Conclusion:

The unit complies with the requirement of §15.203.

5. TEST EQUIPMENT CALIBRATION DATE

Conducted Emissions

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR3	MRTTWA00045	1 year	2018/03/17
Two-Line V-Network	R&S	ENV216	MRTTWA00019	1 year	2018/03/23
Two-Line V-Network	R&S	ENV216	MRTTWA00020	1 year	2018/03/23
Temperature/Humidity Meter	TFA	35.1078.10.IT	MRTTWA00033	1 year	2017/06/09

Radiated Emissions

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Signal Analyzer	R&S	FSV40	MRTTWA00007	1 year	2018/03/02
EMI Test Receiver	R&S	ESR3	MRTTWA00009	1 year	2018/03/16
Broadband Preamplifier	SCHWARZBECK	BBV 9718	MRTTWA00005	1 year	2018/04/06
Broadband Amplifier	SCHWARZBECK	BBV 9721	MRTTWA00006	1 year	2018/04/06
Acitve Loop Antenna	SCHWARZBECK	FMZB 1519B	MRTTWA00002	1 year	2018/04/06
Broadband TRILOG Antenna	SCHWARZBECK	VULB 9162	MRTTWA00001	1 year	2018/04/06
Broadband Hornantenna	SCHWARZBECK	BBHA 9120D	MRTTWA00003	1 year	2018/04/06
Breitband Hornantenna	SCHWARZBECK	BBHA 9170	MRTTWA00004	1 year	2018/04/06
Temperature/Humidity Meter	TFA	35.1078.10.IT	MRTTWA00033	1 year	2017/06/09

Conducted Test Equipment

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EXA Signal Analyzer	KEYSIGHT	N9010A	MRTTWA00012	1 year	2017/07/11
X-Series USB Peak and Average Power Sensor	KEYSIGHT	U2021XA	MRTTWA00014	1 year	2018/03/18
X-Series USB Peak and Average Power Sensor	KEYSIGHT	U2021XA	MRTTWA00015	1 year	2018/03/18
Programmable Temperature & Humidity Chamber	TEN BILLION	TTH-B3UP	MRTTWA00036	1 year	2017/05/11
AC Power Source	T-power	TFC-1001	MRTTWA00030	N/A	N/A
Temperature/Humidity Meter	TFA	35.1078.10.IT	MRTTWA00033	1 year	2017/06/09

Software	**Version**	**Function**
EMI Software	V3	EMI Test Software

6. MEASUREMENT UNCERTAINTY

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k = 2.

AC Conducted Emission Measurement
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 150kHz~30MHz: 3.46dB
Radiated Emission Measurement
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 9kHz ~ 1GHz: 4.18dB 1GHz ~ 40GHz: 4.76dB
Frequency Stability - TR3
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 0.21%
Output Power - TR3
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 1.13dB
Power Spectrum Density - TR3
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 1.15dB
Occupied Bandwidth - TR3
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 0.28%

7. TEST RESULT

7.1. Summary

Company Name: **Nokia Solutions and Networks**

FCC ID: **2AD8UFZCWO4A1**

IC: **109D-FZCWO4A1**

Model No.: **WO4C-AC400**

Data Rate(s) Tested: **6Mbps ~ 54Mbps (a);**
6.5/7.2Mbps ~ 260/288.8Mbps (n-HT20);
13.5/15.0Mbps ~ 540/600Mbps (n-HT40);
6.5/7.2Mbps ~ 312/346.7Mbps (ac-VHT20MHz);
13.5/15.0Mbps ~ 720/800Mbps (ac-VHT40MHz);
29.3/32.5Mbps ~ 1560/1733.2Mbps (ac-VHT80MHz)
29.3/32.5Mbps ~ 780/866.6Mbps (ac-VHT80+80MHz)

FCC Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
15.407(a)	26dB Bandwidth	N/A	Conducted	Pass	Section 7.2
15.407(e)	6dB Bandwidth	≥ 500kHz		Pass	Section 7.3
15.407(a)(1)(i), (2), (3)	Maximum Conducted Output Power	Refer to Section 7.5		Pass	Section 7.5
15.407(h)(1)	Transmit Power Control	≤ 24 dBm		Pass	Section 7.6
15.407(a)(1)(i), (2), (3), (5)	Power Spectral Density	Refer to Section 7.7		Pass	Section 7.7
15.407(g)	Frequency Stability	N/A		Pass	Section 7.8
15.407(b)(1), (4)	Undesirable Emissions	≤ -27dBm/MHz EIRP ≤ -17dBm/MHz EIRP	Radiated	Pass	Section 7.9 & 7.10
15.205, 15.209 15.407(b)(5), (6), (7)	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	Emissions in restricted bands must meet the radiated limits detailed in 15.209		Pass	
15.207	AC Conducted Emissions 150kHz - 30MHz	< FCC 15.207 limits	Line Conducted	Pass	Section 7.11

RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
RSS-247 §6.2	99% Bandwidth	N/A	Conducted	Pass	Section 7.2
RSS-247 §6.2.4	6dB Bandwidth	>500kHz		Pass	Section 7.3
RSS-247 §6.2.1	Operation Frequency Range of 26dB BW	26dBc frequency range above 5250MHz		Pass	Section 7.4
RSS-247 §6.2.1, §6.2.2, §6.2.3, §6.2.4	Max Conducted Output Power	5250~5250, 5470~5725MHz ≤ 250 mW or 11 + 10 log10(99% B) 5725~5850MHz, ≤ 30 dBm		Pass	Section 7.5
	Maximum E.I.R.P	5150~5250MHz ≤ 23 dBm or 10 + 10 log10(99% B) 5250~5250, 5470~5725MHz ≤ 30 dBm or 17 + 10 log10(99% B)			
RSS-247 §6.2.2, §6.2.3	Transmit Power Control	≤ 24 dBm		Pass	Section 7.6
RSS-247 §6.2.1, §6.2.2, §6.2.3, §6.2.4	Peak Power Spectral Density	5150~5250MHz ≤ 10 dBm/MHz 5250~5250, 5470~5725MHz ≤ 11 dBm/MHz 5725~5850MHz ≤ 30 dBm/500kHz		Pass	Section 7.7
RSS-Gen [8.11]	Frequency Stability	N/A		Pass	Section 7.8
RSS-247 §6.2.1, §6.2.2, §6.2.3, §6.2.4	Out-of-Band Emissions	≤ -27dBm/MHz EIRP ≤ -17dBm/MHz EIRP	Radiated	Pass	Section 7.9 & 7.10
RSS-247 §6.2.1, §6.2.2, §6.2.3, §6.2.4	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	Emissions in restricted bands must meet the radiated limits detailed in RSS-Gen [8.9]		Pass	
RSS-Gen [8.8]	AC Conducted Emissions 150kHz - 30MHz	< RSS-Gen [8.8] limits	Line Conducted	Pass	Section 7.11

Notes:

1) All channels, modes, and modulations/data rates were investigated among all UNII bands. The test results shown in the following sections represent the worst case emissions.
2) The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part of the system to connect the EUT to the analyzer at all frequencies of interest.
3) Test Items “26dB Bandwidth”, “6dB Bandwidth” have been assessed SISO and MIMO transmission, and showed the worst test data in this report.
4) For the TPC test item have been assessed all antenna, and showed the test result of one antenna.

7.2. 26dB Bandwidth Measurement

7.2.1. Test Limit

N/A

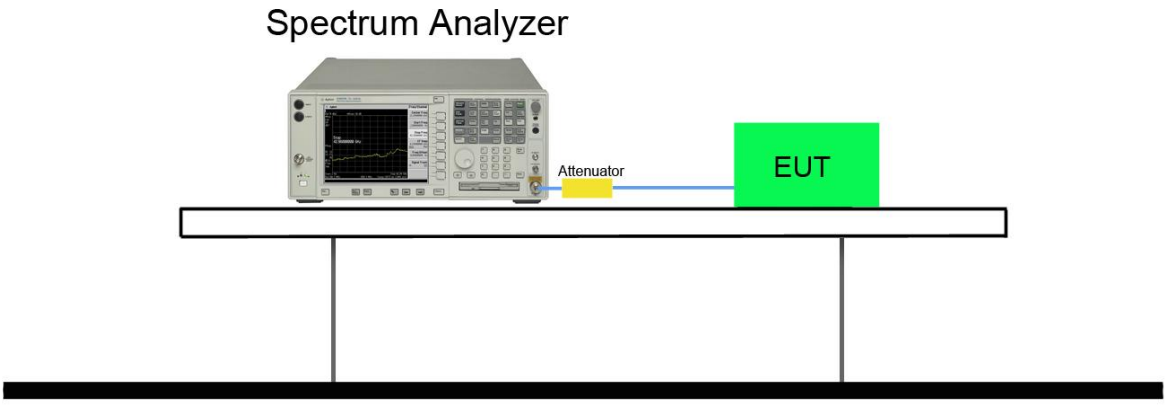
7.2.2. Test Procedure used

KDB 789033 D02v01r03 – Section C.1

7.2.3. Test Setting

1. The analyzers' automatic bandwidth measurement capability was used to perform the 26dB bandwidth measurement. The "X" dB bandwidth parameter was set to X = 26. The automatic bandwidth measurement function also has the capability of simultaneously measuring the 99% occupied bandwidth. The bandwidth measurement was not influenced by any intermediated power nulls in the fundamental emission.
2. RBW = approximately 1% of the emission bandwidth.
3. VBW ≥ 3 × RBW.
4. Detector = Peak.
5. Trace mode = max hold.

7.2.4. Test Setup



7.2.5. Test Result

Refer to "Annex I NII Band Bandwidth Test Result" File.

7.3. 6dB Bandwidth Measurement

7.3.1. Test Limit

The minimum 6dB bandwidth shall be at least 500 kHz.

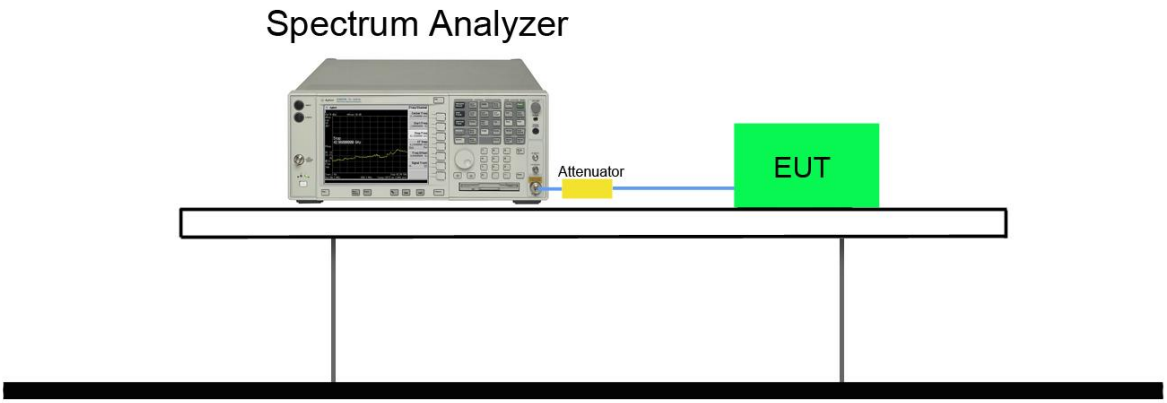
7.3.2. Test Procedure used

KDB 789033 D02v01r03 – Section C.2

7.3.3. Test Setting

1. Set center frequency to the nominal EUT channel center frequency.
2. RBW = 100 kHz.
3. VBW ≧ 3 × RBW.
4. Detector = Peak.
5. Trace mode = max hold.
6. Sweep = auto couple.
7. Allow the trace to stabilize.
8. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

7.3.4. Test Setup



7.3.5. Test Result

Refer to “Annex I NII Band Bandwidth Test Result” File.

7.4. Operation Frequency Range of 26dBc Bandwidth Measurement

7.4.1. Test Limit

For transmitters operating in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27dBm/MHz e.i.r.p. However, any unwanted emissions that fall into the band 5250-5350 MHz must be 26 dBc, when measured using a resolution bandwidth between 1 and 5% of the occupied bandwidth, above 5.25 GHz.

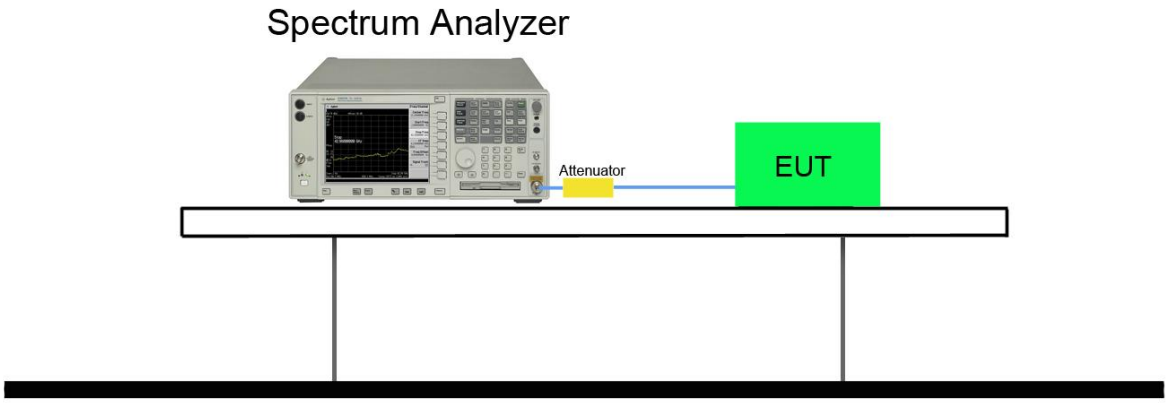
7.4.2. Test Procedure used

N/A

7.4.3. Test Setting

1. Set center frequency to the nominal EUT channel center frequency.
2. Span = 1.5 times to 5.0 times the OBW.
3. RBW = 1 % to 5 % of the OBW.
4. VBW ≥ 3 × RBW.
5. Detector = Peak.
6. Trace mode = max hold.
7. Allow the trace to stabilize and set the spectrum analyzer marker to the highest level of the displayed trace (this is the reference value).
8. Determine the “−26 dB down amplitude” using [(reference value) − 26].
9. Using the marker function of the instrument to show 5250MHz frequency level.

7.4.4. Test Setup



7.4.5. Test Result

Refer to “Annex I NII Band Bandwidth Test Result” File.

7.5. Output Power Measurement

7.5.1. Test Limit

For FCC Power Measurement Limit

For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW (23.98dBm) or 11dBm +10 log (26dB BW).

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm).

If transmitting antennas of directional gain greater than 6dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

For IC Power Measurement Limit

For the band 5.15-5.25 GHz, the maximum e.i.r.p. shall not exceed 200 mW (23.01dBm) or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power shall not exceed 250 mW (23.98dBm) or 11 + 10 log10 B, dBm, whichever power is less. The maximum e.i.r.p. shall not exceed 1.0 W (30dBm) or 17 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.

For the 5.725-5.85 GHz band, the maximum conducted output power shall not exceed 1 W.

If transmitting antennas of directional gain greater than 6dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

EIRP Limit Calculation as below:

For 5150-5250MHz

802.11a: 10 + 10 log10 (16.43MHz) = 22.16dBm < 23.01dBm;

802.11n-HT20: 10 + 10 log10 (17.61MHz) = 22.46dBm < 23.01dBm;

802.11ac-VHT20: 10 + 10 log10 (17.60MHz) = 22.46dBm < 23.01dBm;

802.11n-HT40/ac-VHT40/ac-VHT80: 10 + 10 log10 B > 23.01dBm;

For 5250-5350MHz, 5470-5725MHz

802.11a: 17 + 10 log10 (16.39MHz) = 29.15dBm < 30dBm;

802.11n-HT20: 17 + 10 log10 (17.59MHz) = 29.45dBm < 30dBm;

802.11ac-VHT20: 17 + 10 log10 (17.59MHz) = 29.45dBm < 30dBm;

802.11n-HT40/ac-VHT40/ac-VHT80: 10 + 10 log10 B > 30dBm;

Max Conducted Output Power Limit Calculation as below:

For 5250-5350MHz, 5470-5725MHz

802.11a: 11 + 10 log10 (16.39MHz) = 23.15dBm < 23.98dBm;

802.11n-HT20: 11 + 10 log10 (17.59MHz) = 23.45dBm < 23.98dBm;

802.11ac-VHT20: 11 + 10 log10 (17.59MHz) = 23.45dBm < 23.98dBm;

802.11n-HT40/ac-VHT40/ac-VHT80: 11 + 10 log10 B > 23.98dBm;

Output Power Measurement Limit of FPMI2458-DP4RPSMA Antenna

Frequency Band (MHz)	Per Chain Max Antenna Gain (dBi)				CDD & Beam Forming Directional Gain (dBi)	Limit of SISO (dBm)				Limit of MIMO (dBm)
	Ant 0	Ant 1	Ant 2	Ant 3		Ant 0	Ant 1	Ant 2	Ant 3	Ant 0+1+2+3
5150 ~ 5250	5.79	5.57	5.89	5.05	11.60	30.00	30.00	30.00	30.00	24.40
5150 ~ 5250 30°elevation angle	5.10	2.27	4.94	4.06	N/A	N/A	N/A	N/A	N/A	N/A
5250 ~ 5350	5.68	5.53	5.65	4.91	11.47	23.98	23.98	23.98	23.98	18.51
5470 ~ 5725	5.46	5.21	6.06	5.65	11.62	23.98	23.98	23.92	23.98	18.36
5725 ~ 5850	5.24	5.09	6.73	5.62	11.71	30.00	30.00	29.27	30.00	24.29

Output Power Measurement Limit of FPMI2458-DP2RPSMA Antenna

Frequency Band (MHz)	Per Chain Max Antenna Gain (dBi)				CDD & Beam Forming Directional Gain (dBi)	Limit of SISO (dBm)				Limit of MIMO (dBm)
	Ant 0	Ant 1	Ant 2	Ant 3		Ant 0	Ant 1	Ant 2	Ant 3	Ant 0+1+2+3
5150 ~ 5250	5.79	5.57	--	--	8.69	30.00	30.00	--	--	27.31
	--	--	5.79	5.57	8.69	--	--	30.00	30.00	27.31
5150 ~ 5250 30°elevation angle	5.10	2.27	--	--	N/A	N/A	N/A	N/A	N/A	N/A
	--	--	5.10	2.27	N/A	N/A	N/A	N/A	N/A	N/A
5250 ~ 5350	5.68	5.53	--	--	8.62	23.98	23.98	--	--	21.36
	--	--	5.68	5.53	8.62	--	--	23.98	23.98	21.36
5470 ~ 5725	5.46	5.21	--	--	8.35	23.98	23.98	--	--	21.63
	--	--	5.46	5.21	8.35	--	--	23.98	23.98	21.63
5725 ~ 5850	5.24	5.09	--	--	8.18	30.00	30.00	--	--	27.82
	--	--	5.24	5.09	8.18	--	--	30.00	30.00	27.82

Output Power Measurement Limit of Galtronics Omni Antenna

Frequency Band (MHz)	Per Chain Max Antenna Gain (dBi)				CDD & Beam Forming Directional Gain (dBi)	Limit of SISO (dBm)				Limit of MIMO (dBm)
	Ant 0	Ant 1	Ant 2	Ant 3		Ant 0	Ant 1	Ant 2	Ant 3	Ant 0+1+2+3
5150 ~ 5250	6.68	6.53	6.68	6.53	12.63	29.32	29.47	29.32	29.47	23.37
5150 ~ 5250 30°elevation angle	-1.32	-1.53	-1.32	-1.53	N/A	N/A	N/A	N/A	N/A	N/A
5250 ~ 5350	6.68	6.53	6.68	6.53	12.63	23.30	23.45	23.30	23.45	17.35
5470 ~ 5725	6.60	5.92	6.60	5.92	12.29	23.38	23.98	23.38	23.98	17.69
5725 ~ 5850	6.78	6.55	6.78	6.55	12.69	29.22	29.45	29.22	29.45	23.31

Output Power Measurement Limit of Galtronics Directional Antenna

Frequency Band (MHz)	Per Chain Max Antenna Gain (dBi)				CDD & Beam Forming Directional Gain (dBi)	Limit of SISO (dBm)				Limit of MIMO (dBm)
	Ant 0	Ant 1	Ant 2	Ant 3		Ant 0	Ant 1	Ant 2	Ant 3	Ant 0+1+2+3
5150 ~ 5250	8.39	8.16	8.39	8.16	14.30	27.61	27.84	27.61	27.84	21.70
5150 ~ 5250 30°elevation angle	-1.54	-2.86	-1.54	-2.86	N/A	N/A	N/A	N/A	N/A	N/A
5250 ~ 5350	8.39	8.16	8.39	8.16	14.30	21.59	21.82	21.59	21.82	15.68
5470 ~ 5725	8.49	8.57	8.49	8.57	14.55	21.49	21.41	21.49	21.41	15.43
5725 ~ 5850	8.92	8.82	8.92	8.82	14.89	27.08	27.18	27.08	27.18	21.11

Output Power Measurement Limit of Sector-Antenna 1356.17.0011

Frequency Band (MHz)	Per Chain Max Antenna Gain (dBi)				CDD & Beam Forming Directional Gain (dBi)	Limit of SISO (dBm)				Limit of MIMO (dBm)
	Ant 0	Ant 1	Ant 2	Ant 3		Ant 0	Ant 1	Ant 2	Ant 3	Ant 0+1+2+3
5150 ~ 5250	16.00	16.00	16.00	16.00	N/A	20.00	20.00	20.00	20.00	20.00
5150 ~ 5250 30°elevation angle	-1.22	-1.22	-1.22	-1.22	N/A	N/A	N/A	N/A	N/A	N/A
5250 ~ 5350	16.00	16.00	16.00	16.00	N/A	13.98	13.98	13.98	13.98	13.98
5470 ~ 5725	16.50	16.50	16.50	16.50	N/A	13.48	13.48	13.48	13.48	13.48
5725 ~ 5850	17.00	17.00	17.00	17.00	N/A	19.00	19.00	19.00	19.00	19.00

Output Power Measurement Limit of Directional Antenna 1356.17.0077

Frequency Band (MHz)	Per Chain Max Antenna Gain (dBi)				CDD & Beam Forming Directional Gain (dBi)	Limit of SISO (dBm)				Limit of MIMO (dBm)
	Ant 0	Ant 1	Ant 2	Ant 3		Ant 0	Ant 1	Ant 2	Ant 3	Ant 0+1+2+3
5150 ~ 5250	14.00	14.00	14.00	14.00	N/A	22.00	22.00	22.00	22.00	22.00
5150 ~ 5250 30°elevation angle	1.52	1.52	1.52	1.52	N/A	N/A	N/A	N/A	N/A	N/A
5250 ~ 5350	14.00	14.00	14.00	14.00	N/A	15.98	15.98	15.98	15.98	15.98
5470 ~ 5725	14.00	14.00	14.00	14.00	N/A	15.98	15.98	15.98	15.98	15.98
5725 ~ 5850	14.00	14.00	14.00	14.00	N/A	22.00	22.00	22.00	22.00	22.00

Output Power Measurement Limit of Galtronics Small Omni Antenna

Frequency Band (MHz)	Per Chain Max Antenna Gain (dBi)				CDD & Beam Forming Directional Gain (dBi)	Limit of SISO (dBm)				Limit of MIMO (dBm)
	Ant 0	Ant 1	Ant 2	Ant 3		Ant 0	Ant 1	Ant 2	Ant 3	Ant 0+1+2+3
5150 ~ 5250	3.85	3.27	3.85	3.27	9.59	30.00	30.00	30.00	30.00	26.41
5150 ~ 5250 30°elevation angle	3.20	1.81	3.20	1.81	N/A	N/A	N/A	N/A	N/A	N/A
5250 ~ 5350	2.77	3.30	2.77	3.30	9.06	23.98	23.98	23.98	23.98	20.92
5470 ~ 5725	3.43	3.81	3.43	3.81	9.64	23.98	23.98	23.98	23.98	20.34
5725 ~ 5850	4.35	4.30	4.35	4.30	10.35	30.00	30.00	30.00	30.00	25.65

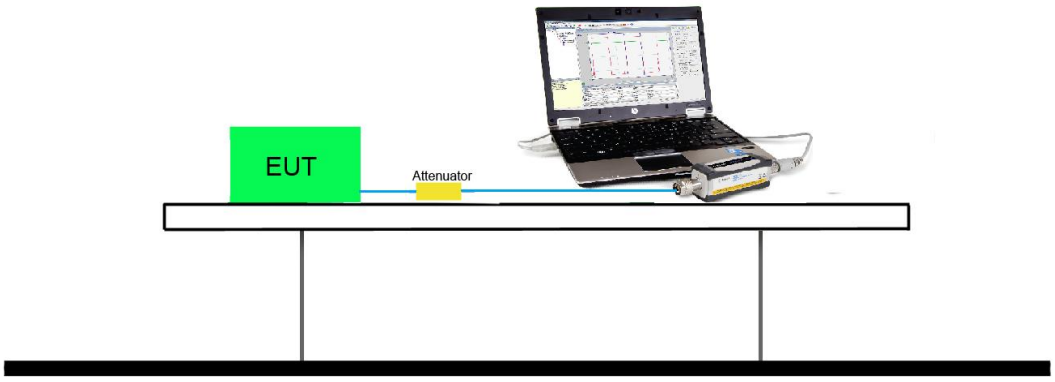
7.5.2. Test Procedure Used

KDB 789033 D02v01r03 - Section E) 3) b) Method PM-G

7.5.3. Test Setting

Average power measurements were perform only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter. The trace was averaged over 100 traces to obtain the final measured average power.

7.5.4. Test Setup



7.5.5. Test Rate Assessment

Power output test was verified over all data rates of each mode shown as below, and then choose the maximum power output (yellow marker) for final test of each channel.

N_{Tx}	802.11a	MCS Index for 802.11n	Data Rate (Mbps)			
			20MHz Bandwidth		40MHz Bandwidth	
			800ns GI	400ns GI	800ns GI	400ns GI
1	6	0	6.5	7.2	13.5	15.0
1	9	1	13.0	14.4	27.0	30.0
1	12	2	19.5	21.7	40.5	45.0
1	18	3	26.0	28.9	54.0	60.0
1	24	4	39.0	43.3	81.0	90.0
1	36	5	52.0	57.8	108.0	120.0
1	48	6	58.5	65.0	121.5	135.0
1	54	7	65.0	72.2	135.0	150.0

N_{Tx}	802.11a	MCS Index for 802.11n	Data Rate (Mbps)			
			20MHz Bandwidth		40MHz Bandwidth	
			800ns GI	400ns GI	800ns GI	400ns GI
4	6	24	26	28.8	54	60
4	9	25	52	57.8	108	120
4	12	26	78	86.6	162	180
4	18	27	104	115.6	216	240
4	24	28	156	173.4	324	360
4	36	29	208	231.2	432	480
4	48	30	234	260	486	540
4	54	31	260	288	540	600

N_{Tx}	MCS Index for 802.11ac	Data Rate (Mbps)					
		20MHz Bandwidth		40MHz Bandwidth		80MHz Bandwidth	
		800ns GI	400ns GI	800ns GI	400ns GI	800ns GI	400ns GI
1	0	6.5	7.2	13.5	15.0	29.3	32.5
1	1	13.0	14.4	27.0	30.0	58.5	65.0
1	2	19.5	21.7	40.5	45.0	87.8	97.5
1	3	26.0	28.9	54.0	60.0	117.0	130.0
1	4	39.0	43.3	81.0	90.0	175.5	195.0
1	5	52.0	57.8	108.0	120.0	234.0	260.0
1	6	58.5	65.0	121.5	135.0	263.3	292.5
1	7	65.0	72.2	135.0	150.0	292.5	325.0
1	8	78.0	86.7	162.0	180.0	351.0	390.0
1	9	--	--	180.0	200.0	390.0	433.3

N_{Tx}	MCS Index for 802.11ac	Data Rate (Mbps)					
		20MHz Bandwidth		40MHz Bandwidth		80MHz Bandwidth	
		800ns GI	400ns GI	800ns GI	400ns GI	800ns GI	400ns GI
4	0	26	28.8	54	60	117.2	130
4	1	52	57.6	108	120	234	260
4	2	78	86.8	162	180	351.2	390
4	3	104	115.6	216	240	468	520
4	4	156	173.2	324	360	702	780
4	5	208	231.2	432	480	936	1040
4	6	234	260	486	540	1053.2	1170
4	7	260	288.8	540	600	1170	1300
4	8	312	346.8	648	720	1404	1560
4	9	--	--	720	800	1560	1733.2

Note: Power output test was verified over all data rates of each mode shown as above, and then choose the maximum power output (yellow marker) for final test of each channel.

Output power at various data rates for Ant 0:

Test Mode	Bandwidth	Channel	Frequency (MHz)	Data Rate (Mbps)	Average Power (dBm)
802.11a	20	60	5180	6	15.82
				24	15.69
				54	15.57
802.11n	20	60	5180	6.5	16.02
				7.2	15.99
				26	15.56
				28.9	15.52
				65	15.16
				72.2	15.10
802.11n	40	62	5190	13.5	16.73
				15	16.71
				54	16.48
				60	16.47
				135	16.25
				150	16.22
802.11ac	20	60	5180	6.5	15.98
				7.2	15.93
				39	15.71
				78	15.69
				81	15.38
				86.7	15.35
802.11ac	40	62	5190	13.5	15.57
				15	15.43
				108	15.36
				120	15.27
				180	15.18
				200	15.04
802.11ac	80	58	5210	29.3	23.24
				32.5	23.22
				260	23.09
				234	23.06
				390	19.98
				433.3	19.95

7.5.6. FPMI2458-DP4RPSMA Antenna Test Result

Product	Wi-Fi AP 4x4 OD ext. antenna US	Temperature	25°C
Test Engineer	Johnson Liao	Relative Humidity	50 ~ 58%
Test Site	SR2	Test Date	2016/08/21
Test Item	Output Power	Antenna Model No.	FPMI2458-DP4RPSMA

For FCC Bands UNII-2A & UNII-2C & UNII-3

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	22.90	22.90	≤ 23.15	28.58	≤ 29.15	Pass
11a	6	60	5300	22.53	22.53	≤ 23.15	28.21	≤ 29.15	Pass
11a	6	64	5320	22.62	22.62	≤ 23.15	28.30	≤ 29.15	Pass
11a	6	100	5500	22.58	22.58	≤ 23.15	28.04	≤ 29.15	Pass
11a	6	116	5580	21.82	21.82	≤ 23.15	27.28	≤ 29.15	Pass
11a	6	120	5600	21.92	21.92	≤ 23.15	27.38	≤ 29.15	Pass
11a	6	140	5700	21.36	21.36	≤ 23.15	26.82	≤ 29.15	Pass
11n-HT20	6.5	52	5260	23.20	23.20	≤ 23.45	28.88	≤ 29.45	Pass
11n-HT20	6.5	60	5300	23.29	23.29	≤ 23.45	28.97	≤ 29.45	Pass
11n-HT20	6.5	64	5320	22.97	22.97	≤ 23.45	28.65	≤ 29.45	Pass
11n-HT20	6.5	100	5500	22.92	22.92	≤ 23.45	28.38	≤ 29.45	Pass
11n-HT20	6.5	116	5580	22.11	22.11	≤ 23.45	27.57	≤ 29.45	Pass
11n-HT20	6.5	120	5600	22.17	22.17	≤ 23.45	27.63	≤ 29.45	Pass
11n-HT20	6.5	140	5700	21.64	21.64	≤ 23.45	27.10	≤ 29.45	Pass
11n-HT40	13.5	54	5270	23.28	23.28	≤ 23.98	28.96	≤ 30.00	Pass
11n-HT40	13.5	62	5310	23.80	23.80	≤ 23.98	29.48	≤ 30.00	Pass
11n-HT40	13.5	102	5510	23.40	23.40	≤ 23.98	28.86	≤ 30.00	Pass
11n-HT40	13.5	110	5550	23.43	23.43	≤ 23.98	28.89	≤ 30.00	Pass
11n-HT40	13.5	118	5590	22.95	22.95	≤ 23.98	28.41	≤ 30.00	Pass
11n-HT40	13.5	134	5670	22.77	22.77	≤ 23.98	28.23	≤ 30.00	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT20	6.5	52	5260	23.22	23.22	≤ 23.45	28.90	≤ 29.45	Pass
11ac-VHT20	6.5	60	5300	23.30	23.30	≤ 23.45	28.98	≤ 29.45	Pass
11ac-VHT20	6.5	64	5320	23.02	23.02	≤ 23.45	28.70	≤ 29.45	Pass
11ac-VHT20	6.5	100	5500	22.95	22.95	≤ 23.45	28.41	≤ 29.45	Pass
11ac-VHT20	6.5	116	5580	22.15	22.15	≤ 23.45	27.61	≤ 29.45	Pass
11ac-VHT20	6.5	120	5600	22.20	22.20	≤ 23.45	27.66	≤ 29.45	Pass
11ac-VHT20	6.5	140	5700	21.64	21.64	≤ 23.45	27.10	≤ 29.45	Pass
11ac-VHT20	6.5	144	5720	21.55	21.55	≤ 23.45	27.01	≤ 29.45	Pass
11ac-VHT40	13.5	54	5270	23.30	23.30	≤ 23.98	28.98	≤ 30.00	Pass
11ac-VHT40	13.5	62	5310	23.84	23.84	≤ 23.98	29.52	≤ 30.00	Pass
11ac-VHT40	13.5	102	5510	23.41	23.41	≤ 23.98	28.87	≤ 30.00	Pass
11ac-VHT40	13.5	110	5550	23.42	23.42	≤ 23.98	28.88	≤ 30.00	Pass
11ac-VHT40	13.5	118	5590	22.94	22.94	≤ 23.98	28.40	≤ 30.00	Pass
11ac-VHT40	13.5	134	5670	22.74	22.74	≤ 23.98	28.20	≤ 30.00	Pass
11ac-VHT40	13.5	142	5710	22.77	22.77	≤ 23.98	28.23	≤ 30.00	Pass
11ac-VHT80	29.3	58	5290	23.24	23.24	≤ 23.98	28.92	≤ 30.00	Pass
11ac-VHT80	29.3	106	5530	23.09	23.09	≤ 23.98	28.55	≤ 30.00	Pass
11ac-VHT80	29.3	122	5610	22.44	22.44	≤ 23.98	27.90	≤ 30.00	Pass
11ac-VHT80	29.3	138	5690	22.62	22.62	≤ 23.98	28.08	≤ 30.00	Pass

Note: Max EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 1 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	22.41	22.41	≤ 23.15	27.94	≤ 29.15	Pass
11a	6	60	5300	22.93	22.93	≤ 23.15	28.46	≤ 29.15	Pass
11a	6	64	5320	22.57	22.57	≤ 23.15	28.10	≤ 29.15	Pass
11a	6	100	5500	22.46	22.46	≤ 23.15	27.67	≤ 29.15	Pass
11a	6	116	5580	21.53	21.53	≤ 23.15	26.74	≤ 29.15	Pass
11a	6	120	5600	21.84	21.84	≤ 23.15	27.05	≤ 29.15	Pass
11a	6	140	5700	22.97	22.97	≤ 23.15	28.18	≤ 29.15	Pass
11n-HT20	6.5	52	5260	23.15	23.15	≤ 23.45	28.68	≤ 29.45	Pass
11n-HT20	6.5	60	5300	23.15	23.15	≤ 23.45	28.68	≤ 29.45	Pass
11n-HT20	6.5	64	5320	23.23	23.23	≤ 23.45	28.76	≤ 29.45	Pass
11n-HT20	6.5	100	5500	22.79	22.79	≤ 23.45	28.00	≤ 29.45	Pass
11n-HT20	6.5	116	5580	21.89	21.89	≤ 23.45	27.10	≤ 29.45	Pass
11n-HT20	6.5	120	5600	22.11	22.11	≤ 23.45	27.32	≤ 29.45	Pass
11n-HT20	6.5	140	5700	21.75	21.75	≤ 23.45	26.96	≤ 29.45	Pass
11n-HT40	13.5	54	5270	23.62	23.62	≤ 23.98	29.15	≤ 30.00	Pass
11n-HT40	13.5	62	5310	23.66	23.66	≤ 23.98	29.19	≤ 30.00	Pass
11n-HT40	13.5	102	5510	23.25	23.25	≤ 23.98	28.46	≤ 30.00	Pass
11n-HT40	13.5	110	5550	23.23	23.23	≤ 23.98	28.44	≤ 30.00	Pass
11n-HT40	13.5	118	5590	22.80	22.80	≤ 23.98	28.01	≤ 30.00	Pass
11n-HT40	13.5	134	5670	22.82	22.82	≤ 23.98	28.03	≤ 30.00	Pass
11ac-VHT20	6.5	52	5260	23.14	23.14	≤ 23.45	28.67	≤ 29.45	Pass
11ac-VHT20	6.5	60	5300	23.19	23.19	≤ 23.45	28.72	≤ 29.45	Pass
11ac-VHT20	6.5	64	5320	22.77	22.77	≤ 23.45	28.30	≤ 29.45	Pass
11ac-VHT20	6.5	100	5500	22.75	22.75	≤ 23.45	27.96	≤ 29.45	Pass
11ac-VHT20	6.5	116	5580	21.93	21.93	≤ 23.45	27.14	≤ 29.45	Pass
11ac-VHT20	6.5	120	5600	22.10	22.10	≤ 23.45	27.31	≤ 29.45	Pass
11ac-VHT20	6.5	140	5700	21.74	21.74	≤ 23.45	26.95	≤ 29.45	Pass
11ac-VHT20	6.5	144	5720	21.65	21.65	≤ 23.45	26.86	≤ 29.45	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 1 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT40	13.5	54	5270	23.62	23.62	≤ 23.98	29.15	≤ 30.00	Pass
11ac-VHT40	13.5	62	5310	23.62	23.62	≤ 23.98	29.15	≤ 30.00	Pass
11ac-VHT40	13.5	102	5510	23.26	23.26	≤ 23.98	28.47	≤ 30.00	Pass
11ac-VHT40	13.5	110	5550	23.25	23.25	≤ 23.98	28.46	≤ 30.00	Pass
11ac-VHT40	13.5	118	5590	22.81	22.81	≤ 23.98	28.02	≤ 30.00	Pass
11ac-VHT40	13.5	134	5670	22.85	22.85	≤ 23.98	28.06	≤ 30.00	Pass
11ac-VHT40	13.5	142	5710	22.69	22.69	≤ 23.98	27.90	≤ 30.00	Pass
11ac-VHT80	29.3	58	5290	23.12	23.12	≤ 23.98	28.65	≤ 30.00	Pass
11ac-VHT80	29.3	106	5530	22.41	22.41	≤ 23.98	27.62	≤ 30.00	Pass
11ac-VHT80	29.3	122	5610	22.38	22.38	≤ 23.98	27.59	≤ 30.00	Pass
11ac-VHT80	29.3	138	5690	22.68	22.68	≤ 23.98	27.89	≤ 30.00	Pass

Note: Max EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 2 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	22.91	22.91	≤ 23.15	28.56	≤ 29.15	Pass
11a	6	60	5300	22.44	22.44	≤ 23.15	28.09	≤ 29.15	Pass
11a	6	64	5320	22.47	22.47	≤ 23.15	28.12	≤ 29.15	Pass
11a	6	100	5500	22.23	22.23	≤ 23.15	28.29	≤ 29.15	Pass
11a	6	116	5580	21.61	21.61	≤ 23.15	27.67	≤ 29.15	Pass
11a	6	120	5600	21.76	21.76	≤ 23.15	27.82	≤ 29.15	Pass
11a	6	140	5700	21.12	21.12	≤ 23.15	27.18	≤ 29.15	Pass
11n-HT20	6.5	52	5260	23.15	23.15	≤ 23.45	28.80	≤ 29.45	Pass
11n-HT20	6.5	60	5300	23.17	23.17	≤ 23.45	28.82	≤ 29.45	Pass
11n-HT20	6.5	64	5320	22.67	22.67	≤ 23.45	28.32	≤ 29.45	Pass
11n-HT20	6.5	100	5500	21.96	21.96	≤ 23.45	28.02	≤ 29.45	Pass
11n-HT20	6.5	116	5580	21.36	21.36	≤ 23.45	27.42	≤ 29.45	Pass
11n-HT20	6.5	120	5600	21.52	21.52	≤ 23.45	27.58	≤ 29.45	Pass
11n-HT20	6.5	140	5700	22.78	22.78	≤ 23.45	28.84	≤ 29.45	Pass
11n-HT40	13.5	54	5270	23.58	23.58	≤ 23.98	29.23	≤ 30.00	Pass
11n-HT40	13.5	62	5310	23.62	23.62	≤ 23.98	29.27	≤ 30.00	Pass
11n-HT40	13.5	102	5510	23.54	23.54	≤ 23.98	29.60	≤ 30.00	Pass
11n-HT40	13.5	110	5550	23.55	23.55	≤ 23.98	29.61	≤ 30.00	Pass
11n-HT40	13.5	118	5590	23.14	23.14	≤ 23.98	29.20	≤ 30.00	Pass
11n-HT40	13.5	134	5670	23.01	23.01	≤ 23.98	29.07	≤ 30.00	Pass
11ac-VHT20	6.5	52	5260	23.17	23.17	≤ 23.45	28.82	≤ 29.45	Pass
11ac-VHT20	6.5	60	5300	23.16	23.16	≤ 23.45	28.81	≤ 29.45	Pass
11ac-VHT20	6.5	64	5320	22.65	22.65	≤ 23.45	28.30	≤ 29.45	Pass
11ac-VHT20	6.5	100	5500	21.98	21.98	≤ 23.45	28.04	≤ 29.45	Pass
11ac-VHT20	6.5	116	5580	21.31	21.31	≤ 23.45	27.37	≤ 29.45	Pass
11ac-VHT20	6.5	120	5600	21.51	21.51	≤ 23.45	27.57	≤ 29.45	Pass
11ac-VHT20	6.5	140	5700	21.22	21.22	≤ 23.45	27.28	≤ 29.45	Pass
11ac-VHT20	6.5	144	5720	21.13	21.13	≤ 23.45	27.19	≤ 29.45	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 2 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT40	13.5	54	5270	23.59	23.59	≤ 23.98	29.24	≤ 30.00	Pass
11ac-VHT40	13.5	62	5310	23.63	23.63	≤ 23.98	29.28	≤ 30.00	Pass
11ac-VHT40	13.5	102	5510	23.52	23.52	≤ 23.98	29.58	≤ 30.00	Pass
11ac-VHT40	13.5	110	5550	23.55	23.55	≤ 23.98	29.61	≤ 30.00	Pass
11ac-VHT40	13.5	118	5590	23.11	23.11	≤ 23.98	29.17	≤ 30.00	Pass
11ac-VHT40	13.5	134	5670	22.97	22.97	≤ 23.98	29.03	≤ 30.00	Pass
11ac-VHT40	13.5	142	5710	22.86	22.86	≤ 23.98	28.92	≤ 30.00	Pass
11ac-VHT80	29.3	58	5290	23.23	23.23	≤ 23.98	28.88	≤ 30.00	Pass
11ac-VHT80	29.3	106	5530	23.29	23.29	≤ 23.98	29.35	≤ 30.00	Pass
11ac-VHT80	29.3	122	5610	22.77	22.77	≤ 23.98	28.83	≤ 30.00	Pass
11ac-VHT80	29.3	138	5690	22.71	22.71	≤ 23.98	28.77	≤ 30.00	Pass

Note: Max EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	22.80	22.80	≤ 23.15	27.71	≤ 29.15	Pass
11a	6	60	5300	22.87	22.87	≤ 23.15	27.78	≤ 29.15	Pass
11a	6	64	5320	22.53	22.53	≤ 23.15	27.44	≤ 29.15	Pass
11a	6	100	5500	22.21	22.21	≤ 23.15	27.86	≤ 29.15	Pass
11a	6	116	5580	21.72	21.72	≤ 23.15	27.37	≤ 29.15	Pass
11a	6	120	5600	21.97	21.97	≤ 23.15	27.62	≤ 29.15	Pass
11a	6	140	5700	21.19	21.19	≤ 23.15	26.84	≤ 29.15	Pass
11n-HT20	6.5	52	5260	23.04	23.04	≤ 23.45	27.95	≤ 29.45	Pass
11n-HT20	6.5	60	5300	23.04	23.04	≤ 23.45	27.95	≤ 29.45	Pass
11n-HT20	6.5	64	5320	22.78	22.78	≤ 23.45	27.69	≤ 29.45	Pass
11n-HT20	6.5	100	5500	22.51	22.51	≤ 23.45	28.16	≤ 29.45	Pass
11n-HT20	6.5	116	5580	21.95	21.95	≤ 23.45	27.60	≤ 29.45	Pass
11n-HT20	6.5	120	5600	22.22	22.22	≤ 23.45	27.87	≤ 29.45	Pass
11n-HT20	6.5	140	5700	21.91	21.91	≤ 23.45	27.56	≤ 29.45	Pass
11n-HT40	13.5	54	5270	23.62	23.62	≤ 23.98	28.53	≤ 30.00	Pass
11n-HT40	13.5	62	5310	23.61	23.61	≤ 23.98	28.52	≤ 30.00	Pass
11n-HT40	13.5	102	5510	23.58	23.58	≤ 23.98	29.23	≤ 30.00	Pass
11n-HT40	13.5	110	5550	23.19	23.19	≤ 23.98	28.84	≤ 30.00	Pass
11n-HT40	13.5	118	5590	23.10	23.10	≤ 23.98	28.75	≤ 30.00	Pass
11n-HT40	13.5	134	5670	22.70	22.70	≤ 23.98	28.35	≤ 30.00	Pass
11ac-VHT20	6.5	52	5260	23.37	23.37	≤ 23.45	28.28	≤ 29.45	Pass
11ac-VHT20	6.5	60	5300	23.04	23.04	≤ 23.45	27.95	≤ 29.45	Pass
11ac-VHT20	6.5	64	5320	22.76	22.76	≤ 23.45	27.67	≤ 29.45	Pass
11ac-VHT20	6.5	100	5500	22.50	22.50	≤ 23.45	28.15	≤ 29.45	Pass
11ac-VHT20	6.5	116	5580	21.49	21.49	≤ 23.45	27.14	≤ 29.45	Pass
11ac-VHT20	6.5	120	5600	21.66	21.66	≤ 23.45	27.31	≤ 29.45	Pass
11ac-VHT20	6.5	140	5700	21.42	21.42	≤ 23.45	27.07	≤ 29.45	Pass
11ac-VHT20	6.5	144	5720	21.28	21.28	≤ 23.45	26.93	≤ 29.45	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT40	13.5	54	5270	23.52	23.52	≤ 23.98	28.43	≤ 30.00	Pass
11ac-VHT40	13.5	62	5310	23.63	23.63	≤ 23.98	28.54	≤ 30.00	Pass
11ac-VHT40	13.5	102	5510	23.65	23.65	≤ 23.98	29.30	≤ 30.00	Pass
11ac-VHT40	13.5	110	5550	23.19	23.19	≤ 23.98	28.84	≤ 30.00	Pass
11ac-VHT40	13.5	118	5590	23.09	23.09	≤ 23.98	28.74	≤ 30.00	Pass
11ac-VHT40	13.5	134	5670	22.69	22.69	≤ 23.98	28.34	≤ 30.00	Pass
11ac-VHT40	13.5	142	5710	22.56	22.56	≤ 23.98	28.21	≤ 30.00	Pass
11ac-VHT80	29.3	58	5290	23.74	23.74	≤ 23.98	28.65	≤ 30.00	Pass
11ac-VHT80	29.3	106	5530	23.16	23.16	≤ 23.98	28.81	≤ 30.00	Pass
11ac-VHT80	29.3	122	5610	22.55	22.55	≤ 23.98	28.20	≤ 30.00	Pass
11ac-VHT80	29.3	138	5690	22.38	22.38	≤ 23.98	28.03	≤ 30.00	Pass

Note: Max EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	11.22	11.40	11.33	11.28	17.33	≤ 18.51	28.80	≤ 29.15	Pass
11a	6	60	5300	11.48	11.45	11.46	11.29	17.44	≤ 18.51	28.91	≤ 29.15	Pass
11a	6	64	5320	11.46	11.51	11.49	11.39	17.48	≤ 18.51	28.95	≤ 29.15	Pass
11a	6	100	5500	10.58	11.04	11.14	11.16	17.01	≤ 18.36	28.63	≤ 29.15	Pass
11a	6	116	5580	10.39	9.78	10.45	10.33	16.27	≤ 18.36	27.89	≤ 29.15	Pass
11a	6	120	5600	10.53	10.78	11.17	10.93	16.88	≤ 18.36	28.50	≤ 29.15	Pass
11a	6	140	5700	10.48	10.83	10.91	10.53	16.71	≤ 18.36	28.33	≤ 29.15	Pass
11n-HT20	26	52	5260	11.72	11.72	11.79	11.62	17.73	≤ 18.51	29.20	≤ 29.45	Pass
11n-HT20	26	60	5300	11.81	11.70	11.71	11.63	17.73	≤ 18.51	29.20	≤ 29.45	Pass
11n-HT20	26	64	5320	11.89	11.81	11.81	11.73	17.83	≤ 18.51	29.30	≤ 29.45	Pass
11n-HT20	26	100	5500	10.86	11.30	11.46	11.42	17.29	≤ 18.36	28.91	≤ 29.45	Pass
11n-HT20	26	116	5580	10.63	10.03	10.01	10.42	16.30	≤ 18.36	27.92	≤ 29.45	Pass
11n-HT20	26	120	5600	10.45	10.62	10.98	10.65	16.70	≤ 18.36	28.32	≤ 29.45	Pass
11n-HT20	26	140	5700	10.23	10.64	10.71	10.34	16.51	≤ 18.36	28.13	≤ 29.45	Pass
11n-HT40	54	54	5270	12.32	12.10	11.98	11.86	18.09	≤ 18.51	29.56	≤ 30.00	Pass
11n-HT40	54	62	5310	12.37	12.06	11.97	11.84	18.09	≤ 18.51	29.56	≤ 30.00	Pass
11n-HT40	54	102	5510	11.86	12.24	12.34	12.23	18.19	≤ 18.36	29.81	≤ 30.00	Pass
11n-HT40	54	110	5550	11.93	11.35	11.52	11.59	17.62	≤ 18.36	29.24	≤ 30.00	Pass
11n-HT40	54	118	5590	11.41	11.84	12.09	11.76	17.80	≤ 18.36	29.42	≤ 30.00	Pass
11n-HT40	54	134	5670	12.14	12.24	12.25	11.87	18.15	≤ 18.36	29.77	≤ 30.00	Pass
11ac-VHT20	26	52	5260	11.57	11.70	11.65	11.51	17.63	≤ 18.51	29.10	≤ 29.45	Pass
11ac-VHT20	26	60	5300	11.66	11.69	11.62	11.47	17.63	≤ 18.51	29.10	≤ 29.45	Pass
11ac-VHT20	26	64	5320	11.67	11.78	11.66	11.84	17.76	≤ 18.51	29.23	≤ 29.45	Pass
11ac-VHT20	26	100	5500	10.83	11.44	11.57	11.48	17.36	≤ 18.36	28.98	≤ 29.45	Pass
11ac-VHT20	26	116	5580	11.29	10.52	10.43	10.92	16.82	≤ 18.36	28.44	≤ 29.45	Pass
11ac-VHT20	26	120	5600	10.98	11.07	11.50	11.18	17.21	≤ 18.36	28.83	≤ 29.45	Pass
11ac-VHT20	26	140	5700	10.15	10.52	10.72	10.12	16.41	≤ 18.36	28.03	≤ 29.45	Pass
11ac-VHT20	26	144	5720	10.51	11.03	11.14	10.57	16.84	≤ 18.36	28.46	≤ 29.45	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT40	54	54	5270	12.17	12.09	11.97	11.96	18.07	≤ 18.51	29.54	≤ 30.00	Pass
11ac-VHT40	54	62	5310	12.25	12.03	11.97	11.98	18.08	≤ 18.51	29.55	≤ 30.00	Pass
11ac-VHT40	54	102	5510	11.86	12.23	12.46	12.23	18.22	≤ 18.36	29.84	≤ 30.00	Pass
11ac-VHT40	54	110	5550	12.12	11.35	11.53	11.53	17.66	≤ 18.36	29.28	≤ 30.00	Pass
11ac-VHT40	54	118	5590	11.53	11.93	12.13	11.91	17.90	≤ 18.36	29.52	≤ 30.00	Pass
11ac-VHT40	54	134	5670	12.01	12.22	12.45	12.02	18.20	≤ 18.36	29.82	≤ 30.00	Pass
11ac-VHT40	54	142	5710	11.91	12.22	12.15	11.93	18.08	≤ 18.36	29.70	≤ 30.00	Pass
11ac-VHT80	117.2	58	5290	12.27	12.07	11.93	12.01	18.09	≤ 18.51	29.56	≤ 30.00	Pass
11ac-VHT80	117.2	106	5530	11.38	12.01	12.05	12.01	17.89	≤ 18.36	29.51	≤ 30.00	Pass
11ac-VHT80	117.2	122	5610	11.82	11.74	12.15	11.91	17.93	≤ 18.36	29.55	≤ 30.00	Pass
11ac-VHT80	117.2	138	5690	11.89	11.99	12.09	11.59	17.91	≤ 18.36	29.53	≤ 30.00	Pass

Note 1: The Total Average Power (dBm) = $10*\log\{10^{(\text{Ant 0 Average Power }/10)} +10^{(\text{Ant 1 Average Power }/10)} +10^{(\text{Ant 2 Average Power }/10)} +10^{(\text{Ant 3 Average Power }/10)}\}$.

Note 2: Max EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

For FCC 802.11ac-VHT80 + 80 Mode Test Data

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	EIRP of 30° Elevation Angle (dBm)	EIRP Limit of 30° Elevation Angle (dBm)	Result
11ac-VHT	58.6	42	5210	13.45	13.10	--	--	16.29	≤ 27.31	20.26	≤ 21.00	Pass
80+80	58.6	58	5290	--	--	12.85	12.30	15.59	≤ 21.68	--	--	Pass
11ac-VHT	58.6	42	5210	13.97	13.63	--	--	16.81	≤ 27.31	20.78	≤ 21.00	Pass
80+80	58.6	106	5530	--	--	11.36	11.43	14.41	≤ 21.11	--	--	Pass
11ac-VHT	58.6	58	5210	13.96	13.62	--	--	16.80	≤ 27.31	20.77	≤ 21.00	Pass
80+80	58.6	122	5610	--	--	11.04	11.32	14.19	≤ 21.11	--	--	Pass
11ac-VHT	58.6	58	5210	13.96	13.63	--	--	16.81	≤ 27.31	20.77	≤ 21.00	Pass
80+80	58.6	138	5690	--	--	11.53	11.22	14.39	≤ 21.11	--	--	Pass
11ac-VHT	58.6	58	5290	17.92	17.36	--	--	20.66	≤ 21.36	--	--	Pass
80+80	58.6	106	5530	--	--	15.41	15.59	18.51	≤ 21.11	--	--	Pass
11ac-VHT	58.6	58	5290	18.01	17.40	--	--	20.73	≤ 21.36	--	--	Pass
80+80	58.6	122	5610	--	--	15.16	15.26	18.22	≤ 21.11	--	--	Pass
11ac-VHT	58.6	58	5290	18.09	17.38	--	--	20.76	≤ 21.36	--	--	Pass
80+80	58.6	138	5690	--	--	15.37	15.28	18.34	≤ 21.11	--	--	Pass
11ac-VHT	58.6	58	5290	18.01	17.41	--	--	20.73	≤ 21.36	--	--	Pass
80+80	58.6	155	5775	--	--	15.16	14.75	17.97	≤ 26.80	--	--	Pass
11ac-VHT	58.6	106	5530	18.11	18.16	--	--	21.15	≤ 21.63	--	--	Pass
80+80	58.6	122	5610	--	--	16.98	17.16	20.08	≤ 21.11	--	--	Pass
11ac-VHT	58.6	106	5530	18.08	18.18	--	--	21.14	≤ 21.63	--	--	Pass
80+80	58.6	138	5690	--	--	17.30	17.18	20.25	≤ 21.11	--	--	Pass
11ac-VHT	58.6	106	5530	18.19	18.13	--	--	21.17	≤ 21.63	--	--	Pass
80+80	58.6	155	5775	--	--	17.13	16.63	19.90	≤ 26.80	--	--	Pass
11ac-VHT	58.6	122	5610	18.07	17.91	--	--	21.00	≤ 21.63	--	--	Pass
80+80	58.6	138	5690	--	--	18.02	17.69	20.87	≤ 21.11	--	--	Pass
11ac-VHT	58.6	122	5610	18.09	17.86	--	--	20.99	≤ 21.63	--	--	Pass
80+80	58.6	155	5775	--	--	17.61	17.14	20.39	≤ 26.80	--	--	Pass
11ac-VHT	58.6	138	5690	18.21	18.15	--	--	21.19	≤ 21.63	--	--	Pass
80+80	58.6	155	5775	--	--	17.66	17.16	20.43	≤ 26.80	--	--	Pass

Note 1: The Total Average Power (dBm) = $10*\log\{10^{(\text{Ant 0 Average Power }/10)} +10^{(\text{Ant 1 Average Power }/10)}\}$

Note 2: The Total Average Power (dBm) = $10*\log\{10^{(\text{Ant 2 Average Power }/10)} +10^{(\text{Ant 3 Average Power }/10)}\}$.

Note 3: EIRP of 30° Elevation Angle (dBm) = $10*\log\{10^{((\text{Ant 0 Average Power + Ant 0 30° Elevation Angle Gain})/10)} +10^{((\text{Ant 1 Average}}$

Power + Ant 1 30° Elevation Angle Gain) /10)}.

7.5.7. FPMI2458-DP2RPSMA Antenna Test Result

Product	Wi-Fi AP 4x4 OD ext. antenna US	Temperature	25°C
Test Engineer	Johnson Liao	Relative Humidity	50 ~ 58%
Test Site	SR2	Test Date	2016/08/21
Test Item	Output Power	Antenna Model No.	FPMI2458-DP2RPSMA

For FCC Bands UNII-2A & UNII-2C & UNII-3

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	22.66	22.66	≤ 23.15	28.34	≤ 29.15	Pass
11a	6	60	5300	22.36	22.36	≤ 23.15	28.04	≤ 29.15	Pass
11a	6	64	5320	22.70	22.70	≤ 23.15	28.38	≤ 29.15	Pass
11a	6	100	5500	21.12	21.12	≤ 23.15	26.58	≤ 29.15	Pass
11a	6	116	5580	21.52	21.52	≤ 23.15	26.98	≤ 29.15	Pass
11a	6	120	5600	20.73	20.73	≤ 23.15	26.19	≤ 29.15	Pass
11a	6	140	5700	20.57	20.57	≤ 23.15	26.03	≤ 29.15	Pass
11n-HT20	6.5	52	5260	23.04	23.04	≤ 23.45	28.72	≤ 29.45	Pass
11n-HT20	6.5	60	5300	22.65	22.65	≤ 23.45	28.33	≤ 29.45	Pass
11n-HT20	6.5	64	5320	22.93	22.93	≤ 23.45	28.61	≤ 29.45	Pass
11n-HT20	6.5	100	5500	21.86	21.86	≤ 23.45	27.32	≤ 29.45	Pass
11n-HT20	6.5	116	5580	22.23	22.23	≤ 23.45	27.69	≤ 29.45	Pass
11n-HT20	6.5	120	5600	21.01	21.01	≤ 23.45	26.47	≤ 29.45	Pass
11n-HT20	6.5	140	5700	21.22	21.22	≤ 23.45	26.68	≤ 29.45	Pass
11n-HT40	13.5	54	5270	23.06	23.06	≤ 23.98	28.74	≤ 30.00	Pass
11n-HT40	13.5	62	5310	22.87	22.87	≤ 23.98	29.45	≤ 30.00	Pass
11n-HT40	13.5	102	5510	22.36	22.36	≤ 23.98	27.82	≤ 30.00	Pass
11n-HT40	13.5	110	5550	23.08	23.08	≤ 23.98	28.54	≤ 30.00	Pass
11n-HT40	13.5	118	5590	22.51	22.51	≤ 23.98	27.97	≤ 30.00	Pass
11n-HT40	13.5	134	5670	22.33	22.33	≤ 23.98	27.79	≤ 30.00	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT20	6.5	52	5260	23.02	23.02	≤ 23.45	28.70	≤ 29.45	Pass
11ac-VHT20	6.5	60	5300	22.67	22.67	≤ 23.45	28.35	≤ 29.45	Pass
11ac-VHT20	6.5	64	5320	22.97	22.97	≤ 23.45	28.65	≤ 29.45	Pass
11ac-VHT20	6.5	100	5500	21.33	21.33	≤ 23.45	26.79	≤ 29.45	Pass
11ac-VHT20	6.5	116	5580	21.41	21.41	≤ 23.45	26.87	≤ 29.45	Pass
11ac-VHT20	6.5	120	5600	21.53	21.53	≤ 23.45	26.99	≤ 29.45	Pass
11ac-VHT20	6.5	140	5700	21.22	21.22	≤ 23.45	26.68	≤ 29.45	Pass
11ac-VHT20	6.5	144	5720	21.31	21.31	≤ 23.45	26.77	≤ 29.45	Pass
11ac-VHT40	13.5	54	5270	23.04	23.04	≤ 23.98	28.72	≤ 30.00	Pass
11ac-VHT40	13.5	62	5310	22.71	22.71	≤ 23.98	28.39	≤ 30.00	Pass
11ac-VHT40	13.5	102	5510	22.43	22.43	≤ 23.98	27.89	≤ 30.00	Pass
11ac-VHT40	13.5	110	5550	22.25	22.25	≤ 23.98	27.71	≤ 30.00	Pass
11ac-VHT40	13.5	118	5590	22.24	22.24	≤ 23.98	27.70	≤ 30.00	Pass
11ac-VHT40	13.5	134	5670	22.17	22.17	≤ 23.98	27.63	≤ 30.00	Pass
11ac-VHT40	13.5	142	5710	22.37	22.37	≤ 23.98	27.83	≤ 30.00	Pass
11ac-VHT80	29.3	58	5290	23.18	23.18	≤ 23.98	28.86	≤ 30.00	Pass
11ac-VHT80	29.3	106	5530	22.43	22.43	≤ 23.98	27.89	≤ 30.00	Pass
11ac-VHT80	29.3	122	5610	21.84	21.84	≤ 23.98	27.30	≤ 30.00	Pass
11ac-VHT80	29.3	138	5690	22.05	22.05	≤ 23.98	27.51	≤ 30.00	Pass

Note: Max EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 1 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	22.45	22.45	≤ 23.15	27.98	≤ 29.15	Pass
11a	6	60	5300	22.47	22.47	≤ 23.15	28.00	≤ 29.15	Pass
11a	6	64	5320	22.52	22.52	≤ 23.15	28.05	≤ 29.15	Pass
11a	6	100	5500	22.58	22.58	≤ 23.15	28.04	≤ 29.15	Pass
11a	6	116	5580	22.38	22.38	≤ 23.15	27.84	≤ 29.15	Pass
11a	6	120	5600	22.84	22.84	≤ 23.15	28.30	≤ 29.15	Pass
11a	6	140	5700	22.66	22.66	≤ 23.15	28.12	≤ 29.15	Pass
11n-HT20	6.5	52	5260	22.68	22.68	≤ 23.45	28.21	≤ 29.45	Pass
11n-HT20	6.5	60	5300	22.75	22.75	≤ 23.45	28.28	≤ 29.45	Pass
11n-HT20	6.5	64	5320	22.88	22.88	≤ 23.45	28.41	≤ 29.45	Pass
11n-HT20	6.5	100	5500	22.31	22.31	≤ 23.45	27.77	≤ 29.45	Pass
11n-HT20	6.5	116	5580	22.33	22.33	≤ 23.45	27.79	≤ 29.45	Pass
11n-HT20	6.5	120	5600	22.57	22.57	≤ 23.45	28.03	≤ 29.45	Pass
11n-HT20	6.5	140	5700	22.39	22.39	≤ 23.45	27.85	≤ 29.45	Pass
11n-HT40	13.5	54	5270	22.60	22.60	≤ 23.98	28.13	≤ 30.00	Pass
11n-HT40	13.5	62	5310	22.64	22.64	≤ 23.98	28.17	≤ 30.00	Pass
11n-HT40	13.5	102	5510	22.84	22.84	≤ 23.98	28.05	≤ 30.00	Pass
11n-HT40	13.5	110	5550	22.91	22.91	≤ 23.98	28.12	≤ 30.00	Pass
11n-HT40	13.5	118	5590	22.90	22.90	≤ 23.98	28.11	≤ 30.00	Pass
11n-HT40	13.5	134	5670	22.41	22.41	≤ 23.98	27.62	≤ 30.00	Pass
11ac-VHT20	6.5	52	5260	22.70	22.70	≤ 23.45	28.23	≤ 29.45	Pass
11ac-VHT20	6.5	60	5300	22.75	22.75	≤ 23.45	28.28	≤ 29.45	Pass
11ac-VHT20	6.5	64	5320	22.88	22.88	≤ 23.45	28.41	≤ 29.45	Pass
11ac-VHT20	6.5	100	5500	21.74	21.74	≤ 23.45	26.95	≤ 29.45	Pass
11ac-VHT20	6.5	116	5580	21.82	21.82	≤ 23.45	27.03	≤ 29.45	Pass
11ac-VHT20	6.5	120	5600	21.40	21.40	≤ 23.45	26.61	≤ 29.45	Pass
11ac-VHT20	6.5	140	5700	22.91	22.91	≤ 23.45	28.62	≤ 29.45	Pass
11ac-VHT20	6.5	144	5720	20.98	20.98	≤ 23.45	26.19	≤ 29.45	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 1 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT40	13.5	54	5270	22.61	22.61	≤ 23.98	28.14	≤ 30.00	Pass
11ac-VHT40	13.5	62	5310	22.65	22.65	≤ 23.98	28.18	≤ 30.00	Pass
11ac-VHT40	13.5	102	5510	22.85	22.85	≤ 23.98	28.06	≤ 30.00	Pass
11ac-VHT40	13.5	110	5550	22.91	22.91	≤ 23.98	28.12	≤ 30.00	Pass
11ac-VHT40	13.5	118	5590	22.38	22.38	≤ 23.98	27.59	≤ 30.00	Pass
11ac-VHT40	13.5	134	5670	22.03	22.03	≤ 23.98	27.24	≤ 30.00	Pass
11ac-VHT40	13.5	142	5710	22.13	22.13	≤ 23.98	27.34	≤ 30.00	Pass
11ac-VHT80	29.3	58	5290	22.66	22.66	≤ 23.98	28.19	≤ 30.00	Pass
11ac-VHT80	29.3	106	5530	22.48	22.48	≤ 23.98	27.69	≤ 30.00	Pass
11ac-VHT80	29.3	122	5610	22.60	22.60	≤ 23.98	27.81	≤ 30.00	Pass
11ac-VHT80	29.3	138	5690	21.84	21.84	≤ 23.98	27.05	≤ 30.00	Pass

Note: Max EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 2 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	22.48	22.48	≤ 23.15	28.16	≤ 29.15	Pass
11a	6	60	5300	22.47	22.47	≤ 23.15	28.15	≤ 29.15	Pass
11a	6	64	5320	22.53	22.53	≤ 23.15	28.21	≤ 29.15	Pass
11a	6	100	5500	21.30	21.30	≤ 23.15	26.76	≤ 29.15	Pass
11a	6	116	5580	21.04	21.04	≤ 23.15	26.50	≤ 29.15	Pass
11a	6	120	5600	21.17	21.17	≤ 23.15	26.63	≤ 29.15	Pass
11a	6	140	5700	20.98	20.98	≤ 23.15	26.44	≤ 29.15	Pass
11n-HT20	6.5	52	5260	22.67	22.67	≤ 23.45	28.35	≤ 29.45	Pass
11n-HT20	6.5	60	5300	22.71	22.71	≤ 23.45	28.39	≤ 29.45	Pass
11n-HT20	6.5	64	5320	22.82	22.82	≤ 23.45	28.50	≤ 29.45	Pass
11n-HT20	6.5	100	5500	21.58	21.58	≤ 23.45	27.04	≤ 29.45	Pass
11n-HT20	6.5	116	5580	21.42	21.42	≤ 23.45	26.88	≤ 29.45	Pass
11n-HT20	6.5	120	5600	22.58	22.58	≤ 23.45	28.04	≤ 29.45	Pass
11n-HT20	6.5	140	5700	22.36	22.36	≤ 23.45	27.82	≤ 29.45	Pass
11n-HT40	13.5	54	5270	22.52	22.52	≤ 23.98	28.20	≤ 30.00	Pass
11n-HT40	13.5	62	5310	23.35	23.35	≤ 23.98	29.93	≤ 30.00	Pass
11n-HT40	13.5	102	5510	22.06	22.06	≤ 23.98	27.52	≤ 30.00	Pass
11n-HT40	13.5	110	5550	22.42	22.42	≤ 23.98	27.88	≤ 30.00	Pass
11n-HT40	13.5	118	5590	22.71	22.71	≤ 23.98	28.17	≤ 30.00	Pass
11n-HT40	13.5	134	5670	22.04	22.04	≤ 23.98	27.50	≤ 30.00	Pass
11ac-VHT20	6.5	52	5260	22.68	22.68	≤ 23.45	28.36	≤ 29.45	Pass
11ac-VHT20	6.5	60	5300	22.71	22.71	≤ 23.45	28.39	≤ 29.45	Pass
11ac-VHT20	6.5	64	5320	22.82	22.82	≤ 23.45	28.50	≤ 29.45	Pass
11ac-VHT20	6.5	100	5500	21.60	21.60	≤ 23.45	27.06	≤ 29.45	Pass
11ac-VHT20	6.5	116	5580	21.42	21.42	≤ 23.45	26.88	≤ 29.45	Pass
11ac-VHT20	6.5	120	5600	21.50	21.50	≤ 23.45	26.96	≤ 29.45	Pass
11ac-VHT20	6.5	140	5700	21.25	21.25	≤ 23.45	26.71	≤ 29.45	Pass
11ac-VHT20	6.5	144	5720	21.84	21.84	≤ 23.45	27.30	≤ 29.45	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 2 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT40	13.5	54	5270	22.53	22.53	≤ 23.98	28.21	≤ 30.00	Pass
11ac-VHT40	13.5	62	5310	22.68	22.68	≤ 23.98	28.36	≤ 30.00	Pass
11ac-VHT40	13.5	102	5510	22.06	22.06	≤ 23.98	27.52	≤ 30.00	Pass
11ac-VHT40	13.5	110	5550	22.15	22.15	≤ 23.98	27.61	≤ 30.00	Pass
11ac-VHT40	13.5	118	5590	22.28	22.28	≤ 23.98	27.74	≤ 30.00	Pass
11ac-VHT40	13.5	134	5670	22.16	22.16	≤ 23.98	27.62	≤ 30.00	Pass
11ac-VHT40	13.5	142	5710	22.40	22.40	≤ 23.98	27.86	≤ 30.00	Pass
11ac-VHT80	29.3	58	5290	22.81	22.81	≤ 23.98	28.49	≤ 30.00	Pass
11ac-VHT80	29.3	106	5530	22.41	22.41	≤ 23.98	27.87	≤ 30.00	Pass
11ac-VHT80	29.3	122	5610	21.82	21.82	≤ 23.98	27.28	≤ 30.00	Pass
11ac-VHT80	29.3	138	5690	22.14	22.14	≤ 23.98	27.60	≤ 30.00	Pass

Note: Max EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	22.65	22.65	≤ 23.15	28.18	≤ 29.15	Pass
11a	6	60	5300	22.32	22.32	≤ 23.15	27.85	≤ 29.15	Pass
11a	6	64	5320	22.69	22.69	≤ 23.15	28.22	≤ 29.15	Pass
11a	6	100	5500	21.75	21.75	≤ 23.15	27.21	≤ 29.15	Pass
11a	6	116	5580	21.83	21.83	≤ 23.15	27.29	≤ 29.15	Pass
11a	6	120	5600	21.57	21.57	≤ 23.15	27.03	≤ 29.15	Pass
11a	6	140	5700	21.18	21.18	≤ 23.15	26.64	≤ 29.15	Pass
11n-HT20	6.5	52	5260	22.39	22.39	≤ 23.45	27.92	≤ 29.45	Pass
11n-HT20	6.5	60	5300	22.77	22.77	≤ 23.45	28.30	≤ 29.45	Pass
11n-HT20	6.5	64	5320	22.17	22.17	≤ 23.45	27.70	≤ 29.45	Pass
11n-HT20	6.5	100	5500	21.49	21.49	≤ 23.45	26.95	≤ 29.45	Pass
11n-HT20	6.5	116	5580	21.52	21.52	≤ 23.45	26.98	≤ 29.45	Pass
11n-HT20	6.5	120	5600	21.82	21.82	≤ 23.45	27.28	≤ 29.45	Pass
11n-HT20	6.5	140	5700	21.28	21.28	≤ 23.45	26.74	≤ 29.45	Pass
11n-HT40	13.5	54	5270	22.49	22.49	≤ 23.98	28.02	≤ 30.00	Pass
11n-HT40	13.5	62	5310	22.68	22.68	≤ 23.98	28.21	≤ 30.00	Pass
11n-HT40	13.5	102	5510	22.06	22.06	≤ 23.98	27.27	≤ 30.00	Pass
11n-HT40	13.5	110	5550	22.14	22.14	≤ 23.98	27.35	≤ 30.00	Pass
11n-HT40	13.5	118	5590	21.71	21.71	≤ 23.98	26.92	≤ 30.00	Pass
11n-HT40	13.5	134	5670	22.03	22.03	≤ 23.98	27.24	≤ 30.00	Pass
11n-HT40	13.5	151	5755	21.81	21.81	≤ 30.00	--	--	Pass
11n-HT40	13.5	159	5795	21.32	21.32	≤ 30.00	--	--	Pass
11ac-VHT20	6.5	52	5260	22.43	22.43	≤ 23.45	27.96	≤ 29.45	Pass
11ac-VHT20	6.5	60	5300	22.80	22.80	≤ 23.45	28.33	≤ 29.45	Pass
11ac-VHT20	6.5	64	5320	22.44	22.44	≤ 23.45	27.97	≤ 29.45	Pass
11ac-VHT20	6.5	100	5500	21.53	21.53	≤ 23.45	26.74	≤ 29.45	Pass
11ac-VHT20	6.5	116	5580	21.49	21.49	≤ 23.45	26.70	≤ 29.45	Pass
11ac-VHT20	6.5	120	5600	21.85	21.85	≤ 23.45	27.06	≤ 29.45	Pass
11ac-VHT20	6.5	140	5700	21.55	21.55	≤ 23.45	26.76	≤ 29.45	Pass
11ac-VHT20	6.5	144	5720	21.53	21.53	≤ 23.45	26.74	≤ 29.45	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT40	13.5	54	5270	23.58	23.58	≤ 23.98	29.61	≤ 30.00	Pass
11ac-VHT40	13.5	62	5310	22.70	22.70	≤ 23.98	28.23	≤ 30.00	Pass
11ac-VHT40	13.5	102	5510	22.07	22.07	≤ 23.98	27.28	≤ 30.00	Pass
11ac-VHT40	13.5	110	5550	22.32	22.32	≤ 23.98	27.53	≤ 30.00	Pass
11ac-VHT40	13.5	118	5590	22.12	22.12	≤ 23.98	27.33	≤ 30.00	Pass
11ac-VHT40	13.5	134	5670	22.02	22.02	≤ 23.98	27.23	≤ 30.00	Pass
11ac-VHT40	13.5	142	5710	21.70	21.70	≤ 23.98	26.91	≤ 30.00	Pass
11ac-VHT80	29.3	58	5290	22.73	22.73	≤ 23.98	28.26	≤ 30.00	Pass
11ac-VHT80	29.3	106	5530	22.21	22.21	≤ 23.98	27.42	≤ 30.00	Pass
11ac-VHT80	29.3	122	5610	21.75	21.75	≤ 23.98	26.96	≤ 30.00	Pass
11ac-VHT80	29.3	138	5690	21.76	21.76	≤ 23.98	26.97	≤ 30.00	Pass

Note: Max EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	17.01	16.97	--	--	20.00	≤ 21.36	28.62	≤ 29.15	Pass
11a	6	60	5300	17.14	16.82	--	--	19.99	≤ 21.36	28.61	≤ 29.15	Pass
11a	6	64	5320	17.01	17.11	--	--	20.07	≤ 21.36	28.69	≤ 29.15	Pass
11a	6	100	5500	17.02	17.07	--	--	20.06	≤ 21.63	28.41	≤ 29.15	Pass
11a	6	116	5580	16.96	17.02	--	--	20.00	≤ 21.63	28.35	≤ 29.15	Pass
11a	6	120	5600	17.06	16.79	--	--	19.94	≤ 21.63	28.29	≤ 29.15	Pass
11a	6	140	5700	17.33	17.43	--	--	20.39	≤ 21.63	28.74	≤ 29.15	Pass
11a	6	52	5260	--	--	16.81	16.88	19.86	≤ 21.36	28.48	≤ 29.15	Pass
11a	6	60	5300	--	--	16.91	17.10	20.02	≤ 21.36	28.64	≤ 29.15	Pass
11a	6	64	5320	--	--	17.01	16.95	19.99	≤ 21.36	28.61	≤ 29.15	Pass
11a	6	100	5500	--	--	17.03	17.34	20.20	≤ 21.63	28.55	≤ 29.15	Pass
11a	6	116	5580	--	--	17.01	17.23	20.13	≤ 21.63	28.48	≤ 29.15	Pass
11a	6	120	5600	--	--	17.28	17.09	20.20	≤ 21.63	28.55	≤ 29.15	Pass
11a	6	140	5700	--	--	17.57	17.35	20.47	≤ 21.63	28.82	≤ 29.15	Pass
11n-HT20	26	52	5260	17.32	17.05	--	--	20.20	≤ 21.36	28.82	≤ 29.45	Pass
11n-HT20	26	60	5300	17.33	16.87	--	--	20.12	≤ 21.36	28.74	≤ 29.45	Pass
11n-HT20	26	64	5320	16.34	16.07	--	--	19.22	≤ 21.36	27.84	≤ 29.45	Pass
11n-HT20	26	100	5500	15.59	15.37	--	--	18.49	≤ 21.63	26.84	≤ 29.45	Pass
11n-HT20	26	116	5580	15.46	15.27	--	--	18.38	≤ 21.63	26.73	≤ 29.45	Pass
11n-HT20	26	120	5600	15.75	15.52	--	--	18.65	≤ 21.63	27.00	≤ 29.45	Pass
11n-HT20	26	140	5700	15.44	14.92	--	--	18.20	≤ 21.63	26.55	≤ 29.45	Pass
11n-HT20	26	52	5260	--	--	16.56	16.36	19.47	≤ 21.36	28.09	≤ 29.45	Pass
11n-HT20	26	60	5300	--	--	16.69	16.53	19.62	≤ 21.36	28.24	≤ 29.45	Pass
11n-HT20	26	64	5320	--	--	16.51	16.22	19.38	≤ 21.36	28.00	≤ 29.45	Pass
11n-HT20	26	100	5500	--	--	14.94	15.09	18.03	≤ 21.63	26.38	≤ 29.45	Pass
11n-HT20	26	116	5580	--	--	12.91	14.98	17.08	≤ 21.63	25.43	≤ 29.45	Pass
11n-HT20	26	120	5600	--	--	15.20	15.53	18.38	≤ 21.63	26.73	≤ 29.45	Pass
11n-HT20	26	140	5700	--	--	15.33	15.33	18.34	≤ 21.63	26.69	≤ 29.45	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11n-HT40	54	54	5270	17.73	17.17	--	--	20.47	≤ 21.36	29.09	≤ 30.00	Pass
11n-HT40	54	62	5310	17.92	17.30	--	--	20.63	≤ 21.36	29.25	≤ 30.00	Pass
11n-HT40	54	102	5510	17.82	17.78	--	--	20.81	≤ 21.63	29.16	≤ 30.00	Pass
11n-HT40	54	110	5550	17.93	17.82	--	--	20.89	≤ 21.63	29.24	≤ 30.00	Pass
11n-HT40	54	118	5590	17.35	17.23	--	--	20.30	≤ 21.63	28.65	≤ 30.00	Pass
11n-HT40	54	134	5670	17.42	17.01	--	--	20.23	≤ 21.63	28.58	≤ 30.00	Pass
11n-HT40	54	54	5270	--	--	16.84	16.83	19.85	≤ 21.36	28.47	≤ 30.00	Pass
11n-HT40	54	62	5310	--	--	17.11	16.85	19.99	≤ 21.36	28.61	≤ 30.00	Pass
11n-HT40	54	102	5510	--	--	17.25	17.35	20.31	≤ 21.63	28.66	≤ 30.00	Pass
11n-HT40	54	110	5550	--	--	17.34	17.41	20.39	≤ 21.63	28.74	≤ 30.00	Pass
11n-HT40	54	118	5590	--	--	16.99	17.07	20.04	≤ 21.63	28.39	≤ 30.00	Pass
11n-HT40	54	134	5670	--	--	16.93	17.05	20.00	≤ 21.63	28.35	≤ 30.00	Pass
11ac-VHT20	26	52	5260	17.31	17.01	--	--	20.17	≤ 21.36	28.79	≤ 29.45	Pass
11ac-VHT20	26	60	5300	17.25	16.58	--	--	19.94	≤ 21.36	28.56	≤ 29.45	Pass
11ac-VHT20	26	64	5320	16.91	16.55	--	--	19.74	≤ 21.36	28.36	≤ 29.45	Pass
11ac-VHT20	26	100	5500	15.63	15.66	--	--	18.66	≤ 21.63	27.01	≤ 29.45	Pass
11ac-VHT20	26	116	5580	15.65	15.43	--	--	18.55	≤ 21.63	27.00	≤ 29.45	Pass
11ac-VHT20	26	120	5600	15.78	15.49	--	--	18.65	≤ 21.63	27.00	≤ 29.45	Pass
11ac-VHT20	26	140	5700	15.47	15.25	--	--	18.37	≤ 21.63	26.72	≤ 29.45	Pass
11ac-VHT20	26	144	5720	15.65	15.38	--	--	18.53	≤ 21.63	26.88	≤ 29.45	Pass
11ac-VHT20	26	52	5260	--	--	16.75	16.53	19.65	≤ 21.36	28.27	≤ 29.45	Pass
11ac-VHT20	26	60	5300	--	--	16.78	16.69	19.75	≤ 21.36	28.37	≤ 29.45	Pass
11ac-VHT20	26	64	5320	--	--	16.65	16.36	19.52	≤ 21.36	28.14	≤ 29.45	Pass
11ac-VHT20	26	100	5500	--	--	15.07	15.27	18.18	≤ 21.63	26.53	≤ 29.45	Pass
11ac-VHT20	26	116	5580	--	--	15.01	15.22	18.13	≤ 21.63	26.48	≤ 29.45	Pass
11ac-VHT20	26	120	5600	--	--	15.32	15.70	18.52	≤ 21.63	26.87	≤ 29.45	Pass
11ac-VHT20	26	140	5700	--	--	15.45	15.48	18.48	≤ 21.63	26.83	≤ 29.45	Pass
11ac-VHT20	26	144	5720	--	--	15.42	15.45	18.45	≤ 21.63	26.80	≤ 29.45	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT40	54	54	5270	18.19	17.72	--	--	20.97	≤ 21.36	29.59	≤ 30.00	Pass
11ac-VHT40	54	62	5310	17.89	17.11	--	--	20.53	≤ 21.36	29.15	≤ 30.00	Pass
11ac-VHT40	54	102	5510	17.95	17.84	--	--	20.91	≤ 21.63	29.26	≤ 30.00	Pass
11ac-VHT40	54	110	5550	17.94	17.82	--	--	20.89	≤ 21.63	29.24	≤ 30.00	Pass
11ac-VHT40	54	118	5590	17.89	17.76	--	--	20.84	≤ 21.63	29.19	≤ 30.00	Pass
11ac-VHT40	54	134	5670	17.97	17.51	--	--	20.76	≤ 21.63	29.11	≤ 30.00	Pass
11ac-VHT40	54	142	5710	18.16	17.64	--	--	20.92	≤ 21.63	29.27	≤ 30.00	Pass
11ac-VHT40	54	54	5270	--	--	17.58	17.53	20.57	≤ 21.36	29.19	≤ 30.00	Pass
11ac-VHT40	54	62	5310	--	--	17.34	17.01	20.19	≤ 21.36	28.81	≤ 30.00	Pass
11ac-VHT40	54	102	5510	--	--	17.44	17.50	20.48	≤ 21.63	28.83	≤ 30.00	Pass
11ac-VHT40	54	110	5550	--	--	17.51	17.48	20.51	≤ 21.63	28.86	≤ 30.00	Pass
11ac-VHT40	54	118	5590	--	--	17.55	17.59	20.58	≤ 21.63	28.93	≤ 30.00	Pass
11ac-VHT40	54	134	5670	--	--	17.53	17.50	20.53	≤ 21.63	28.88	≤ 30.00	Pass
11ac-VHT40	54	142	5710	--	--	18.07	17.93	21.01	≤ 21.63	29.36	≤ 30.00	Pass
11ac-VHT80	117.2	58	5290	18.20	17.56	--	--	20.90	≤ 21.36	29.52	≤ 30.00	Pass
11ac-VHT80	117.2	106	5530	17.91	17.93	--	--	20.93	≤ 21.63	29.28	≤ 30.00	Pass
11ac-VHT80	117.2	122	5610	17.93	17.55	--	--	20.75	≤ 21.63	29.10	≤ 30.00	Pass
11ac-VHT80	117.2	138	5690	18.10	17.83	--	--	20.98	≤ 21.63	29.33	≤ 30.00	Pass
11ac-VHT80	117.2	58	5290	--	--	17.75	17.41	20.59	≤ 21.36	29.21	≤ 30.00	Pass
11ac-VHT80	117.2	106	5530	--	--	17.65	17.57	20.62	≤ 21.63	28.97	≤ 30.00	Pass
11ac-VHT80	117.2	122	5610	--	--	18.04	18.27	21.17	≤ 21.63	29.52	≤ 30.00	Pass
11ac-VHT80	117.2	138	5690	--	--	18.13	17.83	20.99	≤ 21.63	29.34	≤ 30.00	Pass

Note 1: The Total Average Power (dBm) = $10*\log\{10^{(\text{Ant 0 Average Power }/10)} +10^{(\text{Ant 1 Average Power }/10)}\}$.

Note 2: The Total Average Power (dBm) = $10*\log\{10^{(\text{Ant 2 Average Power }/10)} +10^{(\text{Ant 3 Average Power }/10)}\}$.

Note 3: Total EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

For FCC 802.11ac-VHT80 + 80 Mode Test Data

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP of 30° Elevation Angle (dBm)	EIRP Limit of 30° Elevation Angle (dBm)	Result
11ac-VHT	58.6	42	5210	13.45	13.10	--	--	16.29	≤ 27.31	20.26	≤ 21.00	Pass
80+80	58.6	58	5290	--	--	12.85	12.30	15.59	≤ 21.36	--	--	Pass
11ac-VHT	58.6	42	5210	13.97	13.63	--	--	16.81	≤ 27.31	20.78	≤ 21.00	Pass
80+80	58.6	106	5530	--	--	11.36	11.43	14.41	≤ 21.63	--	--	Pass
11ac-VHT	58.6	58	5210	13.96	13.62	--	--	16.80	≤ 27.31	20.77	≤ 21.00	Pass
80+80	58.6	122	5610	--	--	11.04	11.32	14.19	≤ 21.63	--	--	Pass
11ac-VHT	58.6	58	5210	13.96	13.63	--	--	16.81	≤ 27.31	20.77	≤ 21.00	Pass
80+80	58.6	138	5690	--	--	11.53	11.22	14.39	≤ 21.63	--	--	Pass
11ac-VHT	58.6	58	5290	17.92	17.36	--	--	20.66	≤ 21.36	--	--	Pass
80+80	58.6	106	5530	--	--	15.41	15.59	18.51	≤ 21.63	--	--	Pass
11ac-VHT	58.6	58	5290	18.01	17.40	--	--	20.73	≤ 21.36	--	--	Pass
80+80	58.6	122	5610	--	--	15.16	15.26	18.22	≤ 27.82	--	--	Pass
11ac-VHT	58.6	58	5290	18.09	17.38	--	--	20.76	≤ 21.36	--	--	Pass
80+80	58.6	138	5690	--	--	15.37	15.28	18.34	≤ 21.63	--	--	Pass
11ac-VHT	58.6	58	5290	18.01	17.41	--	--	20.73	≤ 21.36	--	--	Pass
80+80	58.6	155	5775	--	--	15.16	14.75	17.97	≤ 27.82	--	--	Pass
11ac-VHT	58.6	106	5530	18.11	18.16	--	--	21.15	≤ 21.63	--	--	Pass
80+80	58.6	122	5610	--	--	16.98	17.16	20.08	≤ 21.63	--	--	Pass
11ac-VHT	58.6	106	5530	18.08	18.18	--	--	21.14	≤ 21.63	--	--	Pass
80+80	58.6	138	5690	--	--	17.30	17.18	20.25	≤ 21.63	--	--	Pass
11ac-VHT	58.6	106	5530	18.19	18.13	--	--	21.17	≤ 21.63	--	--	Pass
80+80	58.6	155	5775	--	--	17.13	16.63	19.90	≤ 27.82	--	--	Pass
11ac-VHT	58.6	122	5610	18.07	17.91	--	--	21.00	≤ 21.63	--	--	Pass
80+80	58.6	138	5690	--	--	18.02	17.69	20.87	≤ 21.63	--	--	Pass
11ac-VHT	58.6	122	5610	18.09	17.86	--	--	20.99	≤ 21.63	--	--	Pass
80+80	58.6	155	5775	--	--	17.61	17.14	20.39	≤ 27.82	--	--	Pass
11ac-VHT	58.6	138	5690	18.21	18.15	--	--	21.19	≤ 21.63	--	--	Pass
80+80	58.6	155	5775	--	--	17.66	17.16	20.43	≤ 27.82	--	--	Pass

Note 1: The Total Average Power (dBm) = $10*\log\{10^{(\text{Ant 0 Average Power }/10)} + 10^{(\text{Ant 1 Average Power }/10)}\}$.

Note 2: The Total Average Power (dBm) = $10*\log\{10^{(\text{Ant 2 Average Power }/10)} + 10^{(\text{Ant 3 Average Power }/10)}\}$.

Note 3: Total EIRP of 30° Elevation Angle (dBm) = $10*\log\{10^{((\text{Ant 0 Average Power + Ant 0 30° Elevation Angle Gain})/10)} + 10^{((\text{Ant 1 Average Power + Ant 1 30° Elevation Angle Gain})/10)}\}$.

7.5.8. Galtronics Omni Antenna Test Result

Product	Wi-Fi AP 4x4 OD omni antenna US	Temperature	25°C
Test Engineer	Johnson Liao	Relative Humidity	50 ~ 58%
Test Site	SR2	Test Date	2016/08/21
Test Item	Output Power	Antenna Model No.	Galtronics Omni Antenna

For FCC Bands UNII-2A & UNII-2C & UNII-3

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	21.97	21.97	≤ 23.15	28.65	≤ 29.15	Pass
11a	6	60	5300	22.04	22.04	≤ 23.15	28.72	≤ 29.15	Pass
11a	6	64	5320	22.26	22.26	≤ 23.15	28.94	≤ 29.15	Pass
11a	6	100	5500	22.28	22.28	≤ 23.15	28.88	≤ 29.15	Pass
11a	6	116	5580	21.03	21.03	≤ 23.15	27.63	≤ 29.15	Pass
11a	6	120	5600	21.39	21.39	≤ 23.15	27.99	≤ 29.15	Pass
11a	6	140	5700	21.54	21.54	≤ 23.15	28.14	≤ 29.15	Pass
11n-HT20	6.5	52	5260	22.31	22.31	≤ 23.30	28.99	≤ 29.45	Pass
11n-HT20	6.5	60	5300	22.37	22.37	≤ 23.30	29.05	≤ 29.45	Pass
11n-HT20	6.5	64	5320	22.09	22.09	≤ 23.30	28.77	≤ 29.45	Pass
11n-HT20	6.5	100	5500	22.50	22.50	≤ 23.38	29.10	≤ 29.45	Pass
11n-HT20	6.5	116	5580	21.48	21.48	≤ 23.38	28.08	≤ 29.45	Pass
11n-HT20	6.5	120	5600	21.58	21.58	≤ 23.38	28.18	≤ 29.45	Pass
11n-HT20	6.5	140	5700	21.76	21.76	≤ 23.38	28.36	≤ 29.45	Pass
11n-HT40	13.5	54	5270	22.71	22.71	≤ 23.30	29.39	≤ 30.00	Pass
11n-HT40	13.5	62	5310	22.89	22.89	≤ 23.30	29.57	≤ 30.00	Pass
11n-HT40	13.5	102	5510	23.03	23.03	≤ 23.38	29.63	≤ 30.00	Pass
11n-HT40	13.5	110	5550	23.07	23.07	≤ 23.38	29.67	≤ 30.00	Pass
11n-HT40	13.5	118	5590	22.94	22.94	≤ 23.38	29.54	≤ 30.00	Pass
11n-HT40	13.5	134	5670	22.87	22.87	≤ 23.38	29.47	≤ 30.00	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT20	6.5	52	5260	22.19	22.19	≤ 23.30	28.87	≤ 29.45	Pass
11ac-VHT20	6.5	60	5300	22.23	22.23	≤ 23.30	28.91	≤ 29.45	Pass
11ac-VHT20	6.5	64	5320	22.48	22.48	≤ 23.30	29.16	≤ 29.45	Pass
11ac-VHT20	6.5	100	5500	22.50	22.50	≤ 23.38	29.10	≤ 29.45	Pass
11ac-VHT20	6.5	116	5580	22.61	22.61	≤ 23.38	29.21	≤ 29.45	Pass
11ac-VHT20	6.5	120	5600	21.61	21.61	≤ 23.38	28.21	≤ 29.45	Pass
11ac-VHT20	6.5	140	5700	21.78	21.78	≤ 23.38	28.38	≤ 29.45	Pass
11ac-VHT20	6.5	144	5720	22.39	22.39	≤ 23.38	28.99	≤ 29.45	Pass
11ac-VHT40	13.5	54	5270	22.78	22.78	≤ 23.30	29.46	≤ 30.00	Pass
11ac-VHT40	13.5	62	5310	23.03	23.03	≤ 23.30	29.71	≤ 30.00	Pass
11ac-VHT40	13.5	102	5510	22.67	22.67	≤ 23.38	29.27	≤ 30.00	Pass
11ac-VHT40	13.5	110	5550	22.71	22.71	≤ 23.38	29.31	≤ 30.00	Pass
11ac-VHT40	13.5	118	5590	23.02	23.02	≤ 23.38	29.62	≤ 30.00	Pass
11ac-VHT40	13.5	134	5670	22.92	22.92	≤ 23.38	29.52	≤ 30.00	Pass
11ac-VHT40	13.5	142	5710	23.02	23.02	≤ 23.38	29.62	≤ 30.00	Pass
11ac-VHT80	29.3	58	5290	22.82	22.82	≤ 23.30	29.50	≤ 30.00	Pass
11ac-VHT80	29.3	106	5530	22.63	22.63	≤ 23.38	29.23	≤ 30.00	Pass
11ac-VHT80	29.3	122	5610	22.51	22.51	≤ 23.38	29.11	≤ 30.00	Pass
11ac-VHT80	29.3	138	5690	22.72	22.72	≤ 23.38	29.32	≤ 30.00	Pass

Note: Total EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 1 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	22.21	22.21	≤ 23.15	28.74	≤ 29.15	Pass
11a	6	60	5300	22.26	22.26	≤ 23.15	28.79	≤ 29.15	Pass
11a	6	64	5320	21.94	21.94	≤ 23.15	28.47	≤ 29.15	Pass
11a	6	100	5500	22.82	22.82	≤ 23.15	28.74	≤ 29.15	Pass
11a	6	116	5580	22.58	22.58	≤ 23.15	28.50	≤ 29.15	Pass
11a	6	120	5600	21.92	21.92	≤ 23.15	27.84	≤ 29.15	Pass
11a	6	140	5700	22.04	22.04	≤ 23.15	27.96	≤ 29.15	Pass
11n-HT20	6.5	52	5260	22.58	22.58	≤ 23.45	29.11	≤ 29.45	Pass
11n-HT20	6.5	60	5300	22.56	22.56	≤ 23.45	29.09	≤ 29.45	Pass
11n-HT20	6.5	64	5320	22.21	22.21	≤ 23.45	28.74	≤ 29.45	Pass
11n-HT20	6.5	100	5500	22.58	22.58	≤ 23.45	28.50	≤ 29.45	Pass
11n-HT20	6.5	116	5580	22.49	22.49	≤ 23.45	28.41	≤ 29.45	Pass
11n-HT20	6.5	120	5600	22.24	22.24	≤ 23.45	28.16	≤ 29.45	Pass
11n-HT20	6.5	140	5700	22.26	22.26	≤ 23.45	28.18	≤ 29.45	Pass
11n-HT40	13.5	54	5270	22.98	22.98	≤ 23.45	29.51	≤ 30.00	Pass
11n-HT40	13.5	62	5310	22.99	22.99	≤ 23.45	29.52	≤ 30.00	Pass
11n-HT40	13.5	102	5510	23.21	23.21	≤ 23.98	29.13	≤ 30.00	Pass
11n-HT40	13.5	110	5550	23.25	23.25	≤ 23.98	29.17	≤ 30.00	Pass
11n-HT40	13.5	118	5590	22.63	22.63	≤ 23.98	28.55	≤ 30.00	Pass
11n-HT40	13.5	134	5670	22.65	22.65	≤ 23.98	28.57	≤ 30.00	Pass
11ac-VHT20	6.5	52	5260	22.55	22.55	≤ 23.45	29.08	≤ 29.45	Pass
11ac-VHT20	6.5	60	5300	22.56	22.56	≤ 23.45	29.09	≤ 29.45	Pass
11ac-VHT20	6.5	64	5320	22.24	22.24	≤ 23.45	28.77	≤ 29.45	Pass
11ac-VHT20	6.5	100	5500	23.07	23.07	≤ 23.45	28.99	≤ 29.45	Pass
11ac-VHT20	6.5	116	5580	23.02	23.02	≤ 23.45	28.94	≤ 29.45	Pass
11ac-VHT20	6.5	120	5600	22.23	22.23	≤ 23.45	28.15	≤ 29.45	Pass
11ac-VHT20	6.5	140	5700	22.31	22.31	≤ 23.45	28.23	≤ 29.45	Pass
11ac-VHT20	6.5	144	5720	22.41	22.41	≤ 23.45	28.33	≤ 29.45	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 1 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT40	13.5	54	5270	22.97	22.97	≤ 23.45	29.50	≤ 30.00	Pass
11ac-VHT40	13.5	62	5310	22.97	22.97	≤ 23.45	29.50	≤ 30.00	Pass
11ac-VHT40	13.5	102	5510	22.64	22.64	≤ 23.98	28.56	≤ 30.00	Pass
11ac-VHT40	13.5	110	5550	22.83	22.83	≤ 23.98	28.75	≤ 30.00	Pass
11ac-VHT40	13.5	118	5590	22.62	22.62	≤ 23.98	28.54	≤ 30.00	Pass
11ac-VHT40	13.5	134	5670	22.63	22.63	≤ 23.98	28.55	≤ 30.00	Pass
11ac-VHT40	13.5	142	5710	22.86	22.86	≤ 23.98	28.78	≤ 30.00	Pass
11ac-VHT80	29.3	58	5290	23.17	23.17	≤ 23.45	29.70	≤ 30.00	Pass
11ac-VHT80	29.3	106	5530	22.82	22.82	≤ 23.98	28.74	≤ 30.00	Pass
11ac-VHT80	29.3	122	5610	22.21	22.21	≤ 23.98	28.13	≤ 30.00	Pass
11ac-VHT80	29.3	138	5690	22.54	22.54	≤ 23.98	28.46	≤ 30.00	Pass

Note: Total EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 2 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	21.79	21.79	≤ 23.15	28.47	≤ 29.15	Pass
11a	6	60	5300	21.95	21.95	≤ 23.15	28.63	≤ 29.15	Pass
11a	6	64	5320	21.73	21.73	≤ 23.15	28.41	≤ 29.15	Pass
11a	6	100	5500	21.94	21.94	≤ 23.15	28.54	≤ 29.15	Pass
11a	6	116	5580	21.98	21.98	≤ 23.15	28.58	≤ 29.15	Pass
11a	6	120	5600	21.64	21.64	≤ 23.15	28.24	≤ 29.15	Pass
11a	6	140	5700	21.91	21.91	≤ 23.15	28.51	≤ 29.15	Pass
11n-HT20	6.5	52	5260	22.51	22.51	≤ 23.30	29.19	≤ 29.45	Pass
11n-HT20	6.5	60	5300	22.21	22.21	≤ 23.30	28.89	≤ 29.45	Pass
11n-HT20	6.5	64	5320	22.44	22.44	≤ 23.30	29.12	≤ 29.45	Pass
11n-HT20	6.5	100	5500	22.02	22.02	≤ 23.38	28.62	≤ 29.45	Pass
11n-HT20	6.5	116	5580	22.14	22.14	≤ 23.38	28.74	≤ 29.45	Pass
11n-HT20	6.5	120	5600	21.46	21.46	≤ 23.38	28.06	≤ 29.45	Pass
11n-HT20	6.5	140	5700	21.69	21.69	≤ 23.38	28.29	≤ 29.45	Pass
11n-HT40	13.5	54	5270	22.61	22.61	≤ 23.30	29.29	≤ 30.00	Pass
11n-HT40	13.5	62	5310	22.87	22.87	≤ 23.30	29.55	≤ 30.00	Pass
11n-HT40	13.5	102	5510	22.71	22.71	≤ 23.38	29.31	≤ 30.00	Pass
11n-HT40	13.5	110	5550	22.93	22.93	≤ 23.38	29.53	≤ 30.00	Pass
11n-HT40	13.5	118	5590	22.98	22.98	≤ 23.38	29.58	≤ 30.00	Pass
11n-HT40	13.5	134	5670	22.87	22.87	≤ 23.38	29.47	≤ 30.00	Pass
11ac-VHT20	6.5	52	5260	22.08	22.08	≤ 23.30	28.76	≤ 29.45	Pass
11ac-VHT20	6.5	60	5300	22.22	22.22	≤ 23.30	28.90	≤ 29.45	Pass
11ac-VHT20	6.5	64	5320	22.45	22.45	≤ 23.30	29.13	≤ 29.45	Pass
11ac-VHT20	6.5	100	5500	22.05	22.05	≤ 23.38	28.65	≤ 29.45	Pass
11ac-VHT20	6.5	116	5580	21.98	21.98	≤ 23.38	28.58	≤ 29.45	Pass
11ac-VHT20	6.5	120	5600	21.42	21.42	≤ 23.38	28.02	≤ 29.45	Pass
11ac-VHT20	6.5	140	5700	21.18	21.18	≤ 23.38	27.78	≤ 29.45	Pass
11ac-VHT20	6.5	144	5720	21.22	21.22	≤ 23.38	27.82	≤ 29.45	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 2 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT40	13.5	54	5270	22.63	22.63	≤ 23.30	29.31	≤ 30.00	Pass
11ac-VHT40	13.5	62	5310	22.89	22.89	≤ 23.30	29.57	≤ 30.00	Pass
11ac-VHT40	13.5	102	5510	22.71	22.71	≤ 23.38	29.31	≤ 30.00	Pass
11ac-VHT40	13.5	110	5550	22.99	22.99	≤ 23.38	29.59	≤ 30.00	Pass
11ac-VHT40	13.5	118	5590	22.98	22.98	≤ 23.38	29.58	≤ 30.00	Pass
11ac-VHT40	13.5	134	5670	22.86	22.86	≤ 23.38	29.46	≤ 30.00	Pass
11ac-VHT40	13.5	142	5710	23.06	23.06	≤ 23.38	29.66	≤ 30.00	Pass
11ac-VHT80	29.3	58	5290	22.81	22.81	≤ 23.30	29.49	≤ 30.00	Pass
11ac-VHT80	29.3	106	5530	23.02	23.02	≤ 23.38	29.62	≤ 30.00	Pass
11ac-VHT80	29.3	122	5610	22.51	22.51	≤ 23.38	29.11	≤ 30.00	Pass
11ac-VHT80	29.3	138	5690	22.84	22.84	≤ 23.38	29.44	≤ 30.00	Pass

Note: Total EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	22.45	22.45	≤ 23.15	28.98	≤ 29.15	Pass
11a	6	60	5300	22.14	22.14	≤ 23.15	28.67	≤ 29.15	Pass
11a	6	64	5320	22.19	22.19	≤ 23.15	28.72	≤ 29.15	Pass
11a	6	100	5500	22.73	22.73	≤ 23.15	28.65	≤ 29.15	Pass
11a	6	116	5580	22.69	22.69	≤ 23.15	28.61	≤ 29.15	Pass
11a	6	120	5600	21.77	21.77	≤ 23.15	27.69	≤ 29.15	Pass
11a	6	140	5700	22.02	22.02	≤ 23.15	27.94	≤ 29.15	Pass
11n-HT20	6.5	52	5260	22.68	22.68	≤ 23.45	29.21	≤ 29.45	Pass
11n-HT20	6.5	60	5300	22.39	22.39	≤ 23.45	28.92	≤ 29.45	Pass
11n-HT20	6.5	64	5320	22.54	22.54	≤ 23.45	29.07	≤ 29.45	Pass
11n-HT20	6.5	100	5500	23.03	23.03	≤ 23.45	28.95	≤ 29.45	Pass
11n-HT20	6.5	116	5580	22.98	22.98	≤ 23.45	28.90	≤ 29.45	Pass
11n-HT20	6.5	120	5600	22.09	22.09	≤ 23.45	28.01	≤ 29.45	Pass
11n-HT20	6.5	140	5700	22.24	22.24	≤ 23.45	28.16	≤ 29.45	Pass
11n-HT40	13.5	54	5270	22.70	22.70	≤ 23.45	29.23	≤ 30.00	Pass
11n-HT40	13.5	62	5310	22.73	22.73	≤ 23.45	29.26	≤ 30.00	Pass
11n-HT40	13.5	102	5510	22.79	22.79	≤ 23.98	28.71	≤ 30.00	Pass
11n-HT40	13.5	110	5550	22.87	22.87	≤ 23.98	28.79	≤ 30.00	Pass
11n-HT40	13.5	118	5590	22.24	22.24	≤ 23.98	28.16	≤ 30.00	Pass
11n-HT40	13.5	134	5670	22.27	22.27	≤ 23.98	28.19	≤ 30.00	Pass
11ac-VHT20	6.5	52	5260	22.68	22.68	≤ 23.45	29.21	≤ 29.45	Pass
11ac-VHT20	6.5	60	5300	22.39	22.39	≤ 23.45	28.92	≤ 29.45	Pass
11ac-VHT20	6.5	64	5320	22.53	22.53	≤ 23.45	29.06	≤ 29.45	Pass
11ac-VHT20	6.5	100	5500	23.05	23.05	≤ 23.45	28.97	≤ 29.45	Pass
11ac-VHT20	6.5	116	5580	22.67	22.67	≤ 23.45	28.59	≤ 29.45	Pass
11ac-VHT20	6.5	120	5600	22.08	22.08	≤ 23.45	28.00	≤ 29.45	Pass
11ac-VHT20	6.5	140	5700	22.26	22.26	≤ 23.45	28.18	≤ 29.45	Pass
11ac-VHT20	6.5	144	5720	22.31	22.31	≤ 23.45	28.23	≤ 29.45	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT40	13.5	54	5270	22.72	22.72	≤ 23.45	29.25	≤ 30.00	Pass
11ac-VHT40	13.5	62	5310	22.78	22.78	≤ 23.45	29.31	≤ 30.00	Pass
11ac-VHT40	13.5	102	5510	22.82	22.82	≤ 23.98	28.74	≤ 30.00	Pass
11ac-VHT40	13.5	110	5550	22.87	22.87	≤ 23.98	28.79	≤ 30.00	Pass
11ac-VHT40	13.5	118	5590	22.28	22.28	≤ 23.98	28.20	≤ 30.00	Pass
11ac-VHT40	13.5	134	5670	22.28	22.28	≤ 23.98	28.20	≤ 30.00	Pass
11ac-VHT40	13.5	142	5710	22.39	22.39	≤ 23.98	28.31	≤ 30.00	Pass
11ac-VHT80	29.3	58	5290	22.71	22.71	≤ 23.45	29.24	≤ 30.00	Pass
11ac-VHT80	29.3	106	5530	22.45	22.45	≤ 23.98	28.37	≤ 30.00	Pass
11ac-VHT80	29.3	122	5610	21.96	21.96	≤ 23.98	27.88	≤ 30.00	Pass
11ac-VHT80	29.3	138	5690	22.03	22.03	≤ 23.98	27.95	≤ 30.00	Pass

Note: Total EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	10.02	9.85	9.65	9.62	15.81	≤ 17.35	28.44	≤ 29.15	Pass
11a	6	60	5300	10.63	9.73	9.85	9.77	16.03	≤ 17.35	28.66	≤ 29.15	Pass
11a	6	64	5320	10.85	9.92	10.13	9.68	16.19	≤ 17.35	28.82	≤ 29.15	Pass
11a	6	100	5500	10.78	10.47	10.11	10.19	16.42	≤ 17.69	28.71	≤ 29.15	Pass
11a	6	116	5580	10.27	10.02	9.83	9.75	15.99	≤ 17.69	28.28	≤ 29.15	Pass
11a	6	120	5600	9.89	9.14	9.63	9.36	15.53	≤ 17.69	27.82	≤ 29.15	Pass
11a	6	140	5700	10.01	9.81	9.96	9.56	15.86	≤ 17.69	28.15	≤ 29.15	Pass
11n-HT20	26	52	5260	10.32	10.11	10.01	10.06	16.15	≤ 17.35	28.78	≤ 29.45	Pass
11n-HT20	26	60	5300	10.89	10.06	10.21	10.21	16.38	≤ 17.35	29.01	≤ 29.45	Pass
11n-HT20	26	64	5320	11.12	10.31	10.45	10.14	16.54	≤ 17.35	29.17	≤ 29.45	Pass
11n-HT20	26	100	5500	11.06	10.73	10.36	10.63	16.72	≤ 17.69	29.01	≤ 29.45	Pass
11n-HT20	26	116	5580	10.63	10.42	9.87	10.21	16.31	≤ 17.69	28.60	≤ 29.45	Pass
11n-HT20	26	120	5600	10.73	10.05	10.45	10.33	16.42	≤ 17.69	28.71	≤ 29.45	Pass
11n-HT20	26	140	5700	10.35	10.12	10.29	10.15	16.25	≤ 17.69	28.54	≤ 29.45	Pass
11n-HT40	54	54	5270	11.66	10.78	10.78	10.71	17.02	≤ 17.35	29.65	≤ 30.00	Pass
11n-HT40	54	62	5310	11.38	10.25	10.51	10.18	16.63	≤ 17.35	29.26	≤ 30.00	Pass
11n-HT40	54	102	5510	11.45	10.93	11.02	10.81	17.08	≤ 17.69	29.37	≤ 30.00	Pass
11n-HT40	54	110	5550	11.43	10.91	10.95	10.81	17.05	≤ 17.69	29.34	≤ 30.00	Pass
11n-HT40	54	118	5590	11.32	10.83	10.61	10.74	16.90	≤ 17.69	29.19	≤ 30.00	Pass
11n-HT40	54	134	5670	11.31	11.04	11.13	10.55	17.04	≤ 17.69	29.33	≤ 30.00	Pass
11ac-VHT20	26	52	5260	10.71	10.12	10.11	10.03	16.27	≤ 17.35	28.90	≤ 29.45	Pass
11ac-VHT20	26	60	5300	10.93	10.15	10.14	10.22	16.39	≤ 17.35	29.02	≤ 29.45	Pass
11ac-VHT20	26	64	5320	11.11	10.35	10.54	10.15	16.57	≤ 17.35	29.20	≤ 29.45	Pass
11ac-VHT20	26	100	5500	11.11	10.83	10.38	10.56	16.75	≤ 17.69	29.04	≤ 29.45	Pass
11ac-VHT20	26	116	5580	11.04	10.91	10.41	10.59	16.77	≤ 17.69	29.06	≤ 29.45	Pass
11ac-VHT20	26	120	5600	10.71	10.02	10.43	10.36	16.41	≤ 17.69	28.70	≤ 29.45	Pass
11ac-VHT20	26	140	5700	10.31	10.15	10.22	10.05	16.20	≤ 17.69	28.49	≤ 29.45	Pass
11ac-VHT20	26	144	5720	10.92	10.67	10.74	10.62	16.76	≤ 17.69	29.05	≤ 29.45	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT40	54	54	5270	11.52	10.92	10.86	10.92	17.08	≤ 17.35	29.71	≤ 30.00	Pass
11ac-VHT40	54	62	5310	11.03	10.35	10.69	10.39	16.64	≤ 17.35	29.27	≤ 30.00	Pass
11ac-VHT40	54	102	5510	11.32	11.11	11.16	11.03	17.18	≤ 17.69	29.47	≤ 30.00	Pass
11ac-VHT40	54	110	5550	11.42	11.21	11.23	11.08	17.26	≤ 17.69	29.55	≤ 30.00	Pass
11ac-VHT40	54	118	5590	11.24	10.92	10.66	11.03	16.99	≤ 17.69	29.28	≤ 30.00	Pass
11ac-VHT40	54	134	5670	11.22	11.06	11.16	10.84	17.09	≤ 17.69	29.38	≤ 30.00	Pass
11ac-VHT40	54	142	5710	11.32	11.33	11.34	10.84	17.23	≤ 17.69	29.52	≤ 30.00	Pass
11ac-VHT80	117.2	58	5290	11.72	10.73	10.97	10.71	17.07	≤ 17.35	29.36	≤ 30.00	Pass
11ac-VHT80	117.2	106	5530	11.46	11.04	11.14	10.93	17.17	≤ 17.69	29.46	≤ 30.00	Pass
11ac-VHT80	117.2	122	5610	11.40	10.66	11.19	10.90	17.07	≤ 17.69	29.36	≤ 30.00	Pass
11ac-VHT80	117.2	138	5690	11.39	11.21	11.12	10.98	17.20	≤ 17.69	29.49	≤ 30.00	Pass

Note 1: The Total Average Power (dBm) = $10*\log\{10^{(\text{Ant 0 Average Power }/10)} +10^{(\text{Ant 1 Average Power }/10)} +10^{(\text{Ant 2 Average Power }/10)} +10^{(\text{Ant 3 Average Power }/10)}\}$.

Note 2: Total EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

For FCC 802.11ac-VHT80 + 80 Mode Test Data

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP of 30° Elevation Angle (dBm)	EIRP Limit of 30° Elevation Angle (dBm)	Result
11ac-VHT	58.6	42	5210	18.17	17.60	--	--	20.90	≤ 26.38	19.49	≤ 21.00	Pass
80+80	58.6	58	5290	--	--	17.34	16.61	20.00	≤ 20.36	--	--	Pass
11ac-VHT	58.6	42	5210	19.19	18.70	--	--	21.96	≤ 26.38	20.54	≤ 21.00	Pass
80+80	58.6	106	5530	--	--	16.59	16.43	19.52	≤ 20.70	--	--	Pass
11ac-VHT	58.6	58	5210	19.17	18.75	--	--	21.98	≤ 26.38	20.56	≤ 21.00	Pass
80+80	58.6	122	5610	--	--	16.56	16.20	19.39	≤ 20.70	--	--	Pass
11ac-VHT	58.6	58	5210	19.19	18.73	--	--	21.98	≤ 26.38	20.56	≤ 21.00	Pass
80+80	58.6	138	5690	--	--	16.84	16.17	19.53	≤ 20.70	--	--	Pass
11ac-VHT	58.6	58	5290	17.11	16.41	--	--	19.78	≤ 20.36	--	--	Pass
80+80	58.6	106	5530	--	--	14.53	14.45	17.50	≤ 20.70	--	--	Pass
11ac-VHT	58.6	58	5290	17.10	16.46	--	--	19.80	≤ 20.36	--	--	Pass
80+80	58.6	122	5610	--	--	14.01	14.09	17.06	≤ 20.70	--	--	Pass
11ac-VHT	58.6	58	5290	17.09	16.44	--	--	19.79	≤ 20.36	--	--	Pass
80+80	58.6	138	5690	--	--	14.45	14.05	17.26	≤ 20.70	--	--	Pass
11ac-VHT	58.6	58	5290	17.07	16.47	--	--	19.79	≤ 20.36	--	--	Pass
80+80	58.6	155	5775	--	--	14.28	13.58	16.95	≤ 26.32	--	--	Pass
11ac-VHT	58.6	106	5530	17.46	16.98	--	--	20.24	≤ 20.70	--	--	Pass
80+80	58.6	122	5610	--	--	16.35	16.12	19.25	≤ 20.70	--	--	Pass
11ac-VHT	58.6	106	5530	17.47	17.01	--	--	20.26	≤ 20.70	--	--	Pass
80+80	58.6	138	5690	--	--	16.79	16.12	19.48	≤ 20.70	--	--	Pass
11ac-VHT	58.6	106	5530	17.48	16.96	--	--	20.24	≤ 20.70	--	--	Pass
80+80	58.6	155	5775	--	--	16.53	16.24	19.40	≤ 26.32	--	--	Pass
11ac-VHT	58.6	122	5610	17.37	16.95	--	--	20.18	≤ 20.70	--	--	Pass
80+80	58.6	138	5690	--	--	17.29	16.62	19.98	≤ 20.70	--	--	Pass
11ac-VHT	58.6	122	5610	17.38	16.96	--	--	20.19	≤ 20.70	--	--	Pass
80+80	58.6	155	5775	--	--	16.53	16.24	19.40	≤ 26.32	--	--	Pass
11ac-VHT	58.6	138	5690	17.52	17.15	--	--	20.35	≤ 20.70	--	--	Pass
80+80	58.6	155	5775	--	--	16.58	16.23	19.42	≤ 26.32	--	--	Pass

Note 1: Total Average Power (dBm) = $10*\log\{10^{(\text{Ant 0 Average Power }/10)} + 10^{(\text{Ant 1 Average Power }/10)}\}$.

Note 2: Total Average Power (dBm) = $10*\log\{10^{(\text{Ant 2 Average Power }/10)} + 10^{(\text{Ant 3 Average Power }/10)}\}$.

Note 3: Total EIRP of 30° Elevation Angle (dBm) = $10*\log\{10^{((\text{Ant 0 Average Power + Ant 0 30° Elevation Angle Gain})}/10) + 10^{((\text{Ant 1}}$

Average Power + Ant 1 30° Elevation Angle Gain) /10)}.

7.5.9. Galtronics Directional Antenna Test Result

Product	Wi-Fi AP 4x4 OD direct antenna US	Temperature	25°C
Test Engineer	Johnson Liao	Relative Humidity	50 ~ 58%
Test Site	SR2	Test Date	2016/08/21
Test Item	Output Power	Antenna Model No.	Galtronics Directional Antenna

For FCC Bands UNII-2A & UNII-2C & UNII-3

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	19.73	19.73	≤ 21.59	28.12	≤ 29.15	Pass
11a	6	60	5300	19.87	19.87	≤ 21.59	28.26	≤ 29.15	Pass
11a	6	64	5320	19.58	19.58	≤ 21.59	27.97	≤ 29.15	Pass
11a	6	100	5500	19.10	19.10	≤ 21.49	27.59	≤ 29.15	Pass
11a	6	116	5580	18.94	18.94	≤ 21.49	27.43	≤ 29.15	Pass
11a	6	120	5600	18.32	18.32	≤ 21.49	26.81	≤ 29.15	Pass
11a	6	140	5700	18.09	18.09	≤ 21.49	26.58	≤ 29.15	Pass
11n-HT20	6.5	52	5260	19.97	19.97	≤ 21.59	28.36	≤ 29.45	Pass
11n-HT20	6.5	60	5300	20.08	20.08	≤ 21.59	28.47	≤ 29.45	Pass
11n-HT20	6.5	64	5320	19.78	19.78	≤ 21.59	28.17	≤ 29.45	Pass
11n-HT20	6.5	100	5500	19.26	19.26	≤ 21.49	27.75	≤ 29.45	Pass
11n-HT20	6.5	116	5580	19.16	19.16	≤ 21.49	27.65	≤ 29.45	Pass
11n-HT20	6.5	120	5600	18.54	18.54	≤ 21.49	27.03	≤ 29.45	Pass
11n-HT20	6.5	140	5700	18.30	18.30	≤ 21.49	26.79	≤ 29.45	Pass
11n-HT40	13.5	54	5270	20.91	20.91	≤ 21.59	29.30	≤ 30.00	Pass
11n-HT40	13.5	62	5310	21.08	21.08	≤ 21.59	29.47	≤ 30.00	Pass
11n-HT40	13.5	102	5510	20.78	20.78	≤ 21.49	29.27	≤ 30.00	Pass
11n-HT40	13.5	110	5550	20.79	20.79	≤ 21.49	29.28	≤ 30.00	Pass
11n-HT40	13.5	118	5590	20.74	20.74	≤ 21.49	29.23	≤ 30.00	Pass
11n-HT40	13.5	134	5670	21.22	21.22	≤ 21.49	29.71	≤ 30.00	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT20	6.5	52	5260	19.97	19.97	≤ 21.59	28.36	≤ 29.45	Pass
11ac-VHT20	6.5	60	5300	20.09	20.09	≤ 21.59	28.48	≤ 29.45	Pass
11ac-VHT20	6.5	64	5320	19.79	19.79	≤ 21.59	28.18	≤ 29.45	Pass
11ac-VHT20	6.5	100	5500	18.90	18.90	≤ 21.49	27.39	≤ 29.45	Pass
11ac-VHT20	6.5	116	5580	19.03	19.03	≤ 21.49	27.52	≤ 29.45	Pass
11ac-VHT20	6.5	120	5600	18.50	18.50	≤ 21.49	26.99	≤ 29.45	Pass
11ac-VHT20	6.5	140	5700	17.87	17.87	≤ 21.49	26.36	≤ 29.45	Pass
11ac-VHT20	6.5	144	5720	18.26	18.26	≤ 21.49	26.75	≤ 29.45	Pass
11ac-VHT40	13.5	54	5270	21.27	21.27	≤ 21.59	29.66	≤ 30.00	Pass
11ac-VHT40	13.5	62	5310	20.95	20.95	≤ 21.59	29.34	≤ 30.00	Pass
11ac-VHT40	13.5	102	5510	21.15	21.15	≤ 21.49	29.64	≤ 30.00	Pass
11ac-VHT40	13.5	110	5550	21.06	21.06	≤ 21.49	29.55	≤ 30.00	Pass
11ac-VHT40	13.5	118	5590	20.57	20.57	≤ 21.49	29.06	≤ 30.00	Pass
11ac-VHT40	13.5	134	5670	20.02	20.02	≤ 21.49	28.51	≤ 30.00	Pass
11ac-VHT40	13.5	142	5710	20.44	20.44	≤ 21.49	28.93	≤ 30.00	Pass
11ac-VHT80	29.3	58	5290	20.87	20.87	≤ 21.59	29.26	≤ 30.00	Pass
11ac-VHT80	29.3	106	5530	21.20	21.20	≤ 21.49	29.69	≤ 30.00	Pass
11ac-VHT80	29.3	122	5610	21.21	21.21	≤ 21.49	29.70	≤ 30.00	Pass
11ac-VHT80	29.3	138	5690	20.96	20.96	≤ 21.49	29.45	≤ 30.00	Pass

Note: Total EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 1 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	19.67	19.67	≤ 21.82	27.83	≤ 29.15	Pass
11a	6	60	5300	19.69	19.69	≤ 21.82	27.85	≤ 29.15	Pass
11a	6	64	5320	19.84	19.84	≤ 21.82	28.00	≤ 29.15	Pass
11a	6	100	5500	19.88	19.88	≤ 21.41	28.45	≤ 29.15	Pass
11a	6	116	5580	19.78	19.78	≤ 21.41	28.35	≤ 29.15	Pass
11a	6	120	5600	19.06	19.06	≤ 21.41	27.63	≤ 29.15	Pass
11a	6	140	5700	18.62	18.62	≤ 21.41	27.19	≤ 29.15	Pass
11n-HT20	6.5	52	5260	19.96	19.96	≤ 21.82	28.12	≤ 29.45	Pass
11n-HT20	6.5	60	5300	20.45	20.45	≤ 21.82	28.61	≤ 29.45	Pass
11n-HT20	6.5	64	5320	20.13	20.13	≤ 21.82	28.29	≤ 29.45	Pass
11n-HT20	6.5	100	5500	20.16	20.16	≤ 21.41	28.73	≤ 29.45	Pass
11n-HT20	6.5	116	5580	19.89	19.89	≤ 21.41	28.46	≤ 29.45	Pass
11n-HT20	6.5	120	5600	18.84	18.84	≤ 21.41	27.41	≤ 29.45	Pass
11n-HT20	6.5	140	5700	18.39	18.39	≤ 21.41	26.96	≤ 29.45	Pass
11n-HT40	13.5	54	5270	21.52	21.52	≤ 21.82	29.68	≤ 30.00	Pass
11n-HT40	13.5	62	5310	21.53	21.53	≤ 21.82	29.69	≤ 30.00	Pass
11n-HT40	13.5	102	5510	21.09	21.09	≤ 21.41	29.66	≤ 30.00	Pass
11n-HT40	13.5	110	5550	21.05	21.05	≤ 21.41	29.62	≤ 30.00	Pass
11n-HT40	13.5	118	5590	21.00	21.00	≤ 21.41	29.57	≤ 30.00	Pass
11n-HT40	13.5	134	5670	21.05	21.05	≤ 21.41	29.62	≤ 30.00	Pass
11ac-VHT20	6.5	52	5260	20.09	20.09	≤ 21.82	28.25	≤ 29.45	Pass
11ac-VHT20	6.5	60	5300	20.60	20.60	≤ 21.82	28.76	≤ 29.45	Pass
11ac-VHT20	6.5	64	5320	20.26	20.26	≤ 21.82	28.42	≤ 29.45	Pass
11ac-VHT20	6.5	100	5500	20.33	20.33	≤ 21.41	28.90	≤ 29.45	Pass
11ac-VHT20	6.5	116	5580	20.36	20.36	≤ 21.41	28.93	≤ 29.45	Pass
11ac-VHT20	6.5	120	5600	18.99	18.99	≤ 21.41	27.56	≤ 29.45	Pass
11ac-VHT20	6.5	140	5700	18.53	18.53	≤ 21.41	27.10	≤ 29.45	Pass
11ac-VHT20	6.5	144	5720	18.71	18.71	≤ 21.41	27.28	≤ 29.45	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 1 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT40	13.5	54	5270	21.21	21.21	≤ 21.82	29.37	≤ 30.00	Pass
11ac-VHT40	13.5	62	5310	21.22	21.22	≤ 21.82	29.38	≤ 30.00	Pass
11ac-VHT40	13.5	102	5510	21.09	21.09	≤ 21.41	29.66	≤ 30.00	Pass
11ac-VHT40	13.5	110	5550	21.08	21.08	≤ 21.41	29.65	≤ 30.00	Pass
11ac-VHT40	13.5	118	5590	21.02	21.02	≤ 21.41	29.59	≤ 30.00	Pass
11ac-VHT40	13.5	134	5670	21.11	21.11	≤ 21.41	29.68	≤ 30.00	Pass
11ac-VHT40	13.5	142	5710	21.14	21.14	≤ 21.41	29.71	≤ 30.00	Pass
11ac-VHT80	29.3	58	5290	21.53	21.53	≤ 21.82	29.69	≤ 30.00	Pass
11ac-VHT80	29.3	106	5530	21.02	21.02	≤ 21.41	29.59	≤ 30.00	Pass
11ac-VHT80	29.3	122	5610	21.14	21.14	≤ 21.41	29.71	≤ 30.00	Pass
11ac-VHT80	29.3	138	5690	20.85	20.85	≤ 21.41	29.42	≤ 30.00	Pass

Note: Total EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 2 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	19.94	19.94	≤ 21.59	28.33	≤ 29.15	Pass
11a	6	60	5300	19.69	19.69	≤ 21.59	28.08	≤ 29.15	Pass
11a	6	64	5320	20.00	20.00	≤ 21.59	28.39	≤ 29.15	Pass
11a	6	100	5500	19.68	19.68	≤ 21.49	28.17	≤ 29.15	Pass
11a	6	116	5580	19.53	19.53	≤ 21.49	28.02	≤ 29.15	Pass
11a	6	120	5600	18.71	18.71	≤ 21.49	27.20	≤ 29.15	Pass
11a	6	140	5700	18.55	18.55	≤ 21.49	27.04	≤ 29.15	Pass
11n-HT20	6.5	52	5260	19.35	19.35	≤ 21.59	27.74	≤ 29.45	Pass
11n-HT20	6.5	60	5300	19.64	19.64	≤ 21.59	28.03	≤ 29.45	Pass
11n-HT20	6.5	64	5320	19.47	19.47	≤ 21.59	27.86	≤ 29.45	Pass
11n-HT20	6.5	100	5500	19.20	19.20	≤ 21.49	27.69	≤ 29.45	Pass
11n-HT20	6.5	116	5580	19.11	19.11	≤ 21.49	27.60	≤ 29.45	Pass
11n-HT20	6.5	120	5600	18.97	18.97	≤ 21.49	27.46	≤ 29.45	Pass
11n-HT20	6.5	140	5700	18.32	18.32	≤ 21.49	26.81	≤ 29.45	Pass
11n-HT40	13.5	54	5270	21.28	21.28	≤ 21.59	29.67	≤ 30.00	Pass
11n-HT40	13.5	62	5310	21.06	21.06	≤ 21.59	29.45	≤ 30.00	Pass
11n-HT40	13.5	102	5510	21.35	21.35	≤ 21.49	29.84	≤ 30.00	Pass
11n-HT40	13.5	110	5550	21.33	21.33	≤ 21.49	29.82	≤ 30.00	Pass
11n-HT40	13.5	118	5590	21.07	21.07	≤ 21.49	29.56	≤ 30.00	Pass
11n-HT40	13.5	134	5670	20.67	20.67	≤ 21.49	29.16	≤ 30.00	Pass
11ac-VHT20	6.5	52	5260	19.70	19.70	≤ 21.59	28.09	≤ 29.45	Pass
11ac-VHT20	6.5	60	5300	19.90	19.90	≤ 21.59	28.29	≤ 29.45	Pass
11ac-VHT20	6.5	64	5320	20.22	20.22	≤ 21.59	28.61	≤ 29.45	Pass
11ac-VHT20	6.5	100	5500	19.96	19.96	≤ 21.49	28.45	≤ 29.45	Pass
11ac-VHT20	6.5	116	5580	20.01	20.01	≤ 21.49	28.50	≤ 29.45	Pass
11ac-VHT20	6.5	120	5600	18.98	18.98	≤ 21.49	27.47	≤ 29.45	Pass
11ac-VHT20	6.5	140	5700	18.29	18.29	≤ 21.49	26.78	≤ 29.45	Pass
11ac-VHT20	6.5	144	5720	18.32	18.32	≤ 21.49	26.81	≤ 29.45	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 2 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT40	13.5	54	5270	20.81	20.81	≤ 21.59	29.20	≤ 30.00	Pass
11ac-VHT40	13.5	62	5310	21.06	21.06	≤ 21.59	29.45	≤ 30.00	Pass
11ac-VHT40	13.5	102	5510	21.09	21.09	≤ 21.49	29.58	≤ 30.00	Pass
11ac-VHT40	13.5	110	5550	21.09	21.09	≤ 21.49	29.58	≤ 30.00	Pass
11ac-VHT40	13.5	118	5590	21.12	21.12	≤ 21.49	29.61	≤ 30.00	Pass
11ac-VHT40	13.5	134	5670	20.71	20.71	≤ 21.49	29.20	≤ 30.00	Pass
11ac-VHT40	13.5	142	5710	20.43	20.43	≤ 21.49	28.92	≤ 30.00	Pass
11ac-VHT80	29.3	58	5290	21.40	21.40	≤ 21.59	29.79	≤ 30.00	Pass
11ac-VHT80	29.3	106	5530	21.06	21.06	≤ 21.49	29.55	≤ 30.00	Pass
11ac-VHT80	29.3	122	5610	21.23	21.23	≤ 21.49	29.72	≤ 30.00	Pass
11ac-VHT80	29.3	138	5690	21.20	21.20	≤ 21.49	29.69	≤ 30.00	Pass

Note: Total EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	19.97	19.97	≤ 21.82	28.13	≤ 29.15	Pass
11a	6	60	5300	20.15	20.15	≤ 21.82	28.31	≤ 29.15	Pass
11a	6	64	5320	19.50	19.50	≤ 21.82	27.66	≤ 29.15	Pass
11a	6	100	5500	18.80	18.80	≤ 21.41	27.37	≤ 29.15	Pass
11a	6	116	5580	18.83	18.83	≤ 21.41	27.40	≤ 29.15	Pass
11a	6	120	5600	18.18	18.18	≤ 21.41	26.75	≤ 29.15	Pass
11a	6	140	5700	17.76	17.76	≤ 21.41	26.33	≤ 29.15	Pass
11n-HT20	6.5	52	5260	20.03	20.03	≤ 21.82	28.19	≤ 29.45	Pass
11n-HT20	6.5	60	5300	20.23	20.23	≤ 21.82	28.39	≤ 29.45	Pass
11n-HT20	6.5	64	5320	19.88	19.88	≤ 21.82	28.04	≤ 29.45	Pass
11n-HT20	6.5	100	5500	19.43	19.43	≤ 21.41	28.00	≤ 29.45	Pass
11n-HT20	6.5	116	5580	19.51	19.51	≤ 21.41	28.08	≤ 29.45	Pass
11n-HT20	6.5	120	5600	18.38	18.38	≤ 21.41	26.95	≤ 29.45	Pass
11n-HT20	6.5	140	5700	17.94	17.94	≤ 21.41	26.51	≤ 29.45	Pass
11n-HT40	13.5	54	5270	21.08	21.08	≤ 21.82	29.24	≤ 30.00	Pass
11n-HT40	13.5	62	5310	21.11	21.11	≤ 21.82	29.27	≤ 30.00	Pass
11n-HT40	13.5	102	5510	20.70	20.70	≤ 21.41	29.27	≤ 30.00	Pass
11n-HT40	13.5	110	5550	20.76	20.76	≤ 21.41	29.33	≤ 30.00	Pass
11n-HT40	13.5	118	5590	20.89	20.89	≤ 21.41	29.46	≤ 30.00	Pass
11n-HT40	13.5	134	5670	20.32	20.32	≤ 21.41	28.89	≤ 30.00	Pass
11ac-VHT20	6.5	52	5260	20.21	20.21	≤ 21.82	28.37	≤ 29.45	Pass
11ac-VHT20	6.5	60	5300	20.43	20.43	≤ 21.82	28.59	≤ 29.45	Pass
11ac-VHT20	6.5	64	5320	20.07	20.07	≤ 21.82	28.23	≤ 29.45	Pass
11ac-VHT20	6.5	100	5500	18.88	18.88	≤ 21.41	27.45	≤ 29.45	Pass
11ac-VHT20	6.5	116	5580	18.89	18.89	≤ 21.41	27.46	≤ 29.45	Pass
11ac-VHT20	6.5	120	5600	18.24	18.24	≤ 21.41	26.81	≤ 29.45	Pass
11ac-VHT20	6.5	140	5700	17.85	17.85	≤ 21.41	26.42	≤ 29.45	Pass
11ac-VHT20	6.5	144	5720	17.87	17.87	≤ 21.41	26.44	≤ 29.45	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT40	13.5	54	5270	21.25	21.25	≤ 21.82	29.41	≤ 30.00	Pass
11ac-VHT40	13.5	62	5310	21.26	21.26	≤ 21.82	29.42	≤ 30.00	Pass
11ac-VHT40	13.5	102	5510	20.85	20.85	≤ 21.41	29.42	≤ 30.00	Pass
11ac-VHT40	13.5	110	5550	20.87	20.87	≤ 21.41	29.44	≤ 30.00	Pass
11ac-VHT40	13.5	118	5590	20.42	20.42	≤ 21.41	28.99	≤ 30.00	Pass
11ac-VHT40	13.5	134	5670	20.37	20.37	≤ 21.41	28.94	≤ 30.00	Pass
11ac-VHT40	13.5	142	5710	20.44	20.44	≤ 21.41	29.01	≤ 30.00	Pass
11ac-VHT80	29.3	58	5290	21.19	21.19	≤ 21.82	29.35	≤ 30.00	Pass
11ac-VHT80	29.3	106	5530	20.91	20.91	≤ 21.41	29.48	≤ 30.00	Pass
11ac-VHT80	29.3	122	5610	21.02	21.02	≤ 21.41	29.59	≤ 30.00	Pass
11ac-VHT80	29.3	138	5690	20.57	20.57	≤ 21.41	29.14	≤ 30.00	Pass

Note: Total EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	8.05	7.64	7.76	7.33	13.72	≤ 15.68	28.02	≤ 29.15	Pass
11a	6	60	5300	8.34	7.52	7.73	7.60	13.83	≤ 15.68	28.13	≤ 29.15	Pass
11a	6	64	5320	8.54	7.75	8.21	7.66	14.08	≤ 15.68	28.38	≤ 29.15	Pass
11a	6	100	5500	7.55	7.26	7.01	7.20	13.28	≤ 15.43	27.83	≤ 29.15	Pass
11a	6	116	5580	7.45	7.32	7.13	7.32	13.33	≤ 15.43	27.88	≤ 29.15	Pass
11a	6	120	5600	6.74	6.48	6.58	6.50	12.60	≤ 15.43	27.15	≤ 29.15	Pass
11a	6	140	5700	6.46	6.13	6.38	6.07	12.28	≤ 15.43	26.83	≤ 29.15	Pass
11n-HT20	26	52	5260	8.54	7.96	8.09	7.74	14.11	≤ 15.68	28.41	≤ 29.45	Pass
11n-HT20	26	60	5300	8.64	7.87	8.07	7.88	14.15	≤ 15.68	28.45	≤ 29.45	Pass
11n-HT20	26	64	5320	8.89	8.13	8.46	8.07	14.42	≤ 15.68	28.72	≤ 29.45	Pass
11n-HT20	26	100	5500	7.86	7.48	7.36	7.43	13.56	≤ 15.43	28.11	≤ 29.45	Pass
11n-HT20	26	116	5580	7.92	7.47	7.42	7.51	13.61	≤ 15.43	28.16	≤ 29.45	Pass
11n-HT20	26	120	5600	7.12	6.53	6.76	6.84	12.84	≤ 15.43	27.39	≤ 29.45	Pass
11n-HT20	26	140	5700	6.86	6.31	6.69	6.48	12.61	≤ 15.43	27.16	≤ 29.45	Pass
11n-HT40	54	54	5270	10.03	9.12	9.12	9.04	15.37	≤ 15.68	29.67	≤ 30.00	Pass
11n-HT40	54	62	5310	9.82	8.69	8.81	8.47	15.00	≤ 15.68	29.30	≤ 30.00	Pass
11n-HT40	54	102	5510	9.49	9.05	8.82	8.78	15.06	≤ 15.43	29.61	≤ 30.00	Pass
11n-HT40	54	110	5550	9.52	9.13	8.79	8.69	15.07	≤ 15.43	29.62	≤ 30.00	Pass
11n-HT40	54	118	5590	9.51	9.02	9.08	9.01	15.18	≤ 15.43	29.73	≤ 30.00	Pass
11n-HT40	54	134	5670	8.95	8.47	8.72	8.33	14.64	≤ 15.43	29.19	≤ 30.00	Pass
11ac-VHT20	26	52	5260	8.66	7.81	8.14	7.66	14.11	≤ 15.68	28.41	≤ 29.45	Pass
11ac-VHT20	26	60	5300	8.87	7.75	8.11	7.88	14.20	≤ 15.68	28.50	≤ 29.45	Pass
11ac-VHT20	26	64	5320	9.06	7.99	8.42	7.93	14.39	≤ 15.68	28.69	≤ 29.45	Pass
11ac-VHT20	26	100	5500	8.01	7.51	7.35	7.52	13.63	≤ 15.43	28.18	≤ 29.45	Pass
11ac-VHT20	26	116	5580	7.98	7.63	7.41	7.49	13.65	≤ 15.43	28.20	≤ 29.45	Pass
11ac-VHT20	26	120	5600	7.23	6.66	6.92	6.86	12.94	≤ 15.43	27.49	≤ 29.45	Pass
11ac-VHT20	26	140	5700	6.98	6.35	6.81	6.41	12.67	≤ 15.43	27.22	≤ 29.45	Pass
11ac-VHT20	26	144	5720	6.59	5.92	6.32	5.95	12.22	≤ 15.43	26.77	≤ 29.45	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT40	54	54	5270	10.12	9.11	9.21	9.18	15.45	≤ 15.68	29.75	≤ 30.00	Pass
11ac-VHT40	54	62	5310	9.89	8.58	9.06	8.69	15.11	≤ 15.68	29.41	≤ 30.00	Pass
11ac-VHT40	54	102	5510	9.56	8.94	8.89	8.87	15.10	≤ 15.43	29.65	≤ 30.00	Pass
11ac-VHT40	54	110	5550	9.62	9.01	8.91	8.84	15.13	≤ 15.43	29.68	≤ 30.00	Pass
11ac-VHT40	54	118	5590	9.54	8.89	9.12	9.05	15.18	≤ 15.43	29.73	≤ 30.00	Pass
11ac-VHT40	54	134	5670	9.43	8.87	9.16	8.88	15.11	≤ 15.43	29.66	≤ 30.00	Pass
11ac-VHT40	54	142	5710	9.23	8.35	8.77	8.45	14.73	≤ 15.43	29.28	≤ 30.00	Pass
11ac-VHT80	117.2	58	5290	9.78	8.73	9.06	8.60	15.09	≤ 15.68	29.39	≤ 30.00	Pass
11ac-VHT80	117.2	106	5530	9.20	8.63	8.68	8.46	14.77	≤ 15.43	29.32	≤ 30.00	Pass
11ac-VHT80	117.2	122	5610	9.55	8.88	9.08	8.98	15.15	≤ 15.43	29.70	≤ 30.00	Pass
11ac-VHT80	117.2	138	5690	9.14	8.77	9.01	8.55	14.89	≤ 15.43	29.44	≤ 30.00	Pass

Note 1: The Total Average Power (dBm) = $10*\log\{10^{(\text{Ant 0 Average Power }/10)} +10^{(\text{Ant 1 Average Power }/10)} +10^{(\text{Ant 2 Average Power }/10)} +10^{(\text{Ant 3 Average Power }/10)}\}$.

Note 2: Total EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

For FCC 802.11ac-VHT80 + 80 Mode Test Data

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP of 30° Elevation Angle (dBm)	EIRP Limit of 30° Elevation Angle (dBm)	Result
11ac-VHT	58.6	42	5210	16.06	15.59	--	--	18.84	≤ 24.71	16.73	≤ 21.00	Pass
80+80	58.6	58	5290	--	--	15.41	14.79	18.12	≤ 18.69	--	--	Pass
11ac-VHT	58.6	42	5210	17.64	17.09	--	--	20.38	≤ 24.71	18.28	≤ 21.00	Pass
80+80	58.6	106	5530	--	--	15.08	14.92	18.01	≤ 18.44	--	--	Pass
11ac-VHT	58.6	58	5210	17.63	17.12	--	--	20.39	≤ 24.71	18.28	≤ 21.00	Pass
80+80	58.6	122	5610	--	--	14.57	14.61	17.60	≤ 18.44	--	--	Pass
11ac-VHT	58.6	58	5210	17.74	17.09	--	--	20.44	≤ 24.71	18.34	≤ 21.00	Pass
80+80	58.6	138	5690	--	--	15.11	14.82	17.98	≤ 18.44	--	--	Pass
11ac-VHT	58.6	58	5290	15.64	14.94	--	--	18.31	≤ 18.69	--	--	Pass
80+80	58.6	106	5530	--	--	13.13	13.08	16.12	≤ 18.44	--	--	Pass
11ac-VHT	58.6	58	5290	15.59	15.03	--	--	18.33	≤ 18.69	--	--	Pass
80+80	58.6	122	5610	--	--	12.83	12.86	15.86	≤ 18.44	--	--	Pass
11ac-VHT	58.6	58	5290	15.66	14.94	--	--	18.33	≤ 18.69	--	--	Pass
80+80	58.6	138	5690	--	--	13.10	12.88	16.00	≤ 18.44	--	--	Pass
11ac-VHT	58.6	58	5290	15.56	14.98	--	--	18.29	≤ 18.69	--	--	Pass
80+80	58.6	155	5775	--	--	12.75	12.32	15.55	≤ 24.12	--	--	Pass
11ac-VHT	58.6	106	5530	14.87	14.67	--	--	17.78	≤ 18.44	--	--	Pass
80+80	58.6	122	5610	--	--	13.92	13.93	16.94	≤ 18.44	--	--	Pass
11ac-VHT	58.6	106	5530	15.37	15.13	--	--	18.26	≤ 18.44	--	--	Pass
80+80	58.6	138	5690	--	--	14.94	15.09	18.03	≤ 18.44	--	--	Pass
11ac-VHT	58.6	106	5530	14.85	14.68	--	--	17.78	≤ 18.44	--	--	Pass
80+80	58.6	155	5775	--	--	13.77	13.39	16.59	≤ 24.12	--	--	Pass
11ac-VHT	58.6	122	5610	15.17	14.81	--	--	18.00	≤ 18.44	--	--	Pass
80+80	58.6	138	5690	--	--	15.07	14.69	17.89	≤ 18.44	--	--	Pass
11ac-VHT	58.6	122	5610	15.17	14.84	--	--	18.02	≤ 18.44	--	--	Pass
80+80	58.6	155	5775	--	--	14.73	14.16	17.46	≤ 24.12	--	--	Pass
11ac-VHT	58.6	138	5690	14.86	14.63	--	--	17.76	≤ 18.44	--	--	Pass
80+80	58.6	155	5775			14.24	13.68	16.98	≤ 24.12	--	--	Pass

Note 1: Total Average Power (dBm) = $10*\log\{10^{(\text{Ant 0 Average Power }/10)} + 10^{(\text{Ant 1 Average Power }/10)}\}$.

Note 2: Total Average Power (dBm) = $10*\log\{10^{(\text{Ant 2 Average Power }/10)} + 10^{(\text{Ant 3 Average Power }/10)}\}$.

Note 3: Total EIRP of 30° Elevation Angle (dBm) = $10*\log\{10^{((\text{Ant 0 Average Power + Ant 0 30° Elevation Angle Gain})/10)} + 10^{(\text{Ant 1}}$

Average Power + Ant 1 30° Elevation Angle Gain) /10)}.

7.5.10. Sector-Antenna 1356.17.0011 Test Result

Product	Wi-Fi AP 4x4 OD ext. antenna US	Temperature	25°C
Test Engineer	Johnson Liao	Relative Humidity	50 ~ 58%
Test Site	SR2	Test Date	2016/08/21
Test Item	Output Power	Antenna Model No.	Sector-Antenna 1356.17.0011

For FCC Bands UNII-2A & UNII-2C & UNII-3

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	12.53	12.53	≤ 13.98	28.53	≤ 29.15	Pass
11a	6	60	5300	12.94	12.94	≤ 13.98	28.94	≤ 29.15	Pass
11a	6	64	5320	12.62	12.62	≤ 13.98	28.62	≤ 29.15	Pass
11a	6	100	5500	11.72	11.72	≤ 13.48	28.22	≤ 29.15	Pass
11a	6	116	5580	11.58	11.58	≤ 13.48	28.08	≤ 29.15	Pass
11a	6	120	5600	11.13	11.13	≤ 13.48	27.63	≤ 29.15	Pass
11a	6	140	5700	11.36	11.36	≤ 13.48	27.86	≤ 29.15	Pass
11n-HT20	6.5	52	5260	13.13	13.13	≤ 13.98	29.13	≤ 29.45	Pass
11n-HT20	6.5	60	5300	13.25	13.25	≤ 13.98	29.25	≤ 29.45	Pass
11n-HT20	6.5	64	5320	12.92	12.92	≤ 13.98	28.92	≤ 29.45	Pass
11n-HT20	6.5	100	5500	11.91	11.91	≤ 13.48	28.41	≤ 29.45	Pass
11n-HT20	6.5	116	5580	11.67	11.67	≤ 13.48	28.17	≤ 29.45	Pass
11n-HT20	6.5	120	5600	11.37	11.37	≤ 13.48	27.87	≤ 29.45	Pass
11n-HT20	6.5	140	5700	11.06	11.06	≤ 13.48	27.56	≤ 29.45	Pass
11n-HT40	13.5	54	5270	13.42	13.42	≤ 13.98	29.42	≤ 30.00	Pass
11n-HT40	13.5	62	5310	10.62	10.62	≤ 13.98	26.62	≤ 30.00	Pass
11n-HT40	13.5	102	5510	9.91	9.91	≤ 13.48	26.41	≤ 30.00	Pass
11n-HT40	13.5	110	5550	10.02	10.02	≤ 13.48	26.52	≤ 30.00	Pass
11n-HT40	13.5	118	5590	12.91	12.91	≤ 13.48	29.41	≤ 30.00	Pass
11n-HT40	13.5	134	5670	11.87	11.87	≤ 13.48	28.37	≤ 30.00	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT20	6.5	52	5260	13.15	13.15	≤ 13.98	29.15	≤ 29.45	Pass
11ac-VHT20	6.5	60	5300	13.23	13.23	≤ 13.98	29.23	≤ 29.45	Pass
11ac-VHT20	6.5	64	5320	12.91	12.91	≤ 13.98	28.91	≤ 29.45	Pass
11ac-VHT20	6.5	100	5500	11.93	11.93	≤ 13.48	28.43	≤ 29.45	Pass
11ac-VHT20	6.5	116	5580	12.03	12.03	≤ 13.48	28.53	≤ 29.45	Pass
11ac-VHT20	6.5	120	5600	11.56	11.56	≤ 13.48	28.06	≤ 29.45	Pass
11ac-VHT20	6.5	140	5700	11.83	11.83	≤ 13.48	28.33	≤ 29.45	Pass
11ac-VHT20	6.5	144	5720	11.93	11.93	≤ 13.48	28.43	≤ 29.45	Pass
11ac-VHT40	13.5	54	5270	13.45	13.45	≤ 13.98	29.45	≤ 30.00	Pass
11ac-VHT40	13.5	62	5310	12.14	12.14	≤ 13.98	28.14	≤ 30.00	Pass
11ac-VHT40	13.5	102	5510	10.96	10.96	≤ 13.48	27.46	≤ 30.00	Pass
11ac-VHT40	13.5	110	5550	11.03	11.03	≤ 13.48	27.53	≤ 30.00	Pass
11ac-VHT40	13.5	118	5590	12.93	12.93	≤ 13.48	29.43	≤ 30.00	Pass
11ac-VHT40	13.5	134	5670	12.85	12.85	≤ 13.48	29.35	≤ 30.00	Pass
11ac-VHT40	13.5	142	5710	13.02	13.02	≤ 13.48	29.52	≤ 30.00	Pass
11ac-VHT80	29.3	58	5290	10.24	10.24	≤ 13.98	26.24	≤ 30.00	Pass
11ac-VHT80	29.3	106	5530	9.55	9.55	≤ 13.48	26.05	≤ 30.00	Pass
11ac-VHT80	29.3	122	5610	12.99	12.99	≤ 13.48	29.49	≤ 30.00	Pass
11ac-VHT80	29.3	138	5690	13.16	13.16	≤ 13.48	29.66	≤ 30.00	Pass

Note: Total EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 1 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	12.53	12.53	≤ 13.98	28.53	≤ 29.15	Pass
11a	6	60	5300	12.46	12.46	≤ 13.98	28.46	≤ 29.15	Pass
11a	6	64	5320	12.74	12.74	≤ 13.98	28.74	≤ 29.15	Pass
11a	6	100	5500	12.00	12.00	≤ 13.48	28.50	≤ 29.15	Pass
11a	6	116	5580	12.03	12.03	≤ 13.48	28.53	≤ 29.15	Pass
11a	6	120	5600	11.54	11.54	≤ 13.48	28.04	≤ 29.15	Pass
11a	6	140	5700	11.36	11.36	≤ 13.48	27.86	≤ 29.15	Pass
11n-HT20	6.5	52	5260	13.22	13.22	≤ 13.98	29.22	≤ 29.45	Pass
11n-HT20	6.5	60	5300	13.02	13.02	≤ 13.98	29.02	≤ 29.45	Pass
11n-HT20	6.5	64	5320	12.95	12.95	≤ 13.98	28.95	≤ 29.45	Pass
11n-HT20	6.5	100	5500	12.31	12.31	≤ 13.48	28.81	≤ 29.45	Pass
11n-HT20	6.5	116	5580	12.33	12.33	≤ 13.48	28.83	≤ 29.45	Pass
11n-HT20	6.5	120	5600	11.90	11.90	≤ 13.48	28.40	≤ 29.45	Pass
11n-HT20	6.5	140	5700	11.45	11.45	≤ 13.48	27.95	≤ 29.45	Pass
11n-HT40	13.5	54	5270	13.65	13.65	≤ 13.98	29.65	≤ 30.00	Pass
11n-HT40	13.5	62	5310	13.64	13.64	≤ 13.98	29.64	≤ 30.00	Pass
11n-HT40	13.5	102	5510	12.91	12.91	≤ 13.48	29.41	≤ 30.00	Pass
11n-HT40	13.5	110	5550	12.84	12.84	≤ 13.48	29.34	≤ 30.00	Pass
11n-HT40	13.5	118	5590	12.77	12.77	≤ 13.48	29.27	≤ 30.00	Pass
11n-HT40	13.5	134	5670	12.98	12.98	≤ 13.48	29.48	≤ 30.00	Pass
11ac-VHT20	6.5	52	5260	13.21	13.21	≤ 13.98	29.21	≤ 29.45	Pass
11ac-VHT20	6.5	60	5300	13.07	13.07	≤ 13.98	29.07	≤ 29.45	Pass
11ac-VHT20	6.5	64	5320	12.97	12.97	≤ 13.98	28.97	≤ 29.45	Pass
11ac-VHT20	6.5	100	5500	12.33	12.33	≤ 13.48	28.83	≤ 29.45	Pass
11ac-VHT20	6.5	116	5580	12.28	12.28	≤ 13.48	28.78	≤ 29.45	Pass
11ac-VHT20	6.5	120	5600	11.79	11.79	≤ 13.48	28.29	≤ 29.45	Pass
11ac-VHT20	6.5	140	5700	11.44	11.44	≤ 13.48	27.94	≤ 29.45	Pass
11ac-VHT20	6.5	144	5720	11.52	11.52	≤ 13.48	28.02	≤ 29.45	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 1 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT40	13.5	54	5270	13.66	13.66	≤ 13.98	29.66	≤ 30.00	Pass
11ac-VHT40	13.5	62	5310	13.61	13.61	≤ 13.98	29.61	≤ 30.00	Pass
11ac-VHT40	13.5	102	5510	12.85	12.85	≤ 13.48	29.35	≤ 30.00	Pass
11ac-VHT40	13.5	110	5550	13.04	13.04	≤ 13.48	29.54	≤ 30.00	Pass
11ac-VHT40	13.5	118	5590	13.19	13.19	≤ 13.48	29.69	≤ 30.00	Pass
11ac-VHT40	13.5	134	5670	12.90	12.90	≤ 13.48	29.40	≤ 30.00	Pass
11ac-VHT40	13.5	142	5710	13.02	13.02	≤ 13.48	29.52	≤ 30.00	Pass
11ac-VHT80	29.3	58	5290	13.30	13.30	≤ 13.98	29.30	≤ 30.00	Pass
11ac-VHT80	29.3	106	5530	12.92	12.92	≤ 13.48	29.42	≤ 30.00	Pass
11ac-VHT80	29.3	122	5610	13.03	13.03	≤ 13.48	29.53	≤ 30.00	Pass
11ac-VHT80	29.3	138	5690	12.83	12.83	≤ 13.48	29.33	≤ 30.00	Pass

Note: Total EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 2 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	12.50	12.50	≤ 13.98	28.50	≤ 29.15	Pass
11a	6	60	5300	12.72	12.72	≤ 13.98	28.72	≤ 29.15	Pass
11a	6	64	5320	12.52	12.52	≤ 13.98	28.52	≤ 29.15	Pass
11a	6	100	5500	11.85	11.85	≤ 13.48	28.35	≤ 29.15	Pass
11a	6	116	5580	11.36	11.36	≤ 13.48	27.86	≤ 29.15	Pass
11a	6	120	5600	11.14	11.14	≤ 13.48	27.64	≤ 29.15	Pass
11a	6	140	5700	11.42	11.42	≤ 13.48	27.92	≤ 29.15	Pass
11n-HT20	6.5	52	5260	12.80	12.80	≤ 13.98	28.80	≤ 29.45	Pass
11n-HT20	6.5	60	5300	12.98	12.98	≤ 13.98	28.98	≤ 29.45	Pass
11n-HT20	6.5	64	5320	12.71	12.71	≤ 13.98	28.71	≤ 29.45	Pass
11n-HT20	6.5	100	5500	11.92	11.92	≤ 13.48	28.42	≤ 29.45	Pass
11n-HT20	6.5	116	5580	11.54	11.54	≤ 13.48	28.04	≤ 29.45	Pass
11n-HT20	6.5	120	5600	11.36	11.36	≤ 13.48	27.86	≤ 29.45	Pass
11n-HT20	6.5	140	5700	11.66	11.66	≤ 13.48	28.16	≤ 29.45	Pass
11n-HT40	13.5	54	5270	13.55	13.55	≤ 13.98	29.55	≤ 30.00	Pass
11n-HT40	13.5	62	5310	13.45	13.45	≤ 13.98	29.45	≤ 30.00	Pass
11n-HT40	13.5	102	5510	12.94	12.94	≤ 13.48	29.44	≤ 30.00	Pass
11n-HT40	13.5	110	5550	12.83	12.83	≤ 13.48	29.33	≤ 30.00	Pass
11n-HT40	13.5	118	5590	13.14	13.14	≤ 13.48	29.64	≤ 30.00	Pass
11n-HT40	13.5	134	5670	13.11	13.11	≤ 13.48	29.61	≤ 30.00	Pass
11ac-VHT20	6.5	52	5260	12.73	12.73	≤ 13.98	28.73	≤ 29.45	Pass
11ac-VHT20	6.5	60	5300	12.93	12.93	≤ 13.98	28.93	≤ 29.45	Pass
11ac-VHT20	6.5	64	5320	12.73	12.73	≤ 13.98	28.73	≤ 29.45	Pass
11ac-VHT20	6.5	100	5500	11.96	11.96	≤ 13.48	28.46	≤ 29.45	Pass
11ac-VHT20	6.5	116	5580	11.79	11.79	≤ 13.48	28.29	≤ 29.45	Pass
11ac-VHT20	6.5	120	5600	11.42	11.42	≤ 13.48	27.92	≤ 29.45	Pass
11ac-VHT20	6.5	140	5700	11.66	11.66	≤ 13.48	28.16	≤ 29.45	Pass
11ac-VHT20	6.5	144	5720	11.19	11.19	≤ 13.48	27.69	≤ 29.45	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 2 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT40	13.5	54	5270	13.66	13.66	≤ 13.98	29.66	≤ 30.00	Pass
11ac-VHT40	13.5	62	5310	13.44	13.44	≤ 13.98	29.44	≤ 30.00	Pass
11ac-VHT40	13.5	102	5510	12.97	12.97	≤ 13.48	29.47	≤ 30.00	Pass
11ac-VHT40	13.5	110	5550	13.09	13.09	≤ 13.48	29.59	≤ 30.00	Pass
11ac-VHT40	13.5	118	5590	13.11	13.11	≤ 13.48	29.61	≤ 30.00	Pass
11ac-VHT40	13.5	134	5670	13.10	13.10	≤ 13.48	29.60	≤ 30.00	Pass
11ac-VHT40	13.5	142	5710	13.06	13.06	≤ 13.48	29.56	≤ 30.00	Pass
11ac-VHT80	29.3	58	5290	13.45	13.45	≤ 13.98	29.45	≤ 30.00	Pass
11ac-VHT80	29.3	106	5530	12.58	12.58	≤ 13.48	29.08	≤ 30.00	Pass
11ac-VHT80	29.3	122	5610	13.20	13.20	≤ 13.48	29.70	≤ 30.00	Pass
11ac-VHT80	29.3	138	5690	12.93	12.93	≤ 13.48	29.43	≤ 30.00	Pass

Note: Total EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	12.61	12.61	≤ 13.98	28.61	≤ 29.15	Pass
11a	6	60	5300	12.74	12.74	≤ 13.98	28.74	≤ 29.15	Pass
11a	6	64	5320	12.92	12.92	≤ 13.98	28.92	≤ 29.15	Pass
11a	6	100	5500	12.17	12.17	≤ 13.48	28.67	≤ 29.15	Pass
11a	6	116	5580	11.98	11.98	≤ 13.48	28.48	≤ 29.15	Pass
11a	6	120	5600	11.51	11.51	≤ 13.48	28.01	≤ 29.15	Pass
11a	6	140	5700	11.52	11.52	≤ 13.48	28.02	≤ 29.15	Pass
11n-HT20	6.5	52	5260	13.16	13.16	≤ 13.98	29.16	≤ 29.45	Pass
11n-HT20	6.5	60	5300	12.83	12.83	≤ 13.98	28.83	≤ 29.45	Pass
11n-HT20	6.5	64	5320	13.12	13.12	≤ 13.98	29.12	≤ 29.45	Pass
11n-HT20	6.5	100	5500	12.47	12.47	≤ 13.48	28.97	≤ 29.45	Pass
11n-HT20	6.5	116	5580	12.28	12.28	≤ 13.48	28.78	≤ 29.45	Pass
11n-HT20	6.5	120	5600	11.81	11.81	≤ 13.48	28.31	≤ 29.45	Pass
11n-HT20	6.5	140	5700	11.65	11.65	≤ 13.48	28.15	≤ 29.45	Pass
11n-HT40	13.5	54	5270	13.46	13.46	≤ 13.98	29.46	≤ 30.00	Pass
11n-HT40	13.5	62	5310	13.40	13.40	≤ 13.98	29.40	≤ 30.00	Pass
11n-HT40	13.5	102	5510	12.95	12.95	≤ 13.48	29.45	≤ 30.00	Pass
11n-HT40	13.5	110	5550	12.87	12.87	≤ 13.48	29.37	≤ 30.00	Pass
11n-HT40	13.5	118	5590	12.89	12.89	≤ 13.48	29.39	≤ 30.00	Pass
11n-HT40	13.5	134	5670	12.89	12.89	≤ 13.48	29.39	≤ 30.00	Pass
11ac-VHT20	6.5	52	5260	13.12	13.12	≤ 13.98	29.12	≤ 29.45	Pass
11ac-VHT20	6.5	60	5300	12.80	12.80	≤ 13.98	28.80	≤ 29.45	Pass
11ac-VHT20	6.5	64	5320	13.12	13.12	≤ 13.98	29.12	≤ 29.45	Pass
11ac-VHT20	6.5	100	5500	12.49	12.49	≤ 13.48	28.99	≤ 29.45	Pass
11ac-VHT20	6.5	116	5580	12.34	12.34	≤ 13.48	28.84	≤ 29.45	Pass
11ac-VHT20	6.5	120	5600	11.75	11.75	≤ 13.48	28.25	≤ 29.45	Pass
11ac-VHT20	6.5	140	5700	11.71	11.71	≤ 13.48	28.21	≤ 29.45	Pass
11ac-VHT20	6.5	144	5720	11.76	11.76	≤ 13.48	28.26	≤ 29.45	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT40	13.5	54	5270	13.52	13.52	≤ 13.98	29.52	≤ 30.00	Pass
11ac-VHT40	13.5	62	5310	13.43	13.43	≤ 13.98	29.43	≤ 30.00	Pass
11ac-VHT40	13.5	102	5510	12.95	12.95	≤ 13.48	29.45	≤ 30.00	Pass
11ac-VHT40	13.5	110	5550	12.89	12.89	≤ 13.48	29.39	≤ 30.00	Pass
11ac-VHT40	13.5	118	5590	12.94	12.94	≤ 13.48	29.44	≤ 30.00	Pass
11ac-VHT40	13.5	134	5670	12.91	12.91	≤ 13.48	29.41	≤ 30.00	Pass
11ac-VHT40	13.5	142	5710	12.82	12.82	≤ 13.48	29.32	≤ 30.00	Pass
11ac-VHT80	29.3	58	5290	13.38	13.38	≤ 13.98	29.38	≤ 30.00	Pass
11ac-VHT80	29.3	106	5530	13.01	13.01	≤ 13.48	29.51	≤ 30.00	Pass
11ac-VHT80	29.3	122	5610	13.10	13.10	≤ 13.48	29.60	≤ 30.00	Pass
11ac-VHT80	29.3	138	5690	13.11	13.11	≤ 13.48	29.61	≤ 30.00	Pass

Note: Total EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Max Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	12.74	11.62	11.77	11.88	12.74	≤ 13.98	28.74	≤ 29.15	Pass
11a	6	60	5300	12.46	11.58	11.85	12.02	12.46	≤ 13.98	28.46	≤ 29.15	Pass
11a	6	64	5320	12.92	12.42	12.63	12.16	12.92	≤ 13.98	28.92	≤ 29.15	Pass
11a	6	100	5500	12.02	11.57	11.33	11.91	12.02	≤ 13.48	28.52	≤ 29.15	Pass
11a	6	116	5580	11.84	11.43	11.27	11.75	11.84	≤ 13.48	28.34	≤ 29.15	Pass
11a	6	120	5600	11.12	10.33	11.02	10.71	11.12	≤ 13.48	27.62	≤ 29.15	Pass
11a	6	140	5700	10.75	10.25	10.78	10.41	10.78	≤ 13.48	27.28	≤ 29.15	Pass
11n-HT20	26	52	5260	12.96	12.01	12.23	12.37	12.96	≤ 13.98	28.96	≤ 29.45	Pass
11n-HT20	26	60	5300	12.93	11.92	12.39	12.52	12.93	≤ 13.98	28.93	≤ 29.45	Pass
11n-HT20	26	64	5320	13.21	12.93	13.11	12.61	13.21	≤ 13.98	29.21	≤ 29.45	Pass
11n-HT20	26	100	5500	12.04	11.68	11.77	12.26	12.26	≤ 13.48	28.76	≤ 29.45	Pass
11n-HT20	26	116	5580	12.01	11.59	11.83	12.23	12.23	≤ 13.48	28.73	≤ 29.45	Pass
11n-HT20	26	120	5600	11.92	11.01	11.78	11.62	11.92	≤ 13.48	28.42	≤ 29.45	Pass
11n-HT20	26	140	5700	10.69	10.25	11.02	10.86	11.02	≤ 13.48	27.52	≤ 29.45	Pass
11n-HT40	54	54	5270	13.58	12.51	12.81	12.61	13.58	≤ 13.98	29.58	≤ 30.00	Pass
11n-HT40	54	62	5310	13.29	11.82	12.45	12.11	13.29	≤ 13.98	29.29	≤ 30.00	Pass
11n-HT40	54	102	5510	12.88	12.19	12.15	12.58	12.88	≤ 13.48	29.38	≤ 30.00	Pass
11n-HT40	54	110	5550	12.74	12.21	12.08	12.62	12.74	≤ 13.48	29.24	≤ 30.00	Pass
11n-HT40	54	118	5590	12.86	12.57	12.64	12.92	12.92	≤ 13.48	29.42	≤ 30.00	Pass
11n-HT40	54	134	5670	12.82	12.35	12.62	12.63	12.82	≤ 13.48	29.32	≤ 30.00	Pass
11ac-VHT20	26	52	5260	12.81	11.92	12.16	12.44	12.81	≤ 13.98	28.81	≤ 29.45	Pass
11ac-VHT20	26	60	5300	12.64	12.03	12.24	12.52	12.64	≤ 13.98	28.64	≤ 29.45	Pass
11ac-VHT20	26	64	5320	13.18	12.85	13.13	12.54	13.18	≤ 13.98	29.18	≤ 29.45	Pass
11ac-VHT20	26	100	5500	11.79	11.75	11.81	12.28	12.28	≤ 13.48	28.78	≤ 29.45	Pass
11ac-VHT20	26	116	5580	11.69	11.73	11.92	12.18	12.18	≤ 13.48	28.68	≤ 29.45	Pass
11ac-VHT20	26	120	5600	11.69	10.76	11.79	11.59	11.79	≤ 13.48	28.29	≤ 29.45	Pass
11ac-VHT20	26	140	5700	10.62	10.23	10.66	10.86	10.86	≤ 13.48	27.36	≤ 29.45	Pass
11ac-VHT20	26	144	5720	10.85	10.47	10.75	10.71	10.85	≤ 13.48	27.35	≤ 29.45	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Max Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT40	54	54	5270	13.53	12.43	12.93	12.78	13.53	≤ 13.98	29.53	≤ 30.00	Pass
11ac-VHT40	54	62	5310	13.26	11.83	12.52	12.25	13.26	≤ 13.98	29.26	≤ 30.00	Pass
11ac-VHT40	54	102	5510	12.89	12.07	12.43	12.46	12.89	≤ 13.48	29.39	≤ 30.00	Pass
11ac-VHT40	54	110	5550	12.81	11.98	12.52	12.49	12.81	≤ 13.48	29.31	≤ 30.00	Pass
11ac-VHT40	54	118	5590	12.84	12.52	12.59	12.79	12.84	≤ 13.48	29.34	≤ 30.00	Pass
11ac-VHT40	54	134	5670	12.75	12.39	12.53	12.52	12.75	≤ 13.48	29.25	≤ 30.00	Pass
11ac-VHT40	54	142	5710	12.92	12.37	12.55	12.11	12.92	≤ 13.48	29.42	≤ 30.00	Pass
11ac-VHT80	117.2	58	5290	13.23	12.09	12.37	12.13	13.23	≤ 13.98	29.23	≤ 30.00	Pass
11ac-VHT80	117.2	106	5530	12.59	12.27	12.28	12.46	12.59	≤ 13.48	29.09	≤ 30.00	Pass
11ac-VHT80	117.2	122	5610	12.66	11.92	12.09	12.04	12.66	≤ 13.48	29.16	≤ 30.00	Pass
11ac-VHT80	117.2	138	5690	12.74	12.21	12.29	11.98	12.74	≤ 13.48	29.24	≤ 30.00	Pass

Note 1: The result of the Max Average Power has been selected the max Average Power from each antenna.

Note 2: The Max EIRP (dBm) = Max Average Power (dBm) + Antenna Gain (dBi).

For FCC 802.11ac-VHT80 + 80 Mode Test Data

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Max Average Power (dBm)	Average Power Limit (dBm)	Max EIRP of 30° Elevation Angle (dBm)	EIRP Limit of 30° Elevation Angle (dBm)	Result
11ac-VHT	58.6	42	5210	13.96	13.65	--	--	13.96	≤ 20.00	12.74	≤ 21.00	Pass
80+80	58.6	58	5290	--	--	13.61	13.39	13.61	≤ 13.98	--	--	Pass
11ac-VHT	58.6	42	5210	14.95	14.65	--	--	14.95	≤ 20.00	13.73	≤ 21.00	Pass
80+80	58.6	106	5530	--	--	12.58	12.67	12.67	≤ 13.48	--	--	Pass
11ac-VHT	58.6	58	5210	15.37	15.15	--	--	15.37	≤ 20.00	14.15	≤ 21.00	Pass
80+80	58.6	122	5610	--	--	12.98	12.92	12.98	≤ 13.48	--	--	Pass
11ac-VHT	58.6	58	5210	14.96	14.59	--	--	14.96	≤ 20.00	13.74	≤ 21.00	Pass
80+80	58.6	138	5690	--	--	12.58	12.32	12.58	≤ 13.48	--	--	Pass
11ac-VHT	58.6	58	5290	13.21	12.56	--	--	13.21	≤ 13.98	--	--	Pass
80+80	58.6	106	5530	--	--	10.96	10.98	10.98	≤ 13.48	--	--	Pass
11ac-VHT	58.6	58	5290	13.29	12.55	--	--	13.29	≤ 13.98	--	--	Pass
80+80	58.6	122	5610	--	--	10.81	10.53	10.81	≤ 13.48	--	--	Pass
11ac-VHT	58.6	58	5290	13.28	12.58	--	--	13.28	≤ 13.98	--	--	Pass
80+80	58.6	138	5690	--	--	11.04	10.36	11.04	≤ 13.48	--	--	Pass
11ac-VHT	58.6	58	5290	13.18	12.59	--	--	13.18	≤ 13.98	--	--	Pass
80+80	58.6	155	5775	--	--	10.42	10.11	10.42	≤ 19.00	--	--	Pass
11ac-VHT	58.6	106	5530	12.63	12.51	--	--	12.63	≤ 13.48	--	--	Pass
80+80	58.6	122	5610	--	--	12.43	12.05	12.43	≤ 13.48	--	--	Pass
11ac-VHT	58.6	106	5530	12.47	12.53	--	--	12.53	≤ 13.48	--	--	Pass
80+80	58.6	138	5690	--	--	12.19	12.05	12.19	≤ 13.48	--	--	Pass
11ac-VHT	58.6	106	5530	12.46	12.58	--	--	12.58	≤ 13.48	--	--	Pass
80+80	58.6	155	5775	--	--	11.91	11.72	11.91	≤ 19.00	--	--	Pass
11ac-VHT	58.6	122	5610	12.98	12.92	--	--	12.98	≤ 13.48	--	--	Pass
80+80	58.6	138	5690	--	--	13.19	12.79	13.19	≤ 13.48	--	--	Pass
11ac-VHT	58.6	122	5610	13.09	12.96	--	--	13.09	≤ 13.48	--	--	Pass
80+80	58.6	155	5775	--	--	12.92	12.31	12.92	≤ 19.00	--	--	Pass
11ac-VHT	58.6	138	5690	12.84	12.67	--	--	12.84	≤ 13.48	--	--	Pass
80+80	58.6	155	5775	--	--	12.44	11.65	12.44	≤ 19.00	--	--	Pass

Note 1: The result of the Max Average Power has been selected the max Average Power from each antenna.

Note 2: The Max EIRP of 30° Elevation Angle (dBm) = Max Average Power (dBm) + 30° Elevation Angle Antenna Gain (dBi).

7.5.11. Directional Antenna 1356.17.0077 Test Result

Product	Wi-Fi AP 4x4 OD ext. antenna US	Temperature	25°C
Test Engineer	Johnson Liao	Relative Humidity	50 ~ 58%
Test Site	SR2	Test Date	2016/08/21
Test Item	Output Power	Antenna Model No.	Directional Antenna 1356.17.0077

For FCC Bands UNII-2A & UNII-2C & UNII-3

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	14.61	14.61	≤ 15.98	28.61	≤ 29.15	Pass
11a	6	60	5300	14.68	14.68	≤ 15.98	28.68	≤ 29.15	Pass
11a	6	64	5320	14.78	14.78	≤ 15.98	28.78	≤ 29.15	Pass
11a	6	100	5500	14.31	14.31	≤ 15.98	28.31	≤ 29.15	Pass
11a	6	116	5580	14.28	14.28	≤ 15.98	28.28	≤ 29.15	Pass
11a	6	120	5600	14.07	14.07	≤ 15.98	28.07	≤ 29.15	Pass
11a	6	140	5700	14.38	14.38	≤ 15.98	28.38	≤ 29.15	Pass
11n-HT20	6.5	52	5260	14.92	14.92	≤ 15.98	28.92	≤ 29.45	Pass
11n-HT20	6.5	60	5300	14.93	14.93	≤ 15.98	28.93	≤ 29.45	Pass
11n-HT20	6.5	64	5320	15.06	15.06	≤ 15.98	29.06	≤ 29.45	Pass
11n-HT20	6.5	100	5500	14.65	14.65	≤ 15.98	28.65	≤ 29.45	Pass
11n-HT20	6.5	116	5580	14.58	14.58	≤ 15.98	28.58	≤ 29.45	Pass
11n-HT20	6.5	120	5600	14.35	14.35	≤ 15.98	28.35	≤ 29.45	Pass
11n-HT20	6.5	140	5700	14.63	14.63	≤ 15.98	28.63	≤ 29.45	Pass
11n-HT40	13.5	54	5270	15.42	15.42	≤ 15.98	29.42	≤ 30.00	Pass
11n-HT40	13.5	62	5310	15.52	15.52	≤ 15.98	29.52	≤ 30.00	Pass
11n-HT40	13.5	102	5510	15.62	15.62	≤ 15.98	29.62	≤ 30.00	Pass
11n-HT40	13.5	110	5550	15.48	15.48	≤ 15.98	29.48	≤ 30.00	Pass
11n-HT40	13.5	118	5590	15.52	15.52	≤ 15.98	29.52	≤ 30.00	Pass
11n-HT40	13.5	134	5670	15.53	15.53	≤ 15.98	29.53	≤ 30.00	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT20	6.5	52	5260	14.88	14.88	≤ 15.98	28.88	≤ 29.45	Pass
11ac-VHT20	6.5	60	5300	14.92	14.92	≤ 15.98	28.92	≤ 29.45	Pass
11ac-VHT20	6.5	64	5320	15.05	15.05	≤ 15.98	29.05	≤ 29.45	Pass
11ac-VHT20	6.5	100	5500	14.63	14.63	≤ 15.98	28.63	≤ 29.45	Pass
11ac-VHT20	6.5	116	5580	14.51	14.51	≤ 15.98	28.51	≤ 29.45	Pass
11ac-VHT20	6.5	120	5600	14.33	14.33	≤ 15.98	28.33	≤ 29.45	Pass
11ac-VHT20	6.5	140	5700	14.64	14.64	≤ 15.98	28.64	≤ 29.45	Pass
11ac-VHT20	6.5	144	5720	14.27	14.27	≤ 15.98	28.27	≤ 29.45	Pass
11ac-VHT40	13.5	54	5270	15.32	15.32	≤ 15.98	29.32	≤ 30.00	Pass
11ac-VHT40	13.5	62	5310	15.48	15.48	≤ 15.98	29.48	≤ 30.00	Pass
11ac-VHT40	13.5	102	5510	15.58	15.58	≤ 15.98	29.58	≤ 30.00	Pass
11ac-VHT40	13.5	110	5550	15.37	15.37	≤ 15.98	29.37	≤ 30.00	Pass
11ac-VHT40	13.5	118	5590	15.51	15.51	≤ 15.98	29.51	≤ 30.00	Pass
11ac-VHT40	13.5	134	5670	15.53	15.53	≤ 15.98	29.53	≤ 30.00	Pass
11ac-VHT40	13.5	142	5710	15.32	15.32	≤ 15.98	29.32	≤ 30.00	Pass
11ac-VHT80	29.3	58	5290	15.46	15.46	≤ 15.98	29.46	≤ 30.00	Pass
11ac-VHT80	29.3	106	5530	15.18	15.18	≤ 15.98	29.18	≤ 30.00	Pass
11ac-VHT80	29.3	122	5610	15.63	15.63	≤ 15.98	29.63	≤ 30.00	Pass
11ac-VHT80	29.3	138	5690	15.51	15.51	≤ 15.98	29.51	≤ 30.00	Pass

Note: Total EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 1 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	14.43	14.43	≤ 15.98	28.43	≤ 29.15	Pass
11a	6	60	5300	14.42	14.42	≤ 15.98	28.42	≤ 29.15	Pass
11a	6	64	5320	14.76	14.76	≤ 15.98	28.76	≤ 29.15	Pass
11a	6	100	5500	14.56	14.56	≤ 15.98	28.56	≤ 29.15	Pass
11a	6	116	5580	14.49	14.49	≤ 15.98	28.49	≤ 29.15	Pass
11a	6	120	5600	14.12	14.12	≤ 15.98	28.12	≤ 29.15	Pass
11a	6	140	5700	13.76	13.76	≤ 15.98	27.76	≤ 29.15	Pass
11n-HT20	6.5	52	5260	15.14	15.14	≤ 15.98	29.14	≤ 29.45	Pass
11n-HT20	6.5	60	5300	15.03	15.03	≤ 15.98	29.03	≤ 29.45	Pass
11n-HT20	6.5	64	5320	14.83	14.83	≤ 15.98	28.83	≤ 29.45	Pass
11n-HT20	6.5	100	5500	14.88	14.88	≤ 15.98	28.88	≤ 29.45	Pass
11n-HT20	6.5	116	5580	14.78	14.78	≤ 15.98	28.78	≤ 29.45	Pass
11n-HT20	6.5	120	5600	13.89	13.89	≤ 15.98	27.89	≤ 29.45	Pass
11n-HT20	6.5	140	5700	14.01	14.01	≤ 15.98	28.01	≤ 29.45	Pass
11n-HT40	13.5	54	5270	15.62	15.62	≤ 15.98	29.62	≤ 30.00	Pass
11n-HT40	13.5	62	5310	15.69	15.69	≤ 15.98	29.69	≤ 30.00	Pass
11n-HT40	13.5	102	5510	15.36	15.36	≤ 15.98	29.36	≤ 30.00	Pass
11n-HT40	13.5	110	5550	15.29	15.29	≤ 15.98	29.29	≤ 30.00	Pass
11n-HT40	13.5	118	5590	15.32	15.32	≤ 15.98	29.32	≤ 30.00	Pass
11n-HT40	13.5	134	5670	15.54	15.54	≤ 15.98	29.54	≤ 30.00	Pass
11ac-VHT20	6.5	52	5260	14.68	14.68	≤ 15.98	28.68	≤ 29.45	Pass
11ac-VHT20	6.5	60	5300	15.07	15.07	≤ 15.98	29.07	≤ 29.45	Pass
11ac-VHT20	6.5	64	5320	15.02	15.02	≤ 15.98	29.02	≤ 29.45	Pass
11ac-VHT20	6.5	100	5500	14.89	14.89	≤ 15.98	28.89	≤ 29.45	Pass
11ac-VHT20	6.5	116	5580	14.91	14.91	≤ 15.98	28.91	≤ 29.45	Pass
11ac-VHT20	6.5	120	5600	13.83	13.83	≤ 15.98	27.83	≤ 29.45	Pass
11ac-VHT20	6.5	140	5700	14.01	14.01	≤ 15.98	28.01	≤ 29.45	Pass
11ac-VHT20	6.5	144	5720	14.07	14.07	≤ 15.98	28.07	≤ 29.45	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 1 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT40	13.5	54	5270	15.63	15.63	≤ 15.98	29.63	≤ 30.00	Pass
11ac-VHT40	13.5	62	5310	15.71	15.71	≤ 15.98	29.71	≤ 30.00	Pass
11ac-VHT40	13.5	102	5510	15.34	15.34	≤ 15.98	29.34	≤ 30.00	Pass
11ac-VHT40	13.5	110	5550	15.35	15.35	≤ 15.98	29.35	≤ 30.00	Pass
11ac-VHT40	13.5	118	5590	15.28	15.28	≤ 15.98	29.28	≤ 30.00	Pass
11ac-VHT40	13.5	134	5670	15.51	15.51	≤ 15.98	29.51	≤ 30.00	Pass
11ac-VHT40	13.5	142	5710	15.60	15.60	≤ 15.98	29.60	≤ 30.00	Pass
11ac-VHT80	29.3	58	5290	15.32	15.32	≤ 15.98	29.32	≤ 30.00	Pass
11ac-VHT80	29.3	106	5530	15.46	15.46	≤ 15.98	29.46	≤ 30.00	Pass
11ac-VHT80	29.3	122	5610	15.12	15.12	≤ 15.98	29.12	≤ 30.00	Pass
11ac-VHT80	29.3	138	5690	15.32	15.32	≤ 15.98	29.32	≤ 30.00	Pass

Note: Total EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 2 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	14.46	14.46	≤ 15.98	28.46	≤ 29.15	Pass
11a	6	60	5300	14.53	14.53	≤ 15.98	28.53	≤ 29.15	Pass
11a	6	64	5320	14.71	14.71	≤ 15.98	28.71	≤ 29.15	Pass
11a	6	100	5500	14.26	14.26	≤ 15.98	28.26	≤ 29.15	Pass
11a	6	116	5580	14.31	14.31	≤ 15.98	28.31	≤ 29.15	Pass
11a	6	120	5600	13.65	13.65	≤ 15.98	27.65	≤ 29.15	Pass
11a	6	140	5700	13.82	13.82	≤ 15.98	27.82	≤ 29.15	Pass
11n-HT20	6.5	52	5260	15.18	15.18	≤ 15.98	29.18	≤ 29.45	Pass
11n-HT20	6.5	60	5300	14.82	14.82	≤ 15.98	28.82	≤ 29.45	Pass
11n-HT20	6.5	64	5320	15.06	15.06	≤ 15.98	29.06	≤ 29.45	Pass
11n-HT20	6.5	100	5500	14.67	14.67	≤ 15.98	28.67	≤ 29.45	Pass
11n-HT20	6.5	116	5580	14.52	14.52	≤ 15.98	28.52	≤ 29.45	Pass
11n-HT20	6.5	120	5600	14.12	14.12	≤ 15.98	28.12	≤ 29.45	Pass
11n-HT20	6.5	140	5700	14.16	14.16	≤ 15.98	28.16	≤ 29.45	Pass
11n-HT40	13.5	54	5270	15.63	15.63	≤ 15.98	29.63	≤ 30.00	Pass
11n-HT40	13.5	62	5310	15.45	15.45	≤ 15.98	29.45	≤ 30.00	Pass
11n-HT40	13.5	102	5510	15.63	15.63	≤ 15.98	29.63	≤ 30.00	Pass
11n-HT40	13.5	110	5550	15.52	15.52	≤ 15.98	29.52	≤ 30.00	Pass
11n-HT40	13.5	118	5590	15.32	15.32	≤ 15.98	29.32	≤ 30.00	Pass
11n-HT40	13.5	134	5670	15.17	15.17	≤ 15.98	29.17	≤ 30.00	Pass
11ac-VHT20	6.5	52	5260	14.75	14.75	≤ 15.98	28.75	≤ 29.45	Pass
11ac-VHT20	6.5	60	5300	14.85	14.85	≤ 15.98	28.85	≤ 29.45	Pass
11ac-VHT20	6.5	64	5320	15.04	15.04	≤ 15.98	29.04	≤ 29.45	Pass
11ac-VHT20	6.5	100	5500	14.67	14.67	≤ 15.98	28.67	≤ 29.45	Pass
11ac-VHT20	6.5	116	5580	14.48	14.48	≤ 15.98	28.48	≤ 29.45	Pass
11ac-VHT20	6.5	120	5600	14.16	14.16	≤ 15.98	28.16	≤ 29.45	Pass
11ac-VHT20	6.5	140	5700	14.18	14.18	≤ 15.98	28.18	≤ 29.45	Pass
11ac-VHT20	6.5	144	5720	14.22	14.22	≤ 15.98	28.22	≤ 29.45	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 2 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT40	13.5	54	5270	15.63	15.63	≤ 15.98	29.63	≤ 30.00	Pass
11ac-VHT40	13.5	62	5310	15.41	15.41	≤ 15.98	29.41	≤ 30.00	Pass
11ac-VHT40	13.5	102	5510	15.61	15.61	≤ 15.98	29.61	≤ 30.00	Pass
11ac-VHT40	13.5	110	5550	15.47	15.47	≤ 15.98	29.47	≤ 30.00	Pass
11ac-VHT40	13.5	118	5590	15.31	15.31	≤ 15.98	29.31	≤ 30.00	Pass
11ac-VHT40	13.5	134	5670	15.15	15.15	≤ 15.98	29.15	≤ 30.00	Pass
11ac-VHT40	13.5	142	5710	15.29	15.29	≤ 15.98	29.29	≤ 30.00	Pass
11ac-VHT80	29.3	58	5290	15.39	15.39	≤ 15.98	29.39	≤ 30.00	Pass
11ac-VHT80	29.3	106	5530	15.28	15.28	≤ 15.98	29.28	≤ 30.00	Pass
11ac-VHT80	29.3	122	5610	15.35	15.35	≤ 15.98	29.35	≤ 30.00	Pass
11ac-VHT80	29.3	138	5690	15.63	15.63	≤ 15.98	29.63	≤ 30.00	Pass

Note: Total EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	14.89	14.89	≤ 15.98	28.89	≤ 29.15	Pass
11a	6	60	5300	14.57	14.57	≤ 15.98	28.57	≤ 29.15	Pass
11a	6	64	5320	14.88	14.88	≤ 15.98	28.88	≤ 29.15	Pass
11a	6	100	5500	14.72	14.72	≤ 15.98	28.72	≤ 29.15	Pass
11a	6	116	5580	14.68	14.68	≤ 15.98	28.68	≤ 29.15	Pass
11a	6	120	5600	14.08	14.08	≤ 15.98	28.08	≤ 29.15	Pass
11a	6	140	5700	13.94	13.94	≤ 15.98	27.94	≤ 29.15	Pass
11n-HT20	6.5	52	5260	15.16	15.16	≤ 15.98	29.16	≤ 29.45	Pass
11n-HT20	6.5	60	5300	14.82	14.82	≤ 15.98	28.82	≤ 29.45	Pass
11n-HT20	6.5	64	5320	15.13	15.13	≤ 15.98	29.13	≤ 29.45	Pass
11n-HT20	6.5	100	5500	14.95	14.95	≤ 15.98	28.95	≤ 29.45	Pass
11n-HT20	6.5	116	5580	14.78	14.78	≤ 15.98	28.78	≤ 29.45	Pass
11n-HT20	6.5	120	5600	14.22	14.22	≤ 15.98	28.22	≤ 29.45	Pass
11n-HT20	6.5	140	5700	14.12	14.12	≤ 15.98	28.12	≤ 29.45	Pass
11n-HT40	13.5	54	5270	15.24	15.24	≤ 15.98	29.24	≤ 30.00	Pass
11n-HT40	13.5	62	5310	15.32	15.32	≤ 15.98	29.32	≤ 30.00	Pass
11n-HT40	13.5	102	5510	15.47	15.47	≤ 15.98	29.47	≤ 30.00	Pass
11n-HT40	13.5	110	5550	15.44	15.44	≤ 15.98	29.44	≤ 30.00	Pass
11n-HT40	13.5	118	5590	15.43	15.43	≤ 15.98	29.43	≤ 30.00	Pass
11n-HT40	13.5	134	5670	15.29	15.29	≤ 15.98	29.29	≤ 30.00	Pass
11ac-VHT20	6.5	52	5260	15.18	15.18	≤ 15.98	29.18	≤ 29.45	Pass
11ac-VHT20	6.5	60	5300	14.83	14.83	≤ 15.98	28.83	≤ 29.45	Pass
11ac-VHT20	6.5	64	5320	15.11	15.11	≤ 15.98	29.11	≤ 29.45	Pass
11ac-VHT20	6.5	100	5500	14.96	14.96	≤ 15.98	28.96	≤ 29.45	Pass
11ac-VHT20	6.5	116	5580	14.78	14.78	≤ 15.98	28.78	≤ 29.45	Pass
11ac-VHT20	6.5	120	5600	14.25	14.25	≤ 15.98	28.25	≤ 29.45	Pass
11ac-VHT20	6.5	140	5700	14.13	14.13	≤ 15.98	28.13	≤ 29.45	Pass
11ac-VHT20	6.5	144	5720	14.19	14.19	≤ 15.98	28.19	≤ 29.45	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Total EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT40	13.5	54	5270	15.27	15.27	≤ 15.98	29.27	≤ 30.00	Pass
11ac-VHT40	13.5	62	5310	15.28	15.28	≤ 15.98	29.28	≤ 30.00	Pass
11ac-VHT40	13.5	102	5510	15.19	15.19	≤ 15.98	29.19	≤ 30.00	Pass
11ac-VHT40	13.5	110	5550	15.47	15.47	≤ 15.98	29.47	≤ 30.00	Pass
11ac-VHT40	13.5	118	5590	15.61	15.61	≤ 15.98	29.61	≤ 30.00	Pass
11ac-VHT40	13.5	134	5670	15.39	15.39	≤ 15.98	29.39	≤ 30.00	Pass
11ac-VHT40	13.5	142	5710	15.53	15.53	≤ 15.98	29.53	≤ 30.00	Pass
11ac-VHT80	29.3	58	5290	15.17	15.17	≤ 15.98	29.17	≤ 30.00	Pass
11ac-VHT80	29.3	106	5530	15.13	15.13	≤ 15.98	29.13	≤ 30.00	Pass
11ac-VHT80	29.3	122	5610	15.56	15.56	≤ 15.98	29.56	≤ 30.00	Pass
11ac-VHT80	29.3	138	5690	15.52	15.52	≤ 15.98	29.52	≤ 30.00	Pass

Note: Total EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Max Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	13.11	12.60	12.39	11.77	13.11	≤ 15.98	27.11	≤ 29.15	Pass
11a	6	60	5300	12.73	11.96	12.01	11.52	12.73	≤ 15.98	26.73	≤ 29.15	Pass
11a	6	64	5320	12.81	12.32	12.23	11.82	12.81	≤ 15.98	26.81	≤ 29.15	Pass
11a	6	100	5500	12.32	12.27	11.76	11.71	12.32	≤ 15.98	26.32	≤ 29.15	Pass
11a	6	116	5580	12.03	12.14	11.73	11.65	12.14	≤ 15.98	26.03	≤ 29.15	Pass
11a	6	120	5600	10.91	10.76	10.65	10.51	10.91	≤ 15.98	24.91	≤ 29.15	Pass
11a	6	140	5700	10.64	10.54	10.86	10.25	10.86	≤ 15.98	24.86	≤ 29.15	Pass
11n-HT20	26	52	5260	13.31	12.86	12.65	12.15	13.31	≤ 15.98	27.31	≤ 29.45	Pass
11n-HT20	26	60	5300	12.89	12.41	12.32	11.89	12.89	≤ 15.98	26.89	≤ 29.45	Pass
11n-HT20	26	64	5320	13.05	12.43	12.52	12.19	13.05	≤ 15.98	27.05	≤ 29.45	Pass
11n-HT20	26	100	5500	12.12	11.91	11.47	11.58	12.12	≤ 15.98	26.12	≤ 29.45	Pass
11n-HT20	26	116	5580	12.04	11.79	11.52	11.49	12.04	≤ 15.98	26.04	≤ 29.45	Pass
11n-HT20	26	120	5600	11.17	10.92	10.78	10.75	11.17	≤ 15.98	25.17	≤ 29.45	Pass
11n-HT20	26	140	5700	10.89	10.79	11.17	10.52	11.17	≤ 15.98	25.17	≤ 29.45	Pass
11n-HT40	54	54	5270	15.32	14.75	14.54	14.22	15.32	≤ 15.98	29.32	≤ 30.00	Pass
11n-HT40	54	62	5310	15.48	14.81	14.85	14.29	15.48	≤ 15.98	29.48	≤ 30.00	Pass
11n-HT40	54	102	5510	15.11	14.91	14.51	14.47	15.11	≤ 15.98	29.11	≤ 30.00	Pass
11n-HT40	54	110	5550	15.03	14.89	14.49	14.51	15.03	≤ 15.98	29.03	≤ 30.00	Pass
11n-HT40	54	118	5590	14.41	14.41	14.13	13.86	14.41	≤ 15.98	28.41	≤ 30.00	Pass
11n-HT40	54	134	5670	14.31	14.27	14.16	13.79	14.31	≤ 15.98	28.31	≤ 30.00	Pass
11ac-VHT20	26	52	5260	13.25	12.88	12.72	12.16	13.25	≤ 15.98	27.25	≤ 29.45	Pass
11ac-VHT20	26	60	5300	12.89	12.43	12.36	11.91	12.89	≤ 15.98	26.89	≤ 29.45	Pass
11ac-VHT20	26	64	5320	13.03	12.48	12.58	12.18	13.03	≤ 15.98	27.03	≤ 29.45	Pass
11ac-VHT20	26	100	5500	12.11	11.96	11.61	11.59	12.11	≤ 15.98	26.11	≤ 29.45	Pass
11ac-VHT20	26	116	5580	12.03	11.89	11.64	11.49	12.03	≤ 15.98	26.03	≤ 29.45	Pass
11ac-VHT20	26	120	5600	11.17	10.92	10.81	10.74	11.17	≤ 15.98	25.17	≤ 29.45	Pass
11ac-VHT20	26	140	5700	10.88	10.81	11.19	10.52	11.19	≤ 15.98	25.19	≤ 29.45	Pass
11ac-VHT20	26	144	5720	11.01	10.92	11.21	10.70	11.21	≤ 15.98	25.21	≤ 29.45	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Max Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT40	54	54	5270	15.27	14.72	14.56	14.23	15.27	≤ 15.98	29.27	≤ 30.00	Pass
11ac-VHT40	54	62	5310	15.51	14.79	14.87	14.31	15.51	≤ 15.98	29.51	≤ 30.00	Pass
11ac-VHT40	54	102	5510	15.13	14.94	14.56	14.48	15.13	≤ 15.98	29.13	≤ 30.00	Pass
11ac-VHT40	54	110	5550	15.02	14.99	14.62	14.53	15.02	≤ 15.98	29.02	≤ 30.00	Pass
11ac-VHT40	54	118	5590	14.38	14.42	14.13	13.85	14.42	≤ 15.98	28.42	≤ 30.00	Pass
11ac-VHT40	54	134	5670	14.34	14.26	14.17	13.76	14.34	≤ 15.98	28.34	≤ 30.00	Pass
11ac-VHT40	54	142	5710	14.17	13.91	14.28	13.65	14.28	≤ 15.98	28.28	≤ 30.00	Pass
11ac-VHT80	117.2	58	5290	15.42	14.73	14.71	14.16	15.42	≤ 15.98	29.42	≤ 30.00	Pass
11ac-VHT80	117.2	106	5530	15.13	15.13	14.71	14.53	15.13	≤ 15.98	29.13	≤ 30.00	Pass
11ac-VHT80	117.2	122	5610	15.51	15.31	15.11	15.06	15.51	≤ 15.98	29.51	≤ 30.00	Pass
11ac-VHT80	117.2	138	5690	15.26	15.11	14.93	14.46	15.26	≤ 15.98	29.26	≤ 30.00	Pass

Note 1: The result of the Max Average Power has been selected the max Average Power from each antenna.

Note 2: Max EIRP Power (dBm) = Max Average Power (dBm) + Antenna Gain (dBi).

For FCC 802.11ac-VHT80 + 80 Mode Test Data

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Max Average Power (dBm)	Average Power Limit (dBm)	Max EIRP of 30° Elevation Angle (dBm)	EIRP Limit of 30° Elevation Angle (dBm)	Result
11ac-VHT	58.6	42	5210	16.08	15.71	--	--	16.08	≤ 22.00	17.60	≤ 21.00	Pass
80+80	58.6	58	5290	--	--	15.32	14.77	15.32	≤ 15.98	--	--	Pass
11ac-VHT	58.6	42	5210	18.18	17.62	--	--	18.18	≤ 22.00	19.70	≤ 21.00	Pass
80+80	58.6	106	5530	--	--	15.42	15.46	15.46	≤ 15.98	--	--	Pass
11ac-VHT	58.6	58	5210	18.01	17.55	--	--	18.01	≤ 22.00	19.53	≤ 21.00	Pass
80+80	58.6	122	5610	--	--	15.12	15.19	15.19	≤ 15.98	--	--	Pass
11ac-VHT	58.6	58	5210	18.05	17.49	--	--	18.05	≤ 22.00	19.57	≤ 21.00	Pass
80+80	58.6	138	5690	--	--	15.39	15.08	15.39	≤ 15.98	--	--	Pass
11ac-VHT	58.6	58	5290	15.54	14.98	--	--	15.54	≤ 15.98	--	--	Pass
80+80	58.6	106	5530	--	--	13.11	13.06	13.11	≤ 15.98	--	--	Pass
11ac-VHT	58.6	58	5290	15.55	15.06	--	--	15.55	≤ 15.98	--	--	Pass
80+80	58.6	122	5610	--	--	12.91	12.86	12.91	≤ 15.98	--	--	Pass
11ac-VHT	58.6	58	5290	15.48	15.12	--	--	15.48	≤ 15.98	--	--	Pass
80+80	58.6	138	5690	--	--	13.14	12.72	13.14	≤ 15.98	--	--	Pass
11ac-VHT	58.6	58	5290	15.43	15.11	--	--	15.43	≤ 15.98	--	--	Pass
80+80	58.6	155	5775	--	--	12.85	12.23	12.85	≤ 22.00	--	--	Pass
11ac-VHT	58.6	106	5530	15.32	15.12	--	--	15.32	≤ 15.98	--	--	Pass
80+80	58.6	122	5610	--	--	14.26	14.23	14.26	≤ 15.98	--	--	Pass
11ac-VHT	58.6	106	5530	15.26	15.14	--	--	15.26	≤ 15.98	--	--	Pass
80+80	58.6	138	5690	--	--	14.42	14.28	14.42	≤ 15.98	--	--	Pass
11ac-VHT	58.6	106	5530	15.28	15.15	--	--	15.28	≤ 15.98	--	--	Pass
80+80	58.6	155	5775	--	--	14.19	13.61	14.19	≤ 22.00	--	--	Pass
11ac-VHT	58.6	122	5610	15.26	14.98	--	--	15.26	≤ 15.98	--	--	Pass
80+80	58.6	138	5690	--	--	15.08	14.71	15.08	≤ 15.98	--	--	Pass
11ac-VHT	58.6	122	5610	15.37	14.95	--	--	15.37	≤ 15.98	--	--	Pass
80+80	58.6	155	5775	--	--	14.68	13.94	14.68	≤ 22.00	--	--	Pass
11ac-VHT	58.6	138	5690	15.53	15.16	--	--	15.53	≤ 15.98	--	--	Pass
80+80	58.6	155	5775	--	--	14.64	14.23	14.64	≤ 22.00	--	--	Pass

Note 1: The result of the Max Average Power has been selected the max Average Power from each antenna.

Note 2: Max EIRP of 30° Elevation Angle (dBm) = Max Average Power (dBm) + 30° Elevation Angle Antenna Gain (dBi).

7.5.12. Galtronics Small Omni Antenna Test Result

Product	Wi-Fi AP 4x4 OD small Omni antenna US	Temperature	25°C
Test Engineer	Johnson Liao	Relative Humidity	50 ~ 58%
Test Site	SR2	Test Date	2016/08/21
Test Item	Output Power	Antenna Model No.	Galtronics Small Omni Antenna

For FCC Bands UNII-2A & UNII-2C & UNII-3

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	22.90	22.90	≤ 23.15	25.67	≤ 29.15	Pass
11a	6	60	5300	22.53	22.53	≤ 23.15	25.30	≤ 29.15	Pass
11a	6	64	5320	22.62	22.62	≤ 23.15	25.39	≤ 29.15	Pass
11a	6	100	5500	22.58	22.58	≤ 23.15	26.01	≤ 29.15	Pass
11a	6	116	5580	21.82	21.82	≤ 23.15	25.25	≤ 29.15	Pass
11a	6	120	5600	21.92	21.92	≤ 23.15	25.35	≤ 29.15	Pass
11a	6	140	5700	21.36	21.36	≤ 23.15	24.79	≤ 29.15	Pass
11n-HT20	6.5	52	5260	23.20	23.20	≤ 23.45	25.97	≤ 29.45	Pass
11n-HT20	6.5	60	5300	23.29	23.29	≤ 23.45	26.06	≤ 29.45	Pass
11n-HT20	6.5	64	5320	22.97	22.97	≤ 23.45	25.74	≤ 29.45	Pass
11n-HT20	6.5	100	5500	22.92	22.92	≤ 23.45	26.35	≤ 29.45	Pass
11n-HT20	6.5	116	5580	22.11	22.11	≤ 23.45	25.54	≤ 29.45	Pass
11n-HT20	6.5	120	5600	22.17	22.17	≤ 23.45	25.60	≤ 29.45	Pass
11n-HT20	6.5	140	5700	21.64	21.64	≤ 23.45	25.07	≤ 29.45	Pass
11n-HT40	13.5	54	5270	23.28	23.28	≤ 23.98	26.05	≤ 30.00	Pass
11n-HT40	13.5	62	5310	23.80	23.80	≤ 23.98	26.57	≤ 30.00	Pass
11n-HT40	13.5	102	5510	23.40	23.40	≤ 23.98	26.83	≤ 30.00	Pass
11n-HT40	13.5	110	5550	23.43	23.43	≤ 23.98	26.86	≤ 30.00	Pass
11n-HT40	13.5	118	5590	22.95	22.95	≤ 23.98	26.38	≤ 30.00	Pass
11n-HT40	13.5	134	5670	22.77	22.77	≤ 23.98	26.20	≤ 30.00	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT20	6.5	52	5260	23.22	23.22	≤ 23.45	25.99	≤ 29.45	Pass
11ac-VHT20	6.5	60	5300	23.30	23.30	≤ 23.45	26.07	≤ 29.45	Pass
11ac-VHT20	6.5	64	5320	23.02	23.02	≤ 23.45	25.79	≤ 29.45	Pass
11ac-VHT20	6.5	100	5500	22.95	22.95	≤ 23.45	26.38	≤ 29.45	Pass
11ac-VHT20	6.5	116	5580	22.15	22.15	≤ 23.45	25.58	≤ 29.45	Pass
11ac-VHT20	6.5	120	5600	22.20	22.20	≤ 23.45	25.63	≤ 29.45	Pass
11ac-VHT20	6.5	140	5700	21.64	21.64	≤ 23.45	25.07	≤ 29.45	Pass
11ac-VHT20	6.5	144	5720	21.55	21.55	≤ 23.45	24.98	≤ 29.45	Pass
11ac-VHT40	13.5	54	5270	23.30	23.30	≤ 23.98	26.07	≤ 30.00	Pass
11ac-VHT40	13.5	62	5310	23.84	23.84	≤ 23.98	26.61	≤ 30.00	Pass
11ac-VHT40	13.5	102	5510	23.41	23.41	≤ 23.98	26.84	≤ 30.00	Pass
11ac-VHT40	13.5	110	5550	23.42	23.42	≤ 23.98	26.85	≤ 30.00	Pass
11ac-VHT40	13.5	118	5590	22.94	22.94	≤ 23.98	26.37	≤ 30.00	Pass
11ac-VHT40	13.5	134	5670	22.74	22.74	≤ 23.98	26.17	≤ 30.00	Pass
11ac-VHT40	13.5	142	5710	22.77	22.77	≤ 23.98	26.20	≤ 30.00	Pass
11ac-VHT80	29.3	58	5290	23.24	23.24	≤ 23.98	26.01	≤ 30.00	Pass
11ac-VHT80	29.3	106	5530	23.09	23.09	≤ 23.98	26.52	≤ 30.00	Pass
11ac-VHT80	29.3	122	5610	22.44	22.44	≤ 23.98	25.87	≤ 30.00	Pass
11ac-VHT80	29.3	138	5690	22.62	22.62	≤ 23.98	26.05	≤ 30.00	Pass

Note: Max EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 1 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	22.41	22.41	≤ 23.15	25.71	≤ 29.15	Pass
11a	6	60	5300	22.93	22.93	≤ 23.15	26.23	≤ 29.15	Pass
11a	6	64	5320	22.57	22.57	≤ 23.15	25.87	≤ 29.15	Pass
11a	6	100	5500	22.46	22.46	≤ 23.15	26.27	≤ 29.15	Pass
11a	6	116	5580	21.53	21.53	≤ 23.15	25.34	≤ 29.15	Pass
11a	6	120	5600	21.84	21.84	≤ 23.15	25.65	≤ 29.15	Pass
11a	6	140	5700	22.97	22.97	≤ 23.15	26.78	≤ 29.15	Pass
11n-HT20	6.5	52	5260	23.15	23.15	≤ 23.45	26.45	≤ 29.45	Pass
11n-HT20	6.5	60	5300	23.15	23.15	≤ 23.45	26.45	≤ 29.45	Pass
11n-HT20	6.5	64	5320	23.23	23.23	≤ 23.45	26.53	≤ 29.45	Pass
11n-HT20	6.5	100	5500	22.79	22.79	≤ 23.45	26.60	≤ 29.45	Pass
11n-HT20	6.5	116	5580	21.89	21.89	≤ 23.45	25.70	≤ 29.45	Pass
11n-HT20	6.5	120	5600	22.11	22.11	≤ 23.45	25.92	≤ 29.45	Pass
11n-HT20	6.5	140	5700	21.75	21.75	≤ 23.45	25.56	≤ 29.45	Pass
11n-HT40	13.5	54	5270	23.62	23.62	≤ 23.98	26.92	≤ 30.00	Pass
11n-HT40	13.5	62	5310	23.66	23.66	≤ 23.98	26.96	≤ 30.00	Pass
11n-HT40	13.5	102	5510	23.25	23.25	≤ 23.98	27.06	≤ 30.00	Pass
11n-HT40	13.5	110	5550	23.23	23.23	≤ 23.98	27.04	≤ 30.00	Pass
11n-HT40	13.5	118	5590	22.80	22.80	≤ 23.98	26.61	≤ 30.00	Pass
11n-HT40	13.5	134	5670	22.82	22.82	≤ 23.98	26.63	≤ 30.00	Pass
11ac-VHT20	6.5	52	5260	23.14	23.14	≤ 23.45	26.44	≤ 29.45	Pass
11ac-VHT20	6.5	60	5300	23.19	23.19	≤ 23.45	26.49	≤ 29.45	Pass
11ac-VHT20	6.5	64	5320	22.77	22.77	≤ 23.45	26.07	≤ 29.45	Pass
11ac-VHT20	6.5	100	5500	22.75	22.75	≤ 23.45	26.56	≤ 29.45	Pass
11ac-VHT20	6.5	116	5580	21.93	21.93	≤ 23.45	25.74	≤ 29.45	Pass
11ac-VHT20	6.5	120	5600	22.10	22.10	≤ 23.45	25.91	≤ 29.45	Pass
11ac-VHT20	6.5	140	5700	21.74	21.74	≤ 23.45	25.55	≤ 29.45	Pass
11ac-VHT20	6.5	144	5720	21.65	21.65	≤ 23.45	25.46	≤ 29.45	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 1 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT40	13.5	54	5270	23.62	23.62	≤ 23.98	26.92	≤ 30.00	Pass
11ac-VHT40	13.5	62	5310	23.62	23.62	≤ 23.98	26.92	≤ 30.00	Pass
11ac-VHT40	13.5	102	5510	23.26	23.26	≤ 23.98	27.07	≤ 30.00	Pass
11ac-VHT40	13.5	110	5550	23.25	23.25	≤ 23.98	27.06	≤ 30.00	Pass
11ac-VHT40	13.5	118	5590	22.81	22.81	≤ 23.98	26.62	≤ 30.00	Pass
11ac-VHT40	13.5	134	5670	22.85	22.85	≤ 23.98	26.66	≤ 30.00	Pass
11ac-VHT40	13.5	142	5710	22.69	22.69	≤ 23.98	26.50	≤ 30.00	Pass
11ac-VHT80	29.3	58	5290	23.12	23.12	≤ 23.98	26.42	≤ 30.00	Pass
11ac-VHT80	29.3	106	5530	22.41	22.41	≤ 23.98	26.22	≤ 30.00	Pass
11ac-VHT80	29.3	122	5610	22.38	22.38	≤ 23.98	26.19	≤ 30.00	Pass
11ac-VHT80	29.3	138	5690	22.68	22.68	≤ 23.98	26.49	≤ 30.00	Pass

Note: Max EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 2 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	22.91	22.91	≤ 23.15	25.68	≤ 29.15	Pass
11a	6	60	5300	22.44	22.44	≤ 23.15	25.21	≤ 29.15	Pass
11a	6	64	5320	22.47	22.47	≤ 23.15	25.24	≤ 29.15	Pass
11a	6	100	5500	22.23	22.23	≤ 23.15	25.66	≤ 29.15	Pass
11a	6	116	5580	21.61	21.61	≤ 23.15	25.04	≤ 29.15	Pass
11a	6	120	5600	21.76	21.76	≤ 23.15	25.19	≤ 29.15	Pass
11a	6	140	5700	21.12	21.12	≤ 23.15	24.55	≤ 29.15	Pass
11n-HT20	6.5	52	5260	23.15	23.15	≤ 23.45	25.92	≤ 29.45	Pass
11n-HT20	6.5	60	5300	23.17	23.17	≤ 23.45	25.94	≤ 29.45	Pass
11n-HT20	6.5	64	5320	22.67	22.67	≤ 23.45	25.44	≤ 29.45	Pass
11n-HT20	6.5	100	5500	21.96	21.96	≤ 23.45	25.39	≤ 29.45	Pass
11n-HT20	6.5	116	5580	21.36	21.36	≤ 23.45	24.79	≤ 29.45	Pass
11n-HT20	6.5	120	5600	21.52	21.52	≤ 23.45	24.95	≤ 29.45	Pass
11n-HT20	6.5	140	5700	22.78	22.78	≤ 23.45	26.21	≤ 29.45	Pass
11n-HT40	13.5	54	5270	23.58	23.58	≤ 23.98	26.35	≤ 30.00	Pass
11n-HT40	13.5	62	5310	23.62	23.62	≤ 23.98	26.39	≤ 30.00	Pass
11n-HT40	13.5	102	5510	23.54	23.54	≤ 23.98	26.97	≤ 30.00	Pass
11n-HT40	13.5	110	5550	23.55	23.55	≤ 23.98	26.98	≤ 30.00	Pass
11n-HT40	13.5	118	5590	23.14	23.14	≤ 23.98	26.57	≤ 30.00	Pass
11n-HT40	13.5	134	5670	23.01	23.01	≤ 23.98	26.44	≤ 30.00	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 2 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT20	6.5	52	5260	23.17	23.17	≤ 23.45	25.94	≤ 29.45	Pass
11ac-VHT20	6.5	60	5300	23.16	23.16	≤ 23.45	25.93	≤ 29.45	Pass
11ac-VHT20	6.5	64	5320	22.65	22.65	≤ 23.45	25.42	≤ 29.45	Pass
11ac-VHT20	6.5	100	5500	21.98	21.98	≤ 23.45	25.41	≤ 29.45	Pass
11ac-VHT20	6.5	116	5580	21.31	21.31	≤ 23.45	24.74	≤ 29.45	Pass
11ac-VHT20	6.5	120	5600	21.51	21.51	≤ 23.45	24.94	≤ 29.45	Pass
11ac-VHT20	6.5	140	5700	21.22	21.22	≤ 23.45	24.65	≤ 29.45	Pass
11ac-VHT20	6.5	144	5720	21.13	21.13	≤ 23.45	24.56	≤ 29.45	Pass
11ac-VHT40	13.5	54	5270	23.59	23.59	≤ 23.98	26.36	≤ 30.00	Pass
11ac-VHT40	13.5	62	5310	23.63	23.63	≤ 23.98	26.40	≤ 30.00	Pass
11ac-VHT40	13.5	102	5510	23.52	23.52	≤ 23.98	26.95	≤ 30.00	Pass
11ac-VHT40	13.5	110	5550	23.55	23.55	≤ 23.98	26.98	≤ 30.00	Pass
11ac-VHT40	13.5	118	5590	23.11	23.11	≤ 23.98	26.54	≤ 30.00	Pass
11ac-VHT40	13.5	134	5670	22.97	22.97	≤ 23.98	26.40	≤ 30.00	Pass
11ac-VHT40	13.5	142	5710	22.86	22.86	≤ 23.98	26.29	≤ 30.00	Pass
11ac-VHT80	29.3	58	5290	23.23	23.23	≤ 23.98	26.00	≤ 30.00	Pass
11ac-VHT80	29.3	106	5530	23.29	23.29	≤ 23.98	26.72	≤ 30.00	Pass
11ac-VHT80	29.3	122	5610	22.77	22.77	≤ 23.98	26.20	≤ 30.00	Pass
11ac-VHT80	29.3	138	5690	22.71	22.71	≤ 23.98	26.14	≤ 30.00	Pass

Note: Max EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	22.80	22.80	≤ 23.15	26.10	≤ 29.15	Pass
11a	6	60	5300	22.87	22.87	≤ 23.15	26.17	≤ 29.15	Pass
11a	6	64	5320	22.53	22.53	≤ 23.15	25.83	≤ 29.15	Pass
11a	6	100	5500	22.21	22.21	≤ 23.15	26.02	≤ 29.15	Pass
11a	6	116	5580	21.72	21.72	≤ 23.15	25.53	≤ 29.15	Pass
11a	6	120	5600	21.97	21.97	≤ 23.15	25.78	≤ 29.15	Pass
11a	6	140	5700	21.19	21.19	≤ 23.15	25.00	≤ 29.15	Pass
11n-HT20	6.5	52	5260	23.04	23.04	≤ 23.45	26.34	≤ 29.45	Pass
11n-HT20	6.5	60	5300	23.04	23.04	≤ 23.45	26.34	≤ 29.45	Pass
11n-HT20	6.5	64	5320	22.78	22.78	≤ 23.45	26.08	≤ 29.45	Pass
11n-HT20	6.5	100	5500	22.51	22.51	≤ 23.45	26.32	≤ 29.45	Pass
11n-HT20	6.5	116	5580	21.95	21.95	≤ 23.45	25.76	≤ 29.45	Pass
11n-HT20	6.5	120	5600	22.22	22.22	≤ 23.45	26.03	≤ 29.45	Pass
11n-HT20	6.5	140	5700	21.91	21.91	≤ 23.45	25.72	≤ 29.45	Pass
11n-HT40	13.5	54	5270	23.62	23.62	≤ 23.98	26.92	≤ 30.00	Pass
11n-HT40	13.5	62	5310	23.61	23.61	≤ 23.98	26.91	≤ 30.00	Pass
11n-HT40	13.5	102	5510	23.58	23.58	≤ 23.98	27.39	≤ 30.00	Pass
11n-HT40	13.5	110	5550	23.19	23.19	≤ 23.98	27.00	≤ 30.00	Pass
11n-HT40	13.5	118	5590	23.10	23.10	≤ 23.98	26.91	≤ 30.00	Pass
11n-HT40	13.5	134	5670	22.70	22.70	≤ 23.98	26.51	≤ 30.00	Pass
11ac-VHT20	6.5	52	5260	23.37	23.37	≤ 23.45	26.67	≤ 29.45	Pass
11ac-VHT20	6.5	60	5300	23.04	23.04	≤ 23.45	26.34	≤ 29.45	Pass
11ac-VHT20	6.5	64	5320	22.76	22.76	≤ 23.45	26.06	≤ 29.45	Pass
11ac-VHT20	6.5	100	5500	22.50	22.50	≤ 23.45	26.31	≤ 29.45	Pass
11ac-VHT20	6.5	116	5580	21.49	21.49	≤ 23.45	25.30	≤ 29.45	Pass
11ac-VHT20	6.5	120	5600	21.66	21.66	≤ 23.45	25.47	≤ 29.45	Pass
11ac-VHT20	6.5	140	5700	21.42	21.42	≤ 23.45	25.23	≤ 29.45	Pass
11ac-VHT20	6.5	144	5720	21.28	21.28	≤ 23.45	25.09	≤ 29.45	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT40	13.5	54	5270	23.52	23.52	≤ 23.98	26.82	≤ 30.00	Pass
11ac-VHT40	13.5	62	5310	23.63	23.63	≤ 23.98	26.93	≤ 30.00	Pass
11ac-VHT40	13.5	102	5510	23.65	23.65	≤ 23.98	27.46	≤ 30.00	Pass
11ac-VHT40	13.5	110	5550	23.19	23.19	≤ 23.98	27.00	≤ 30.00	Pass
11ac-VHT40	13.5	118	5590	23.09	23.09	≤ 23.98	26.90	≤ 30.00	Pass
11ac-VHT40	13.5	134	5670	22.69	22.69	≤ 23.98	26.50	≤ 30.00	Pass
11ac-VHT40	13.5	142	5710	22.56	22.56	≤ 23.98	26.37	≤ 30.00	Pass
11ac-VHT80	29.3	58	5290	23.74	23.74	≤ 23.98	27.04	≤ 30.00	Pass
11ac-VHT80	29.3	106	5530	23.16	23.16	≤ 23.98	26.97	≤ 30.00	Pass
11ac-VHT80	29.3	122	5610	22.55	22.55	≤ 23.98	26.36	≤ 30.00	Pass
11ac-VHT80	29.3	138	5690	22.38	22.38	≤ 23.98	26.19	≤ 30.00	Pass

Note: Max EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11a	6	52	5260	11.22	11.40	11.33	11.28	17.33	≤ 18.51	26.39	≤ 29.15	Pass
11a	6	60	5300	11.48	11.45	11.46	11.29	17.44	≤ 18.51	26.50	≤ 29.15	Pass
11a	6	64	5320	11.46	11.51	11.49	11.39	17.48	≤ 18.51	26.54	≤ 29.15	Pass
11a	6	100	5500	10.58	11.04	11.14	11.16	17.01	≤ 18.36	26.65	≤ 29.15	Pass
11a	6	116	5580	10.39	9.78	10.45	10.33	16.27	≤ 18.36	25.91	≤ 29.15	Pass
11a	6	120	5600	10.53	10.78	11.17	10.93	16.88	≤ 18.36	26.52	≤ 29.15	Pass
11a	6	140	5700	10.48	10.83	10.91	10.53	16.71	≤ 18.36	26.35	≤ 29.15	Pass
11n-HT20	26	52	5260	11.72	11.72	11.79	11.62	17.73	≤ 18.51	26.79	≤ 29.45	Pass
11n-HT20	26	60	5300	11.81	11.70	11.71	11.63	17.73	≤ 18.51	26.79	≤ 29.45	Pass
11n-HT20	26	64	5320	11.89	11.81	11.81	11.73	17.83	≤ 18.51	26.89	≤ 29.45	Pass
11n-HT20	26	100	5500	10.86	11.30	11.46	11.42	17.29	≤ 18.36	26.93	≤ 29.45	Pass
11n-HT20	26	116	5580	10.63	10.03	10.01	10.42	16.30	≤ 18.36	25.94	≤ 29.45	Pass
11n-HT20	26	120	5600	10.45	10.62	10.98	10.65	16.70	≤ 18.36	26.34	≤ 29.45	Pass
11n-HT20	26	140	5700	10.23	10.64	10.71	10.34	16.51	≤ 18.36	26.15	≤ 29.45	Pass
11n-HT40	54	54	5270	12.32	12.10	11.98	11.86	18.09	≤ 18.51	27.15	≤ 30.00	Pass
11n-HT40	54	62	5310	12.37	12.06	11.97	11.84	18.09	≤ 18.51	27.15	≤ 30.00	Pass
11n-HT40	54	102	5510	11.86	12.24	12.34	12.23	18.19	≤ 18.36	27.83	≤ 30.00	Pass
11n-HT40	54	110	5550	11.93	11.35	11.52	11.59	17.62	≤ 18.36	27.26	≤ 30.00	Pass
11n-HT40	54	118	5590	11.41	11.84	12.09	11.76	17.80	≤ 18.36	27.44	≤ 30.00	Pass
11n-HT40	54	134	5670	12.14	12.24	12.25	11.87	18.15	≤ 18.36	27.79	≤ 30.00	Pass
11ac-VHT20	26	52	5260	11.57	11.70	11.65	11.51	17.63	≤ 18.51	26.69	≤ 29.45	Pass
11ac-VHT20	26	60	5300	11.66	11.69	11.62	11.47	17.63	≤ 18.51	26.69	≤ 29.45	Pass
11ac-VHT20	26	64	5320	11.67	11.78	11.66	11.84	17.76	≤ 18.51	26.82	≤ 29.45	Pass
11ac-VHT20	26	100	5500	10.83	11.44	11.57	11.48	17.36	≤ 18.36	27.00	≤ 29.45	Pass
11ac-VHT20	26	116	5580	11.29	10.52	10.43	10.92	16.82	≤ 18.36	26.46	≤ 29.45	Pass
11ac-VHT20	26	120	5600	10.98	11.07	11.50	11.18	17.21	≤ 18.36	26.85	≤ 29.45	Pass
11ac-VHT20	26	140	5700	10.15	10.52	10.72	10.12	16.41	≤ 18.36	26.05	≤ 29.45	Pass
11ac-VHT20	26	144	5720	10.51	11.03	11.14	10.57	16.84	≤ 18.36	26.48	≤ 29.45	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11ac-VHT40	54	54	5270	12.17	12.09	11.97	11.96	18.07	≤ 18.51	27.13	≤ 30.00	Pass
11ac-VHT40	54	62	5310	12.25	12.03	11.97	11.98	18.08	≤ 18.51	27.14	≤ 30.00	Pass
11ac-VHT40	54	102	5510	11.86	12.23	12.46	12.23	18.22	≤ 18.36	27.86	≤ 30.00	Pass
11ac-VHT40	54	110	5550	12.12	11.35	11.53	11.53	17.66	≤ 18.36	27.30	≤ 30.00	Pass
11ac-VHT40	54	118	5590	11.53	11.93	12.13	11.91	17.90	≤ 18.36	27.54	≤ 30.00	Pass
11ac-VHT40	54	134	5670	12.01	12.22	12.45	12.02	18.20	≤ 18.36	27.84	≤ 30.00	Pass
11ac-VHT40	54	142	5710	11.91	12.22	12.15	11.93	18.08	≤ 18.36	27.72	≤ 30.00	Pass
11ac-VHT80	117.2	58	5290	12.27	12.07	11.93	12.01	18.09	≤ 18.51	27.15	≤ 30.00	Pass
11ac-VHT80	117.2	106	5530	11.38	12.01	12.05	12.01	17.89	≤ 18.36	27.53	≤ 30.00	Pass
11ac-VHT80	117.2	122	5610	11.82	11.74	12.15	11.91	17.93	≤ 18.36	27.57	≤ 30.00	Pass
11ac-VHT80	117.2	138	5690	11.89	11.99	12.09	11.59	17.91	≤ 18.36	27.55	≤ 30.00	Pass

Note 1: The Total Average Power (dBm) = $10*\log\{10^{(\text{Ant 0 Average Power }/10)} +10^{(\text{Ant 1 Average Power }/10)} +10^{(\text{Ant 2 Average Power }/10)} +10^{(\text{Ant 3 Average Power }/10)}\}$.

Note 2: Max EIRP Power (dBm) = Total Average Power (dBm) + Antenna Gain.

For FCC 802.11ac-VHT80 + 80 Mode Test Data

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 Average Power (dBm)	Ant 1 Average Power (dBm)	Ant 2 Average Power (dBm)	Ant 3 Average Power (dBm)	Total Average Power (dBm)	Average Power Limit (dBm)	EIRP of 30° Elevation Angle (dBm)	EIRP Limit of 30° Elevation Angle (dBm)	Result
11ac-VHT	58.6	42	5210	13.45	13.10	--	--	16.29	≤ 27.31	19.79	≤ 21.00	Pass
80+80	58.6	58	5290	--	--	12.85	12.30	15.59	≤ 21.68	--	--	Pass
11ac-VHT	58.6	42	5210	13.97	13.63	--	--	16.81	≤ 27.31	20.32	≤ 21.00	Pass
80+80	58.6	106	5530	--	--	11.36	11.43	14.41	≤ 21.11	--	--	Pass
11ac-VHT	58.6	58	5210	13.96	13.62	--	--	16.80	≤ 27.31	20.31	≤ 21.00	Pass
80+80	58.6	122	5610	--	--	11.04	11.32	14.19	≤ 21.11	--	--	Pass
11ac-VHT	58.6	58	5210	13.96	13.63	--	--	16.81	≤ 27.31	20.31	≤ 21.00	Pass
80+80	58.6	138	5690	--	--	11.53	11.22	14.39	≤ 21.11	--	--	Pass
11ac-VHT	58.6	58	5290	17.92	17.36	--	--	20.66	≤ 21.36	--	--	Pass
80+80	58.6	106	5530	--	--	15.41	15.59	18.51	≤ 21.11	--	--	Pass
11ac-VHT	58.6	58	5290	18.01	17.40	--	--	20.73	≤ 21.36	--	--	Pass
80+80	58.6	122	5610	--	--	15.16	15.26	18.22	≤ 21.11	--	--	Pass
11ac-VHT	58.6	58	5290	18.09	17.38	--	--	20.76	≤ 21.36	--	--	Pass
80+80	58.6	138	5690	--	--	15.37	15.28	18.34	≤ 21.11	--	--	Pass
11ac-VHT	58.6	58	5290	18.01	17.41	--	--	20.73	≤ 21.36	--	--	Pass
80+80	58.6	155	5775	--	--	15.16	14.75	17.97	≤ 26.80	--	--	Pass
11ac-VHT	58.6	106	5530	18.11	18.16	--	--	21.15	≤ 21.63	--	--	Pass
80+80	58.6	122	5610	--	--	16.98	17.16	20.08	≤ 21.11	--	--	Pass
11ac-VHT	58.6	106	5530	18.08	18.18	--	--	21.14	≤ 21.63	--	--	Pass
80+80	58.6	138	5690	--	--	17.30	17.18	20.25	≤ 21.11	--	--	Pass
11ac-VHT	58.6	106	5530	18.19	18.13	--	--	21.17	≤ 21.63	--	--	Pass
80+80	58.6	155	5775	--	--	17.13	16.63	19.90	≤ 26.80	--	--	Pass
11ac-VHT	58.6	122	5610	18.07	17.91	--	--	21.00	≤ 21.63	--	--	Pass
80+80	58.6	138	5690	--	--	18.02	17.69	20.87	≤ 21.11	--	--	Pass
11ac-VHT	58.6	122	5610	18.09	17.86	--	--	20.99	≤ 21.63	--	--	Pass
80+80	58.6	155	5775	--	--	17.61	17.14	20.39	≤ 26.80	--	--	Pass
11ac-VHT	58.6	138	5690	18.21	18.15	--	--	21.19	≤ 21.63	--	--	Pass
80+80	58.6	155	5775	--	--	17.66	17.16	20.43	≤ 26.80	--	--	Pass

Note 1: The Total Average Power (dBm) = $10*\log\{10^{(\text{Ant 0 Average Power }/10)} +10^{(\text{Ant 1 Average Power }/10)}\}$

Note 2: The Total Average Power (dBm) = $10*\log\{10^{(\text{Ant 2 Average Power }/10)} +10^{(\text{Ant 3 Average Power }/10)}\}$.

Note 3: EIRP of 30° Elevation Angle (dBm) = $10*\log\{10^{((\text{Ant 0 Average Power + Ant 0 30° Elevation Angle Gain})/10)} +10^{((\text{Ant 1 Average}}$

Power + Ant 1 30° Elevation Angle Gain) /10)}.

7.6. Transmit Power Control

7.6.1. Test Limit

The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm.

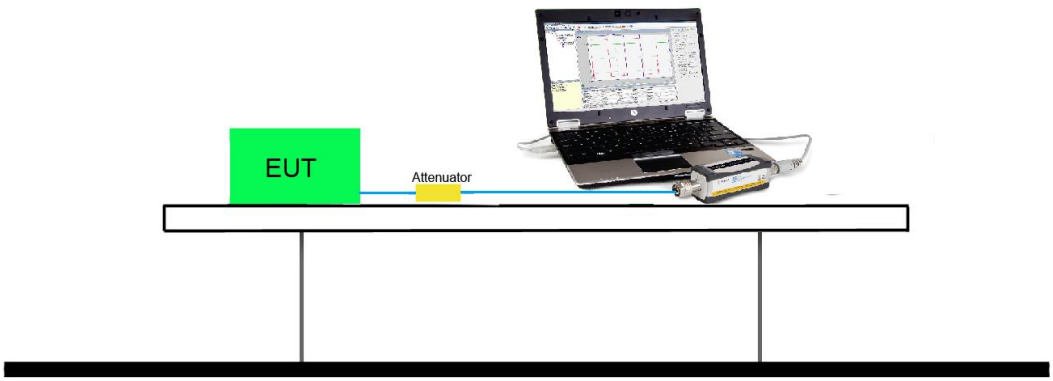
7.6.2. Test Procedure Used

KDB 789033 D02v01r03 - Section E) 3) b) Method PM-G

7.6.3. Test Setting

Average power measurements were perform only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter. The trace was averaged over 100 traces to obtain the final measured average power.

7.6.4. Test Setup



7.6.5. Test Result

Product	Wi-Fi AP 4x4 OD ext. antenna US	Temperature	25°C
Test Engineer	Johnson Liao	Relative Humidity	50 ~ 58%
Test Site	SR2	Test Date	2016/08/21
Test Item	Output Power	Antenna Model No.	FPMI2458-DP2RPSMA

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 TPC Power (dBm)	EIRP TPC (dBm)	EIRP TPC Limit (dBm)	Result
11a	6	52	5260	16.24	21.92	≤ 24.00	Pass
11a	6	60	5300	16.07	21.75	≤ 24.00	Pass
11a	6	64	5320	16.37	22.05	≤ 24.00	Pass
11a	6	100	5500	14.79	20.25	≤ 24.00	Pass
11a	6	116	5580	15.23	20.69	≤ 24.00	Pass
11a	6	120	5600	14.43	19.89	≤ 24.00	Pass
11a	6	140	5700	14.21	19.67	≤ 24.00	Pass
11n-HT20	6.5	52	5260	16.66	22.34	≤ 24.00	Pass
11n-HT20	6.5	60	5300	16.23	21.91	≤ 24.00	Pass
11n-HT20	6.5	64	5320	16.64	22.32	≤ 24.00	Pass
11n-HT20	6.5	100	5500	15.53	20.99	≤ 24.00	Pass
11n-HT20	6.5	116	5580	15.81	21.27	≤ 24.00	Pass
11n-HT20	6.5	120	5600	14.64	20.10	≤ 24.00	Pass
11n-HT20	6.5	140	5700	14.90	20.36	≤ 24.00	Pass
11n-HT40	13.5	54	5270	16.68	22.36	≤ 24.00	Pass
11n-HT40	13.5	62	5310	16.56	22.24	≤ 24.00	Pass
11n-HT40	13.5	102	5510	15.93	21.39	≤ 24.00	Pass
11n-HT40	13.5	110	5550	16.74	22.20	≤ 24.00	Pass
11n-HT40	13.5	118	5590	16.12	21.58	≤ 24.00	Pass
11n-HT40	13.5	134	5670	16.04	21.50	≤ 24.00	Pass
11ac-VHT20	6.5	52	5260	16.72	22.40	≤ 24.00	Pass
11ac-VHT20	6.5	60	5300	16.30	21.98	≤ 24.00	Pass
11ac-VHT20	6.5	64	5320	16.57	22.25	≤ 24.00	Pass
11ac-VHT20	6.5	100	5500	15.02	20.48	≤ 24.00	Pass
11ac-VHT20	6.5	116	5580	15.01	20.47	≤ 24.00	Pass
11ac-VHT20	6.5	120	5600	15.10	20.56	≤ 24.00	Pass
11ac-VHT20	6.5	140	5700	14.92	20.38	≤ 24.00	Pass
11ac-VHT20	6.5	144	5720	14.97	20.43	≤ 24.00	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 TPC Power (dBm)	EIRP TPC (dBm)	EIRP TPC Limit (dBm)	Result
11ac-VHT40	13.5	54	5270	16.75	22.43	≤ 24.00	Pass
11ac-VHT40	13.5	62	5310	16.40	22.08	≤ 24.00	Pass
11ac-VHT40	13.5	102	5510	16.01	21.47	≤ 24.00	Pass
11ac-VHT40	13.5	110	5550	15.88	21.34	≤ 24.00	Pass
11ac-VHT40	13.5	118	5590	15.81	21.27	≤ 24.00	Pass
11ac-VHT40	13.5	134	5670	15.74	21.20	≤ 24.00	Pass
11ac-VHT40	13.5	142	5710	16.07	21.53	≤ 24.00	Pass
11ac-VHT80	29.3	58	5290	16.87	22.55	≤ 24.00	Pass
11ac-VHT80	29.3	106	5530	16.04	21.50	≤ 24.00	Pass
11ac-VHT80	29.3	122	5610	15.42	20.88	≤ 24.00	Pass
11ac-VHT80	29.3	138	5690	15.64	21.10	≤ 24.00	Pass

Note: EIRP TPC (dBm) = TPC Power (dBm) + Antenna Gain (dBi).

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 1 TPC Power (dBm)	EIRP TPC (dBm)	EIRP TPC Limit (dBm)	Result
11a	6	52	5260	16.02	21.55	≤ 24.00	Pass
11a	6	60	5300	16.19	21.72	≤ 24.00	Pass
11a	6	64	5320	16.20	21.73	≤ 24.00	Pass
11a	6	100	5500	16.27	21.48	≤ 24.00	Pass
11a	6	116	5580	15.95	21.16	≤ 24.00	Pass
11a	6	120	5600	16.42	21.63	≤ 24.00	Pass
11a	6	140	5700	16.26	21.47	≤ 24.00	Pass
11n-HT20	6.5	52	5260	16.27	21.80	≤ 24.00	Pass
11n-HT20	6.5	60	5300	16.46	21.99	≤ 24.00	Pass
11n-HT20	6.5	64	5320	16.45	21.98	≤ 24.00	Pass
11n-HT20	6.5	100	5500	15.98	21.19	≤ 24.00	Pass
11n-HT20	6.5	116	5580	15.99	21.20	≤ 24.00	Pass
11n-HT20	6.5	120	5600	16.16	21.37	≤ 24.00	Pass
11n-HT20	6.5	140	5700	16.08	21.29	≤ 24.00	Pass
11n-HT40	13.5	54	5270	16.17	21.70	≤ 24.00	Pass
11n-HT40	13.5	62	5310	16.23	21.76	≤ 24.00	Pass
11n-HT40	13.5	102	5510	16.46	21.67	≤ 24.00	Pass
11n-HT40	13.5	110	5550	16.59	21.80	≤ 24.00	Pass
11n-HT40	13.5	118	5590	16.58	21.79	≤ 24.00	Pass
11n-HT40	13.5	134	5670	16.11	21.32	≤ 24.00	Pass
11ac-VHT20	6.5	52	5260	16.32	21.85	≤ 24.00	Pass
11ac-VHT20	6.5	60	5300	16.40	21.93	≤ 24.00	Pass
11ac-VHT20	6.5	64	5320	16.56	22.09	≤ 24.00	Pass
11ac-VHT20	6.5	100	5500	15.33	20.54	≤ 24.00	Pass
11ac-VHT20	6.5	116	5580	15.40	20.61	≤ 24.00	Pass
11ac-VHT20	6.5	120	5600	15.07	20.28	≤ 24.00	Pass
11ac-VHT20	6.5	140	5700	17.02	22.23	≤ 24.00	Pass
11ac-VHT20	6.5	144	5720	14.61	19.82	≤ 24.00	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 1 TPC Power (dBm)	EIRP TPC (dBm)	EIRP TPC Limit (dBm)	Result
11ac-VHT40	13.5	54	5270	16.23	21.76	≤ 24.00	Pass
11ac-VHT40	13.5	62	5310	16.24	21.77	≤ 24.00	Pass
11ac-VHT40	13.5	102	5510	16.54	21.75	≤ 24.00	Pass
11ac-VHT40	13.5	110	5550	16.62	21.83	≤ 24.00	Pass
11ac-VHT40	13.5	118	5590	16.05	21.26	≤ 24.00	Pass
11ac-VHT40	13.5	134	5670	15.62	20.83	≤ 24.00	Pass
11ac-VHT40	13.5	142	5710	15.80	21.01	≤ 24.00	Pass
11ac-VHT80	29.3	58	5290	16.34	21.87	≤ 24.00	Pass
11ac-VHT80	29.3	106	5530	16.19	21.40	≤ 24.00	Pass
11ac-VHT80	29.3	122	5610	16.25	21.46	≤ 24.00	Pass
11ac-VHT80	29.3	138	5690	15.47	20.68	≤ 24.00	Pass

Note: EIRP TPC (dBm) = TPC Power (dBm) + Antenna Gain (dBi).

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 2 TPC Power (dBm)	EIRP TPC (dBm)	EIRP TPC Limit (dBm)	Result
11a	6	52	5260	16.11	21.79	≤ 24.00	Pass
11a	6	60	5300	16.10	21.78	≤ 24.00	Pass
11a	6	64	5320	16.17	21.85	≤ 24.00	Pass
11a	6	100	5500	14.88	20.34	≤ 24.00	Pass
11a	6	116	5580	14.65	20.11	≤ 24.00	Pass
11a	6	120	5600	14.75	20.21	≤ 24.00	Pass
11a	6	140	5700	14.67	20.13	≤ 24.00	Pass
11n-HT20	6.5	52	5260	16.30	21.98	≤ 24.00	Pass
11n-HT20	6.5	60	5300	16.31	21.99	≤ 24.00	Pass
11n-HT20	6.5	64	5320	16.44	22.12	≤ 24.00	Pass
11n-HT20	6.5	100	5500	15.29	20.75	≤ 24.00	Pass
11n-HT20	6.5	116	5580	15.07	20.53	≤ 24.00	Pass
11n-HT20	6.5	120	5600	16.23	21.69	≤ 24.00	Pass
11n-HT20	6.5	140	5700	16.07	21.53	≤ 24.00	Pass
11n-HT40	13.5	54	5270	16.16	21.84	≤ 24.00	Pass
11n-HT40	13.5	62	5310	17.06	23.64	≤ 24.00	Pass
11n-HT40	13.5	102	5510	15.76	21.22	≤ 24.00	Pass
11n-HT40	13.5	110	5550	16.06	21.52	≤ 24.00	Pass
11n-HT40	13.5	118	5590	16.40	21.86	≤ 24.00	Pass
11n-HT40	13.5	134	5670	15.75	21.21	≤ 24.00	Pass
11ac-VHT20	6.5	52	5260	16.34	22.02	≤ 24.00	Pass
11ac-VHT20	6.5	60	5300	16.43	22.11	≤ 24.00	Pass
11ac-VHT20	6.5	64	5320	16.54	22.22	≤ 24.00	Pass
11ac-VHT20	6.5	100	5500	15.17	20.63	≤ 24.00	Pass
11ac-VHT20	6.5	116	5580	15.00	20.46	≤ 24.00	Pass
11ac-VHT20	6.5	120	5600	15.19	20.65	≤ 24.00	Pass
11ac-VHT20	6.5	140	5700	14.96	20.42	≤ 24.00	Pass
11ac-VHT20	6.5	144	5720	15.48	20.94	≤ 24.00	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 2 TPC Power (dBm)	EIRP TPC (dBm)	EIRP TPC Limit (dBm)	Result
11ac-VHT40	13.5	54	5270	16.10	21.78	≤ 24.00	Pass
11ac-VHT40	13.5	62	5310	16.27	21.95	≤ 24.00	Pass
11ac-VHT40	13.5	102	5510	15.71	21.17	≤ 24.00	Pass
11ac-VHT40	13.5	110	5550	15.81	21.27	≤ 24.00	Pass
11ac-VHT40	13.5	118	5590	15.91	21.37	≤ 24.00	Pass
11ac-VHT40	13.5	134	5670	15.73	21.19	≤ 24.00	Pass
11ac-VHT40	13.5	142	5710	15.98	21.44	≤ 24.00	Pass
11ac-VHT80	29.3	58	5290	16.47	22.15	≤ 24.00	Pass
11ac-VHT80	29.3	106	5530	16.02	21.48	≤ 24.00	Pass
11ac-VHT80	29.3	122	5610	15.49	20.95	≤ 24.00	Pass
11ac-VHT80	29.3	138	5690	15.84	21.30	≤ 24.00	Pass

Note: EIRP TPC (dBm) = TPC Power (dBm) + Antenna Gain (dBi).

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 3 TPC Power (dBm)	EIRP TPC (dBm)	EIRP TPC Limit (dBm)	Result
11a	6	52	5260	16.24	21.77	≤ 24.00	Pass
11a	6	60	5300	15.92	21.45	≤ 24.00	Pass
11a	6	64	5320	16.31	21.84	≤ 24.00	Pass
11a	6	100	5500	15.36	20.57	≤ 24.00	Pass
11a	6	116	5580	15.50	20.71	≤ 24.00	Pass
11a	6	120	5600	15.17	20.38	≤ 24.00	Pass
11a	6	140	5700	14.80	20.01	≤ 24.00	Pass
11n-HT20	6.5	52	5260	15.96	21.49	≤ 24.00	Pass
11n-HT20	6.5	60	5300	16.44	21.97	≤ 24.00	Pass
11n-HT20	6.5	64	5320	15.78	21.31	≤ 24.00	Pass
11n-HT20	6.5	100	5500	15.07	20.28	≤ 24.00	Pass
11n-HT20	6.5	116	5580	15.12	20.33	≤ 24.00	Pass
11n-HT20	6.5	120	5600	15.45	20.66	≤ 24.00	Pass
11n-HT20	6.5	140	5700	14.87	20.08	≤ 24.00	Pass
11n-HT40	13.5	54	5270	16.11	21.64	≤ 24.00	Pass
11n-HT40	13.5	62	5310	16.36	21.89	≤ 24.00	Pass
11n-HT40	13.5	102	5510	15.74	20.95	≤ 24.00	Pass
11n-HT40	13.5	110	5550	15.81	21.02	≤ 24.00	Pass
11n-HT40	13.5	118	5590	15.37	20.58	≤ 24.00	Pass
11n-HT40	13.5	134	5670	15.69	20.90	≤ 24.00	Pass
11ac-VHT20	6.5	52	5260	16.11	21.64	≤ 24.00	Pass
11ac-VHT20	6.5	60	5300	16.45	21.98	≤ 24.00	Pass
11ac-VHT20	6.5	64	5320	16.12	21.65	≤ 24.00	Pass
11ac-VHT20	6.5	100	5500	15.22	20.43	≤ 24.00	Pass
11ac-VHT20	6.5	116	5580	15.10	20.31	≤ 24.00	Pass
11ac-VHT20	6.5	120	5600	15.56	20.77	≤ 24.00	Pass
11ac-VHT20	6.5	140	5700	15.18	20.39	≤ 24.00	Pass
11ac-VHT20	6.5	144	5720	15.10	20.31	≤ 24.00	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 3 TPC Power (dBm)	EIRP TPC (dBm)	EIRP TPC Limit (dBm)	Result
11ac-VHT40	13.5	54	5270	17.65	23.18	≤ 24.00	Pass
11ac-VHT40	13.5	62	5310	16.31	21.84	≤ 24.00	Pass
11ac-VHT40	13.5	102	5510	15.64	20.85	≤ 24.00	Pass
11ac-VHT40	13.5	110	5550	16.01	21.22	≤ 24.00	Pass
11ac-VHT40	13.5	118	5590	15.84	21.05	≤ 24.00	Pass
11ac-VHT40	13.5	134	5670	15.72	20.93	≤ 24.00	Pass
11ac-VHT40	13.5	142	5710	15.35	20.56	≤ 24.00	Pass
11ac-VHT80	29.3	58	5290	16.35	21.88	≤ 24.00	Pass
11ac-VHT80	29.3	106	5530	15.93	21.14	≤ 24.00	Pass
11ac-VHT80	29.3	122	5610	15.36	20.57	≤ 24.00	Pass
11ac-VHT80	29.3	138	5690	15.48	20.69	≤ 24.00	Pass

Note: EIRP TPC (dBm) = TPC Power (dBm) + Antenna Gain (dBi).

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 TPC Power (dBm)	Ant 1 TPC Power (dBm)	Ant 2 TPC Power (dBm)	Ant 3 TPC Power (dBm)	EIRP TPC (dBm)	EIRP TPC Limit (dBm)	Result
11a	6	52	5260	10.87	10.87	--	--	19.49	≤ 24.00	Pass
11a	6	60	5300	11.09	10.69	--	--	19.51	≤ 24.00	Pass
11a	6	64	5320	10.97	11.01	--	--	19.61	≤ 24.00	Pass
11a	6	100	5500	10.93	10.92	--	--	19.27	≤ 24.00	Pass
11a	6	116	5580	10.85	10.95	--	--	19.25	≤ 24.00	Pass
11a	6	120	5600	10.94	10.67	--	--	19.16	≤ 24.00	Pass
11a	6	140	5700	11.20	11.30	--	--	19.60	≤ 24.00	Pass
11a	6	52	5260	--	--	10.71	10.81	19.38	≤ 24.00	Pass
11a	6	60	5300	--	--	10.79	11.07	19.55	≤ 24.00	Pass
11a	6	64	5320	--	--	10.98	10.83	19.52	≤ 24.00	Pass
11a	6	100	5500	--	--	10.98	11.26	19.47	≤ 24.00	Pass
11a	6	116	5580	--	--	10.91	11.20	19.40	≤ 24.00	Pass
11a	6	120	5600	--	--	11.13	10.93	19.38	≤ 24.00	Pass
11a	6	140	5700	--	--	11.51	11.21	19.71	≤ 24.00	Pass
11n-HT20	26	52	5260	11.21	11.02	--	--	19.73	≤ 24.00	Pass
11n-HT20	26	60	5300	11.26	10.73	--	--	19.62	≤ 24.00	Pass
11n-HT20	26	64	5320	10.22	9.92	--	--	18.69	≤ 24.00	Pass
11n-HT20	26	100	5500	9.49	9.28	--	--	17.74	≤ 24.00	Pass
11n-HT20	26	116	5580	9.41	9.17	--	--	17.64	≤ 24.00	Pass
11n-HT20	26	120	5600	9.68	9.47	--	--	17.93	≤ 24.00	Pass
11n-HT20	26	140	5700	9.33	8.81	--	--	17.43	≤ 24.00	Pass
11n-HT20	26	52	5260	--	--	10.51	10.33	19.04	≤ 24.00	Pass
11n-HT20	26	60	5300	--	--	10.54	10.50	19.14	≤ 24.00	Pass
11n-HT20	26	64	5320	--	--	10.48	10.12	18.92	≤ 24.00	Pass
11n-HT20	26	100	5500	--	--	8.84	9.05	17.29	≤ 24.00	Pass
11n-HT20	26	116	5580	--	--	6.83	8.93	16.32	≤ 24.00	Pass
11n-HT20	26	120	5600	--	--	9.13	9.51	17.67	≤ 24.00	Pass
11n-HT20	26	140	5700	--	--	9.17	9.19	17.53	≤ 24.00	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 TPC Power (dBm)	Ant 1 TPC Power (dBm)	Ant 2 TPC Power (dBm)	Ant 3 TPC Power (dBm)	EIRP TPC (dBm)	EIRP TPC Limit (dBm)	Result
11n-HT40	54	54	5270	11.57	11.04	--	--	19.93	≤ 24.00	Pass
11n-HT40	54	62	5310	11.86	11.27	--	--	20.20	≤ 24.00	Pass
11n-HT40	54	102	5510	11.77	11.68	--	--	20.07	≤ 24.00	Pass
11n-HT40	54	110	5550	11.81	11.70	--	--	20.10	≤ 24.00	Pass
11n-HT40	54	118	5590	11.23	11.13	--	--	19.53	≤ 24.00	Pass
11n-HT40	54	134	5670	11.32	10.86	--	--	19.45	≤ 24.00	Pass
11n-HT40	54	54	5270	--	--	10.74	10.67	19.32	≤ 24.00	Pass
11n-HT40	54	62	5310	--	--	11.04	10.77	19.53	≤ 24.00	Pass
11n-HT40	54	102	5510	--	--	11.19	11.26	19.57	≤ 24.00	Pass
11n-HT40	54	110	5550	--	--	11.24	11.32	19.63	≤ 24.00	Pass
11n-HT40	54	118	5590	--	--	10.91	11.02	19.31	≤ 24.00	Pass
11n-HT40	54	134	5670	--	--	10.84	10.88	19.21	≤ 24.00	Pass
11ac-VHT20	26	52	5260	11.15	10.95	--	--	19.67	≤ 24.00	Pass
11ac-VHT20	26	60	5300	11.17	10.43	--	--	19.44	≤ 24.00	Pass
11ac-VHT20	26	64	5320	10.84	10.40	--	--	19.25	≤ 24.00	Pass
11ac-VHT20	26	100	5500	9.56	9.64	--	--	17.95	≤ 24.00	Pass
11ac-VHT20	26	116	5580	9.54	9.32	--	--	17.78	≤ 24.00	Pass
11ac-VHT20	26	120	5600	9.69	9.38	--	--	17.89	≤ 24.00	Pass
11ac-VHT20	26	140	5700	9.33	9.21	--	--	17.62	≤ 24.00	Pass
11ac-VHT20	26	144	5720	9.51	9.21	--	--	17.71	≤ 24.00	Pass
11ac-VHT20	26	52	5260	--	--	10.63	10.49	19.18	≤ 24.00	Pass
11ac-VHT20	26	60	5300	--	--	10.61	10.61	19.23	≤ 24.00	Pass
11ac-VHT20	26	64	5320	--	--	10.58	10.25	19.04	≤ 24.00	Pass
11ac-VHT20	26	100	5500	--	--	8.94	9.24	17.44	≤ 24.00	Pass
11ac-VHT20	26	116	5580	--	--	8.91	9.15	17.38	≤ 24.00	Pass
11ac-VHT20	26	120	5600	--	--	9.25	9.56	17.75	≤ 24.00	Pass
11ac-VHT20	26	140	5700	--	--	9.31	9.34	17.67	≤ 24.00	Pass
11ac-VHT20	26	144	5720	--	--	9.29	9.41	17.70	≤ 24.00	Pass

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 TPC Power (dBm)	Ant 1 TPC Power (dBm)	Ant 2 TPC Power (dBm)	Ant 3 TPC Power (dBm)	EIRP TPC (dBm)	EIRP TPC Limit (dBm)	Result
11ac-VHT40	54	54	5270	12.14	11.59	--	--	20.49	≤ 24.00	Pass
11ac-VHT40	54	62	5310	11.86	11.07	--	--	20.11	≤ 24.00	Pass
11ac-VHT40	54	102	5510	11.79	11.76	--	--	20.12	≤ 24.00	Pass
11ac-VHT40	54	110	5550	11.82	11.79	--	--	20.15	≤ 24.00	Pass
11ac-VHT40	54	118	5590	11.81	11.69	--	--	20.10	≤ 24.00	Pass
11ac-VHT40	54	134	5670	11.89	11.49	--	--	20.05	≤ 24.00	Pass
11ac-VHT40	54	142	5710	12.03	11.48	--	--	20.12	≤ 24.00	Pass
11ac-VHT40	54	54	5270	--	--	11.44	11.40	20.04	≤ 24.00	Pass
11ac-VHT40	54	62	5310	--	--	11.29	10.91	19.72	≤ 24.00	Pass
11ac-VHT40	54	102	5510	--	--	11.29	11.39	19.69	≤ 24.00	Pass
11ac-VHT40	54	110	5550	--	--	11.37	11.32	19.69	≤ 24.00	Pass
11ac-VHT40	54	118	5590	--	--	11.44	11.50	19.82	≤ 24.00	Pass
11ac-VHT40	54	134	5670	--	--	11.40	11.43	19.76	≤ 24.00	Pass
11ac-VHT40	54	142	5710	--	--	11.96	11.77	20.22	≤ 24.00	Pass
11ac-VHT80	117.2	58	5290	12.12	11.43	--	--	20.41	≤ 24.00	Pass
11ac-VHT80	117.2	106	5530	11.78	11.85	--	--	20.16	≤ 24.00	Pass
11ac-VHT80	117.2	122	5610	11.89	11.52	--	--	20.06	≤ 24.00	Pass
11ac-VHT80	117.2	138	5690	12.06	11.66	--	--	20.22	≤ 24.00	Pass
11ac-VHT80	117.2	58	5290	--	--	11.66	11.30	20.10	≤ 24.00	Pass
11ac-VHT80	117.2	106	5530	--	--	11.60	11.45	19.87	≤ 24.00	Pass
11ac-VHT80	117.2	122	5610	--	--	11.88	12.18	20.38	≤ 24.00	Pass
11ac-VHT80	117.2	138	5690	--	--	11.98	11.73	20.21	≤ 24.00	Pass

Note 1: The Total Average Power (dBm) = $10*\log\{10^{(\text{Ant 0 TPC Power }/10)} +10^{(\text{Ant 1 TPC Power }/10)}\}$ + Ant Gain (dBi).

Note 2: The Total Average Power (dBm) = $10*\log\{10^{(\text{Ant 2 TPC Power }/10)} +10^{(\text{Ant 3 TPC Power }/10)}\}$ + Ant Gain (dBi).

For 802.11ac-VHT80 + 80 Mode Test Data

Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 TPC Power (dBm)	Ant 1 TPC Power (dBm)	Ant 2 TPC Power (dBm)	Ant 3 TPC Power (dBm)	EIRP TPC (dBm)	EIRP TPC Limit (dBm)	Result
11ac-VHT	58.6	58	5290	11.77	11.17	--	--	20.10	≤ 24.00	Pass
80+80	58.6	106	5530	--	--	9.19	9.36	17.62	≤ 24.00	Pass
11ac-VHT	58.6	58	5290	11.86	11.22	--	--	20.17	≤ 24.00	Pass
80+80	58.6	122	5610	--	--	8.94	9.05	17.34	≤ 24.00	Pass
11ac-VHT	58.6	58	5290	11.88	11.21	--	--	20.18	≤ 24.00	Pass
80+80	58.6	138	5690	--	--	9.18	9.08	17.48	≤ 24.00	Pass
11ac-VHT	58.6	106	5530	11.92	11.95	--	--	20.28	≤ 24.00	Pass
80+80	58.6	122	5610	--	--	10.82	11.00	19.26	≤ 24.00	Pass
11ac-VHT	58.6	106	5530	11.93	12.00	--	--	20.31	≤ 24.00	Pass
80+80	58.6	138	5690	--	--	11.07	11.03	19.40	≤ 24.00	Pass
11ac-VHT	58.6	122	5610	11.82	11.69	--	--	20.10	≤ 24.00	Pass
80+80	58.6	138	5690	--	--	11.80	11.45	19.98	≤ 24.00	Pass

Note 1: EIRP Average Power (dBm) = $10*\log\{10^{((\text{Ant 0 TPC Power + Ant 0 Gain})/10)} + 10^{((\text{Ant 1 TPC Power + Ant 1 Gain})/10)}\}$.

Note 2: EIRP Average Power (dBm) = $10*\log\{10^{((\text{Ant 2 TPC Power + Ant 2 Gain})/10)} + 10^{((\text{Ant 3 TPC Power + Ant 3 Gain})/10)}\}$.

7.7. Power Spectral Density Measurement

7.7.1. Test Limit

For FCC

For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.

If transmitting antennas of directional gain greater than 6dBi are used, the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

For IC

For the band 5.15-5.25 GHz, the e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

For the 5.725-5.85 GHz band, the power spectral density shall not exceed 30 dBm in any 500 kHz band.

Power Spectral Density Measurement Limit of FPMI2458-DP4RPSMA Antenna

Frequency Band (MHz)	Per Chain Max Antenna Gain (dBi)				CDD & Beam Forming Directional Gain (dBi)	Limit of SISO (dBm/MHz)				Limit of MIMO (dBm/MHz)
	Ant 0	Ant 1	Ant 2	Ant 3		Ant 0	Ant 1	Ant 2	Ant 3	Ant 0+1+2+3
5150 ~ 5250	5.79	5.57	5.89	5.05	11.60	17.00	17.00	17.00	17.00	11.40
5250 ~ 5350	5.68	5.53	5.65	4.91	11.47	11.00	11.00	11.00	11.00	5.53
5470 ~ 5725	5.46	5.21	6.06	5.65	11.62	11.00	11.00	10.94	11.00	5.38
Frequency Band (MHz)	Per Chain Max Antenna Gain (dBi)				CDD & Beam Forming Directional Gain (dBi)	Limit of SISO (dBm/500kHz)				Limit of MIMO (dBm/500kHz)
	Ant 0	Ant 1	Ant 2	Ant 3		Ant 0	Ant 1	Ant 2	Ant 3	Ant 0+1+2+3
5725 ~ 5850	5.24	5.09	6.73	5.62	11.71	30.00	30.00	29.27	30.00	24.29

Power Spectral Density Measurement Limit of FPMI2458-DP2RPSMA Antenna

Frequency Band (MHz)	Per Chain Max Antenna Gain (dBi)				CDD & Beam Forming Directional Gain (dBi)	Limit of SISO (dBm/MHz)				Limit of MIMO (dBm/MHz)
	Ant 0	Ant 1	Ant 2	Ant 3		Ant 0	Ant 1	Ant 2	Ant 3	Ant 0+1+2+3
5150 ~ 5250	5.79	5.57	--	--	8.69	17.00	17.00	--	--	14.31
	--	--	5.79	5.57	8.69	--	--	17.00	17.00	14.31
5250 ~ 5350	5.68	5.53	--	--	8.62	11.00	11.00	--	--	8.38
	--	--	5.68	5.53	8.62	--	--	11.00	11.00	8.38
5470 ~ 5725	5.46	5.21	--	--	8.35	11.00	11.00	--	--	8.65
	--	--	5.46	5.21	8.35	--	--	11.00	11.00	8.65
Frequency Band (MHz)	Per Chain Max Antenna Gain (dBi)				CDD & Beam Forming Directional Gain (dBi)	Limit of SISO (dBm/500kHz)				Limit of MIMO (dBm/500kHz)
	Ant 0	Ant 1	Ant 2	Ant 3		Ant 0	Ant 1	Ant 2	Ant 3	Ant 0+1+2+3
5725 ~ 5850	5.24	5.09	--	--	8.18	30.00	30.00	--	--	27.82
	--	--	5.24	5.09	8.18	--	--	30.00	30.00	27.82

Power Spectral Density Measurement Limit of Galtronics Omni Antenna

Frequency Band (MHz)	Per Chain Max Antenna Gain (dBi)				CDD & Beam Forming Directional Gain (dBi)	Limit of SISO (dBm/MHz)				Limit of MIMO (dBm/MHz)
	Ant 0	Ant 1	Ant 2	Ant 3		Ant 0	Ant 1	Ant 2	Ant 3	Ant 0+1+2+3
5150 ~ 5250	6.68	6.53	6.68	6.53	12.63	16.32	16.47	16.32	16.47	10.37
5250 ~ 5350	6.68	6.53	6.68	6.53	12.63	10.32	10.47	10.32	10.47	4.37
5470 ~ 5725	6.60	5.92	6.60	5.92	12.29	10.40	11.00	10.40	11.00	4.71
Frequency Band (MHz)	Per Chain Max Antenna Gain (dBi)				CDD & Beam Forming Directional Gain (dBi)	Limit of SISO (dBm/500kHz)				Limit of MIMO (dBm/500kHz)
	Ant 0	Ant 1	Ant 2	Ant 3		Ant 0	Ant 1	Ant 2	Ant 3	Ant 0+1+2+3
5725 ~ 5850	6.78	6.55	6.78	6.55	12.69	29.22	29.45	29.22	29.45	23.31

Power Spectral Density Measurement Limit of Galtronics Directional Antenna

Frequency Band (MHz)	Per Chain Max Antenna Gain (dBi)				CDD & Beam Forming Directional Gain (dBi)	Limit of SISO (dBm/MHz)				Limit of MIMO (dBm/MHz)
	Ant 0	Ant 1	Ant 2	Ant 3		Ant 0	Ant 1	Ant 2	Ant 3	Ant 0+1+2+3
5150 ~ 5250	8.39	8.16	8.39	8.16	14.30	14.61	14.84	14.61	14.84	8.70
5250 ~ 5350	8.39	8.16	8.39	8.16	14.30	8.61	8.84	8.61	8.84	2.70
5470 ~ 5725	8.49	8.57	8.49	8.57	14.55	8.51	8.43	8.51	8.43	2.45
Frequency Band (MHz)	Per Chain Max Antenna Gain (dBi)				CDD & Beam Forming Directional Gain (dBi)	Limit of SISO (dBm/500kHz)				Limit of MIMO (dBm/500kHz)
	Ant 0	Ant 1	Ant 2	Ant 3		Ant 0	Ant 1	Ant 2	Ant 3	Ant 0+1+2+3
5725 ~ 5850	8.92	8.82	8.92	8.82	14.89	27.08	27.18	27.08	27.18	21.11

Power Spectral Density Measurement Limit of Sector-Antenna 1356.17.0011

Frequency Band (MHz)	Per Chain Max Antenna Gain (dBi)				CDD & Beam Forming Directional Gain (dBi)	Limit of SISO (dBm/MHz)				Limit of MIMO (dBm/MHz)
	Ant 0	Ant 1	Ant 2	Ant 3		Ant 0	Ant 1	Ant 2	Ant 3	Ant 0+1+2+3
5150 ~ 5250	16.00	16.00	16.00	16.00	N/A	7.00	7.00	7.00	7.00	7.00
5250 ~ 5350	16.00	16.00	16.00	16.00	N/A	1.00	1.00	1.00	1.00	1.00
5470 ~ 5725	16.50	16.50	16.50	16.50	N/A	0.50	0.50	0.50	0.50	0.50
Frequency Band (MHz)	Per Chain Max Antenna Gain (dBi)				CDD & Beam Forming Directional Gain (dBi)	Limit of SISO (dBm/500kHz)				Limit of MIMO (dBm/500kHz)
	Ant 0	Ant 1	Ant 2	Ant 3		Ant 0	Ant 1	Ant 2	Ant 3	Ant 0+1+2+3
5725 ~ 5850	17.00	17.00	17.00	17.00	N/A	19.00	19.00	19.00	19.00	19.00

Power Spectral Density Measurement Limit of Directional Antenna 1356.17.0077

Frequency Band (MHz)	Per Chain Max Antenna Gain (dBi)				CDD & Beam Forming Directional Gain (dBi)	Limit of SISO (dBm/MHz)				Limit of MIMO (dBm/MHz)
	Ant 0	Ant 1	Ant 2	Ant 3		Ant 0	Ant 1	Ant 2	Ant 3	Ant 0+1+2+3
5150 ~ 5250	14.00	14.00	14.00	14.00	N/A	9.00	9.00	9.00	9.00	9.00
5250 ~ 5350	14.00	14.00	14.00	14.00	N/A	3.00	3.00	3.00	3.00	3.00
5470 ~ 5725	14.00	14.00	14.00	14.00	N/A	3.00	3.00	3.00	3.00	3.00
Frequency Band (MHz)	Per Chain Max Antenna Gain (dBi)				CDD & Beam Forming Directional Gain (dBi)	Limit of SISO (dBm/500kHz)				Limit of MIMO (dBm/500kHz)
	Ant 0	Ant 1	Ant 2	Ant 3		Ant 0	Ant 1	Ant 2	Ant 3	Ant 0+1+2+3
5725 ~ 5850	14.00	14.00	14.00	14.00	N/A	22.00	22.00	22.00	22.00	22.00

Power Spectral Density Measurement Limit of Galtronics Small Omni Antenna

Frequency Band (MHz)	Per Chain Max Antenna Gain (dBi)				CDD & Beam Forming Directional Gain (dBi)	Limit of SISO (dBm/MHz)				Limit of MIMO (dBm/MHz)
	Ant 0	Ant 1	Ant 2	Ant 3		Ant 0	Ant 1	Ant 2	Ant 3	Ant 0+1+2+3
5150 ~ 5250	3.27	3.85	3.27	3.85	9.59	17.00	17.00	17.00	17.00	13.41
5250 ~ 5350	2.77	3.3	2.77	3.3	9.06	11.00	11.00	11.00	11.00	7.94
5470 ~ 5725	3.43	3.81	3.43	3.81	9.64	11.00	11.00	11.00	11.00	7.36
Frequency Band (MHz)	Per Chain Max Antenna Gain (dBi)				CDD & Beam Forming Directional Gain (dBi)	Limit of SISO (dBm/500kHz)				Limit of MIMO (dBm/500kHz)
	Ant 0	Ant 1	Ant 2	Ant 3		Ant 0	Ant 1	Ant 2	Ant 3	Ant 0+1+2+3
5725 ~ 5850	4.35	4.3	4.35	4.3	10.35	30.00	30.00	30.00	30.00	25.65

7.7.2. Test Procedure Used

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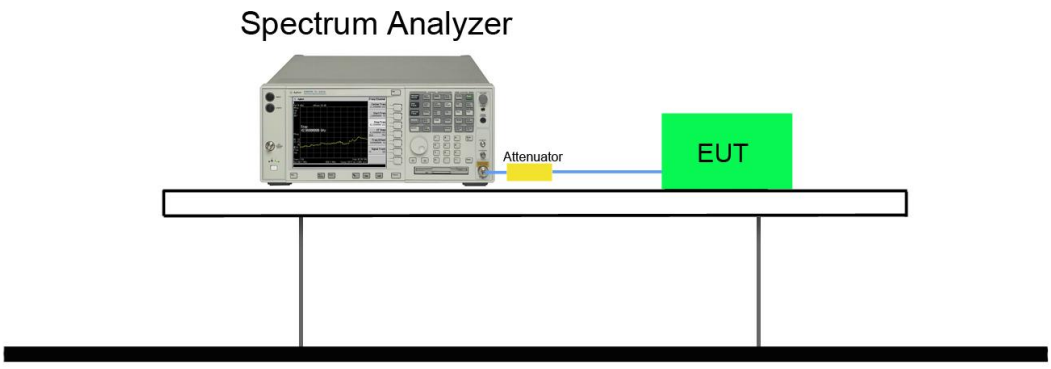
7.7.3. Test Setting

1. Analyzer was set to the center frequency of the UNII channel under investigation
2. Span was set to encompass the entire 26dB EBW of the signal.
3. RBW = 1MHz, if measurement bandwidth of Maximum PSD is specified in 500 kHz,
4. RBW = 100 kHz
5. VBW = 3MHz
6. Number of sweep points ≥ 2 × (span / RBW)
7. Detector = power averaging (Average)
8. Sweep time = auto
9. Trigger = free run
10. Use the peak search function on the instrument to find the peak of the spectrum and record its value.
11. Add 10*log(1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times (because the measurement represents an average over both the on and off times of the transmission). For example, add 10*log(1/0.25) = 6 dB if the duty cycle is 25 percent.
12. When the measurement bandwidth of Maximum PSD is specified in 500 kHz, add a constant factor 10*log(500kHz/100kHz) = 7 dB to the measured result

7.7.4. Test Setup



7.7.5. Test Result

Refer to “Annex XVI, Annex XVII, Annex XVIII, Annex XIX, Annex XX, Annex XXI, Annex XXII” File.

7.8. Frequency Stability Measurement

7.8.1. Test Limit

Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

7.8.2. Test Procedure Used

Frequency Stability Under Temperature Variations:

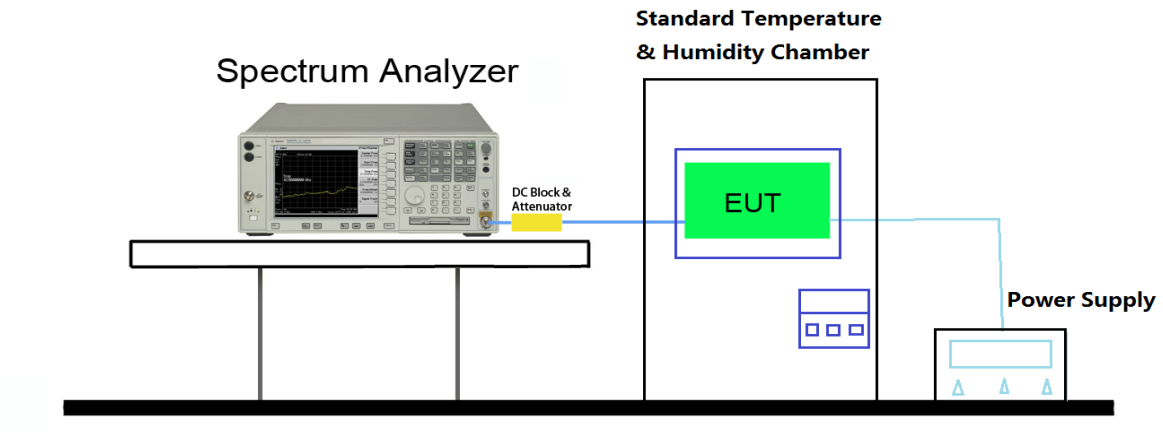
The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to highest. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C decreased per stage until the lowest temperature reached.

Frequency Stability Under Voltage Variations:

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation (±15%) and endpoint, record the maximum frequency change.

7.8.3. Test Setup



7.8.4. Test Result

Test Engineer	Kevin Ker	Temperature	-30 ~ 50°C
Test Time	2016/10/05	Relative Humidity	52%RH

Voltage (%)	Power (VDC)	Temp (°C)	Frequency Tolerance (ppm)			
			0 minutes	2 minutes	5 minutes	10 minutes
100%	54	- 30	5.49	4.54	2.18	3.27
		- 20	3.39	4.43	4.26	2.58
		- 10	4.10	3.76	2.09	2.43
		0	4.26	5.68	6.02	2.52
		+ 10	3.78	1.54	3.86	3.81
		+ 20 (Ref)	3.19	4.50	2.40	3.69
		+ 30	5.54	5.84	2.10	2.13
		+ 40	3.84	2.71	1.93	5.32
		+ 50	4.23	1.98	-2.39	2.37
115%	59.4	+ 20	3.34	3.36	3.39	3.24
85%	49.6	+ 20	3.37	3.09	2.69	0.69

Note: Frequency Tolerance (ppm) = {[Measured Frequency (Hz) - Declared Frequency (Hz)] / Declared Frequency (Hz)} *10^6.

7.9. Radiated Spurious Emission Measurement

7.9.1. Test Limit

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [uV/m]	Measured Distance [Meters]
0.009 – 0.490	2400/F (kHz)	300
0.490 – 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

7.9.2. Test Procedure Used

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7.9.3. Test Setting

Quasi-Peak & Average Measurements below 30MHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1MHz
3. RBW = 200Hz for 9kHz to 150kHz frequency; RBW = 9kHz for 0.15MHz to 30MHz frequency
4. Detector = CISPR quasi-peak or power average (Average)
5. Sweep time = auto couple
6. Trace was allowed to stabilize

Quasi-Peak Measurements below 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1MHz
3. RBW = 120 kHz
4. Detector = CISPR quasi-peak
5. Sweep time = auto couple
6. Trace was allowed to stabilize

Peak Measurements above 1GHz

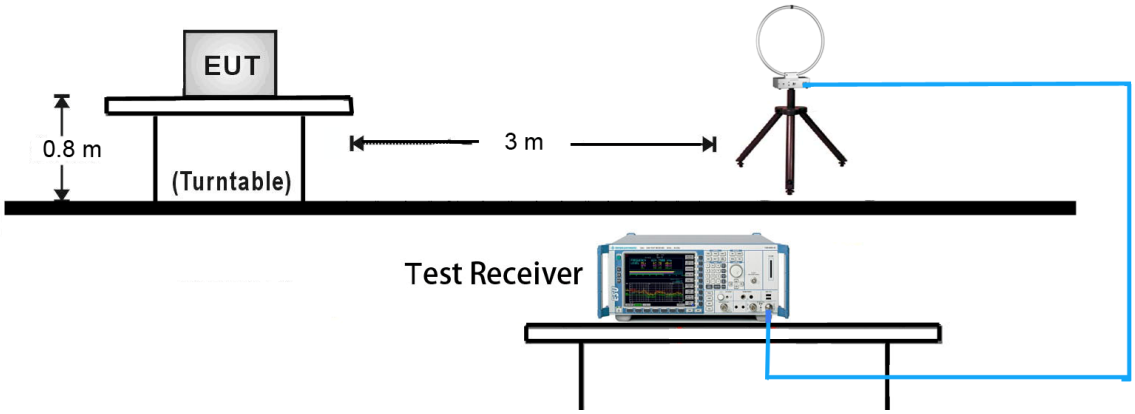
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Average Measurements above 1GHz (Method AD)

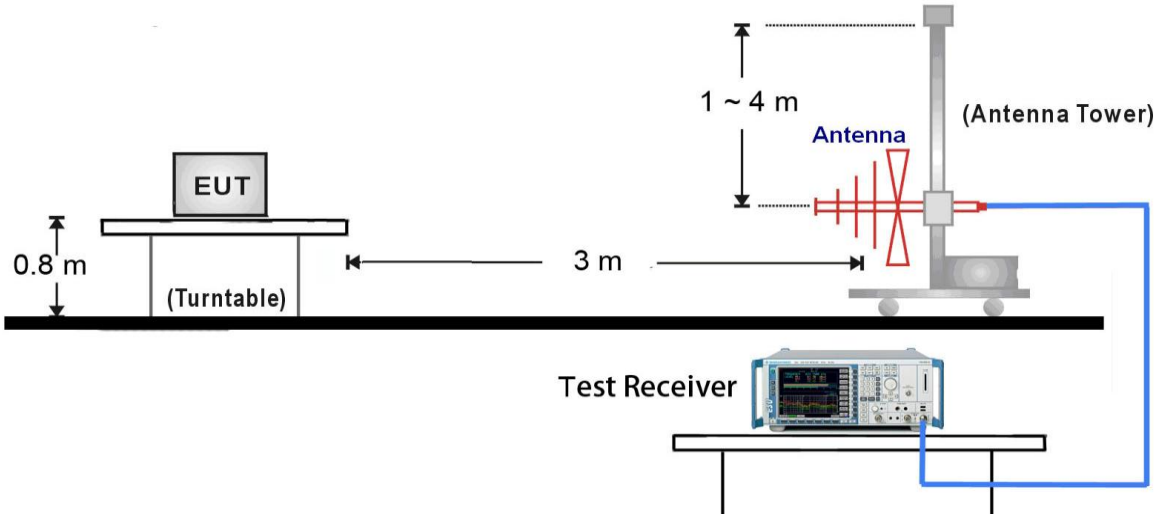
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = power average (Average)
5. Number of measurement points = 1001 (Number of points must be > 2 x span/RBW)
6. Sweep time = auto
7. Trace was averaged over at 100 sweeps

7.9.4. Test Setup

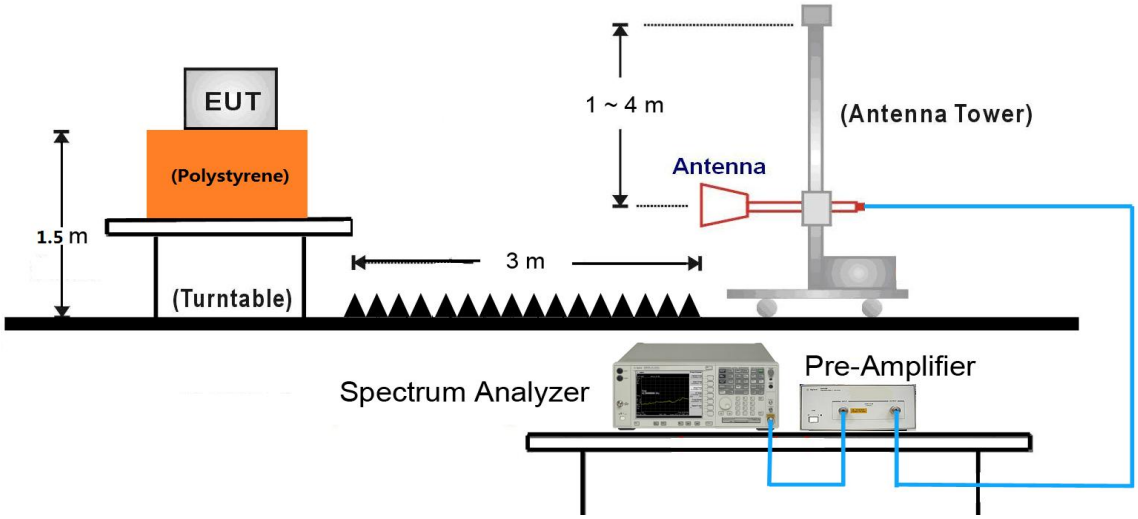
9kHz ~ 30MHz Test Setup:



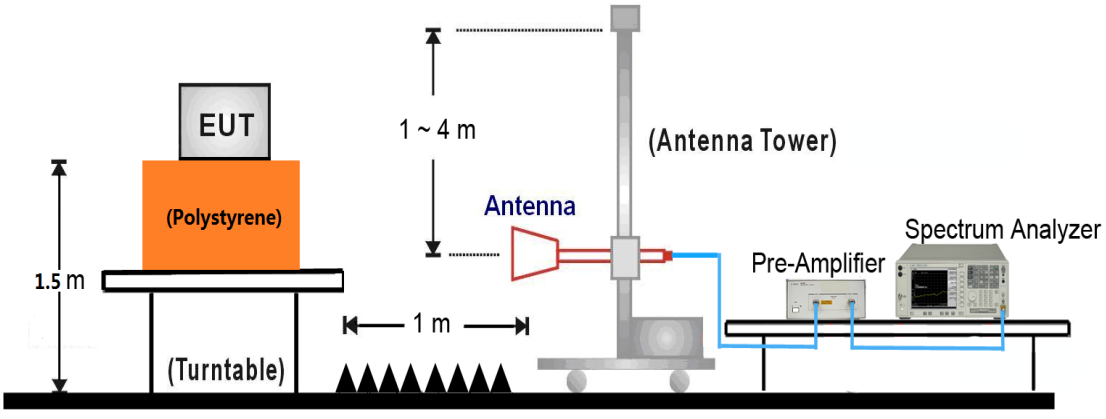
30MHz ~ 1GHz Test Setup:



1GHz ~18GHz Test Setup:



18GHz ~40GHz Test Setup:



7.9.5. Test Result

Refer to “Annex II, Annex III, Annex IV, Annex V, Annex VI, Annex VII, Annex VIII” File.

7.10. Radiated Restricted Band Edge Measurement

7.10.1. Test Limit

For 15.205 requirement:

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a).

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
1 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.25 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 – 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(2)
13.36 - 13.41	--	--	--

For RSS-Gen Section 8.10 Requirement:

Radiated emissions which fall in the restricted bands, as defined in Section 8.10 of RSS-Gen, must also comply with the radiated emission limits specified in Section 8.9.

Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.009 ~ 0.110	240 ~ 285	9.0 ~ 9.2
2.1735 ~ 2.1905	322 ~ 335.4	9.3 ~ 9.5
3.020 ~ 3.026	399.9 ~ 410	10.6 ~ 12.7
4.125 ~ 4.128	608 ~ 614	13.25 ~ 13.4
4.17725 ~ 4.17775	960 ~ 1427	14.47 ~ 14.5
4.20725 ~ 4.20775	1435 ~ 1626.5	15.35 ~ 16.2
5.677 ~ 5.683	1645.5 ~ 1646.5	17.7 ~ 21.4
6.215 ~ 6.218	1660 ~ 1710	22.01 ~ 23.12
6.26775 ~ 6.26825	1718.8 ~1722.2	23.6 ~ 24.0
6.31175 ~ 6.31225	2200 ~ 2300	31.2 ~ 31.8
8.291 ~ 8.294	2310 ~ 2390	36.43 ~ 36.5
8.362 ~ 8.366	2655 ~ 2900	Above 38.6
8.37625 ~ 8.38675	3260 ~ 3267	--
8.41425 ~ 8.41475	3332 ~ 3339	
12.29 ~ 12.293	334.5 ~ 3358	
12.51975 ~ 12.52025	3500 ~ 4400	
12.57675 ~ 12.57725	4500 ~ 5150	
13.36 ~13.41	5350 ~ 5460	
16.42 ~ 16.423	7250 ~ 7750	
16.69475 ~ 16.69525	8025 ~ 8500	
16.80425 ~ 16.80475	--	
25.5 ~ 25.67		
37.5 ~ 38.25		
73 ~ 74.6		
74.8 ~ 75.2		
108 ~ 138		
156.52475 ~ 156.525225		
156.7 ~ 156.9		

Note: *Certain frequency bands listed in Table 6 and in bands above 38.6 GHz are designated for licence-exempt applications. These frequency bands and the requirements that apply to the devices are set out in the 200- and 300-series of RSSs, such as RSS-210 and RSS-310, which contain the

requirements that apply to licence-exempt radio apparatus.

For 15.407(b) requirement:

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.

For transmitters operating in the 5.25-5.35 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.

For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

For FCC transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

For IC 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.

Refer to KDB 789033 D02v01r03 G)2)c), as specified in § 15.407(b), emissions above 1000 MHz that are outside of the restricted bands are subject to a maximum emission limit of -27 dBm/MHz (or -17 dBm/MHz as specified in § 15.407(b)(4)). However, an out-of-band emission that complies with both the peak and average limits of § 15.209 is not required to satisfy the -27 dBm/MHz or -17 dBm/MHz maximum emission limit.

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [V/m]	Measured Distance [Meters]
0.009 ~ 0.490	2400/F (kHz)	300
0.490 ~ 1.705	24000/F (kHz)	30
1.705 ~ 30	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

7.10.2. Test Result

Refer to “Annex IX, Annex X, Annex XII, Annex XIII, Annex XIV, Annex XV” File.

7.11. AC Conducted Emissions Measurement

7.11.1. Test Limit

FCC Part 15.207 Limits		
Frequency (MHz)	QP (dBμV)	AV (dBμV)
0.15 ~ 0.50	66 ~ 56	56 ~ 46
0.50 ~ 5.0	56	46
5.0 ~ 30	60	50

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

Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.

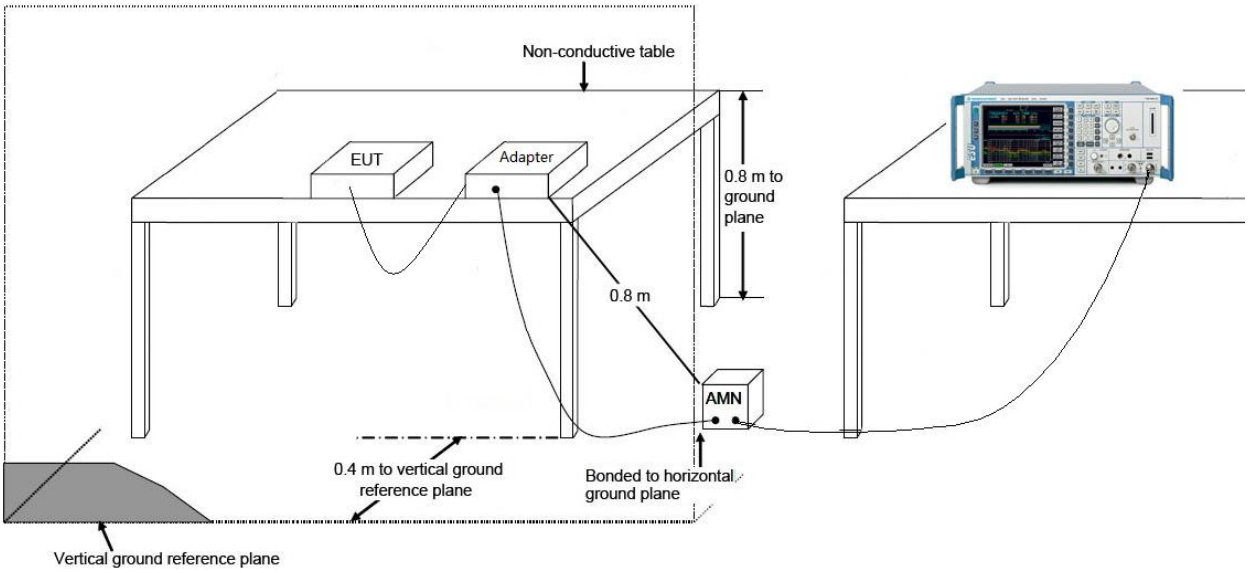
7.11.2. Test Procedure

The EUT was setup according to ANSI C63.4: 2014 and tested according to ANSI C63.10:2013 requirements. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs) Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.

The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.

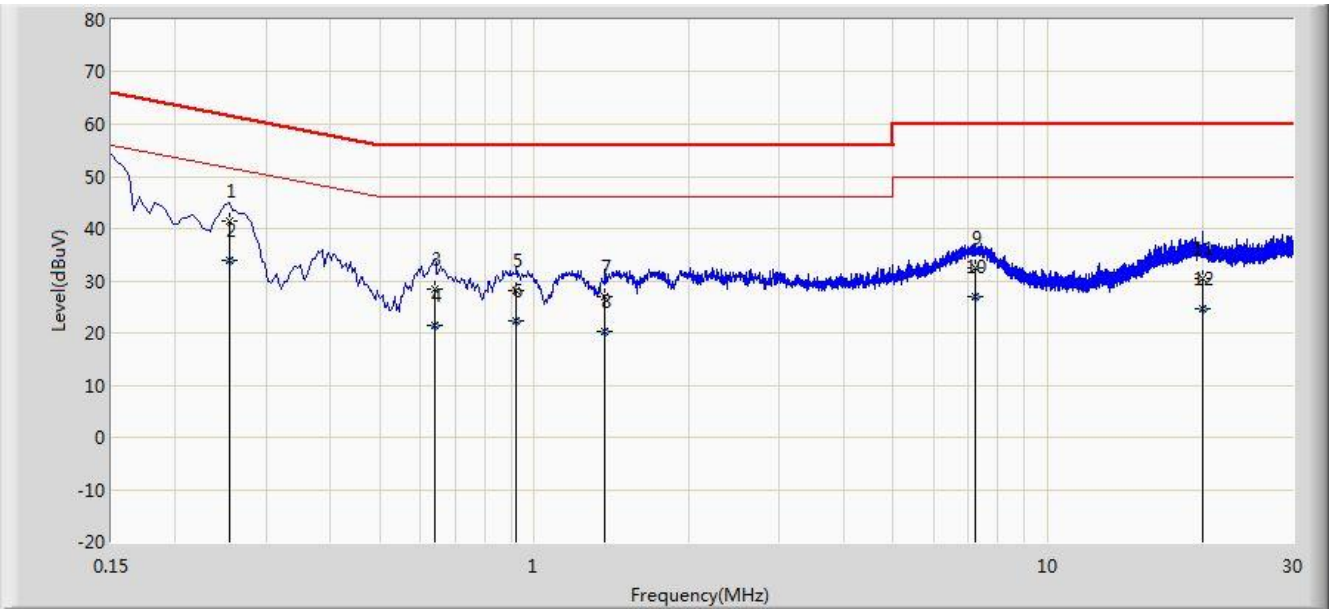
Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.

7.11.3. Test Setup



7.11.4. Test Result

Site: SR2	Time: 2016/12/16 - 10:15
Limit: FCC_Part15.207_CE_AC Power	Engineer: Kevin Ker
Probe: ENV216_101683_Filter On	Polarity: Line
EUT: Wi-Fi AP 4x4 OD ext. antenna US	Power: AC 120V/60Hz
Test Mode 1	

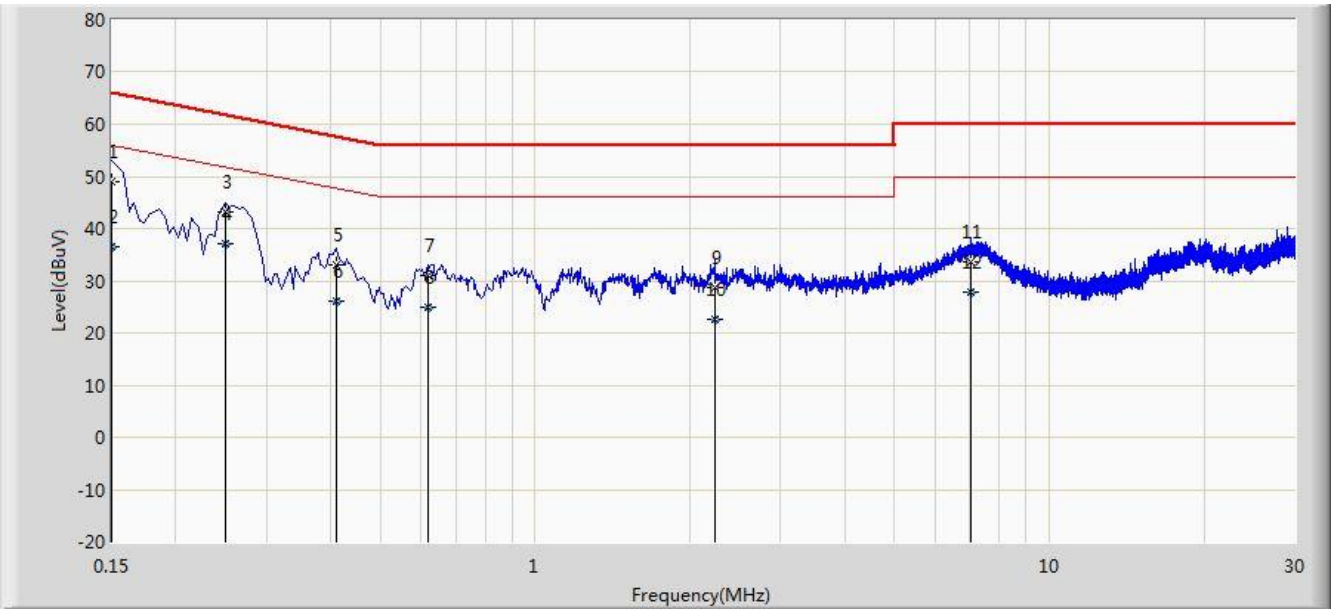


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV)	Factor	Type
1			0.254	41.553	31.585	-20.073	61.625	9.967	QP
2		*	0.254	33.973	24.005	-17.653	51.625	9.967	AV
3			0.638	28.470	18.375	-27.530	56.000	10.095	QP
4			0.638	21.541	11.446	-24.459	46.000	10.095	AV
5			0.922	28.101	18.153	-27.899	56.000	9.948	QP
6			0.922	22.386	12.437	-23.614	46.000	9.948	AV
7			1.374	27.032	17.138	-28.968	56.000	9.894	QP
8			1.374	20.315	10.421	-25.685	46.000	9.894	AV
9			7.218	32.493	22.332	-27.507	60.000	10.161	QP
10			7.218	26.973	16.811	-23.027	50.000	10.161	AV
11			20.038	30.371	20.232	-29.629	60.000	10.139	QP
12			20.038	24.541	14.401	-25.459	50.000	10.139	AV

Note: Measure Level (dBμV) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB)

Site: SR2	Time: 2016/12/16 - 10:26
Limit: FCC_Part15.207_CE_AC Power	Engineer: Kevin Ker
Probe: ENV216_101683_Filter On	Polarity: Neutral
EUT: Wi-Fi AP 4x4 OD ext. antenna US	Power: AC 120V/60Hz
Test Mode 1	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV)	Factor	Type
1			0.150	49.097	37.955	-16.903	66.000	11.142	QP
2			0.150	36.546	25.404	-19.454	56.000	11.142	AV
3			0.250	43.182	33.181	-18.575	61.757	10.001	QP
4		*	0.250	37.161	27.160	-14.596	51.757	10.001	AV
5			0.410	32.995	22.876	-24.653	57.648	10.119	QP
6			0.410	26.069	15.950	-21.579	47.648	10.119	AV
7			0.618	30.985	20.863	-25.015	56.000	10.121	QP
8			0.618	24.815	14.693	-21.185	46.000	10.121	AV
9			2.230	28.552	18.684	-27.448	56.000	9.868	QP
10			2.230	22.567	12.699	-23.433	46.000	9.868	AV
11			7.018	33.551	23.384	-26.449	60.000	10.167	QP
12			7.018	27.939	17.772	-22.061	50.000	10.167	AV

Note: Measure Level (dBμV) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB)

8. CONCLUSION

The data collected relate only the item(s) tested and show that the **Wi-Fi AP 4x4 OD ext. antenna US, Wi-Fi AP 4x4 OD omni antenna US, Wi-Fi AP 4x4 OD direct antenna US, Wi-Fi AP 4x4 OD small omni antenna US, FCC ID: 2AD8UFZCWO4A1 Model Number: WO4C-AC400** is in compliance with Part 15E of the FCC Rules and IC Rules.

The End