

TEST REPORT ADDENDUM – RADIATED BAND-EDGE RADIO 0

FROM



Test of: Hewlett Packard Enterprise APIN0334, APIN0335

To: FCC CFR 47 Part 15 Subpart E 15.407

Test Report Serial No.: HPEN111-U8_Radiated_BE_Radio 0 Non-DFS
Rev A

Issue Date: 22nd August 2017

Master Document Number	Addendum Reports
HPEN111-U8_Master WiFi (non-DFS Bands)	HPEN111-U8_Conducted WiFi
	HPEN111-U8_Radiated_Radio 1 WiFi
	HPEN111-U8_Radiated_Radio 0 WiFi

This report is only valid in conjunction with the reports listed in the above table. Together these reports address the requirements for the type of device operating under the standard as listed.

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1. MEASUREMENT AND PRESENTATION OF TEST DATA

The measurement and graphical data presented in this test report was generated automatically using state-of-the-art technology creating an easy to read report structure. Numerical measurement data is separated from supporting graphical data (plots) through hyperlinks. Numerical measurement data can be reviewed without scrolling through numerous graphical pages to arrive at the next data matrix.

Plots have been relegated into the Appendix 'Graphical Data' Section of this report

Testing and report automation was performed by [MiTest](#). [MiTest](#) is an automated test system developed by MiCOM Labs. [MiTest](#) is the first cloud based modular test system enabling end-to-end automation of regulatory compliance testing for regulatory compliance.

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2. TEST RESULTS

2.1. Emissions

2.1.1. Radiated Emissions

Radiated Test Conditions for Radiated Spurious and Band-Edge Emissions			
Standard:	FCC CFR 47:15.407	Ambient Temp. (°C):	20.0 - 24.5
Test Heading:	Radiated Spurious and Band-Edge Emissions	Rel. Humidity (%):	32 - 45
Standard Section(s):	15.407 (b), 15.205, 15.209	Pressure (mBars):	999 - 1001
Reference Document(s):	See Normative References		

Test Procedure for Radiated Spurious and Band-Edge Emissions

Radiated emissions for restricted bands above 1 GHz are measured in the anechoic chamber at a 3-meter distance on every azimuth in both horizontal and vertical polarities. The emissions are recorded and maximized as a function of azimuth by rotation through 360° with a spectrum analyzer in peak hold mode. Depending on the frequency band spanned a notch filter was used to remove the fundamental frequency. The highest emissions relative to the limit are listed for each frequency spanned.

Measurements on any restricted band frequency or frequencies above 1 GHz are based on the use of measurement instrumentation employing peak and average detectors. All measurements were performed using a resolution bandwidth of 1 MHz.

Test configuration and setup for Undesirable Measurement were per the Radiated Test Set-up specified in this document.

15.407 (b) Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(2) For transmitters operating in the 5.25-5.35 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.

(3) 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.

(4) For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm/MHz.

(5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.

(6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.

(7) The provisions of §15.205 apply to intentional radiators operating under this section.

(8) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.

Limits for Restricted Bands (15.205, 15.209)

Peak emission: 74 dB_uV/m

Average emission: 54 dB_uV/m

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Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Loss, and subtracting Amplifier Gain from the measured reading. All factors are included in the reported data.

$$FS = R + AF + CORR - FO$$

where:

FS = Field Strength

R = Measured Spectrum analyzer Input Amplitude

AF = Antenna Factor

CORR = Correction Factor = CL - AG + NFL

CL = Cable Loss

AG = Amplifier Gain

FO = Distance Falloff Factor

NFL = Notch Filter Loss

Example:

The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength (dB μ V/m);

$$E = \frac{1000000 \times \sqrt{30P}}{3} \mu\text{V/m}$$

where P is the EIRP in Watts

Therefore: -27 dBm/MHz equates to 68.23 dB μ V/m

Conversion between dBmV/m (or dBmV) and mV/m (or mV) are as follows:

$$\text{Level (dBmV/m)} = 20 * \log(\text{level (mV/m)})$$

$$40 \text{ dBmV/m} = 100 \text{ mV/m}$$

$$48 \text{ dBmV/m} = 250 \text{ mV/m}$$

Restricted Bands of Operation (15.205)

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

Frequency Band			
MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
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	8.025-8.5
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	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12

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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	Above 38.6
13.36-13.41			

(b) Except as provided in paragraphs (d) and (e) of this section, the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in §15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in §15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in §15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in §15.35 apply to these measurements.

(c) Except as provided in paragraphs (d) and (e) of this section, regardless of the field strength limits specified elsewhere in this subpart, the provisions of this section apply to emissions from any intentional radiator.

(d) The following devices are exempt from the requirements of this section:

(1) Swept frequency field disturbance sensors operating between 1.705 and 37 MHz provided their emissions only sweep through the bands listed in paragraph (a) of this section, the sweep is never stopped with the fundamental emission within the bands listed in paragraph (a) of this section, and the fundamental emission is outside of the bands listed in paragraph (a) of this section more than 99% of the time the device is actively transmitting, without compensation for duty cycle.

(2) Transmitters used to detect buried electronic markers at 101.4 kHz which are employed by telephone companies.

(3) Cable locating equipment operated pursuant to §15.213.

(4) Any equipment operated under the provisions of §15.253, 15.255, and 15.256 in the frequency band 75-85 GHz, or §15.257 of this part.

(5) Biomedical telemetry devices operating under the provisions of §15.242 of this part are not subject to the restricted band 608-614 MHz but are subject to compliance within the other restricted bands.

(6) Transmitters operating under the provisions of subparts D or F of this part.

(7) Devices operated pursuant to §15.225 are exempt from complying with this section for the 13.36-13.41 MHz band only.

(8) Devices operated in the 24.075-24.175 GHz band under §15.245 are exempt from complying with the requirements of this section for the 48.15-48.35 GHz and 72.225-72.525 GHz bands only, and shall not exceed the limits specified in §15.245(b).

(9) Devices operated in the 24.0-24.25 GHz band under §15.249 are exempt from complying with the requirements of this section for the 48.0-48.5 GHz and 72.0-72.75 GHz bands only, and shall not exceed the limits specified in §15.249(a).

(e) Harmonic emissions appearing in the restricted bands above 17.7 GHz from field disturbance sensors operating under the provisions of §15.245 shall not exceed the limits specified in §15.245(b).



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2.1.1.1. Restricted Edge & Band-Edge Emissions

Antenna: AP-ANT-13B

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5150 - 5250 MHz

Aruba AP-ANT-13B		Band-Edge Freq	Limit 68.2dB μ V/m	Limit 54.0dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11a	5180.00	5150.00	67.89	48.24	60
802.11ac-80	5210.00	5150.00	67.92	46.08	44
802.11n HT-20	5180.00	5150.00	67.59	46.73	54
802.11n HT-40	5190.00	5150.00	67.79	47.57	48

5725 MHz Radiated Lower Band-Edge Emissions

Aruba AP-ANT-13B		Band-Edge Freq	Level dB μ V/m	Level dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11a	5725.00	5725.00	65.83	88.18	91
802.11ac-80	5725.00	5725.00	67.65	81.89	66
802.11n HT-20	5725.00	5725.00	67.44	100.23	91
802.11n HT-40	5725.00	5725.00	67.79	94.57	78

5850 MHz Radiated Higher Band-Edge Emissions

Aruba AP-ANT-13B		Band-Edge Freq	Level dB μ V/m	Level dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11a	5850.00	5850.00	63.75	91.21	91
802.11ac-80	5850.00	5850.00	62.53	76.84	66
802.11n HT-20	5850.00	5850.00	66.32	93.19	94
802.11n HT-40	5850.00	5850.00	67.44	84.34	91

5150 - 5250 MHz

Aruba AP-ANT-13B		Band-Edge Freq	Limit 68.2dB μ V/m	Limit 54.0dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11ac-80+80	5210.00 + 5290.00	5150.00	67.22	47.13	12 d

Click on the links to view the data.

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5150 - 5250 MHz

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-13B	Variant:	802.11a
Antenna Gain (dBi):	4.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5180.00	Data Rate:	6.00 MBit/s
Power Setting:	60	Tested By:	JMH

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5150.00	10.46	3.67	34.11	48.24	Max Avg	Horizontal	145	334	54.0	-5.8	Pass	
#2	5150.00	30.11	3.67	34.11	67.89	Max Peak	Horizontal	145	334	68.2	-0.3	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 a mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-13B	Variant:	802.11ac-80
Antenna Gain (dBi):	4.00	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5210.00	Data Rate:	29.30 MBit/s
Power Setting:	44	Tested By:	JMH

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5148.50	30.13	3.68	34.11	67.92	Max Peak	Horizontal	145	334	68.2	-0.3	Pass	
#2	5150.00	8.30	3.67	34.11	46.08	Max Avg	Horizontal	145	334	54.0	-7.9	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH42 ac 80 mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-13B	Variant:	802.11n HT-20
Antenna Gain (dBi):	4.00	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5180.00	Data Rate:	6.50 MBit/s
Power Setting:	54	Tested By:	JMH

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5150.00	8.95	3.67	34.11	46.73	Max Avg	Horizontal	145	334	54.0	-7.3	Pass	
#2	5150.00	29.81	3.67	34.11	67.59	Max Peak	Horizontal	145	334	68.2	-0.6	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 nHT20 mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-13B	Variant:	802.11n HT-40
Antenna Gain (dBi):	4.00	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5190.00	Data Rate:	13.50 MBit/s
Power Setting:	48	Tested By:	JMH

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5038.78	9.68	3.68	34.21	47.57	Max Avg	Horizontal	145	334	54.0	-6.4	Pass	
#2	5146.99	30.00	3.68	34.11	67.79	Max Peak	Horizontal	145	334	68.2	-0.4	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH38 nHT40 mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-13B	Variant:	802.11ac-80+80
Antenna Gain (dBi):	4.00	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5210.00 + 5290.00	Data Rate:	56.80 MBit/s
Power Setting:	12 d	Tested By:	JMH

Test Measurement Results

4500.00 - 5350.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5143.19	29.40	3.70	34.12	67.22	Max Peak	Horizontal	143	330	68.2	-1.0	Pass	
#2	5150.00	9.35	3.67	34.11	47.13	Max Avg	Horizontal	143	330	54.0	-6.9	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH42-58 ac 80+80 mode.

RBE – Restricted Band-Edge

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5725 - 5850 MHz

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-13B	Variant:	802.11a
Antenna Gain (dBi):	4.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5745.00	Data Rate:	6.00 MBit/s
Power Setting:	91	Tested By:	JMH

Test Measurement Results

5600.00 - 5780.00 MHz

Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
#1	5648.63	27.90	3.75	34.18	65.83	Max Peak	Horizontal	100	331	68.2	-2.4	Pass
#2	5716.34	50.03	3.81	34.34	88.18	Max Peak	Horizontal	100	331	109.7	-21.5	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH149 a mode.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-13B	Variant:	802.11ac-80
Antenna Gain (dBi):	4.00	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5775.00	Data Rate:	29.30 MBit/s
Power Setting:	66	Tested By:	JMH

Test Measurement Results

5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5639.61	29.70	3.76	34.19	67.65	Max Peak	Horizontal	100	331	68.2	-0.6	Pass	
#2	5714.18	43.73	3.82	34.34	81.89	Max Peak	Horizontal	100	331	109.1	-27.2	Pass	
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH155 ac 80 mode.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-13B	Variant:	802.11n HT-20
Antenna Gain (dBi):	4.00	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5745.00	Data Rate:	6.50 MBit/s
Power Setting:	91	Tested By:	JMH

Test Measurement Results

5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5648.27	29.51	3.75	34.18	67.44	Max Peak	Horizontal	100	331	68.2	-0.8	Pass	
#2	5720.31	62.08	3.80	34.35	100.23	Max Peak	Horizontal	100	331	109.7	-9.5	Pass	
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH149 nHT20 mode.

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To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_BE_Radio 0 Non-DFS Rev A
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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-13B	Variant:	802.11n HT-40
Antenna Gain (dBi):	4.00	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5755.00	Data Rate:	13.50 MBit/s
Power Setting:	78	Tested By:	JMH

Test Measurement Results

5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
#1	5645.02	29.85	3.76	34.18	67.79	Max Peak	Horizontal	100	331	68.2	-0.4	Pass
#2	5715.26	56.42	3.81	34.34	94.57	Max Peak	Horizontal	100	331	109.4	-14.8	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH151 nHT40 mode.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-13B	Variant:	802.11a
Antenna Gain (dBi):	4.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5825.00	Data Rate:	6.00 MBit/s
Power Setting:	91	Tested By:	JMH

Test Measurement Results

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#2	5855.15	52.74	3.83	34.64	91.21	Max Peak	Horizontal	100	331	110.1	-18.9	Pass	
#3	5987.68	24.93	3.89	34.93	63.75	Max Peak	Horizontal	100	331	68.2	-4.5	Pass	
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH149 a mode.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-13B	Variant:	802.11ac-80
Antenna Gain (dBi):	4.00	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5775.00	Data Rate:	29.30 MBit/s
Power Setting:	66	Tested By:	JMH

Test Measurement Results

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#2	5856.91	38.35	3.84	34.65	76.84	Max Peak	Horizontal	100	331	109.9	-33.1	Pass	
#3	5928.22	23.87	3.83	34.83	62.53	Max Peak	Horizontal	100	331	68.2	-5.7	Pass	
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH155 ac 80 mode.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-13B	Variant:	802.11n HT-20
Antenna Gain (dBi):	4.00	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5825.00	Data Rate:	6.50 MBit/s
Power Setting:	94	Tested By:	JMH

Test Measurement Results

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#2	5855.07	54.72	3.83	34.64	93.19	Max Peak	Horizontal	100	331	110.2	-17.0	Pass	
#3	5924.53	27.66	3.84	34.82	66.32	Max Peak	Horizontal	100	331	68.2	-1.9	Pass	
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH165 nHT20 mode.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-13B	Variant:	802.11n HT-40
Antenna Gain (dBi):	4.00	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5795.00	Data Rate:	13.50 MBit/s
Power Setting:	91	Tested By:	JMH

Test Measurement Results

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#2	5855.77	45.89	3.82	34.63	84.34	Max Peak	Horizontal	100	331	109.8	-25.5	Pass	
#3	5927.29	28.78	3.83	34.83	67.44	Max Peak	Horizontal	100	331	68.2	-0.8	Pass	
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH159 nHT40 mode.

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Antenna: AP-ANT-19

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5150 - 5250 MHz

Aruba AP-ANT-19		Band-Edge Freq	Limit 68.2dB μ V/m	Limit 54.0dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11a	5180.00	5150.00	67.97	49.53	67
802.11ac-80	5210.00	5150.00	67.35	45.39	44
802.11n HT-20	5180.00	5150.00	67.36	47.52	65
802.11n HT-40	5190.00	5150.00	67.44	44.43	54

5725 MHz Radiated Lower Band-Edge Emissions

Aruba AP-ANT-19		Band-Edge Freq	Level dB μ V/m	Level dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11a	5725.00	5725.00	67.10	72.53	92
802.11ac-80	5725.00	5725.00	68.10	67.79	61
802.11n HT-20	5725.00	5725.00	67.34	69.53	93
802.11n HT-40	5725.00	5725.00	67.60	67.50	81

5850 MHz Radiated Higher Band-Edge Emissions

Aruba AP-ANT-19		Band-Edge Freq	Level dB μ V/m	Level dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11a	5850.00	5850.00	65.18	70.90	92
802.11ac-80	5850.00	5850.00	62.91	80.56	61
802.11n HT-20	5850.00	5850.00	65.69	94.35	94
802.11n HT-40	5850.00	5850.00	66.58	67.50	90

5150 - 5250 MHz

Aruba AP-ANT-19		Band-Edge Freq	Limit 68.2dB μ V/m	Limit 54.0dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11ac-80+80	5210.00 + 5290.00	5150.00	65.92	45.15	11 d

Click on the links to view the data.

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5150 - 5250 MHz

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-19	Variant:	802.11a
Antenna Gain (dBi):	6.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5180.00	Data Rate:	6.00 MBit/s
Power Setting:	67	Tested By:	OC

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB _μ V	Cable Loss dB	AF dB	Level dB _μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB _μ V/m	Margin dB	Pass /Fail	
#1	5142.48	30.15	3.70	34.12	67.97	Max Peak	Vertical	166	140	68.2	-0.3	Pass	
#2	5150.00	11.75	3.67	34.11	49.53	Max Avg	Vertical	166	140	54.0	-4.5	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 a mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-19	Variant:	802.11ac-80
Antenna Gain (dBi):	6.00	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5210.00	Data Rate:	29.30 MBit/s
Power Setting:	44	Tested By:	OC

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5150.00	7.61	3.67	34.11	45.39	Max Avg	Vertical	166	140	54.0	-8.6	Pass	
#2	5150.00	29.57	3.67	34.11	67.35	Max Peak	Vertical	166	140	68.2	-0.9	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH42 ac 80 mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-19	Variant:	802.11n HT-20
Antenna Gain (dBi):	6.00	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5180.00	Data Rate:	6.50 MBit/s
Power Setting:	65	Tested By:	OC

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5146.99	29.57	3.68	34.11	67.36	Max Peak	Vertical	166	140	68.2	-0.9	Pass	
#2	5150.00	9.74	3.67	34.11	47.52	Max Avg	Vertical	166	140	54.0	-6.5	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 nHT20 mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-19	Variant:	802.11n HT-40
Antenna Gain (dBi):	6.00	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5190.00	Data Rate:	13.50 MBit/s
Power Setting:	54	Tested By:	OC

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5026.75	6.53	3.69	34.21	44.43	Max Avg	Vertical	166	140	54.0	-9.6	Pass	
#2	5150.00	29.66	3.67	34.11	67.44	Max Peak	Vertical	166	140	68.2	-0.8	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH38 nHT40 mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-19	Variant:	802.11ac-80+80
Antenna Gain (dBi):	6.00	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5210.00 + 5290.00	Data Rate:	29.30 MBit/s
Power Setting:	11 d	Tested By:	OC

Test Measurement Results

4500.00 - 5350.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5143.19	28.10	3.70	34.12	65.92	Max Peak	Vertical	166	140	68.2	-2.3	Pass	
#2	5150.00	7.37	3.67	34.11	45.15	Max Avg	Vertical	166	140	54.0	-8.9	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH42-58 ac 80+80 mode.

RBE – Restricted Band-Edge

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5725 - 5850 MHz

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-19	Variant:	802.11a
Antenna Gain (dBi):	6.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5745.00	Data Rate:	6.00 MBit/s
Power Setting:	92	Tested By:	OC

Test Measurement Results

5600.00 - 5780.00 MHz

Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
#1	5648.89	29.17	3.75	34.18	67.10	Max Peak	Vertical	172	315	68.2	-1.1	Pass
#2	5665.94	34.53	3.77	34.23	72.53	Max Peak	Vertical	172	315	80.0	-7.5	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH149 a mode.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-19	Variant:	802.11ac-80
Antenna Gain (dBi):	6.00	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5775.00	Data Rate:	29.30 MBit/s
Power Setting:	61	Tested By:	OC

Test Measurement Results

5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5642.93	30.15	3.76	34.19	68.10	Max Peak	Vertical	172	315	68.2	-0.1	Pass	
#2	5651.94	29.85	3.76	34.18	67.79	Max Peak	Vertical	172	315	69.7	-1.9	Pass	
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH155 ac 80 mode.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-19	Variant:	802.11n HT-20
Antenna Gain (dBi):	6.00	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5745.00	Data Rate:	6.50 MBit/s
Power Setting:	93	Tested By:	OC

Test Measurement Results

5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5647.62	29.41	3.75	34.18	67.34	Max Peak	Vertical	172	315	68.2	-0.9	Pass	
#2	5658.01	31.56	3.77	34.20	69.53	Max Peak	Vertical	172	315	74.1	-4.6	Pass	
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH149 nHT20 mode.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-19	Variant:	802.11n HT-40
Antenna Gain (dBi):	6.00	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5755.00	Data Rate:	13.50 MBit/s
Power Setting:	81	Tested By:	OC

Test Measurement Results

5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5641.12	29.65	3.76	34.19	67.60	Max Peak	Vertical	172	315	68.2	-0.6	Pass	
#2	5643.58	29.56	3.76	34.18	67.50	Max Peak	Vertical	172	315	68.2	-0.7	Pass	
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH151 nHT40 mode

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-19	Variant:	802.11a
Antenna Gain (dBi):	6.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5825.00	Data Rate:	6.00 MBit/s
Power Setting:	92	Tested By:	OC

Test Measurement Results

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#2	5906.55	32.30	3.82	34.78	70.90	Max Peak	Vertical	172	315	81.5	-10.6	Pass	
#3	5926.05	26.52	3.84	34.82	65.18	Max Peak	Vertical	172	315	68.2	-3.1	Pass	
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH165 a mode.

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Serial #: HPEN111-U8_Radiated_BE_Radio 0 Non-DFS Rev A
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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-19	Variant:	802.11ac-80
Antenna Gain (dBi):	6.00	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5775.00	Data Rate:	29.30 MBit/s
Power Setting:	61	Tested By:	OC

Test Measurement Results

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5850.00	42.12	3.81	34.63	80.56	Max Peak	Vertical	172	315	122.2	-41.7	Pass	
#3	5947.45	24.21	3.83	34.87	62.91	Max Peak	Vertical	172	315	69.7	-6.8	Pass	
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH155 ac 80 mode.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-19	Variant:	802.11n HT-20
Antenna Gain (dBi):	6.00	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5825.00	Data Rate:	6.50 MBit/s
Power Setting:	94	Tested By:	OC

Test Measurement Results

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#2	5851.38	55.91	3.81	34.63	94.35	Max Peak	Vertical	172	315	121.9	-27.6	Pass	
#3	5929.14	27.03	3.83	34.83	65.69	Max Peak	Vertical	172	315	68.2	-2.5	Pass	
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH165 nHT20 mode.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-19	Variant:	802.11n HT-40
Antenna Gain (dBi):	6.00	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5795.00	Data Rate:	13.50 MBit/s
Power Setting:	90	Tested By:	OC

Test Measurement Results

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#2	5924.21	29.14	3.84	34.82	67.80	Max Peak	Vertical	172	315	68.2	-0.4	Pass	
#3	5944.35	27.85	3.86	34.87	66.58	Max Peak	Vertical	172	315	68.2	-1.7	Pass	
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH159 nHT40 mode.

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Antenna: AP-ANT-1W

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5150 - 5250 MHz

Aruba AP-ANT-1W		Band-Edge Freq	Limit 68.2dB μ V/m	Limit 54.0dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11a	5180.00	5150.00	67.97	47.32	62
802.11ac-80	5210.00	5150.00	67.53	46.30	49
802.11n HT-20	5180.00	5150.00	67.76	46.52	57
802.11n HT-40	5190.00	5150.00	66.66	46.35	45

5725 MHz Radiated Lower Band-Edge Emissions

Aruba AP-ANT-1W		Band-Edge Freq	Level dB μ V/m	Level dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11a	5725.00	5725.00	66.36	94.07	91
802.11ac-80	5725.00	5725.00	67.59	84.26	66
802.11n HT-20	5725.00	5725.00	67.09	98.61	90
802.11n HT-40	5725.00	5725.00	67.36	91.60	76

5850 MHz Radiated Higher Band-Edge Emissions

Aruba AP-ANT-1W		Band-Edge Freq	Level dB μ V/m	Level dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11a	5850.00	5850.00	64.28	88.64	91
802.11ac-80	5850.00	5850.00	67.56	82.89	73
802.11n HT-20	5850.00	5850.00	65.35	92.82	93
802.11n HT-40	5850.00	5850.00	67.41	85.94	89

5150 - 5250 MHz

Aruba AP-ANT-1W		Band-Edge Freq	Limit 68.2dB μ V/m	Limit 54.0dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11ac-80+80	5210.00 + 5290.00	5150.00	66.95	45.86	12 d

Click on the links to view the data.

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5150 - 5250 MHz

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-1W	Variant:	802.11a
Antenna Gain (dBi):	5.80	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5180.00	Data Rate:	6.00 MBit/s
Power Setting:	62	Tested By:	JMH

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5145.49	9.52	3.69	34.11	47.32	Max Avg	Horizontal	182	279	54.0	-6.7	Pass	
#2	5145.49	30.17	3.69	34.11	67.97	Max Peak	Horizontal	182	279	68.2	-0.2	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 a mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-1W	Variant:	802.11ac-80
Antenna Gain (dBi):	5.80	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5210.00	Data Rate:	29.30 MBit/s
Power Setting:	49	Tested By:	JMH

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5143.99	29.71	3.70	34.12	67.53	Max Peak	Horizontal	182	279	68.2	-0.7	Pass	
#2	5150.00	8.52	3.67	34.11	46.30	Max Avg	Horizontal	182	279	54.0	-7.7	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH42 ac 80 mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-1W	Variant:	802.11n HT-20
Antenna Gain (dBi):	5.80	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5180.00	Data Rate:	6.50 MBit/s
Power Setting:	57	Tested By:	JMH

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5148.50	29.97	3.68	34.11	67.76	Max Peak	Horizontal	182	279	68.2	-0.4	Pass	
#2	5150.00	8.74	3.67	34.11	46.52	Max Avg	Horizontal	182	279	54.0	-7.5	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 nHT20 mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-1W	Variant:	802.11n HT-40
Antenna Gain (dBi):	5.80	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5190.00	Data Rate:	13.50 MBit/s
Power Setting:	45	Tested By:	JMH

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5040.28	8.46	3.68	34.21	46.35	Max Avg	Horizontal	182	279	54.0	-7.7	Pass	
#2	5148.50	28.87	3.68	34.11	66.66	Max Peak	Horizontal	182	279	68.2	-1.5	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH38 nHT40 mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-1W	Variant:	802.11ac-80+80
Antenna Gain (dBi):	5.80	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5210.00 + 5290.00	Data Rate:	58.60 MBit/s
Power Setting:	12 d	Tested By:	JMH

Test Measurement Results

4500.00 - 5350.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5146.59	29.16	3.68	34.11	66.95	Max Peak	Horizontal	182	279	68.2	-1.3	Pass	
#2	5150.00	8.08	3.67	34.11	45.86	Max Avg	Horizontal	182	279	54.0	-8.1	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	
#4	5350.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH42-58 ac 80+80 mode.

RBE – Restricted Band-Edge

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5725 - 5850 MHz

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-1W	Variant:	802.11a
Antenna Gain (dBi):	5.80	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5745.00	Data Rate:	6.00 MBit/s
Power Setting:	91	Tested By:	JMH

Test Measurement Results

5600.00 - 5780.00 MHz

Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
#1	5648.70	28.43	3.75	34.18	66.36	Max Peak	Horizontal	197	92	68.2	-1.9	Pass
#2	5717.42	55.92	3.81	34.34	94.07	Max Peak	Horizontal	197	92	110.0	-15.9	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH149 a mode.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-1W	Variant:	802.11ac-80
Antenna Gain (dBi):	5.80	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5775.00	Data Rate:	29.30 MBit/s
Power Setting:	66	Tested By:	JMH

Test Measurement Results

5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5648.99	29.66	3.75	34.18	67.59	Max Peak	Horizontal	197	92	68.2	-0.6	Pass	
#2	5711.65	46.09	3.83	34.34	84.26	Max Peak	Horizontal	197	92	108.6	-24.3	Pass	
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH155 ac 80 mode.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-1W	Variant:	802.11n HT-20
Antenna Gain (dBi):	5.80	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5745.00	Data Rate:	6.50 MBit/s
Power Setting:	90	Tested By:	JMH

Test Measurement Results

5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5650.07	29.16	3.75	34.18	67.09	Max Peak	Horizontal	197	92	68.2	-1.1	Pass	
#2	5720.31	60.46	3.80	34.35	98.61	Max Peak	Horizontal	197	92	110.0	-11.4	Pass	
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH149 nHT20 mode.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-1W	Variant:	802.11n HT-40
Antenna Gain (dBi):	5.80	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5755.00	Data Rate:	13.50 MBit/s
Power Setting:	76	Tested By:	JMH

Test Measurement Results

5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5640.33	29.41	3.76	34.19	67.36	Max Peak	Horizontal	197	92	68.2	-0.9	Pass	
#2	5715.26	53.45	3.81	34.34	91.60	Max Peak	Horizontal	197	92	109.4	-17.8	Pass	
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH151 nHT40 mode.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-1W	Variant:	802.11a
Antenna Gain (dBi):	5.80	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5825.00	Data Rate:	6.00 MBit/s
Power Setting:	91	Tested By:	JMH

Test Measurement Results

5770.00 - 60000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#2	5856.45	50.16	3.84	34.64	88.64	Max Peak	Horizontal	197	92	110.2	-21.6	Pass	
#3	5924.99	25.62	3.84	34.82	64.28	Max Peak	Horizontal	197	92	68.9	-4.7	Pass	
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH165 a mode.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-1W	Variant:	802.11ac-80
Antenna Gain (dBi):	5.80	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5775.00	Data Rate:	29.30 MBit/s
Power Setting:	73	Tested By:	JMH

Test Measurement Results

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#2	5863.83	44.39	3.84	34.66	82.89	Max Peak	Horizontal	197	92	108.3	-25.4	Pass	
#3	5924.07	28.90	3.84	34.82	67.56	Max Peak	Horizontal	197	92	68.9	-1.4	Pass	
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH155 ac 80 mode.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-1W	Variant:	802.11n HT-20
Antenna Gain (dBi):	5.80	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5825.00	Data Rate:	6.50 MBit/s
Power Setting:	93	Tested By:	JMH

Test Measurement Results

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#2	5855.07	54.35	3.83	34.64	92.82	Max Peak	Horizontal	197	92	110.8	-18.0	Pass	
#3	5924.07	26.69	3.84	34.82	65.35	Max Peak	Horizontal	197	92	68.9	-3.6	Pass	
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH165 nHT20 mode.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-1W	Variant:	802.11n HT-40
Antenna Gain (dBi):	5.80	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5795.00	Data Rate:	13.50 MBit/s
Power Setting:	89	Tested By:	JMH

Test Measurement Results

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#2	5855.07	47.47	3.83	34.64	85.94	Max Peak	Horizontal	197	92	110.7	-24.8	Pass	
#3	5928.68	28.75	3.83	34.83	67.41	Max Peak	Horizontal	197	92	68.9	-1.5	Pass	
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH159 nHT40 mode.

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Antenna: AP-ANT-20W

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5150 - 5250 MHz

Aruba AP-ANT-20W		Band-Edge Freq	Limit 68.2dB μ V/m	Limit 54.0dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11a	5180.00	5150.00	67.83	47.13	64
802.11ac-80	5210.00	5150.00	67.46	45.14	54
802.11n HT-20	5180.00	5150.00	67.65	45.86	60
802.11n HT-40	5190.00	5150.00	67.92	44.37	50

5725 MHz Radiated Lower Band-Edge Emissions

Aruba AP-ANT-20W		Band-Edge Freq	Level dB μ V/m	Level dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11a	5725.00	5725.00	66.29	71.73	92
802.11ac-80	5725.00	5725.00	67.81	78.58	76
802.11n HT-20	5725.00	5725.00	62.49	95.96	90
802.11n HT-40	5725.00	5725.00	67.25	92.53	85

5850 MHz Radiated Higher Band-Edge Emissions

Aruba AP-ANT-20W		Band-Edge Freq	Level dB μ V/m	Level dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11a	5850.00	5850.00	65.13	90.80	93
802.11ac-80	5850.00	5850.00	67.73	82.77	86
802.11n HT-20	5850.00	5850.00	61.06	87.39	93
802.11n HT-40	5850.00	5850.00	67.43	84.08	92

5150 - 5250 MHz

Aruba AP-ANT-20W		Band-Edge Freq	Limit 68.2dB μ V/m	Limit 54.0dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11ac-80+80	5210.00 + 5290.00	5150.00	66.79	44.64	13 d

Click on the links to view the data.

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5150 - 5250 MHz

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-20W	Variant:	802.11a
Antenna Gain (dBi):	2.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5180.00	Data Rate:	6.00 MBit/s
Power Setting:	64	Tested By:	JMH

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5146.99	30.04	3.68	34.11	67.83	Max Peak	Horizontal	126	358	68.2	-0.4	Pass	
#2	5148.50	9.34	3.68	34.11	47.13	Max Avg	Horizontal	126	358	54.0	-6.9	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 a mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-20W	Variant:	802.11ac-80
Antenna Gain (dBi):	2.00	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5210.00	Data Rate:	29.30 MBit/s
Power Setting:	54	Tested By:	JMH

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5144.79	29.66	3.69	34.11	67.46	Max Peak	Horizontal	126	358	68.2	-0.7	Pass	
#2	5150.00	7.36	3.67	34.11	45.14	Max Avg	Horizontal	126	358	54.0	-8.9	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH42 ac 80 mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-20W	Variant:	802.11n HT-20
Antenna Gain (dBi):	2.00	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5180.00	Data Rate:	6.50 MBit/s
Power Setting:	60	Tested By:	JMH

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5148.50	29.86	3.68	34.11	67.65	Max Peak	Horizontal	126	358	68.2	-0.6	Pass	
#2	5150.00	8.08	3.67	34.11	45.86	Max Avg	Horizontal	126	358	54.0	-8.1	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 nHT20 mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-20W	Variant:	802.11n HT-40
Antenna Gain (dBi):	2.00	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5190.00	Data Rate:	13.50 MBit/s
Power Setting:	50	Tested By:	JMH

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5148.50	30.13	3.68	34.11	67.92	Max Peak	Horizontal	126	358	68.2	-0.3	Pass	
#2	5150.00	6.59	3.67	34.11	44.37	Max Avg	Horizontal	126	358	54.0	-9.6	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH38 nHT40 mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-20W	Variant:	802.11ac-80+80
Antenna Gain (dBi):	2.00	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5210.00 + 5290.00	Data Rate:	58.60 MBit/s
Power Setting:	13 d	Tested By:	JMH

Test Measurement Results

4500.00 - 5350.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5150.00	6.86	3.67	34.11	44.64	Max Avg	Horizontal	137	1	54.0	-9.4	Pass	
#2	5150.00	29.01	3.67	34.11	66.79	Max Peak	Horizontal	137	1	68.2	-1.4	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	
#4	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH42-58 ac 80+80 mode.

RBE – Restricted Band-Edge

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5725 - 5850 MHz

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-20W	Variant:	802.11a
Antenna Gain (dBi):	2.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5745.00	Data Rate:	6.00 MBit/s
Power Setting:	92	Tested By:	JMH

Test Measurement Results

5600.00 - 5780.00 MHz

Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
#1	5639.87	28.34	3.76	34.19	66.29	Max Peak	Horizontal	153	2	68.2	-1.9	Pass
#2	5658.01	33.76	3.77	34.20	71.73	Max Peak	Horizontal	153	2	74.1	-2.4	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH149 a mode.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-20W	Variant:	802.11ac-80
Antenna Gain (dBi):	2.00	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5775.00	Data Rate:	29.30 MBit/s
Power Setting:	76	Tested By:	JMH

Test Measurement Results

5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
#1	5630.59	29.85	3.76	34.20	67.81	Max Peak	Horizontal	153	2	68.2	-0.4	Pass
#2	5688.57	40.44	3.84	34.30	78.58	Max Peak	Horizontal	153	2	97.1	-18.5	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH155 ac 80 mode.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-20W	Variant:	802.11n HT-20
Antenna Gain (dBi):	2.00	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5745.00	Data Rate:	6.50 MBit/s
Power Setting:	90	Tested By:	JMH

Test Measurement Results

5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5646.10	24.56	3.75	34.18	62.49	Max Peak	Horizontal	153	2	68.2	-5.7	Pass	
#2	5722.11	57.54	3.80	34.35	95.69	Max Peak	Horizontal	153	2	115.4	-19.7	Pass	
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH149 nHT20 mode.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-20W	Variant:	802.11n HT-40
Antenna Gain (dBi):	2.00	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5755.00	Data Rate:	13.50 MBit/s
Power Setting:	85	Tested By:	JMH

Test Measurement Results

5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5647.18	29.32	3.75	34.18	67.25	Max Peak	Horizontal	153	2	68.2	-1.0	Pass	
#2	5717.06	54.38	3.81	34.34	92.53	Max Peak	Horizontal	153	2	110.0	-17.4	Pass	
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH151 nHT40 mode.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-20W	Variant:	802.11a
Antenna Gain (dBi):	2.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5825.00	Data Rate:	6.00 MBit/s
Power Setting:	93	Tested By:	JMH

Test Measurement Results

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#2	5857.84	52.30	3.85	34.65	90.80	Max Peak	Horizontal	153	2	110.2	-19.4	Pass	
#3	5937.43	26.41	3.87	34.85	65.13	Max Peak	Horizontal	153	2	68.2	-3.1	Pass	
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH165 a mode.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-20W	Variant:	802.11ac-80
Antenna Gain (dBi):	2.00	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5775.00	Data Rate:	29.30 MBit/s
Power Setting:	86	Tested By:	JMH

Test Measurement Results

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#2	5858.76	44.27	3.85	34.65	82.77	Max Peak	Horizontal	153	2	109.9	-27.0	Pass	
#3	5939.62	28.98	3.89	34.86	67.73	Max Peak	Horizontal	153	2	68.2	-0.5	Pass	
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH155 ac 80 mode.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-20W	Variant:	802.11n HT-20
Antenna Gain (dBi):	2.00	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5825.00	Data Rate:	6.50 MBit/s
Power Setting:	93	Tested By:	JMH

Test Measurement Results

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#2	5855.53	48.91	3.84	34.64	87.39	Max Peak	Horizontal	153	2	110.1	-22.7	Pass	
#3	5926.37	22.40	3.84	34.82	61.06	Max Peak	Horizontal	153	2	68.2	-7.2	Pass	
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH165 nHT20 mode.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-20W	Variant:	802.11n HT-40
Antenna Gain (dBi):	2.00	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5795.00	Data Rate:	13.50 MBit/s
Power Setting:	92	Tested By:	JMH

Test Measurement Results

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#2	5865.67	45.58	3.83	34.67	84.08	Max Peak	Horizontal	153	2	107.5	-23.4	Pass	
#3	5926.83	28.77	3.83	34.83	67.43	Max Peak	Horizontal	153	2	68.2	-0.8	Pass	
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH159 nHT40 mode.

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Antenna: AP-ANT-40

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5150 - 5250 MHz

Aruba AP-ANT-40		Band-Edge Freq	Limit 68.2dB μ V/m	Limit 54.0dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11a	5180.00	5150.00	68.01	48.24	63
802.11ac-80	5210.00	5150.00	67.31	45.86	50
802.11n HT-20	5180.00	5150.00	68.01	46.30	57
802.11n HT-40	5190.00	5150.00	66.83	45.86	52

5725 MHz Radiated Lower Band-Edge Emissions

Aruba AP-ANT-40		Band-Edge Freq	Level dB μ V/m	Level dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11a	5725.00	5725.00	64.91	90.54	91
802.11ac-80	5725.00	5725.00	67.83	70.75	73
802.11n HT-20	5725.00	5725.00	64.05	95.26	91
802.11n HT-40	5725.00	5725.00	66.42	89.38	88

5850 MHz Radiated Higher Band-Edge Emissions

Aruba AP-ANT-40		Band-Edge Freq	Level dB μ V/m	Level dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11a	5850.00	5850.00	61.15	87.74	91
802.11ac-80	5850.00	5850.00	67.44	70.52	84
802.11n HT-20	5850.00	5850.00	59.15	77.03	93
802.11n HT-40	5850.00	5850.00	65.17	68.87	92

5150 - 5250 MHz

Aruba AP-ANT-40		Band-Edge Freq	Limit 68.2dB μ V/m	Limit 54.0dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11ac-80+80	5210.00 + 5290.00	5150.00	66.52	44.09	13 d

Click on the links to view the data.

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5150 - 5250 MHz

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-40	Variant:	802.11a
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	((
Channel Frequency (MHz):	5180.00	Data Rate:	6.00 MBit/s
Power Setting:	63	Tested By:	JMH

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5148.50	30.22	3.68	34.11	68.01	Max Peak	Horizontal	160	39	68.2	-0.2	Pass	
#2	5150.00	10.46	3.67	34.11	48.24	Max Avg	Horizontal	160	39	54.0	-5.8	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 a mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-40	Variant:	802.11ac-80
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3	Duty Cycle (%):	99
Channel Frequency (MHz):	5210.00	Data Rate:	29.30 MBit/s
Power Setting:	50	Tested By:	JMH

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5150.00	8.08	3.67	34.11	45.86	Max Avg	Horizontal	160	39	54.0	-8.1	Pass	
#2	5150.00	29.53	3.67	34.11	67.31	Max Peak	Horizontal	160	39	68.2	-0.9	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH42 ac 80 mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-40	Variant:	802.11n HT-20
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3	Duty Cycle (%):	99
Channel Frequency (MHz):	5180.00	Data Rate:	6.50 MBit/s
Power Setting:	57	Tested By:	JMH

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5145.49	30.21	3.69	34.11	68.01	Max Peak	Horizontal	160	39	68.2	-0.2	Pass	
#2	5150.00	8.52	3.67	34.11	46.30	Max Avg	Horizontal	160	39	54.0	-7.7	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 nHT20 mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-40	Variant:	802.11n HT-40
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3	Duty Cycle (%):	99
Channel Frequency (MHz):	5190.00	Data Rate:	13.50 MBit/s
Power Setting:	52	Tested By:	JMH

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5150.00	8.08	3.67	34.11	45.86	Max Avg	Horizontal	160	39	54.0	-8.1	Pass	
#2	5150.00	29.05	3.67	34.11	66.83	Max Peak	Horizontal	160	39	68.2	-1.5	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH38 nHT40 mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-40	Variant:	802.11ac-80+80
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3	Duty Cycle (%):	99
Channel Frequency (MHz):	5210.00 + 5290.00	Data Rate:	58.60 MBit/s
Power Setting:	13 d	Tested By:	JMH

Test Measurement Results

4500.00 - 5350.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5148.30	28.73	3.68	34.11	66.52	Max Peak	Horizontal	182	44	68.2	-1.7	Pass	
#2	5150.00	6.31	3.67	34.11	44.09	Max Avg	Horizontal	182	44	54.0	-9.9	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	
#4	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH42-58 ac 80+80 mode.

RBE – Restricted Band-Edge

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5725 - 5850 MHz

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-40	Variant:	802.11a
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5745.00	Data Rate:	6.00 MBit/s
Power Setting:	91	Tested By:	JMH

Test Measurement Results

5600.00 - 5780.00 MHz

Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
#1	5652.23	26.97	3.76	34.18	64.91	Max Peak	Horizontal	165	326	69.7	-4.8	Pass
#2	5717.42	52.39	3.81	34.34	90.54	Max Peak	Horizontal	165	326	110.0	-19.4	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by AC/DC PS. connected to laptop outside chamber via telnet. 2GF, 5GF Mode 1 Radio 0 Chan 149 a mode.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-40	Variant:	802.11ac-80
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3	Duty Cycle (%):	99
Channel Frequency (MHz):	5775.00	Data Rate:	29.30 MBit/s
Power Setting:	73	Tested By:	JMH

Test Measurement Results

5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5606.78	29.82	3.78	34.23	67.83	Max Peak	Horizontal	165	326	68.2	-0.4	Pass	
#2	5666.56	32.75	3.77	34.23	70.75	Max Peak	Horizontal	165	326	80.8	-10.0	Pass	
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. connected to laptop outside chamber via telnet. 2GF, 5GF Mode 1 Radio 0 Chan 155 ac80 mode.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-40	Variant:	802.11n HT-20
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3	Duty Cycle (%):	99
Channel Frequency (MHz):	5745.00	Data Rate:	6.50 MBit/s
Power Setting:	91	Tested By:	JMH

Test Measurement Results

5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5649.71	26.12	3.75	34.18	64.05	Max Peak	Horizontal	165	326	68.2	-4.2	Pass	
#2	5719.95	57.11	3.80	34.35	95.26	Max Peak	Horizontal	165	326	110.0	-14.7	Pass	
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. connected to laptop outside chamber via telnet. 2GF, 5GF Mode 1 Radio 0 Chan 149 nHT20 mode.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-40	Variant:	802.11n HT-40
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3	Duty Cycle (%):	99
Channel Frequency (MHz):	5755.00	Data Rate:	13.50 MBit/s
Power Setting:	88	Tested By:	JMH

Test Measurement Results

5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
#1	5650.07	28.49	3.75	34.18	66.42	Max Peak	Horizontal	165	326	68.2	-1.8	Pass
#2	5708.05	51.19	3.85	34.34	89.38	Max Peak	Horizontal	165	326	107.4	-18.1	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by AC/DC PS. connected to laptop outside chamber via telnet. 2GF, 5GF Mode 1 Radio 0 Chan 151 nHT40 mode.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-40	Variant:	802.11a
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5825.00	Data Rate:	6.00 MBit/s
Power Setting:	91	Tested By:	JMH

Test Measurement Results

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#2	5855.99	49.26	3.84	34.64	87.74	Max Peak	Horizontal	165	326	111.0	-23.3	Pass	
#3	5935.59	22.43	3.87	34.85	61.15	Max Peak	Horizontal	165	326	68.2	-7.1	Pass	
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. connected to laptop outside chamber via telnet. 2GF, 5GF Mode 1 Radio 0 Chan 165 a mode.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-40	Variant:	802.11ac-80
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3	Duty Cycle (%):	99
Channel Frequency (MHz):	5775.00	Data Rate:	29.30 MBit/s
Power Setting:	84	Tested By:	JMH

Test Measurement Results

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#2	5906.69	31.92	3.82	34.78	70.52	Max Peak	Horizontal	165	326	81.4	-10.9	Pass	
#3	5926.83	28.78	3.83	34.83	67.44	Max Peak	Horizontal	165	326	68.2	-0.8	Pass	
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH155 ac 80 mode.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-40	Variant:	802.11n HT-20
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3	Duty Cycle (%):	99
Channel Frequency (MHz):	5825.00	Data Rate:	6.50 MBit/s
Power Setting:	93	Tested By:	JMH

Test Measurement Results

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#2	5869.36	38.53	3.82	34.68	77.03	Max Peak	Horizontal	165	326	107.8	-30.7	Pass	
#3	5992.28	20.33	3.89	34.93	59.15	Max Peak	Horizontal	165	326	68.2	-9.1	Pass	
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. connected to laptop outside chamber via telnet. 2GF, 5GF Mode 1 Radio 0 Chan 165 nHT20 mode.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-40	Variant:	802.11n HT-40
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3	Duty Cycle (%):	99
Channel Frequency (MHz):	5795.00	Data Rate:	13.50 MBit/s
Power Setting:	92	Tested By:	JMH

Test Measurement Results

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#2	5907.15	30.27	3.82	34.78	68.87	Max Peak	Horizontal	165	326	81.5	-13.7	Pass	
#3	5927.76	26.51	3.83	34.83	65.17	Max Peak	Horizontal	165	326	68.2	-3.1	Pass	
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. connected to laptop outside chamber via telnet. 2GF, 5GF Mode 1 Radio 0 Chan 159 nHT40 mode.

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Antenna: AP-ANT-45

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5150 - 5250 MHz

Aruba AP-ANT-45		Band-Edge Freq	Limit 68.2dB μ V/m	Limit 54.0dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11a	5180.00	5150.00	67.44	48.48	59
802.11ac-80	5210.00	5150.00	67.19	46.50	53
802.11n HT-20	5180.00	5150.00	67.03	46.52	60
802.11n HT-40	5190.00	5150.00	67.01	45.18	50

5725 MHz Radiated Lower Band-Edge Emissions

Aruba AP-ANT-45		Band-Edge Freq	Level dB μ V/m	Level dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11a	5725.00	5725.00	65.28	92.98	91
802.11ac-80	5725.00	5725.00	67.32	77.33	64
802.11n HT-20	5725.00	5725.00	65.87	94.32	90
802.11n HT-40	5725.00	5725.00	67.67	90.13	77

5850 MHz Radiated Higher Band-Edge Emissions

Aruba AP-ANT-45		Band-Edge Freq	Level dB μ V/m	Level dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11a	5850.00	5850.00	62.94	88.24	91
802.11ac-80	5850.00	5850.00	63.88	73.25	64
802.11n HT-20	5850.00	5850.00	62.41	88.37	93
802.11n HT-40	5850.00	5850.00	67.17	84.86	91

5150 - 5250 MHz

Aruba AP-ANT-45		Band-Edge Freq	Limit 68.2dB μ V/m	Limit 54.0dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11ac-80+80	5210.00 + 5290.00	5150.00	67.36	45.86	12 d

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5150 - 5250 MHz

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-45	Variant:	802.11a
Antenna Gain (dBi):	5.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5180.00	Data Rate:	6.00 MBit/s
Power Setting:	59	Tested By:	JMH

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB _μ V	Cable Loss dB	AF dB	Level dB _μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB _μ V/m	Margin dB	Pass /Fail	
#1	5025.25	10.59	3.68	34.21	48.48	Max Avg	Vertical	145	359	54.0	-5.5	Pass	
#2	5146.99	29.65	3.68	34.11	67.44	Max Peak	Vertical	145	359	68.2	-0.8	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 a mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-45	Variant:	802.11ac-80
Antenna Gain (dBi):	5.50	Modulation:	OFDM
Beam Forming Gain (Y):	3	Duty Cycle (%):	99
Channel Frequency (MHz):	5210.00	Data Rate:	29.30 MBit/s
Power Setting:	53	Tested By:	JMH

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5135.77	8.69	3.69	34.12	46.50	Max Avg	Vertical	145	359	54.0	-7.5	Pass	
#2	5135.77	29.38	3.69	34.12	67.19	Max Peak	Vertical	145	359	68.2	-1.0	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH42 ac 80 mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-45	Variant:	802.11n HT-20
Antenna Gain (dBi):	5.50	Modulation:	OFDM
Beam Forming Gain (Y):	3	Duty Cycle (%):	99
Channel Frequency (MHz):	5180.00	Data Rate:	6.50 MBit/s
Power Setting:	60	Tested By:	JMH

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5150.00	8.74	3.67	34.11	46.52	Max Avg	Vertical	145	359	54.0	-7.5	Pass	
#2	5150.00	29.25	3.67	34.11	67.03	Max Peak	Vertical	145	359	68.2	-1.2	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 nHT20 mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-45	Variant:	802.11n HT-40
Antenna Gain (dBi):	5.50	Modulation:	OFDM
Beam Forming Gain (Y):	3	Duty Cycle (%):	99
Channel Frequency (MHz):	5190.00	Data Rate:	13.50 MBit/s
Power Setting:	50	Tested By:	JMH

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5044.79	7.33	3.65	34.20	45.18	Max Avg	Vertical	145	359	54.0	-8.8	Pass	
#2	5150.00	29.23	3.67	34.11	67.01	Max Peak	Vertical	145	359	68.2	-1.2	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH38 nHT40 mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-45	Variant:	802.11ac-80+80
Antenna Gain (dBi):	5.50	Modulation:	OFDM
Beam Forming Gain (Y):	3	Duty Cycle (%):	99
Channel Frequency (MHz):	5210.00 + 5290.00	Data Rate:	58.60 MBit/s
Power Setting:	12 d	Tested By:	JMH

Test Measurement Results

4500.00 - 5350.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5146.89	29.57	3.68	34.11	67.36	Max Peak	Vertical	146	358	68.2	-0.8	Pass	
#2	5150.00	8.08	3.67	34.11	45.86	Max Avg	Vertical	146	358	54.0	-8.1	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	
#4	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH42-58 ac 80+80 mode.

RBE – Restricted Band-Edge

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5725 - 5850 MHz

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-45	Variant:	802.11a
Antenna Gain (dBi):	5.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5745.00	Data Rate:	6.00 MBit/s
Power Setting:	91	Tested By:	JMH

Test Measurement Results

5600.00 - 5780.00 MHz

Num	Frequency MHz	Raw dB _μ V	Cable Loss dB	AF dB	Level dB _μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB _μ V/m	Margin dB	Pass /Fail
#1	5651.15	27.34	3.76	34.18	65.28	Max Peak	Vertical	146	359	68.9	-3.7	Pass
#2	5718.15	54.83	3.81	34.34	92.98	Max Peak	Vertical	146	359	110.2	-17.3	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH149 a mode.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-45	Variant:	802.11ac-80
Antenna Gain (dBi):	5.50	Modulation:	OFDM
Beam Forming Gain (Y):	3	Duty Cycle (%):	99
Channel Frequency (MHz):	5775.00	Data Rate:	29.30 MBit/s
Power Setting:	64	Tested By:	JMH

Test Measurement Results

5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5639.61	29.37	3.76	34.19	67.32	Max Peak	Vertical	146	359	68.2	-0.9	Pass	
#2	5719.59	39.18	3.80	34.35	77.33	Max Peak	Vertical	146	359	110.5	-33.2	Pass	
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH155 ac 80 mode.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-45	Variant:	802.11n HT-20
Antenna Gain (dBi):	5.50	Modulation:	OFDM
Beam Forming Gain (Y):	3	Duty Cycle (%):	99
Channel Frequency (MHz):	5745.00	Data Rate:	6.50 MBit/s
Power Setting:	90	Tested By:	JMH

Test Measurement Results

5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5648.63	27.94	3.75	34.18	65.87	Max Peak	Vertical	146	359	68.2	-2.4	Pass	
#2	5719.23	56.18	3.80	34.34	94.32	Max Peak	Vertical	146	359	110.5	-16.2	Pass	
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH149 nHT20 mode.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-45	Variant:	802.11n HT-40
Antenna Gain (dBi):	5.50	Modulation:	OFDM
Beam Forming Gain (Y):	3	Duty Cycle (%):	99
Channel Frequency (MHz):	5755.00	Data Rate:	13.50 MBit/s
Power Setting:	77	Tested By:	JMH

Test Measurement Results

5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5643.22	29.72	3.76	34.19	67.67	Max Peak	Vertical	146	359	68.2	-0.6	Pass	
#2	5718.51	51.99	3.80	34.34	90.13	Max Peak	Vertical	146	359	110.5	-20.4	Pass	
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH151 nHT40 mode.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-45	Variant:	802.11a
Antenna Gain (dBi):	5.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5825.00	Data Rate:	6.00 MBit/s
Power Setting:	91	Tested By:	JMH

Test Measurement Results

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#2	5856.45	49.76	3.84	34.64	88.24	Max Peak	Vertical	146	359	109.7	-21.5	Pass	
#3	5928.22	24.28	3.83	34.83	62.94	Max Peak	Vertical	146	359	68.2	-5.3	Pass	
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH165 a mode.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-45	Variant:	802.11ac-80
Antenna Gain (dBi):	5.50	Modulation:	OFDM
Beam Forming Gain (Y):	3	Duty Cycle (%):	99
Channel Frequency (MHz):	5775.00	Data Rate:	29.30 MBit/s
Power Setting:	64	Tested By:	JMH

Test Measurement Results

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#2	5861.06	34.73	3.86	34.66	73.25	Max Peak	Vertical	146	359	109.1	-35.9	Pass	
#3	5924.07	25.22	3.84	34.82	63.88	Max Peak	Vertical	146	359	68.9	-5.1	Pass	
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH155 ac 80 mode.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-45	Variant:	802.11n HT-20
Antenna Gain (dBi):	5.50	Modulation:	OFDM
Beam Forming Gain (Y):	3	Duty Cycle (%):	99
Channel Frequency (MHz):	5825.00	Data Rate:	6.50 MBit/s
Power Setting:	93	Tested By:	JMH

Test Measurement Results

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#2	5856.45	49.89	3.84	34.64	88.37	Max Peak	Vertical	146	359	109.9	-21.5	Pass	
#3	5926.83	23.75	3.83	34.83	62.41	Max Peak	Vertical	146	359	68.2	-5.8	Pass	
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH165 nHT20 mode.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-45	Variant:	802.11n HT-40
Antenna Gain (dBi):	5.50	Modulation:	OFDM
Beam Forming Gain (Y):	3	Duty Cycle (%):	99
Channel Frequency (MHz):	5795.00	Data Rate:	13.50 MBit/s
Power Setting:	91	Tested By:	JMH

Test Measurement Results

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#2	5856.91	46.37	3.84	34.65	84.86	Max Peak	Vertical	146	359	109.9	-25.0	Pass	
#3	5930.52	28.49	3.84	34.84	67.17	Max Peak	Vertical	146	359	68.2	-1.1	Pass	
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH159 nHT40 mode.

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Antenna: AP-ANT-48

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5150 - 5250 MHz

Aruba AP-ANT-48		Band-Edge Freq	Limit 68.2dB μ V/m	Limit 54.0dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11a	5180.00	5150.00	67.42	50.14	57
802.11ac-80	5210.00	5150.00	67.59	46.93	51
802.11n HT-20	5180.00	5150.00	67.72	46.73	57
802.11n HT-40	5190.00	5150.00	67.37	45.66	46

5725 MHz Radiated Lower Band-Edge Emissions

Aruba AP-ANT-48		Band-Edge Freq	Level dB μ V/m	Level dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11a	5725.00	5725.00	66.75	98.29	91
802.11ac-80	5725.00	5725.00	67.15	79.08	63
802.11n HT-20	5725.00	5725.00	67.30	101.79	90
802.11n HT-40	5725.00	5725.00	65.32	91.90	91

5850 MHz Radiated Higher Band-Edge Emissions

Aruba AP-ANT-48		Band-Edge Freq	Level dB μ V/m	Level dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11a	5850.00	5850.00	66.60	85.24	91
802.11ac-80	5850.00	5850.00	63.95	76.45	63
802.11n HT-20	5850.00	5850.00	65.06	89.34	92
802.11n HT-40	5850.00	5850.00	67.22	83.51	89

5150 - 5250 MHz

Aruba AP-ANT-48		Band-Edge Freq	Limit 68.2dB μ V/m	Limit 54.0dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11ac-80+80	5210.00 + 5290.00	5150.00	66.27	46.09	11 d

Click on the links to view the data.

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5150 - 5250 MHz

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-48	Variant:	802.11a
Antenna Gain (dBi):	8.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5180.00	Data Rate:	6.00 MBit/s
Power Setting:	57	Tested By:	OC

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5097.39	12.43	3.58	34.13	50.14	Max Avg	Horizontal	164	7	54.0	-3.9	Pass	
#2	5150.00	29.64	3.67	34.11	67.42	Max Peak	Horizontal	164	7	68.2	-0.8	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 a mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-48	Variant:	802.11ac-80
Antenna Gain (dBi):	8.50	Modulation:	OFDM
Beam Forming Gain (Y):	3	Duty Cycle (%):	99
Channel Frequency (MHz):	5210.00	Data Rate:	29.30 MBit/s
Power Setting:	51	Tested By:	OC

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5150.00	9.15	3.67	34.11	46.93	Max Avg	Horizontal	164	7	54.0	-7.1	Pass	
#2	5150.00	29.81	3.67	34.11	67.59	Max Peak	Horizontal	164	7	68.2	-0.6	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH42 ac 80 mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-48	Variant:	802.11n HT-20
Antenna Gain (dBi):	8.50	Modulation:	OFDM
Beam Forming Gain (Y):	3	Duty Cycle (%):	99
Channel Frequency (MHz):	5180.00	Data Rate:	6.50 MBit/s
Power Setting:	57	Tested By:	OC

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5150.00	8.95	3.67	34.11	46.73	Max Avg	Horizontal	164	7	54.0	-7.3	Pass	
#2	5150.00	29.94	3.67	34.11	67.72	Max Peak	Horizontal	164	7	68.2	-0.5	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 nHT20 mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-48	Variant:	802.11n HT-40
Antenna Gain (dBi):	8.50	Modulation:	OFDM
Beam Forming Gain (Y):	3	Duty Cycle (%):	99
Channel Frequency (MHz):	5190.00	Data Rate:	13.50 MBit/s
Power Setting:	46	Tested By:	OC

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5044.79	7.81	3.65	34.20	45.66	Max Avg	Horizontal	164	7	54.0	-8.3	Pass	
#2	5150.00	29.59	3.67	34.11	67.37	Max Peak	Horizontal	164	7	68.2	-0.9	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH38 nHT40 mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AP-ANT-48	Variant:	802.11ac-80+80
Antenna Gain (dBi):	8.50	Modulation:	OFDM
Beam Forming Gain (Y):	3	Duty Cycle (%):	99
Channel Frequency (MHz):	5210.00 + 5290.00	Data Rate:	58.60 MBit/s
Power Setting:	11 d	Tested By:	OC

Test Measurement Results

4500.00 - 5360.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5141.38	28.45	3.70	34.12	66.27	Max Peak	Horizontal	164	7	68.2	-2.0	Pass	
#2	5150.00	8.31	3.67	34.11	46.09	Max Avg	Horizontal	164	7	54.0	-7.9	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	
#4	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH42-58 ac 80+80 mode.

RBE – Restricted Band-Edge

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5725 - 5850 MHz

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-48	Variant:	802.11a
Antenna Gain (dBi):	8.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5745.00	Data Rate:	6.00 MBit/s
Power Setting:	91	Tested By:	JMH

Test Measurement Results

5600.00 - 5780.00 MHz

Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
#1	5645.38	28.81	3.76	34.18	66.75	Max Peak	Horizontal	154	10	68.2	-1.5	Pass
#2	5720.31	60.14	3.80	34.35	98.29	Max Peak	Horizontal	154	10	111.2	-12.9	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH149 a mode.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-48	Variant:	802.11ac-80
Antenna Gain (dBi):	8.50	Modulation:	OFDM
Beam Forming Gain (Y):	3	Duty Cycle (%):	99
Channel Frequency (MHz):	5775.00	Data Rate:	29.30 MBit/s
Power Setting:	63	Tested By:	JMH

Test Measurement Results

5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5630.59	29.19	3.76	34.20	67.15	Max Peak	Horizontal	154	10	68.2	-1.1	Pass	
#2	5706.24	40.89	3.86	34.33	79.08	Max Peak	Horizontal	154	10	106.9	-27.8	Pass	
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH155 ac 80 mode.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-48	Variant:	802.11n HT-20
Antenna Gain (dBi):	8.50	Modulation:	OFDM
Beam Forming Gain (Y):	3	Duty Cycle (%):	99
Channel Frequency (MHz):	5745.00	Data Rate:	6.50 MBit/s
Power Setting:	90	Tested By:	JMH

Test Measurement Results

5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5647.91	29.37	3.75	34.18	67.30	Max Peak	Horizontal	154	10	68.2	-0.9	Pass	
#2	5721.75	63.64	3.80	34.35	101.79	Max Peak	Horizontal	154	10	115.4	-13.6	Pass	
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH149 nHT20 mode.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-48	Variant:	802.11n HT-40
Antenna Gain (dBi):	8.50	Modulation:	OFDM
Beam Forming Gain (Y):	3	Duty Cycle (%):	99
Channel Frequency (MHz):	5755.00	Data Rate:	13.50 MBit/s
Power Setting:	91	Tested By:	JMH

Test Measurement Results

5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
#1	5647.18	27.39	3.75	34.18	65.32	Max Peak	Horizontal	154	10	68.2	-2.9	Pass
#2	5717.06	53.75	3.81	34.34	91.90	Max Peak	Horizontal	154	10	110.0	-18.1	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH151 nHT40 mode.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-48	Variant:	802.11a
Antenna Gain (dBi):	8.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5825.00	Data Rate:	6.00 MBit/s
Power Setting:	91	Tested By:	JMH

Test Measurement Results

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#2	5863.83	46.74	3.84	34.66	85.24	Max Peak	Horizontal	154	10	108.1	-22.9	Pass	
#3	5927.29	27.94	3.83	34.83	66.60	Max Peak	Horizontal	154	10	68.2	-1.6	Pass	
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH165 a mode.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-48	Variant:	802.11ac-80
Antenna Gain (dBi):	8.50	Modulation:	OFDM
Beam Forming Gain (Y):	3	Duty Cycle (%):	99
Channel Frequency (MHz):	5775.00	Data Rate:	29.30 MBit/s
Power Setting:	63	Tested By:	JMH

Test Measurement Results

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#2	5870.74	37.96	3.81	34.68	76.45	Max Peak	Horizontal	154	10	107.0	-30.6	Pass	
#3	5930.98	25.27	3.84	34.84	63.95	Max Peak	Horizontal	154	10	68.2	-4.3	Pass	
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH155 ac 80 mode.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-48	Variant:	802.11n HT-20
Antenna Gain (dBi):	8.50	Modulation:	OFDM
Beam Forming Gain (Y):	3	Duty Cycle (%):	99
Channel Frequency (MHz):	5825.00	Data Rate:	6.50 MBit/s
Power Setting:	92	Tested By:	JMH

Test Measurement Results

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#2	5856.45	50.86	3.84	34.64	89.34	Max Peak	Horizontal	154	10	110.5	-21.2	Pass	
#3	5921.76	26.39	3.85	34.82	65.06	Max Peak	Horizontal	154	10	70.4	-5.4	Pass	
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH165 nHT20 mode.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AP-ANT-48	Variant:	802.11n HT-40
Antenna Gain (dBi):	8.50	Modulation:	OFDM
Beam Forming Gain (Y):	3	Duty Cycle (%):	99
Channel Frequency (MHz):	5795.00	Data Rate:	13.50 MBit/s
Power Setting:	89	Tested By:	JMH

Test Measurement Results

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#2	5861.52	45.00	3.85	34.66	83.51	Max Peak	Horizontal	154	2	108.5	-25.0	Pass	
#3	5924.53	28.56	3.84	34.82	67.22	Max Peak	Horizontal	154	2	68.2	-1.0	Pass	
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH159 nHT40 mode.

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Antenna: Metal Sheet

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5150 - 5250 MHz

Aruba Metal Sheet		Band-Edge Freq	Limit 68.2dB μ V/m	Limit 54.0dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11a	5180.00	5150.00	67.62	48.41	72
802.11ac-80	5210.00	5150.00	67.92	44.37	55
802.11n HT-20	5180.00	5150.00	67.85	48.41	67
802.11n HT-40	5190.00	5150.00	67.05	45.39	56

5725 MHz Radiated Lower Band-Edge Emissions

Aruba Metal Sheet		Band-Edge Freq	Level dB μ V/m	Level dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11a	5725.00	5725.00	65.62	94.82	92
802.11ac-80	5725.00	5725.00	67.66	67.94	81
802.11n HT-20	5725.00	5725.00	67.59	67.96	95
802.11n HT-40	5725.00	5725.00	67.29	69.17	92

5850 MHz Radiated Higher Band-Edge Emissions

Aruba Metal Sheet		Band-Edge Freq	Level dB μ V/m	Level dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11a	5850.00	5850.00	66.55	88.81	91
802.11ac-80	5850.00	5850.00	66.34	65.74	81
802.11n HT-20	5850.00	5850.00	64.23	86.07	100
802.11n HT-40	5850.00	5850.00	66.33	76.19	100

5150 - 5250 MHz

Aruba Metal Sheet		Band-Edge Freq	Limit 68.2dB μ V/m	Limit 54.0dB μ V/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dB μ V/m	dB μ V/m	
802.11ac-80+80	5210.00 + 5290.00	5150.00	65.24	43.21	13 d

Click on the links to view the data.

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5150 - 5250 MHz

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Metal Sheet	Variant:	802.11a
Antenna Gain (dBi):	2.70	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5180.00	Data Rate:	6.00 MBit/s
Power Setting:	72	Tested By:	JMH

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB _μ V	Cable Loss dB	AF dB	Level dB _μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB _μ V/m	Margin dB	Pass /Fail	
#1	5145.49	29.82	3.69	34.11	67.62	Max Peak	Vertical	198	292	68.2	-0.6	Pass	
#2	5146.99	10.62	3.68	34.11	48.41	Max Avg	Vertical	198	292	54.0	-5.6	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 a mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Metal Sheet	Variant:	802.11ac-80
Antenna Gain (dBi):	2.70	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5210.00	Data Rate:	29.30 MBit/s
Power Setting:	55	Tested By:	JMH

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5150.00	6.59	3.67	34.11	44.37	Max Avg	Vertical	198	292	54.0	-9.6	Pass	
#2	5150.00	30.14	3.67	34.11	67.92	Max Peak	Vertical	198	292	68.2	-0.3	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH42 ac 80 mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Metal Sheet	Variant:	802.11n HT-20
Antenna Gain (dBi):	2.70	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5180.00	Data Rate:	6.50 MBit/s
Power Setting:	67	Tested By:	JMH

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5148.50	10.62	3.68	34.11	48.41	Max Avg	Vertical	198	292	54.0	-5.6	Pass	
#2	5148.50	30.06	3.68	34.11	67.85	Max Peak	Vertical	198	292	68.2	-0.4	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 nHT20 mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Metal Sheet	Variant:	802.11n HT-40
Antenna Gain (dBi):	2.70	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5190.00	Data Rate:	13.50 MBit/s
Power Setting:	56	Tested By:	JMH

Test Measurement Results

4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5148.50	7.60	3.68	34.11	45.39	Max Avg	Vertical	198	292	54.0	-8.6	Pass	
#2	5148.50	29.26	3.68	34.11	67.05	Max Peak	Vertical	198	292	68.2	-1.2	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH38 nHT40 mode.

RBE – Restricted Band-Edge

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Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Metal Sheet	Variant:	802.11ac-80+80
Antenna Gain (dBi):	2.70	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5210.00 + 5290.00	Data Rate:	56.80 MBit/s
Power Setting:	13 d	Tested By:	JMH

Test Measurement Results

4500.00 - 5350.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5150.00	5.43	3.67	34.11	43.21	Max Avg	Vertical	198	292	54.0	-10.8	Pass	
#2	5150.00	27.46	3.67	34.11	65.24	Max Peak	Vertical	198	292	68.2	-3.0	Pass	
#3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	
#4	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH50 ac 80+80 mode.

RBE – Restricted Band-Edge

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5725 - 5850 MHz

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Metal Sheet	Variant:	802.11a
Antenna Gain (dBi):	2.70	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5745.00	Data Rate:	6.00 MBit/s
Power Setting:	92	Tested By:	OC

Test Measurement Results

5600.00 - 5780.00 MHz

Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
#1	5649.42	27.69	3.75	34.18	65.62	Max Peak	Horizontal	159	285	68.2	-2.6	Pass
#2	5719.76	56.67	3.80	34.35	94.82	Max Peak	Horizontal	159	285	110.1	-15.3	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH149 a mode.

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Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_BE_Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Metal Sheet	Variant:	802.11ac-80
Antenna Gain (dBi):	2.70	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5775.00	Data Rate:	29.30 MBit/s
Power Setting:	81	Tested By:	OC

Test Measurement Results

5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5645.64	30.01	3.75	34.18	67.94	Max Peak	Horizontal	159	285	68.2	-0.3	Pass	
#2	5650.07	29.73	3.75	34.18	67.66	Max Peak	Horizontal	159	285	68.2	-0.6	Pass	
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH155 ac 80 mode.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Metal Sheet	Variant:	802.11n HT-20
Antenna Gain (dBi):	2.70	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5745.00	Data Rate:	6.50 MBit/s
Power Setting:	95	Tested By:	OC

Test Measurement Results

5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5647.08	30.03	3.75	34.18	67.96	Max Peak	Horizontal	159	285	68.2	-0.3	Pass	
#2	5650.43	29.66	3.75	34.18	67.59	Max Peak	Horizontal	159	285	68.2	-0.6	Pass	
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH149 nHT20 mode.

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Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Metal Sheet	Variant:	802.11n HT-40
Antenna Gain (dBi):	2.70	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5755.00	Data Rate:	13.50 MBit/s
Power Setting:	92	Tested By:	OC

Test Measurement Results

5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#1	5646.72	29.36	3.75	34.18	67.29	Max Peak	Horizontal	159	285	68.2	-0.9	Pass	
#2	5659.09	31.20	3.77	34.20	69.17	Max Peak	Horizontal	159	285	74.9	-5.7	Pass	
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH151 nHT40 mode.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Metal Sheet	Variant:	802.11a
Antenna Gain (dBi):	2.70	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5825.00	Data Rate:	6.00 MBit/s
Power Setting:	91	Tested By:	OC

Test Measurement Results

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#2	5857.84	50.31	3.85	34.65	88.81	Max Peak	Horizontal	159	285	110.0	-21.2	Pass	
#3	5917.15	27.89	3.86	34.80	66.55	Max Peak	Horizontal	159	285	74.1	-7.6	Pass	
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH165 a mode.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Metal Sheet	Variant:	802.11ac-80
Antenna Gain (dBi):	2.70	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5775.00	Data Rate:	29.30 MBit/s
Power Setting:	81	Tested By:	OC

Test Measurement Results

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#2	5919.60	27.68	3.85	34.81	66.34	Max Peak	Horizontal	159	285	72.2	-5.9	Pass	
#3	5940.20	26.99	3.89	34.86	65.74	Max Peak	Horizontal	159	285	68.2	-2.5	Pass	
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH155 ac 80 mode.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Metal Sheet	Variant:	802.11n HT-20
Antenna Gain (dBi):	2.70	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5825.00	Data Rate:	6.50 MBit/s
Power Setting:	100	Tested By:	OC

Test Measurement Results

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#2	5853.23	47.62	3.82	34.63	86.07	Max Peak	Horizontal	159	285	115.4	-29.3	Pass	
#3	5918.54	25.57	3.85	34.81	64.23	Max Peak	Horizontal	159	285	72.6	-8.4	Pass	
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH165 nHT20 mode.

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Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba Metal Sheet	Variant:	802.11n HT-40
Antenna Gain (dBi):	2.70	Modulation:	OFDM
Beam Forming Gain (Y):	6	Duty Cycle (%):	99
Channel Frequency (MHz):	5795.00	Data Rate:	13.50 MBit/s
Power Setting:	100	Tested By:	OC

Test Measurement Results

5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
#2	5880.42	37.67	3.81	34.71	76.19	Max Peak	Horizontal	159	285	101.5	-25.3	Pass	
#3	5921.30	27.67	3.85	34.81	66.33	Max Peak	Horizontal	159	285	71.2	-4.8	Pass	
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH159 nHT40 mode.

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A. APPENDIX - GRAPHICAL IMAGES

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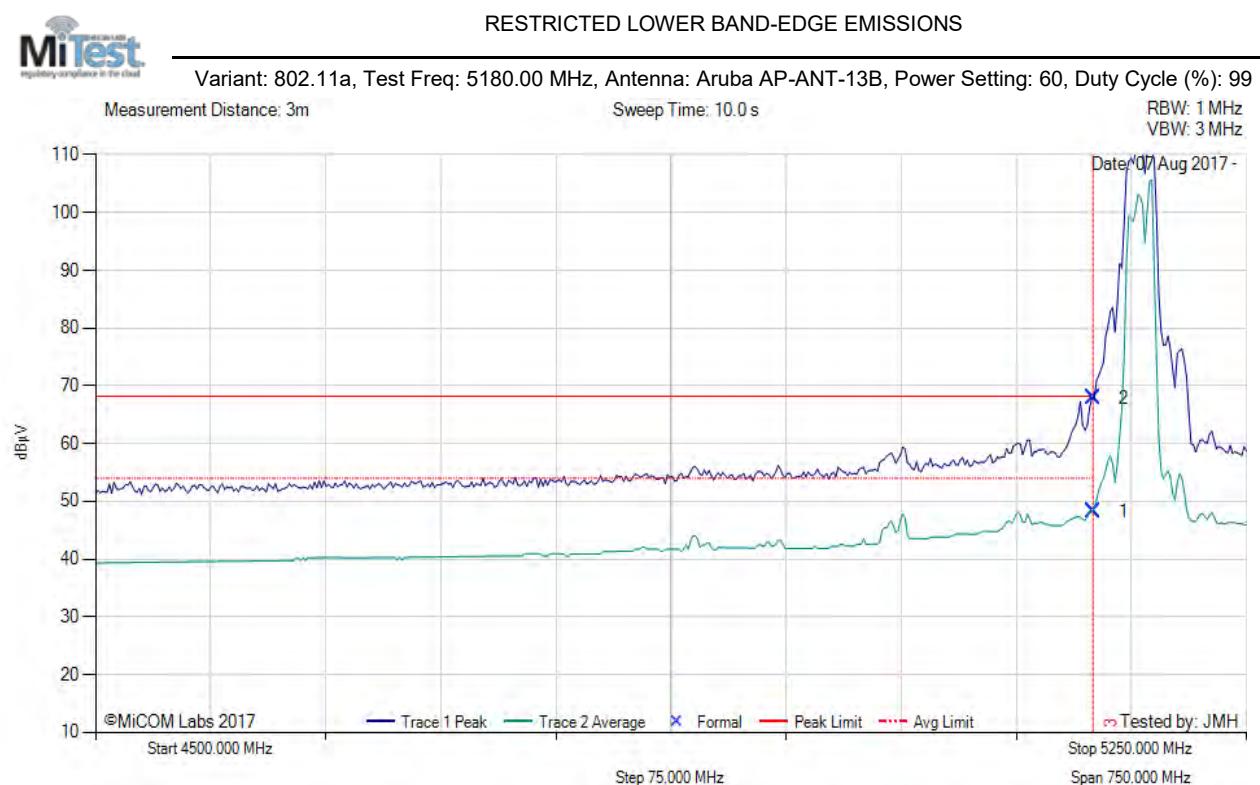
A.1. Emissions

A.1.1. Radiated Emissions

A.1.1.1. Restricted Edge & Band-Edge Emissions

Antenna: AP-ANT-13B

5150 - 5250 MHz



4500.00 - 5250.00 MHz												
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
1	5150.00	10.46	3.67	34.11	48.24	Max Avg	Horizontal	145	334	54.0	-5.8	Pass
2	5150.00	30.11	3.67	34.11	67.89	Max Peak	Horizontal	145	334	68.2	-0.3	Pass
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--

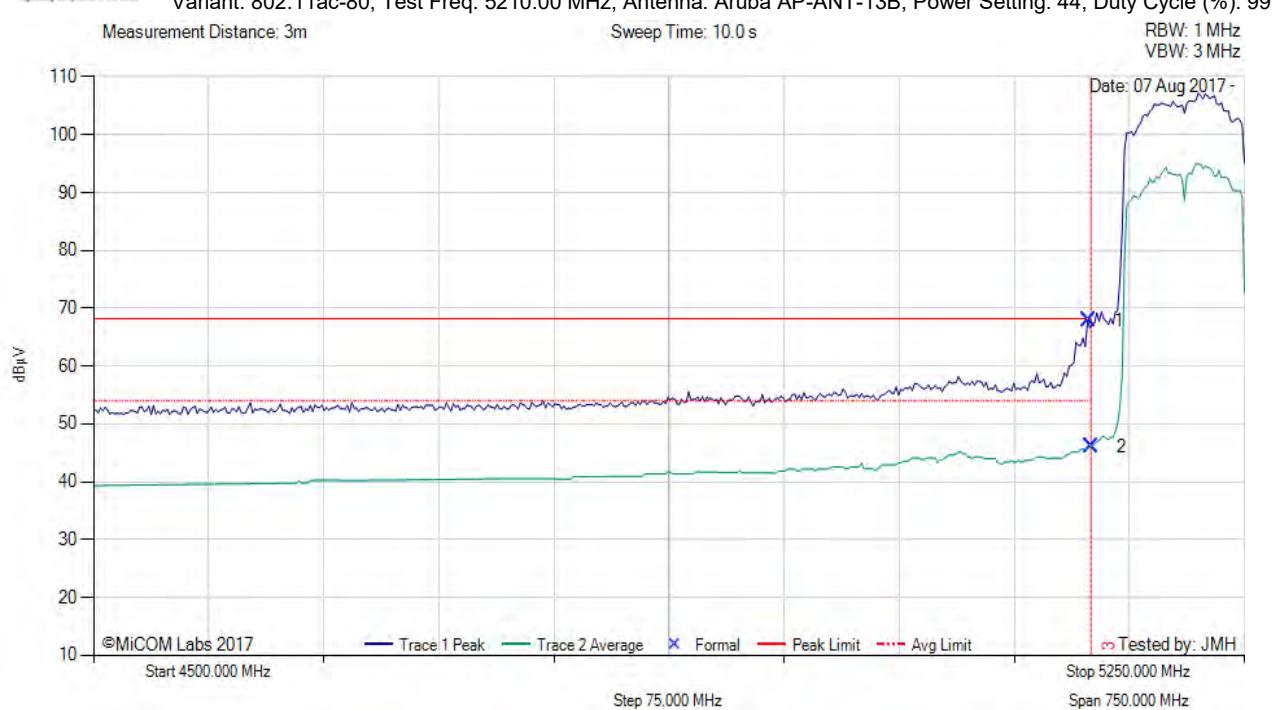
Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 a mode.

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RESTRICTED LOWER BAND-EDGE EMISSIONS



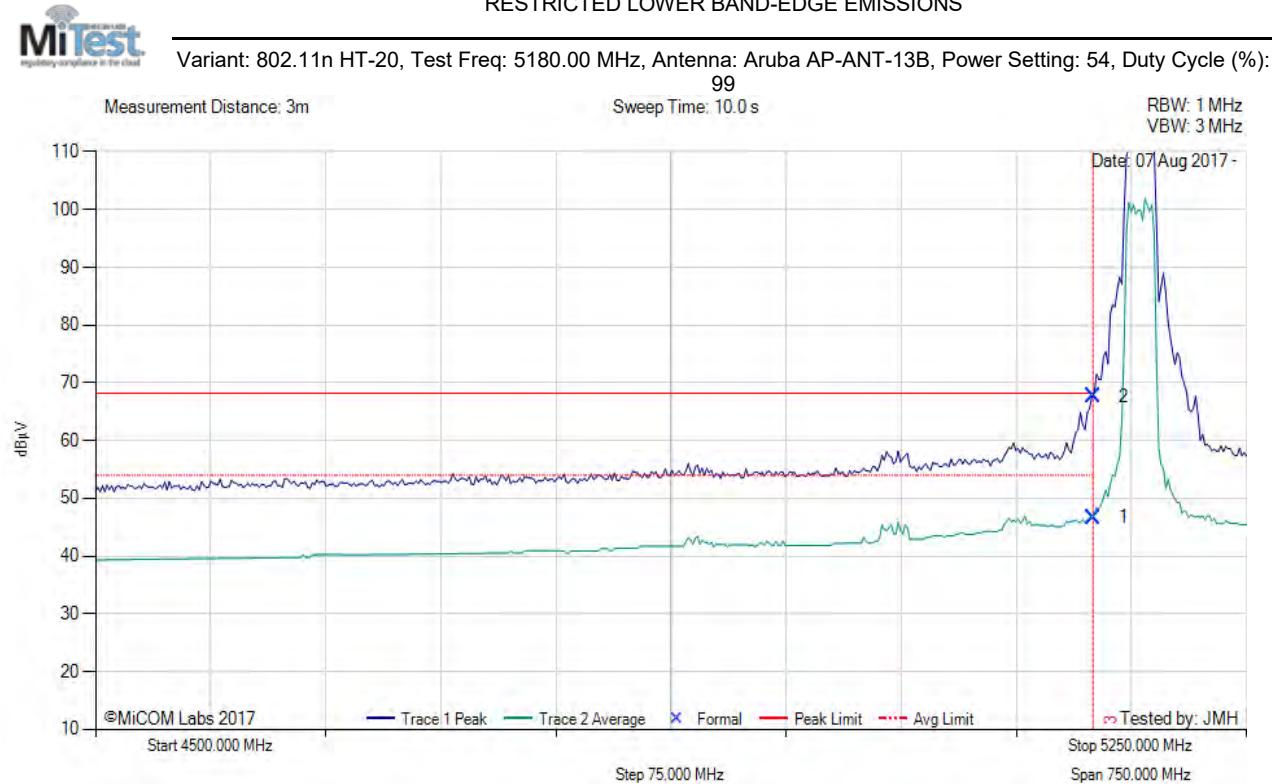
4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5148.50	30.13	3.68	34.11	67.92	Max Peak	Horizontal	145	334	68.2	-0.3	Pass	
2	5150.00	8.30	3.67	34.11	46.08	Max Avg	Horizontal	145	334	54.0	-7.9	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH42 ac 80 mode.

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RESTRICTED LOWER BAND-EDGE EMISSIONS



4500.00 - 5250.00 MHz												
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
1	5150.00	8.95	3.67	34.11	46.73	Max Avg	Horizontal	145	334	54.0	-7.3	Pass
2	5150.00	29.81	3.67	34.11	67.59	Max Peak	Horizontal	145	334	68.2	-0.6	Pass
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--

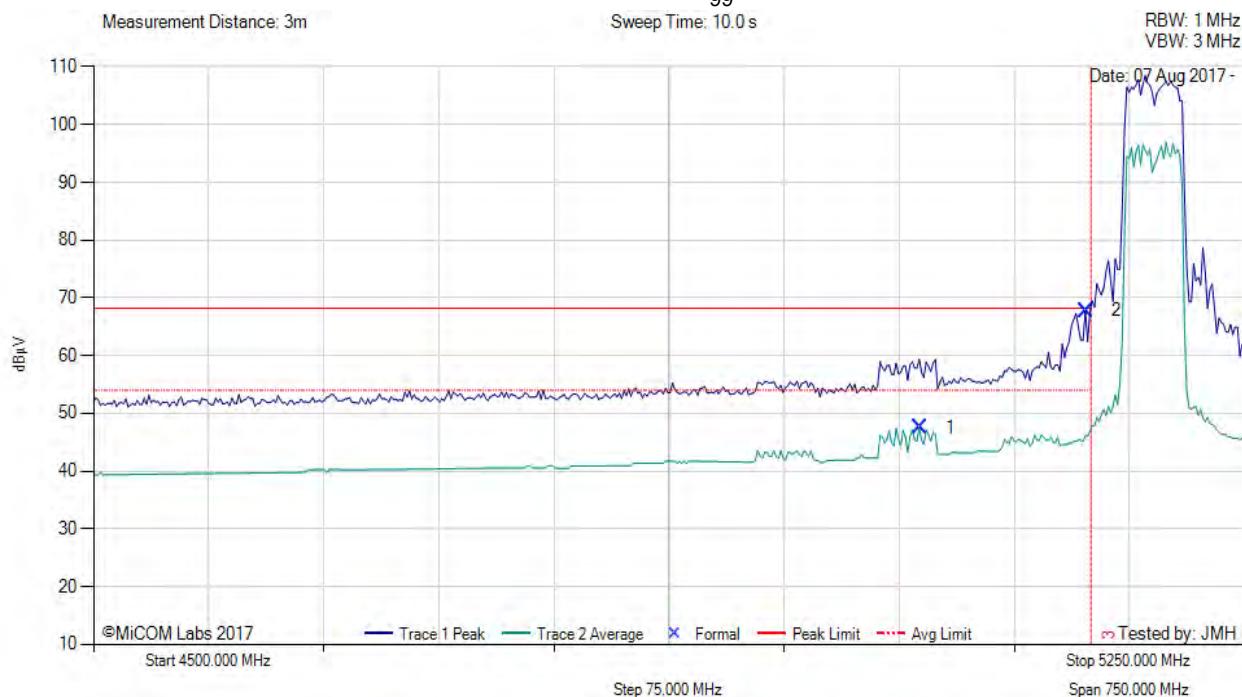
Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 nHT20 mode.

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RESTRICTED LOWER BAND-EDGE EMISSIONS



Variant: 802.11n HT-40, Test Freq: 5190.00 MHz, Antenna: Aruba AP-ANT-13B, Power Setting: 48, Duty Cycle (%): 99



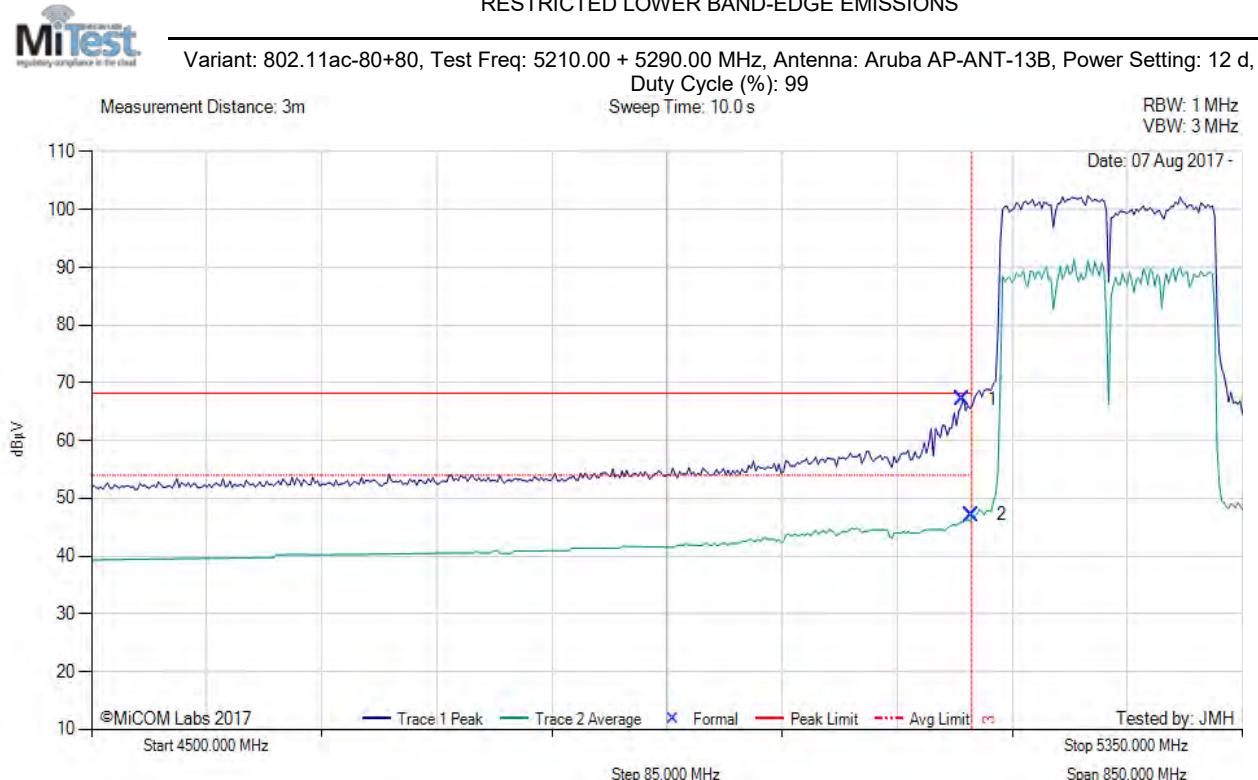
4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5038.78	9.68	3.68	34.21	47.57	Max Avg	Horizontal	145	334	54.0	-6.4	Pass	
2	5146.99	30.00	3.68	34.11	67.79	Max Peak	Horizontal	145	334	68.2	-0.4	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH38 nHT40 mode.

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RESTRICTED LOWER BAND-EDGE EMISSIONS



4500.00 - 5350.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5143.19	29.40	3.70	34.12	67.22	Max Peak	Horizontal	143	330	68.2	-1.0	Pass	
2	5150.00	9.35	3.67	34.11	47.13	Max Avg	Horizontal	143	330	54.0	-6.9	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH42-58 ac 80+80 mode.

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5725 - 5850 MHz

5725 MHz RADIATED BAND-EDGE EMISSIONS

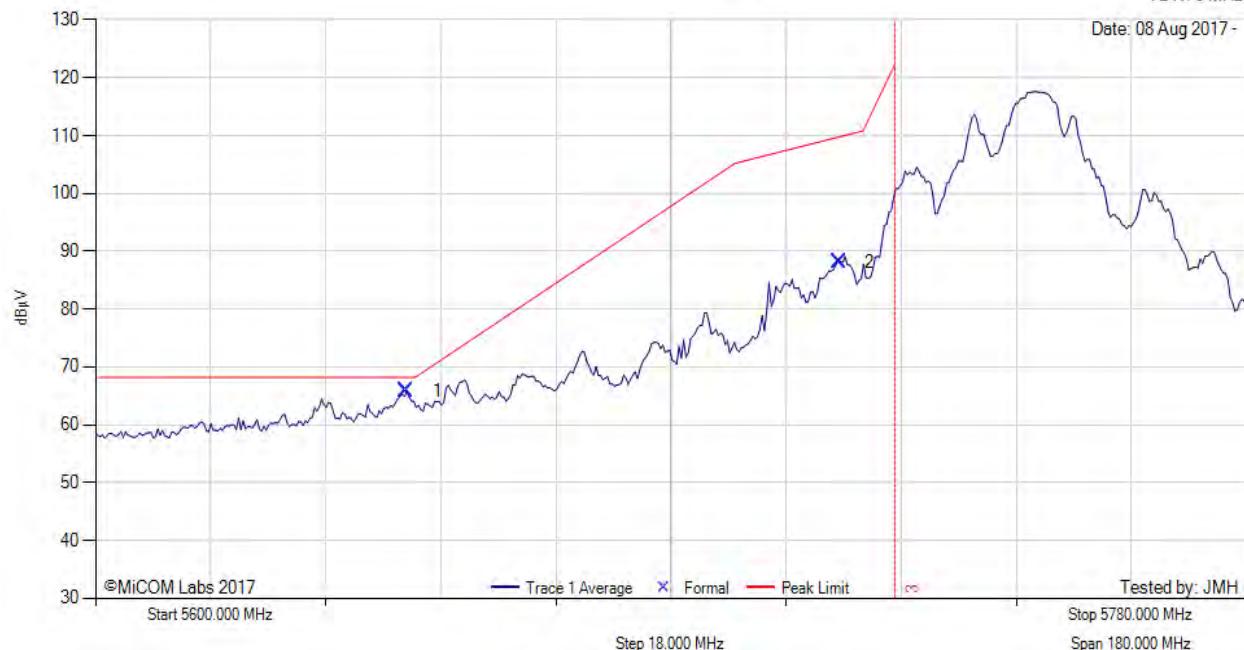


Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: Aruba AP-ANT-13B, Power Setting: 91, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 10.0 s

RBW: 1 MHz
VBW: 3 MHz



5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5648.63	27.90	3.75	34.18	65.83	Max Peak	Horizontal	100	331	68.2	-2.4	Pass	
2	5716.34	50.03	3.81	34.34	88.18	Max Peak	Horizontal	100	331	109.7	-21.5	Pass	
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH149 a mode.

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5725 MHz RADIATED BAND-EDGE EMISSIONS



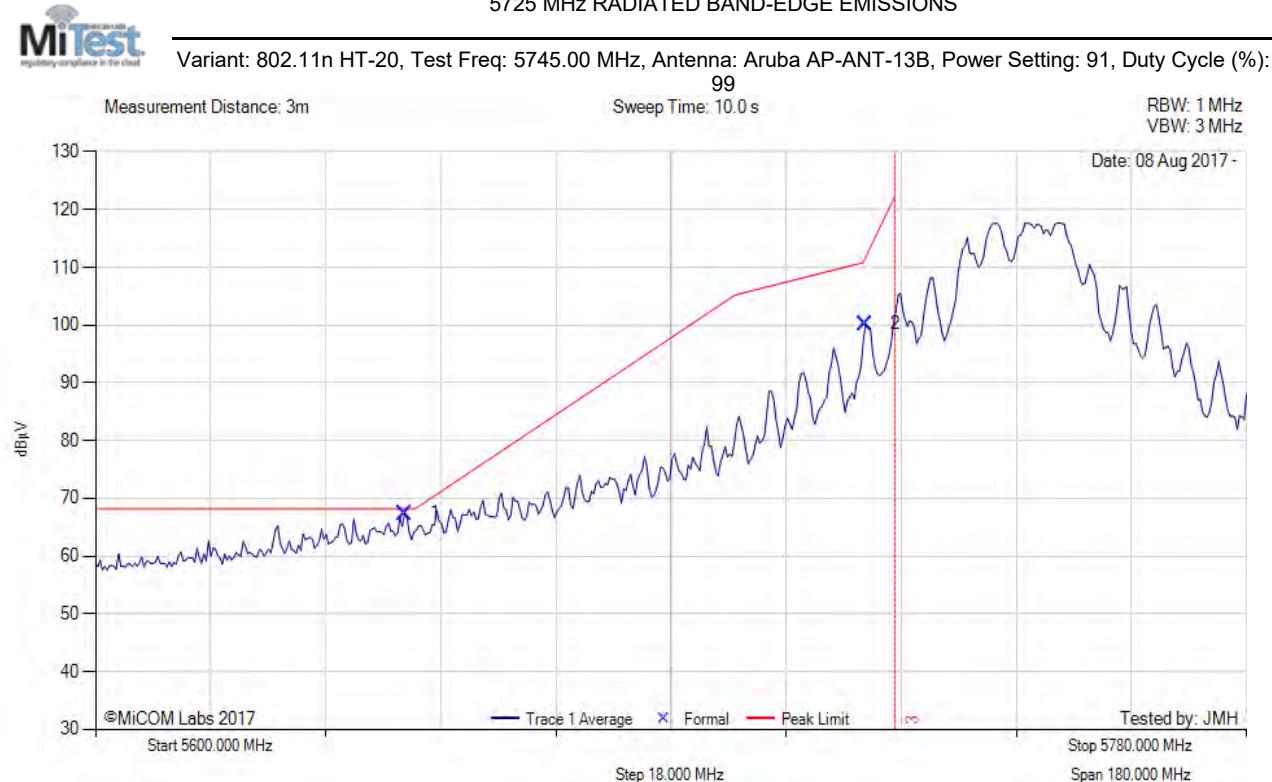
5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5639.61	29.70	3.76	34.19	67.65	Max Peak	Horizontal	100	331	68.2	-0.6	Pass	
2	5714.18	43.73	3.82	34.34	81.89	Max Peak	Horizontal	100	331	109.1	-27.2	Pass	
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH155 ac 80 mode.

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5725 MHz RADIATED BAND-EDGE EMISSIONS

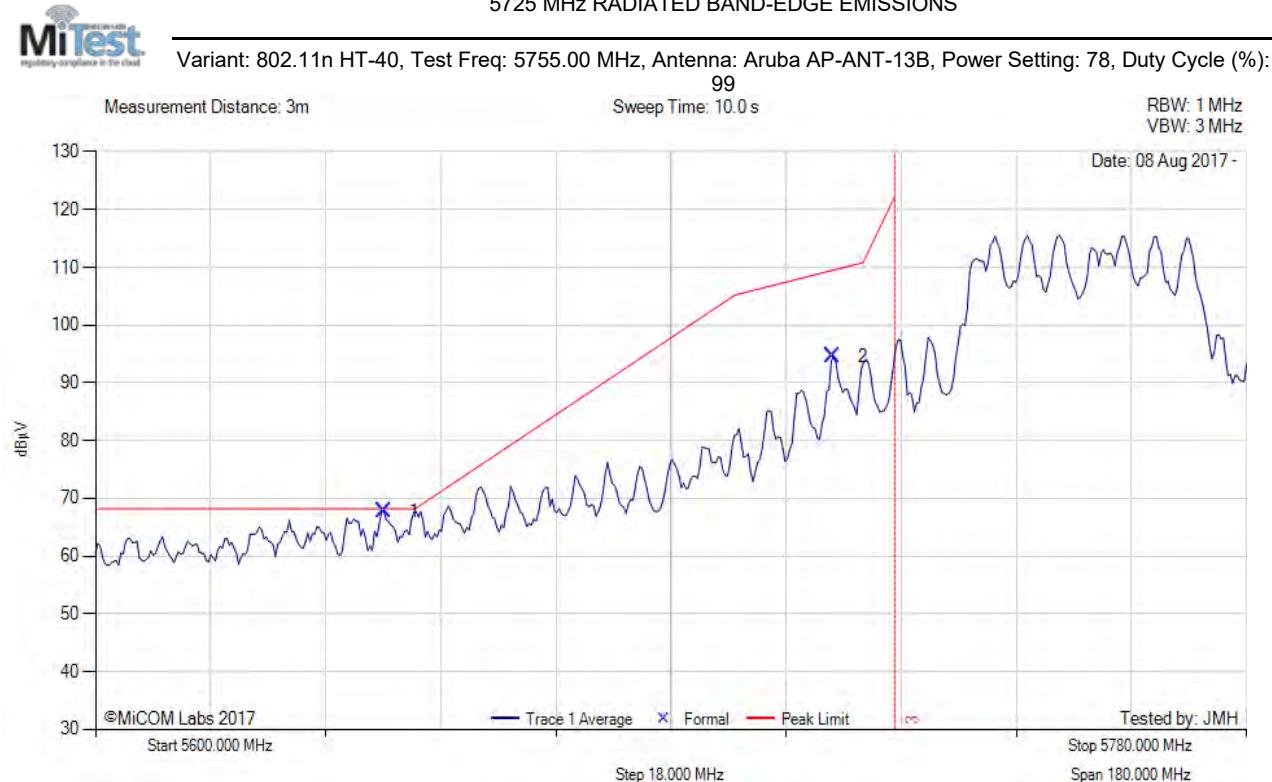


5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
1	5648.27	29.51	3.75	34.18	67.44	Max Peak	Horizontal	100	331	68.2	-0.8	Pass
2	5720.31	62.08	3.80	34.35	100.23	Max Peak	Horizontal	100	331	109.7	-9.5	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH149 nHT20 mode.

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5725 MHz RADIATED BAND-EDGE EMISSIONS



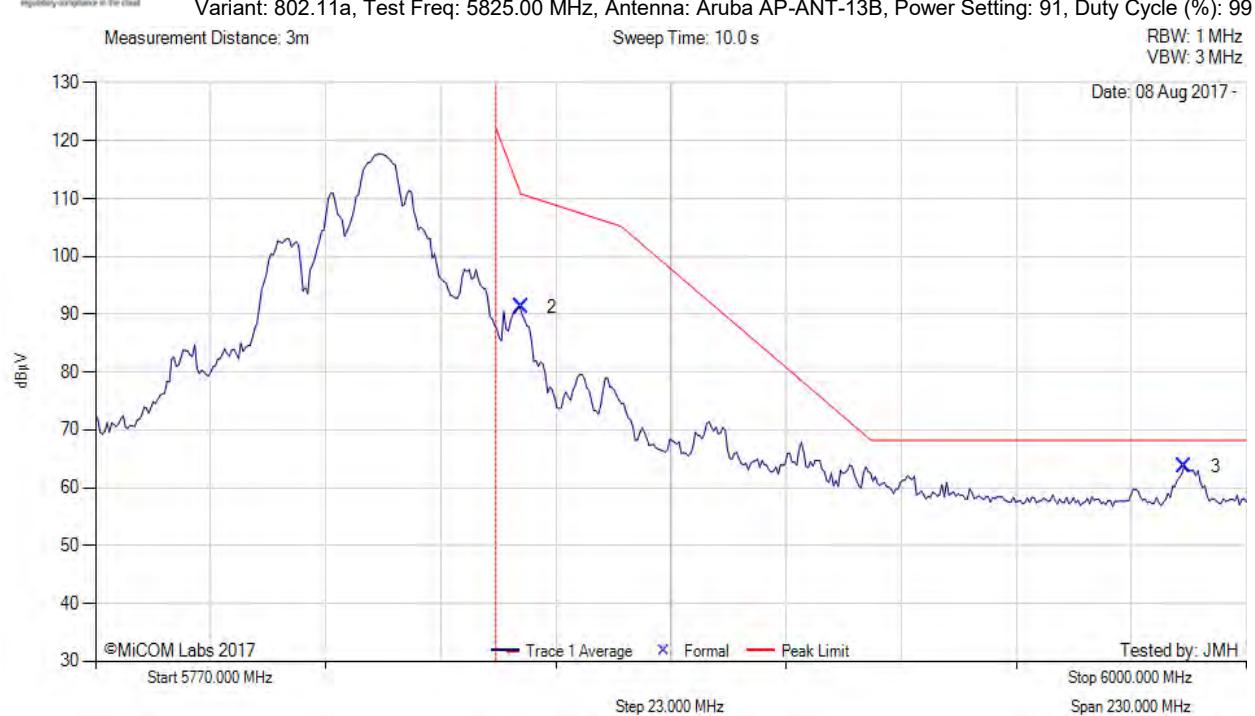
5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
1	5645.02	29.85	3.76	34.18	67.79	Max Peak	Horizontal	100	331	68.2	-0.4	Pass
2	5715.26	56.42	3.81	34.34	94.57	Max Peak	Horizontal	100	331	109.4	-14.8	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH151 nHT40 mode.

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5850 MHz RADIATED BAND-EDGE EMISSIONS



5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
2	5855.15	52.74	3.83	34.64	91.21	Max Peak	Horizontal	100	331	110.1	-18.9	Pass	
3	5987.68	24.93	3.89	34.93	63.75	Max Peak	Horizontal	100	331	68.2	-4.5	Pass	
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH149 a mode.

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5850 MHz RADIATED BAND-EDGE EMISSIONS



5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
2	5856.91	38.35	3.84	34.65	76.84	Max Peak	Horizontal	100	331	109.9	-33.1	Pass	
3	5928.22	23.87	3.83	34.83	62.53	Max Peak	Horizontal	100	331	68.2	-5.7	Pass	
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH155 ac 80 mode.

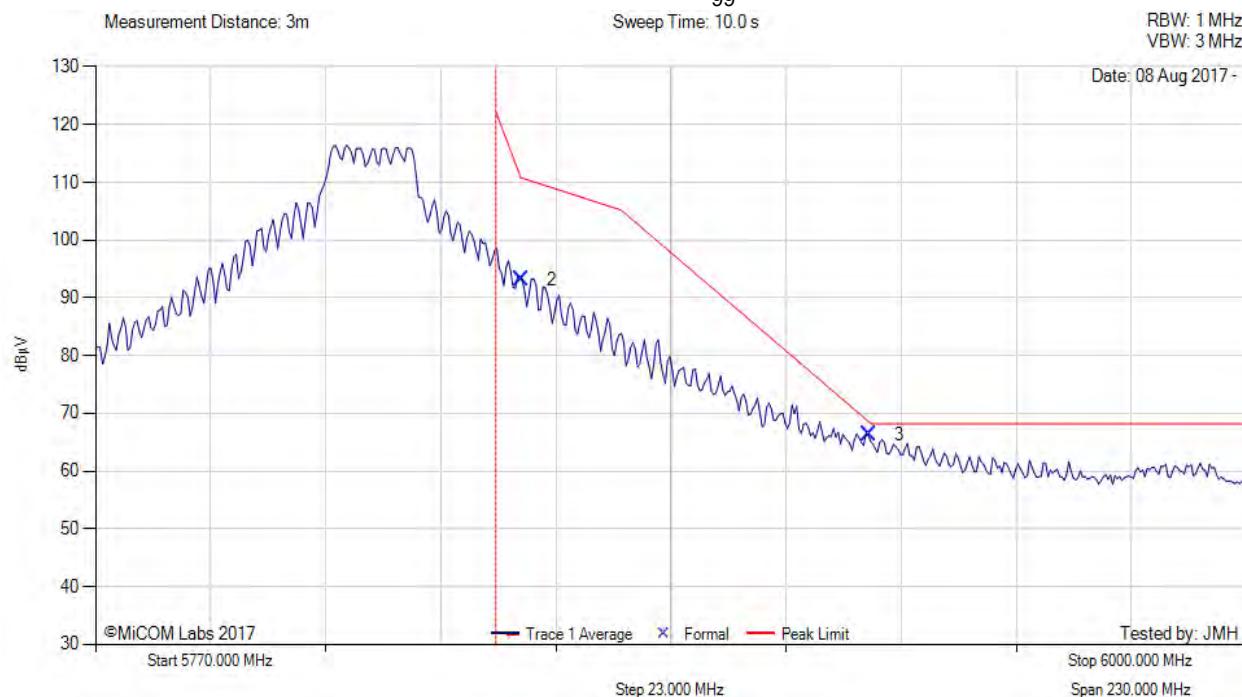
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5850 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 802.11n HT-20, Test Freq: 5825.00 MHz, Antenna: Aruba AP-ANT-13B, Power Setting: 94, Duty Cycle (%): 99



5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
2	5855.07	54.72	3.83	34.64	93.19	Max Peak	Horizontal	100	331	110.2	-17.0	Pass	
3	5924.53	27.66	3.84	34.82	66.32	Max Peak	Horizontal	100	331	68.2	-1.9	Pass	
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

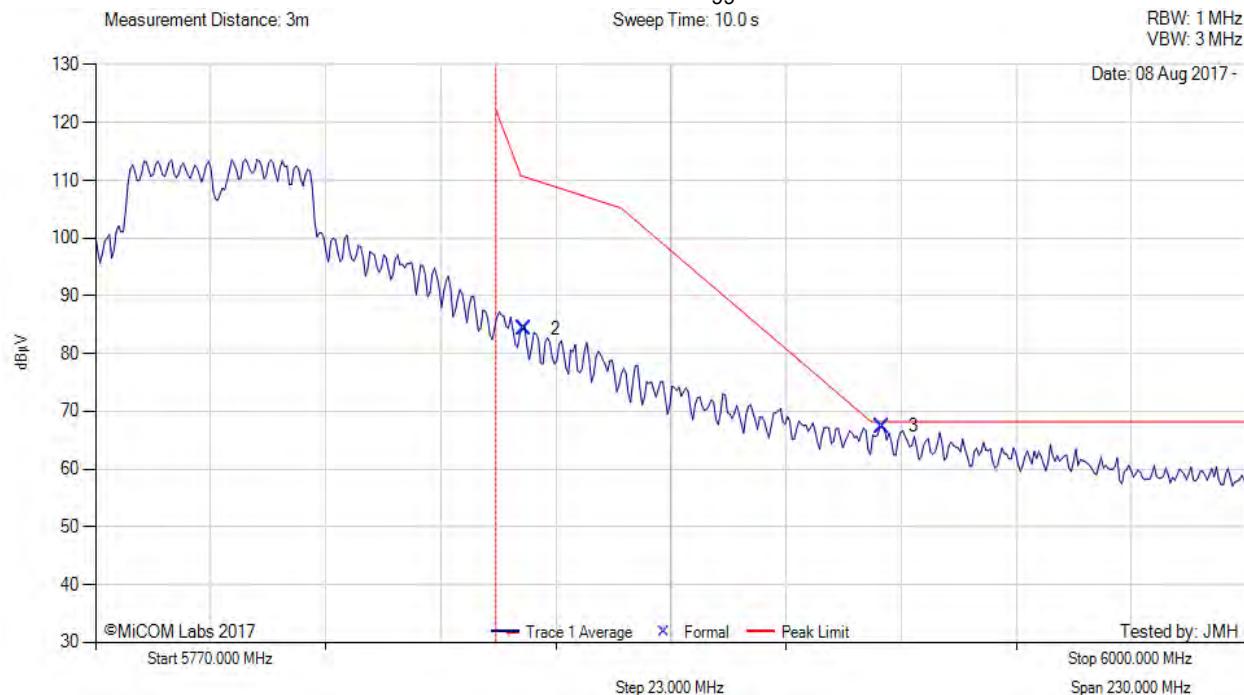
Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH165 nHT20 mode.

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5850 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 802.11n HT-40, Test Freq: 5795.00 MHz, Antenna: Aruba AP-ANT-13B, Power Setting: 91, Duty Cycle (%): 99



5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
2	5855.77	45.89	3.82	34.63	84.34	Max Peak	Horizontal	100	331	109.8	-25.5	Pass	
3	5927.29	28.78	3.83	34.83	67.44	Max Peak	Horizontal	100	331	68.2	-0.8	Pass	
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH159 nHT40 mode.

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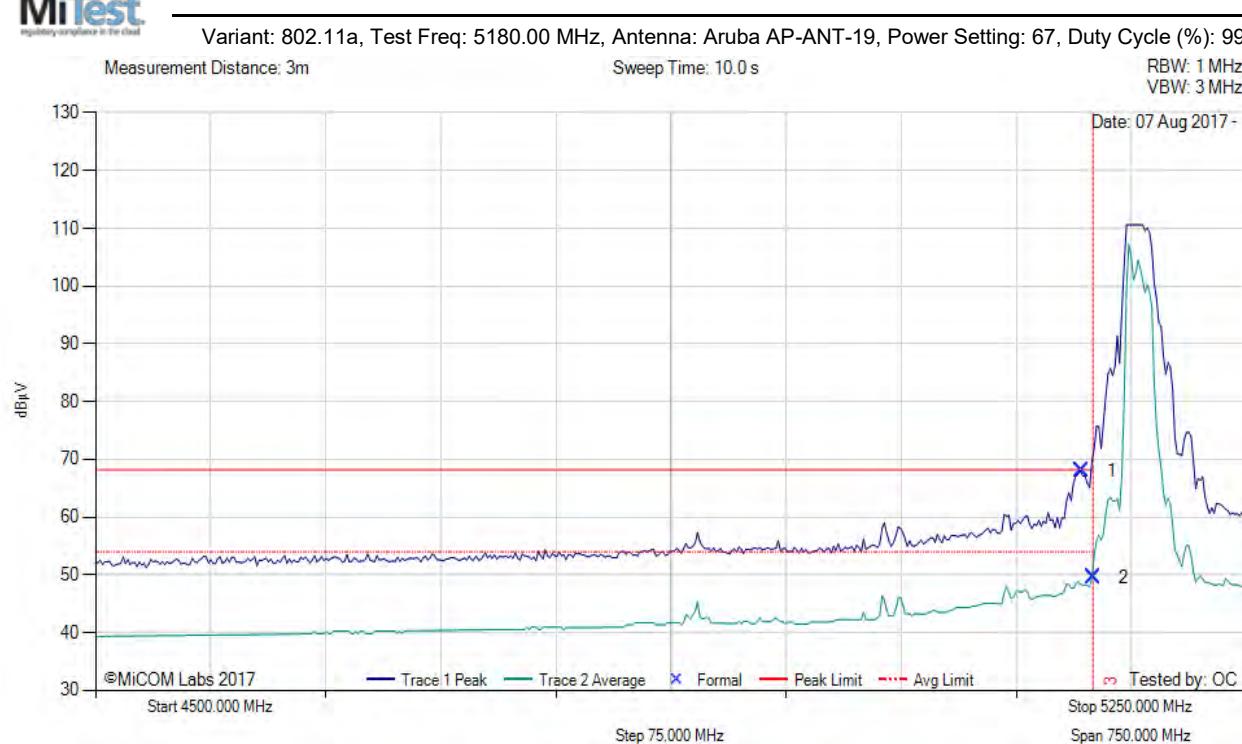
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Antenna: AP-ANT-19

5150 - 5250 MHz



RESTRICTED LOWER BAND-EDGE EMISSIONS



4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5142.48	30.15	3.70	34.12	67.97	Max Peak	Vertical	166	140	68.2	-0.3	Pass	
2	5150.00	11.75	3.67	34.11	49.53	Max Avg	Vertical	166	140	54.0	-4.5	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

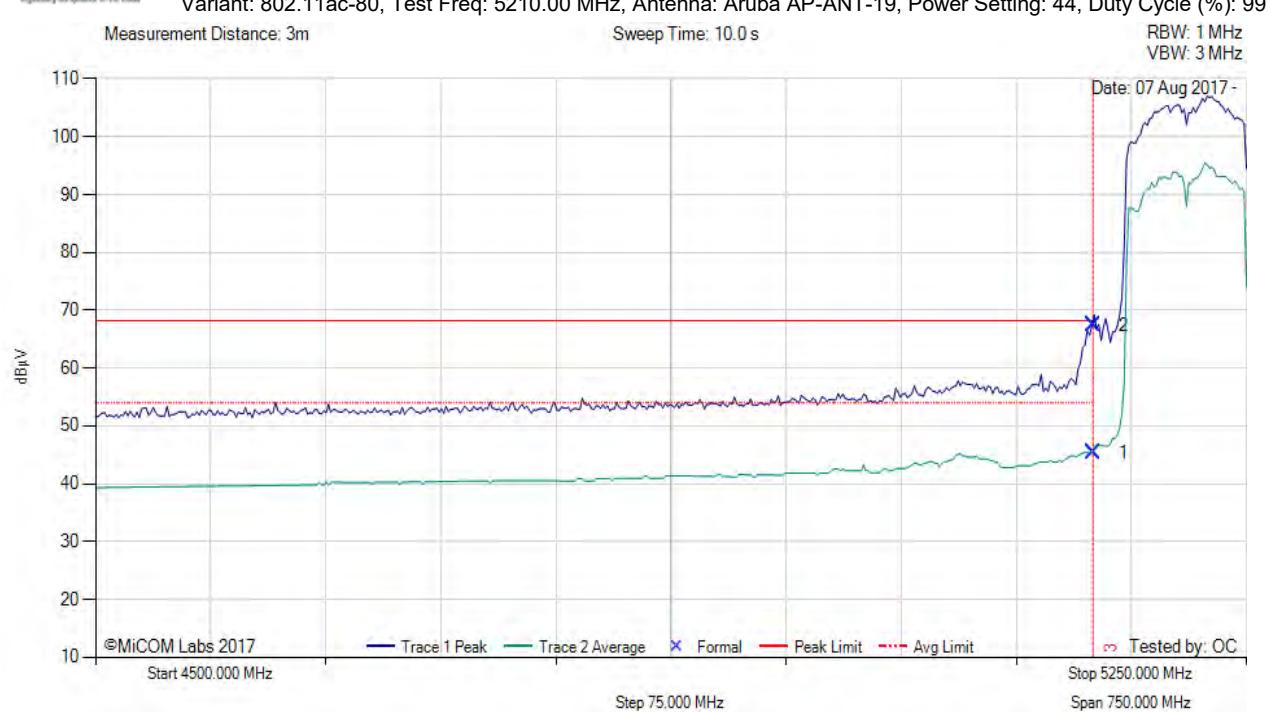
Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 a mode.

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RESTRICTED LOWER BAND-EDGE EMISSIONS



4500.00 - 5250.00 MHz												
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
1	5150.00	7.61	3.67	34.11	45.39	Max Avg	Vertical	166	140	54.0	-8.6	Pass
2	5150.00	29.57	3.67	34.11	67.35	Max Peak	Vertical	166	140	68.2	-0.9	Pass
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH42 ac 80 mode.

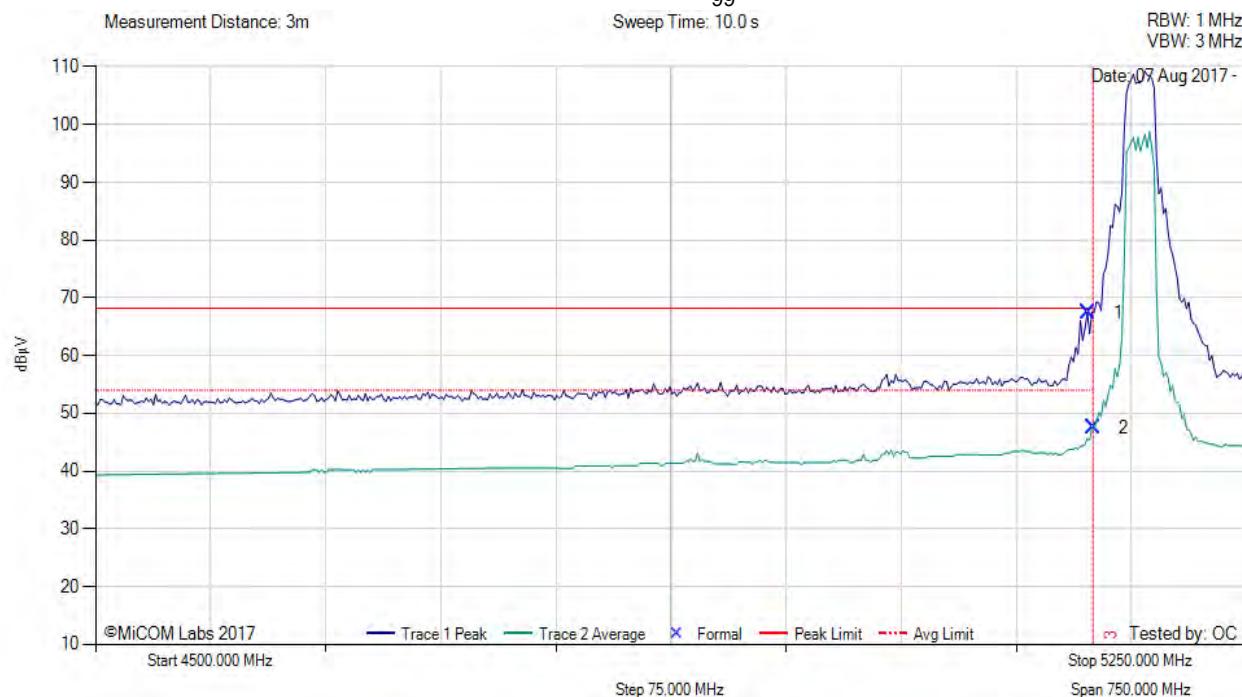
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RESTRICTED LOWER BAND-EDGE EMISSIONS



Variant: 802.11n HT-20, Test Freq: 5180.00 MHz, Antenna: Aruba AP-ANT-19, Power Setting: 65, Duty Cycle (%): 99



4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5146.99	29.57	3.68	34.11	67.36	Max Peak	Vertical	166	140	68.2	-0.9	Pass	
2	5150.00	9.74	3.67	34.11	47.52	Max Avg	Vertical	166	140	54.0	-6.5	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 nHT20 mode.

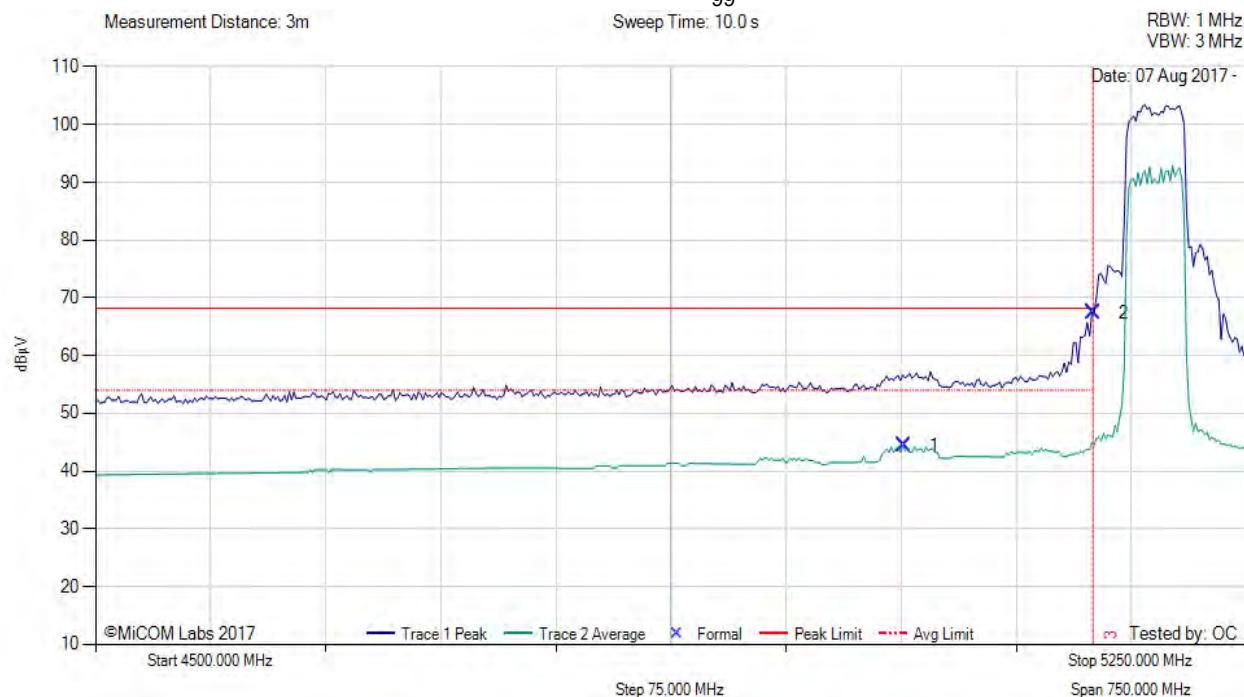
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RESTRICTED LOWER BAND-EDGE EMISSIONS



Variant: 802.11n HT-40, Test Freq: 5190.00 MHz, Antenna: Aruba AP-ANT-19, Power Setting: 54, Duty Cycle (%): 99



4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5026.75	6.53	3.69	34.21	44.43	Max Avg	Vertical	166	140	54.0	-9.6	Pass	
2	5150.00	29.66	3.67	34.11	67.44	Max Peak	Vertical	166	140	68.2	-0.8	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH38 nHT40 mode.

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RESTRICTED LOWER BAND-EDGE EMISSIONS

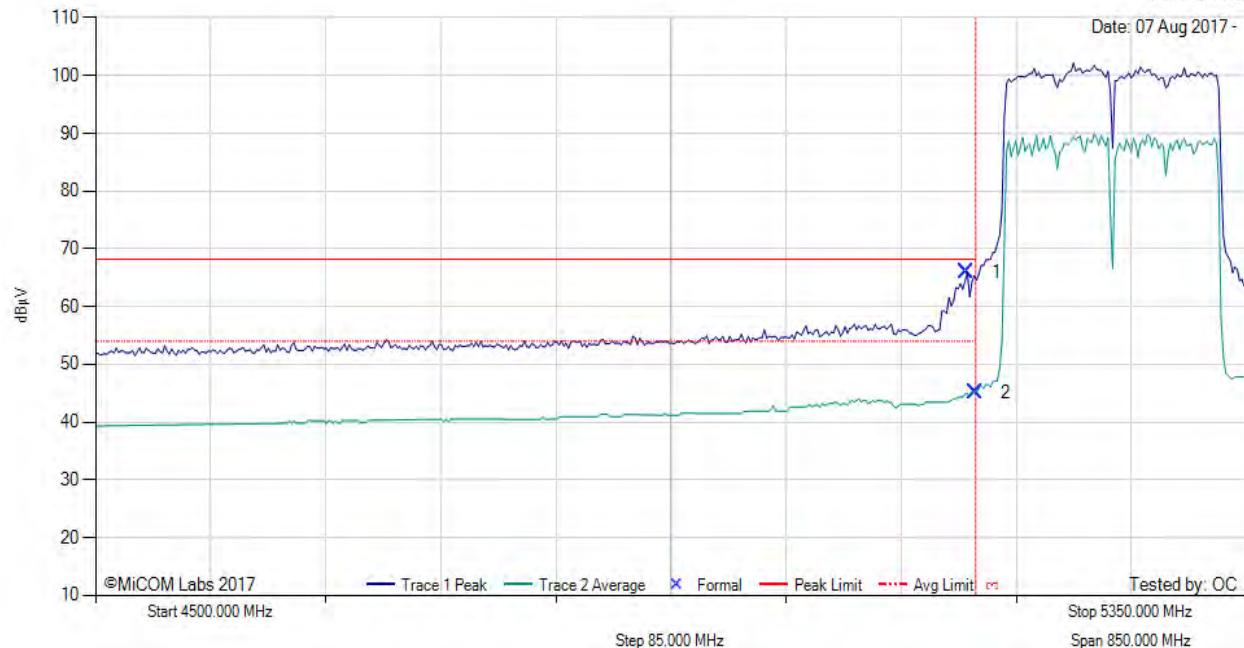


Variant: 802.11ac-80+80, Test Freq: 5210.00 + 5290.00 MHz, Antenna: Aruba AP-ANT-19, Power Setting: 11 d, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 10.0 s

RBW: 1 MHz
VBW: 3 MHz



4500.00 - 5350.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5143.19	28.10	3.70	34.12	65.92	Max Peak	Vertical	166	140	68.2	-2.3	Pass	
2	5150.00	7.37	3.67	34.11	45.15	Max Avg	Vertical	166	140	54.0	-8.9	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH42-58 ac 80+80 mode.

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5725 - 5850 MHz

5725 MHz RADIATED BAND-EDGE EMISSIONS

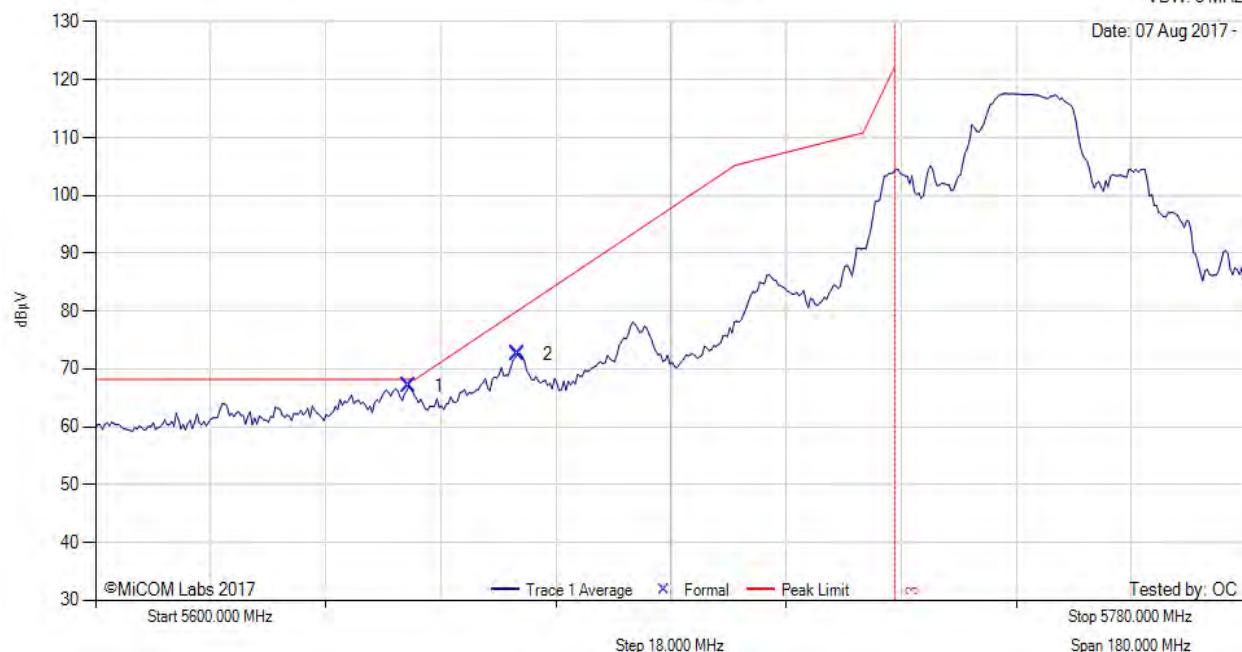


Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: Aruba AP-ANT-19, Power Setting: 92, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 10.0 s

RBW: 1 MHz
VBW: 3 MHz



5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
1	5648.89	29.17	3.75	34.18	67.10	Max Peak	Vertical	172	315	68.2	-1.1	Pass
2	5665.94	34.53	3.77	34.23	72.53	Max Peak	Vertical	172	315	80.0	-7.5	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

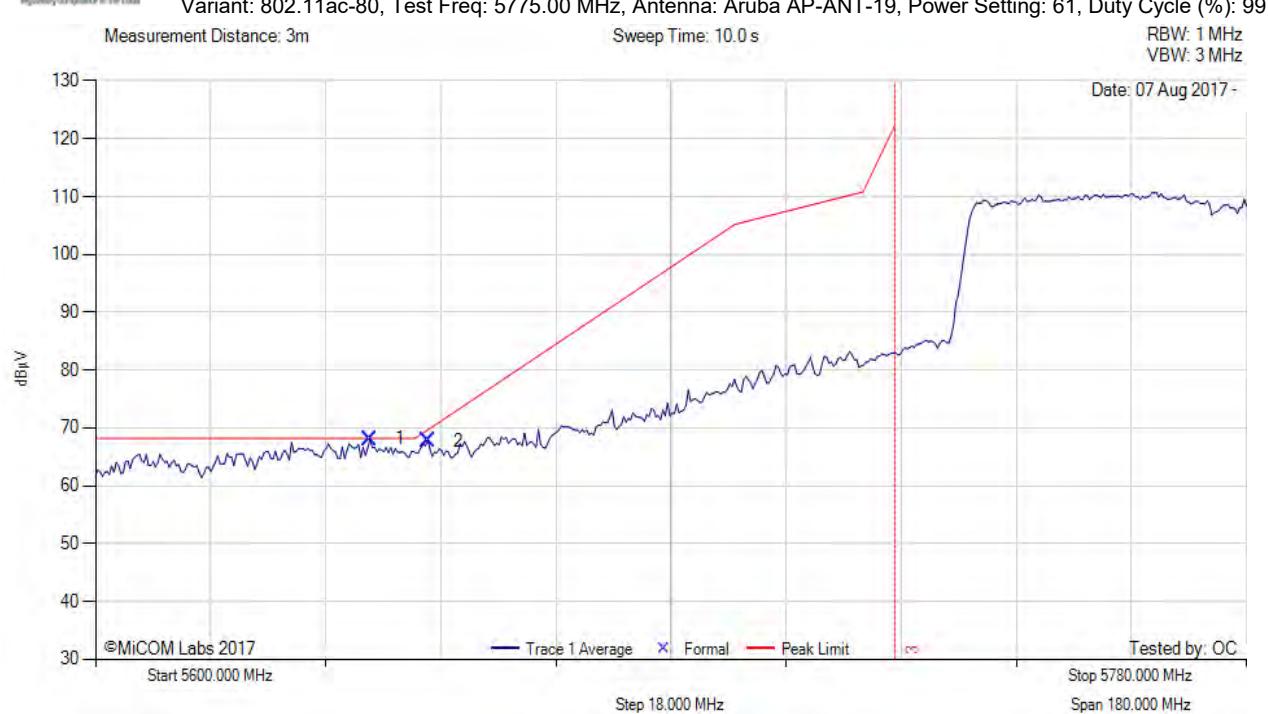
Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH149 a mode.

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5725 MHz RADIATED BAND-EDGE EMISSIONS



5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
1	5642.93	30.15	3.76	34.19	68.10	Max Peak	Vertical	172	315	68.2	-0.1	Pass
2	5651.94	29.85	3.76	34.18	67.79	Max Peak	Vertical	172	315	69.7	-1.9	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH155 ac 80 mode.

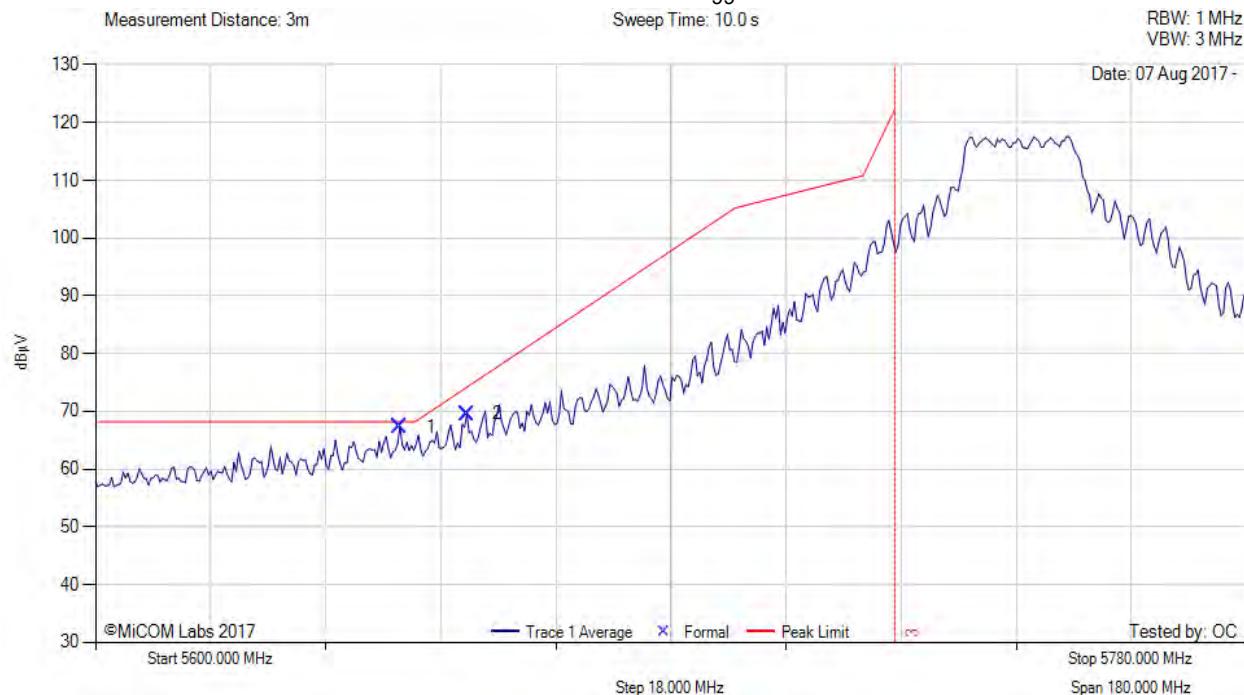
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5725 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 802.11n HT-20, Test Freq: 5745.00 MHz, Antenna: Aruba AP-ANT-19, Power Setting: 93, Duty Cycle (%): 99



5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5647.62	29.41	3.75	34.18	67.34	Max Peak	Vertical	172	315	68.2	-0.9	Pass	
2	5658.01	31.56	3.77	34.20	69.53	Max Peak	Vertical	172	315	74.1	-4.6	Pass	
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH149 nHT20 mode.

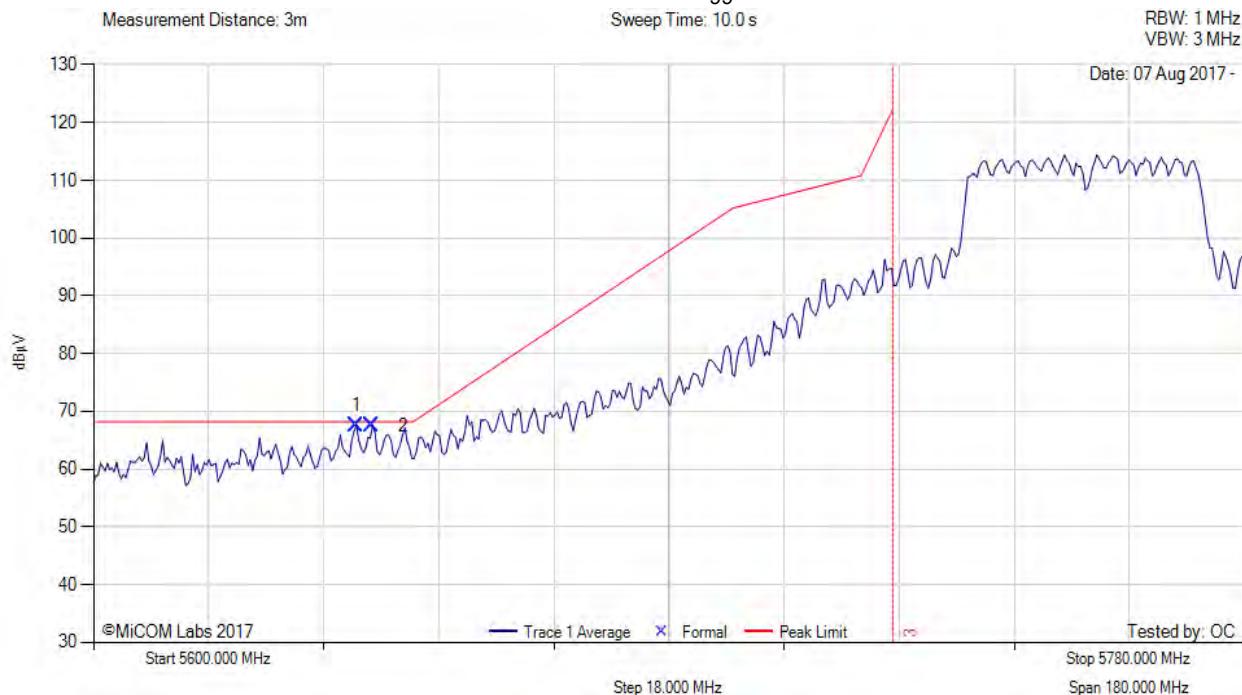
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5725 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 802.11n HT-40, Test Freq: 5755.00 MHz, Antenna: Aruba AP-ANT-19, Power Setting: 81, Duty Cycle (%): 99



5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5641.12	29.65	3.76	34.19	67.60	Max Peak	Vertical	172	315	68.2	-0.6	Pass	
2	5643.58	29.56	3.76	34.18	67.50	Max Peak	Vertical	172	315	68.2	-0.7	Pass	
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH151 nHT40 mode

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5850 MHz RADIATED BAND-EDGE EMISSIONS



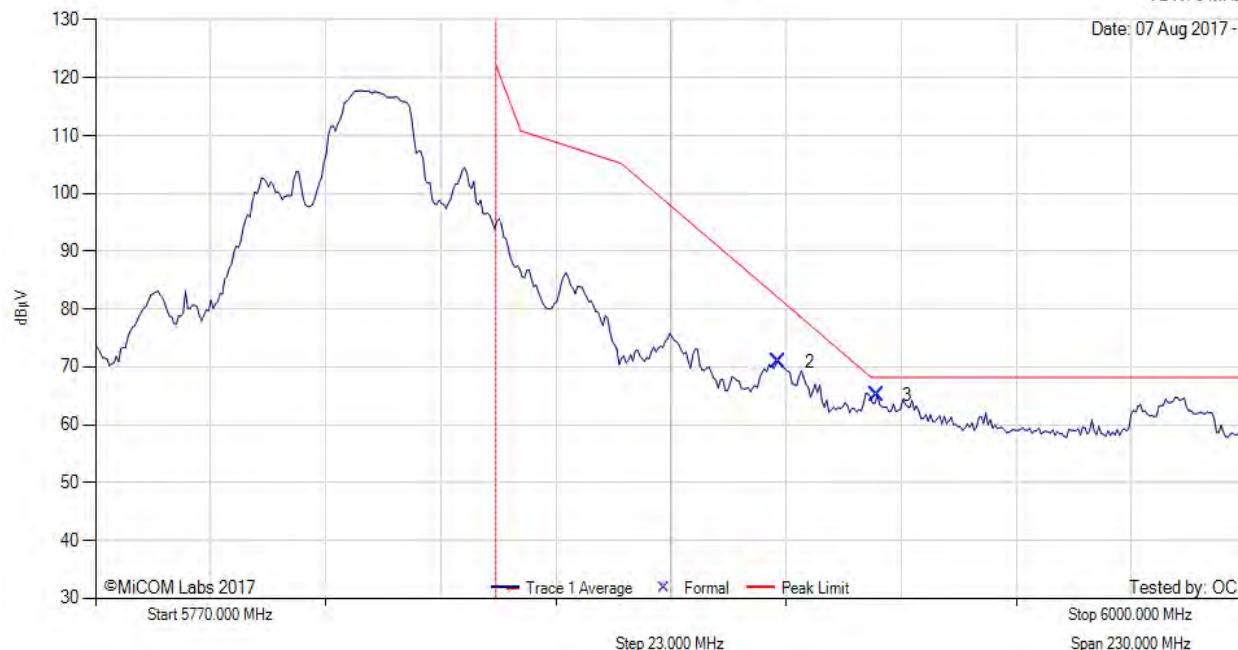
Variant: 802.11a, Test Freq: 5825.00 MHz, Antenna: Aruba AP-ANT-19, Power Setting: 92, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 10.0 s

RBW: 1 MHz
VBW: 3 MHz

Date: 07 Aug 2017 -



5770.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
2	5906.55	32.30	3.82	34.78	70.90	Max Peak	Vertical	172	315	81.5	-10.6	Pass
3	5926.05	26.52	3.84	34.82	65.18	Max Peak	Vertical	172	315	68.2	-3.1	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH165 a mode.

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5850 MHz RADIATED BAND-EDGE EMISSIONS



5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5850.00	42.12	3.81	34.63	80.56	Max Peak	Vertical	172	315	122.2	-41.7	Pass	
3	5947.45	24.21	3.83	34.87	62.91	Max Peak	Vertical	172	315	69.7	-6.8	Pass	
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH155 ac 80 mode.

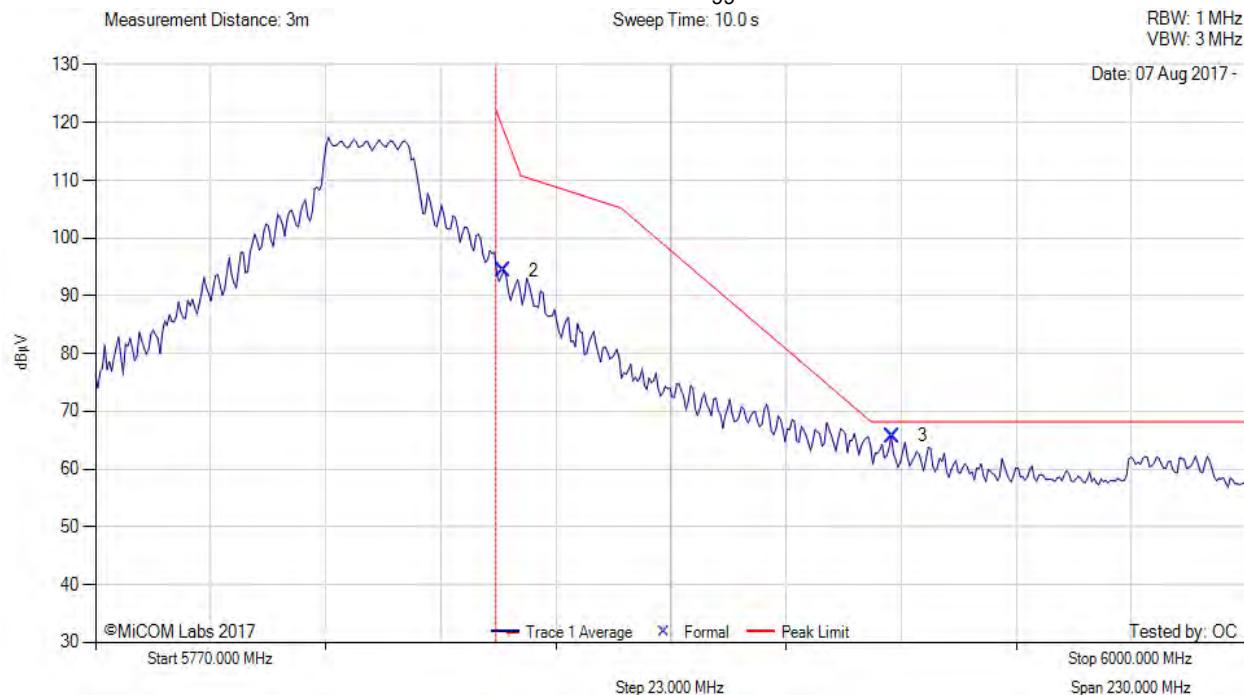
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5850 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 802.11n HT-20, Test Freq: 5825.00 MHz, Antenna: Aruba AP-ANT-19, Power Setting: 94, Duty Cycle (%): 99



5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
2	5851.38	55.91	3.81	34.63	94.35	Max Peak	Vertical	172	315	121.9	-27.6	Pass	
3	5929.14	27.03	3.83	34.83	65.69	Max Peak	Vertical	172	315	68.2	-2.5	Pass	
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH165 nHT20 mode.

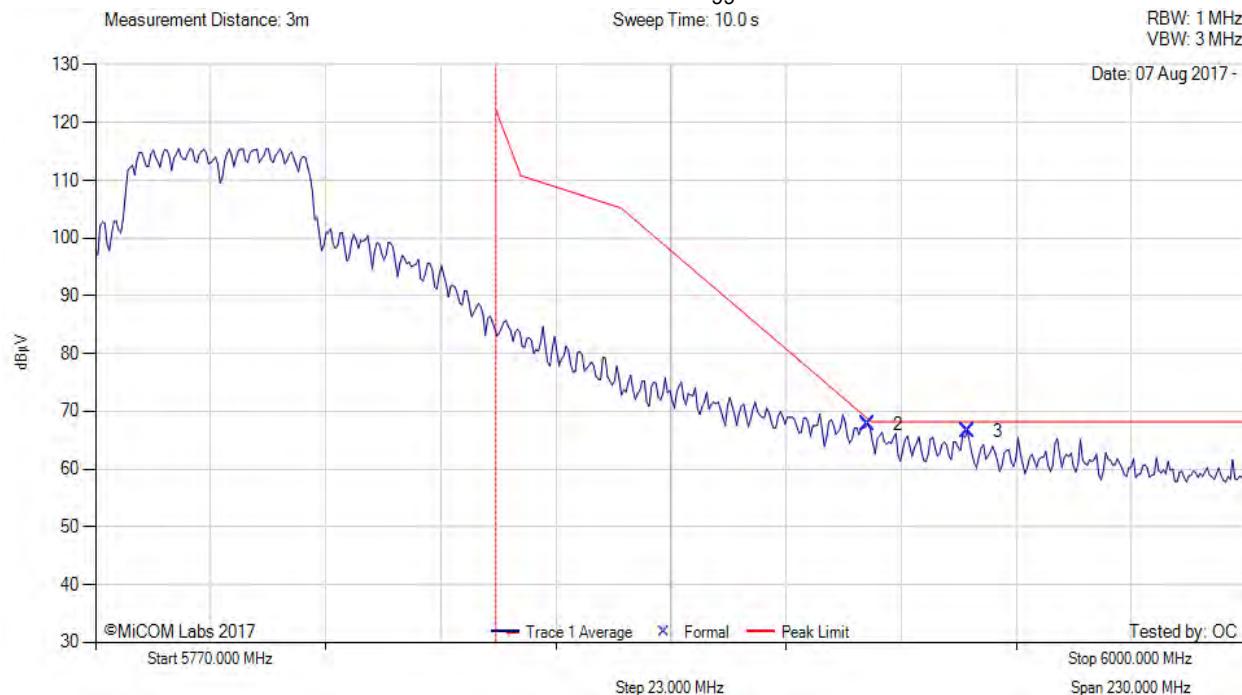
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5850 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 802.11n HT-40, Test Freq: 5795.00 MHz, Antenna: Aruba AP-ANT-19, Power Setting: 90, Duty Cycle (%): 99



5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
2	5924.21	29.14	3.84	34.82	67.80	Max Peak	Vertical	172	315	68.2	-0.4	Pass	
3	5944.35	27.85	3.86	34.87	66.58	Max Peak	Vertical	172	315	68.2	-1.7	Pass	
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH159 nHT40 mode.

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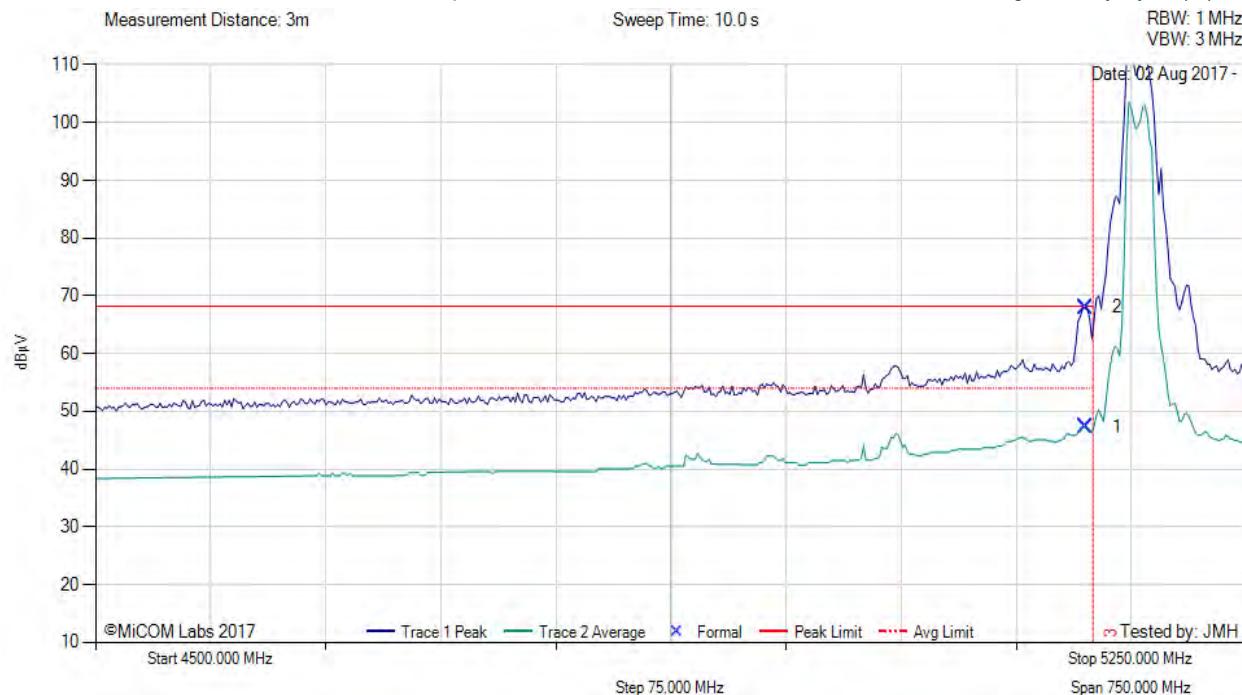
Antenna: AP-ANT-1W

5150 - 5250 MHz

RESTRICTED LOWER BAND-EDGE EMISSIONS



Variant: 802.11a, Test Freq: 5180.00 MHz, Antenna: Aruba AP-ANT-1W, Power Setting: 62, Duty Cycle (%): 99



4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5145.49	9.52	3.69	34.11	47.32	Max Avg	Horizontal	182	279	54.0	-6.7	Pass	
2	5145.49	30.17	3.69	34.11	67.97	Max Peak	Horizontal	182	279	68.2	-0.2	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

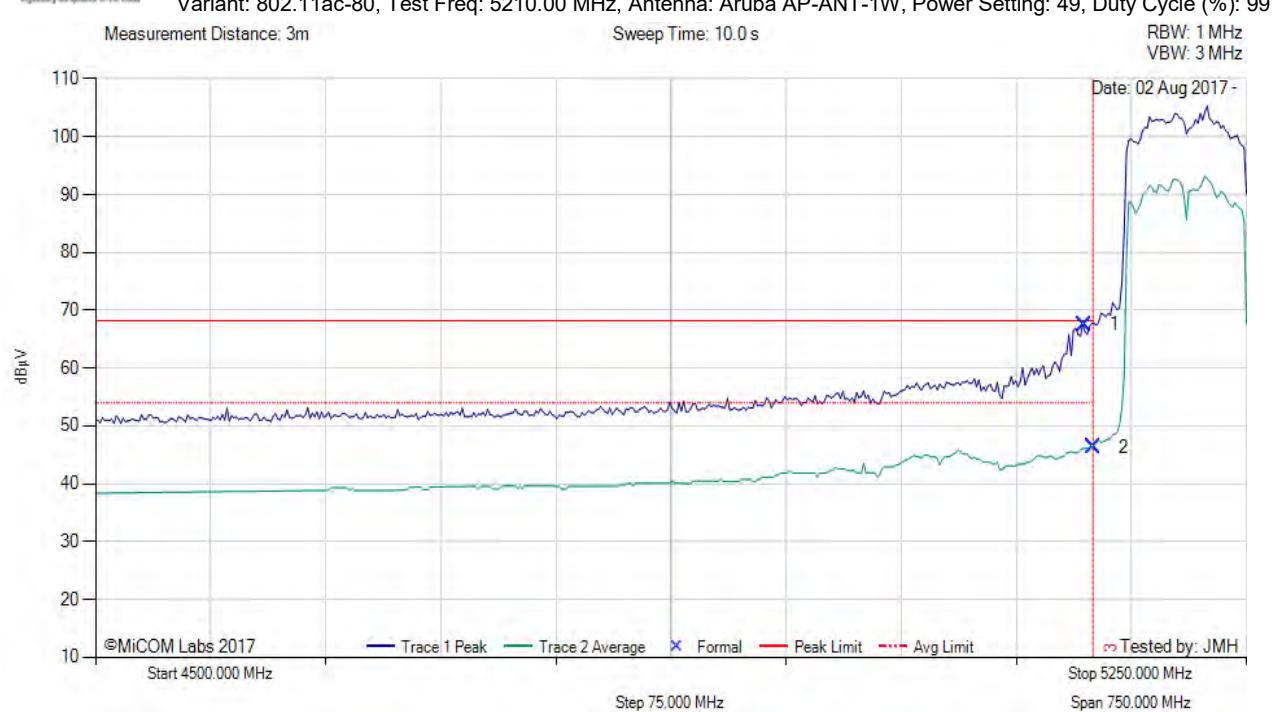
Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 a mode.

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RESTRICTED LOWER BAND-EDGE EMISSIONS



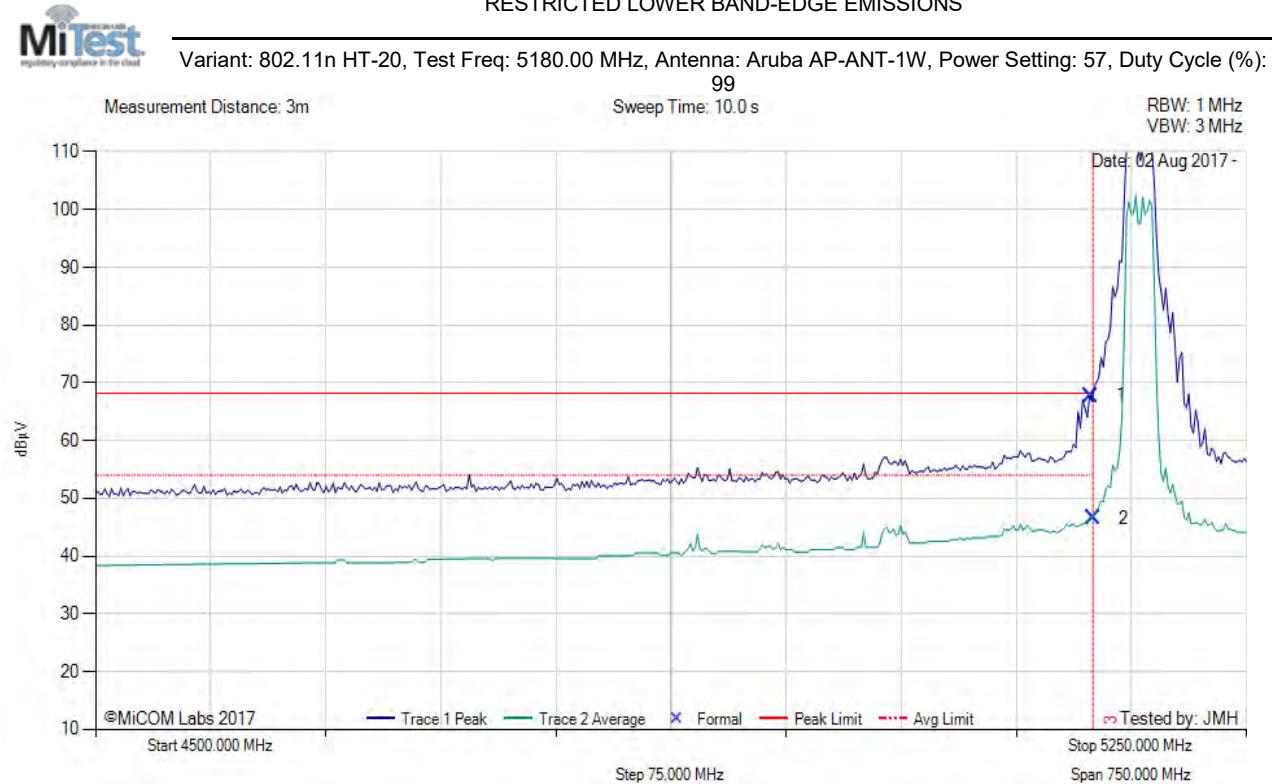
4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5143.99	29.71	3.70	34.12	67.53	Max Peak	Horizontal	182	279	68.2	-0.7	Pass	
2	5150.00	8.52	3.67	34.11	46.30	Max Avg	Horizontal	182	279	54.0	-7.7	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH42 ac 80 mode.

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RESTRICTED LOWER BAND-EDGE EMISSIONS

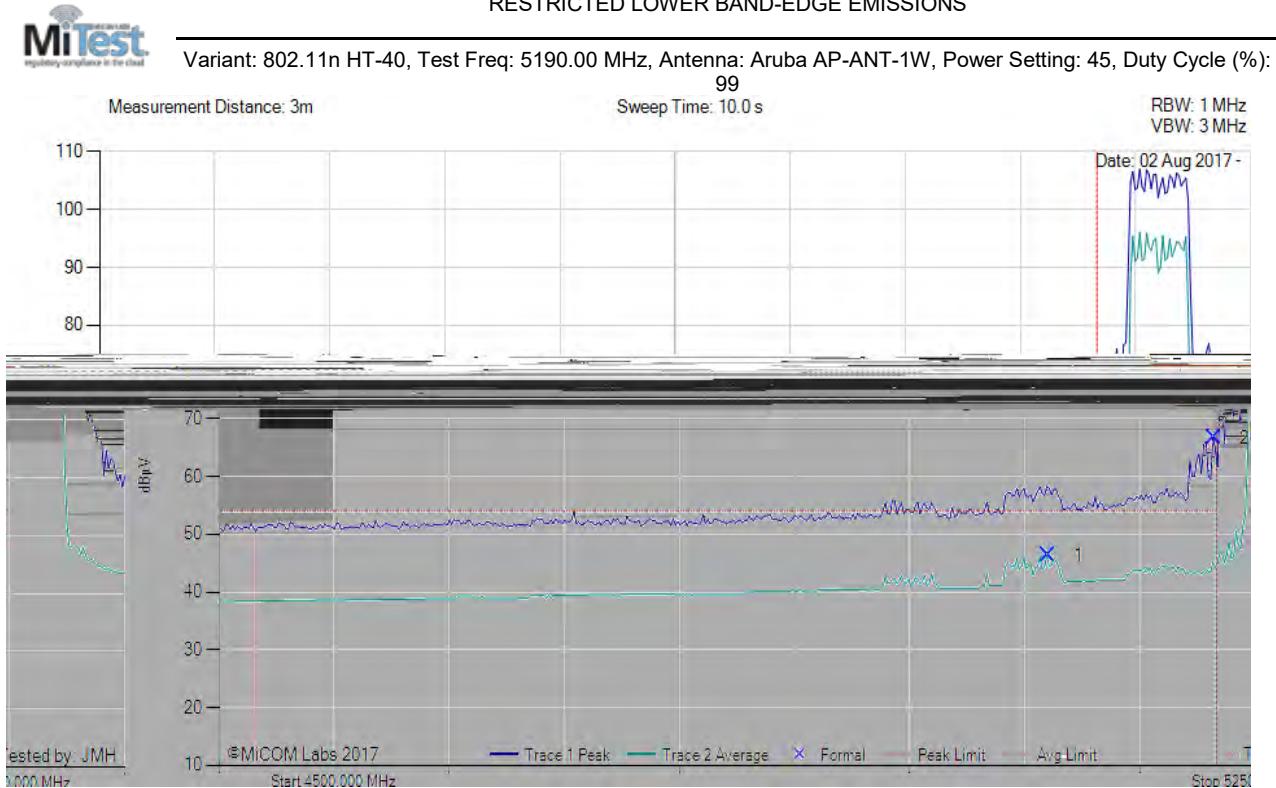


4500.00 - 5250.00 MHz												
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
1	5148.50	29.97	3.68	34.11	67.76	Max Peak	Horizontal	182	279	68.2	-0.4	Pass
2	5150.00	8.74	3.67	34.11	46.52	Max Avg	Horizontal	182	279	54.0	-7.5	Pass
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 nHT20 mode.

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RESTRICTED LOWER BAND-EDGE EMISSIONS



4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5040.28	8.46	3.68	34.21	46.35	Max Avg	Horizontal	182	279	54.0	-7.7	Pass	
2	5148.50	28.87	3.68	34.11	66.66	Max Peak	Horizontal	182	279	68.2	-1.5	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH38 nHT40 mode.

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RESTRICTED LOWER BAND-EDGE EMISSIONS

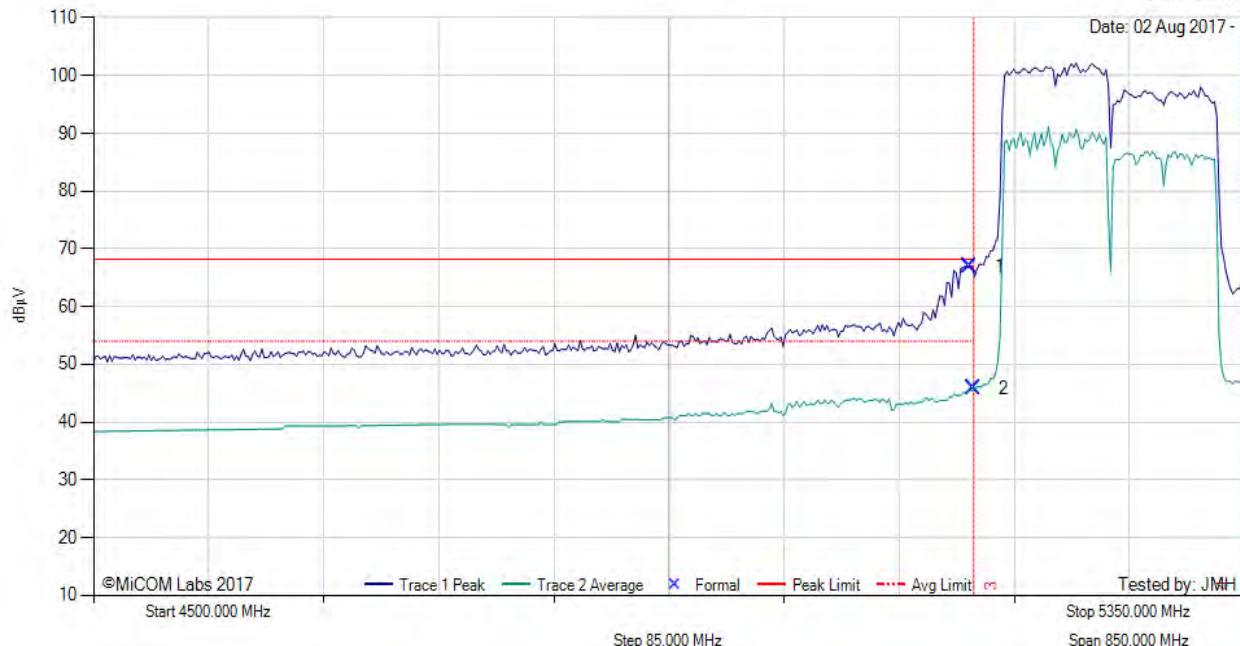


Variant: 802.11ac-80+80, Test Freq: 5210.00 + 5290.00 MHz, Antenna: Aruba AP-ANT-1W, Power Setting: 12 d, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 10.0 s

RBW: 1 MHz
VBW: 3 MHz



4500.00 - 5350.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5146.59	29.16	3.68	34.11	66.95	Max Peak	Horizontal	182	279	68.2	-1.3	Pass	
2	5150.00	8.08	3.67	34.11	45.86	Max Avg	Horizontal	182	279	54.0	-8.1	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	
4	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH42-58 ac 80+80 mode.

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5725 - 5850 MHz

5725 MHz RADIATED BAND-EDGE EMISSIONS

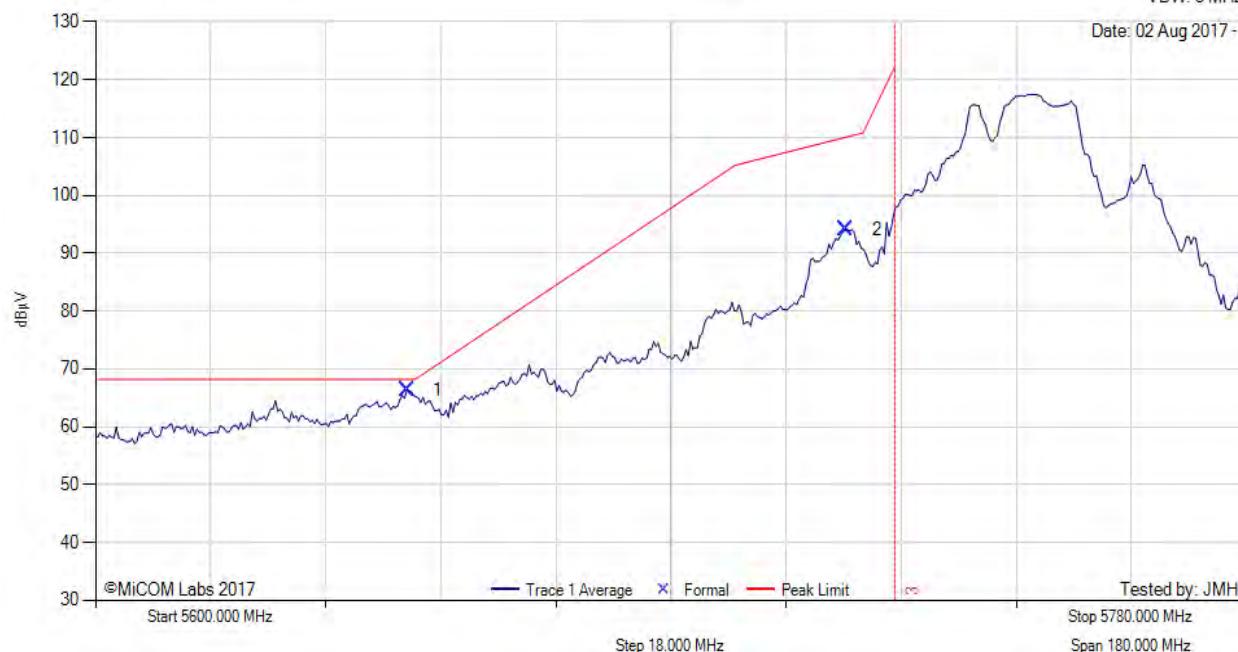


Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: Aruba AP-ANT-1W, Power Setting: 91, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 10.0 s

RBW: 1 MHz
VBW: 3 MHz



5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5648.70	28.43	3.75	34.18	66.36	Max Peak	Horizontal	197	92	68.2	-1.9	Pass	
2	5717.42	55.92	3.81	34.34	94.07	Max Peak	Horizontal	197	92	110.0	-15.9	Pass	
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

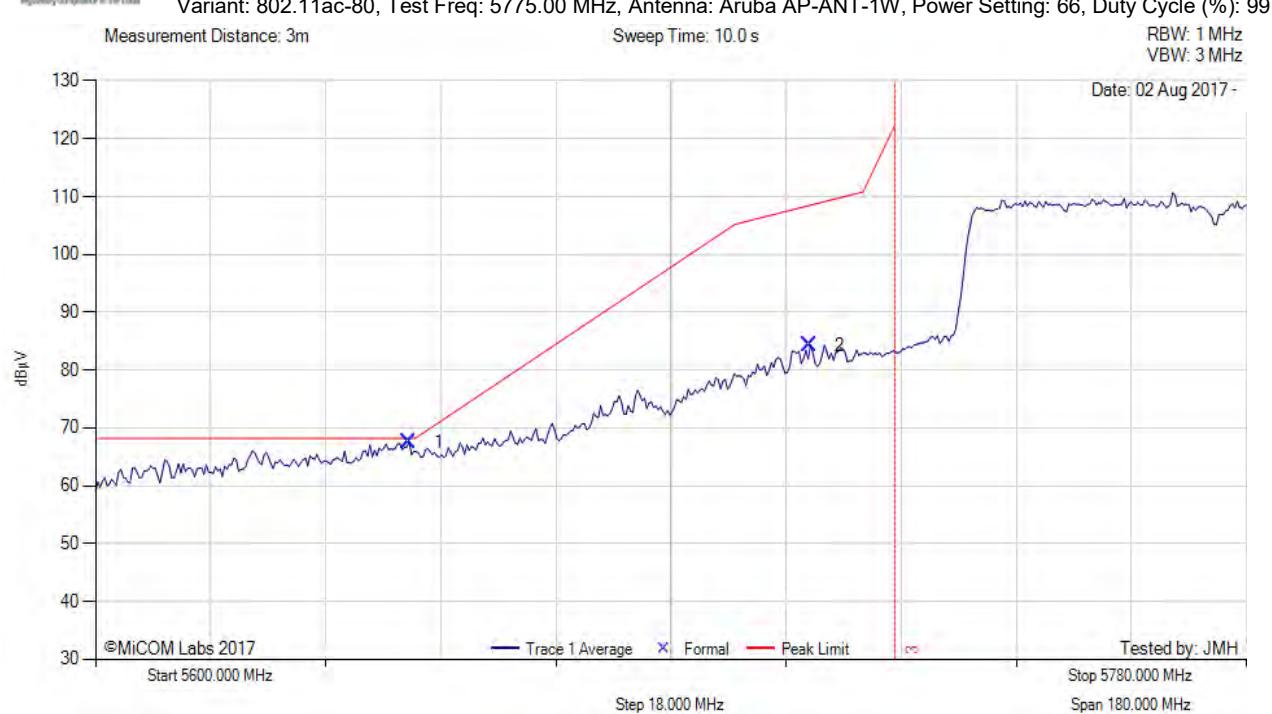
Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH149 a mode.

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5725 MHz RADIATED BAND-EDGE EMISSIONS



5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5648.99	29.66	3.75	34.18	67.59	Max Peak	Horizontal	197	92	68.2	-0.6	Pass	
2	5711.65	46.09	3.83	34.34	84.26	Max Peak	Horizontal	197	92	108.6	-24.3	Pass	
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH155 ac 80 mode.

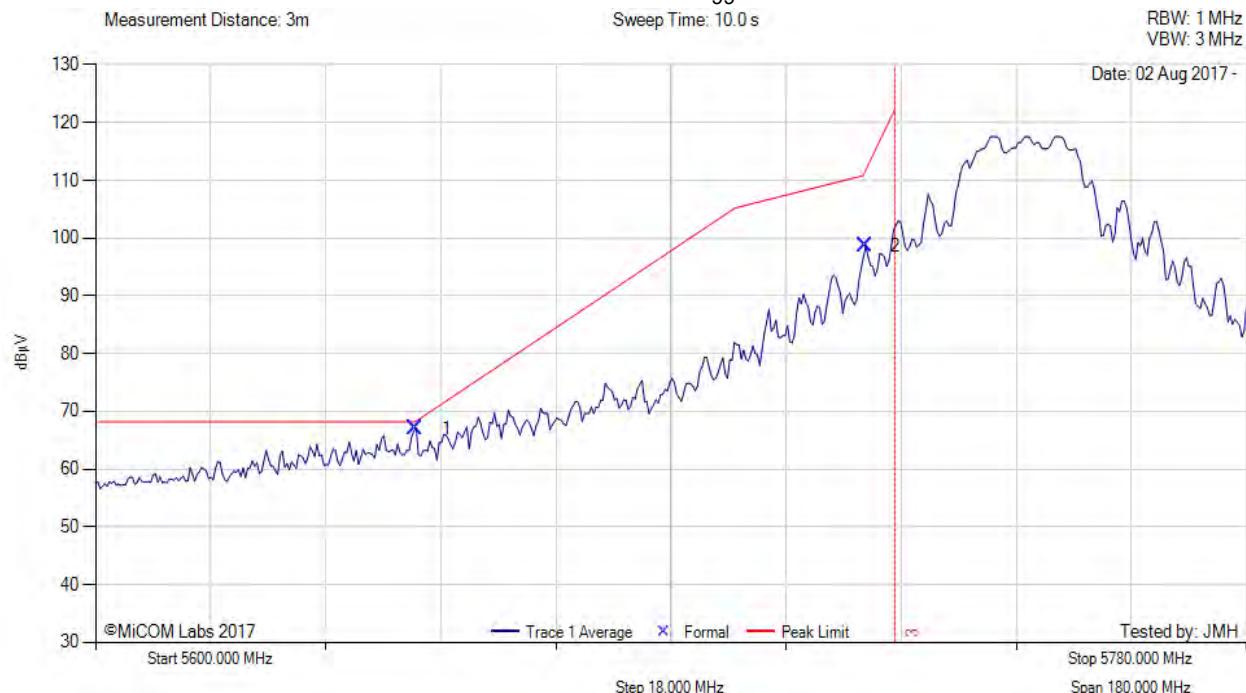
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5725 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 802.11n HT-20, Test Freq: 5745.00 MHz, Antenna: Aruba AP-ANT-1W, Power Setting: 90, Duty Cycle (%): 99



5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5650.07	29.16	3.75	34.18	67.09	Max Peak	Horizontal	197	92	68.2	-1.1	Pass	
2	5720.31	60.46	3.80	34.35	98.61	Max Peak	Horizontal	197	92	110.0	-11.4	Pass	
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

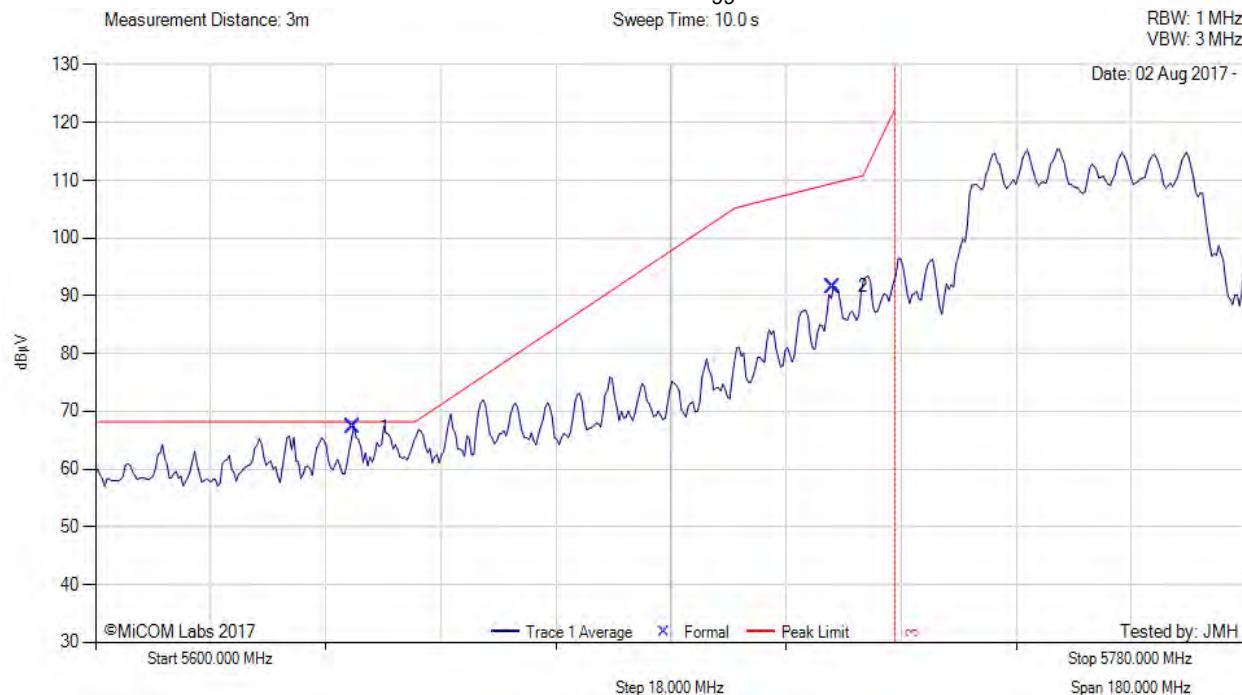
Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH149 nHT20 mode.

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5725 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 802.11n HT-40, Test Freq: 5755.00 MHz, Antenna: Aruba AP-ANT-1W, Power Setting: 76, Duty Cycle (%): 99



5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5640.33	29.41	3.76	34.19	67.36	Max Peak	Horizontal	197	92	68.2	-0.9	Pass	
2	5715.26	53.45	3.81	34.34	91.60	Max Peak	Horizontal	197	92	109.4	-17.8	Pass	
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH151 nHT40 mode.

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5850 MHz RADIATED BAND-EDGE EMISSIONS



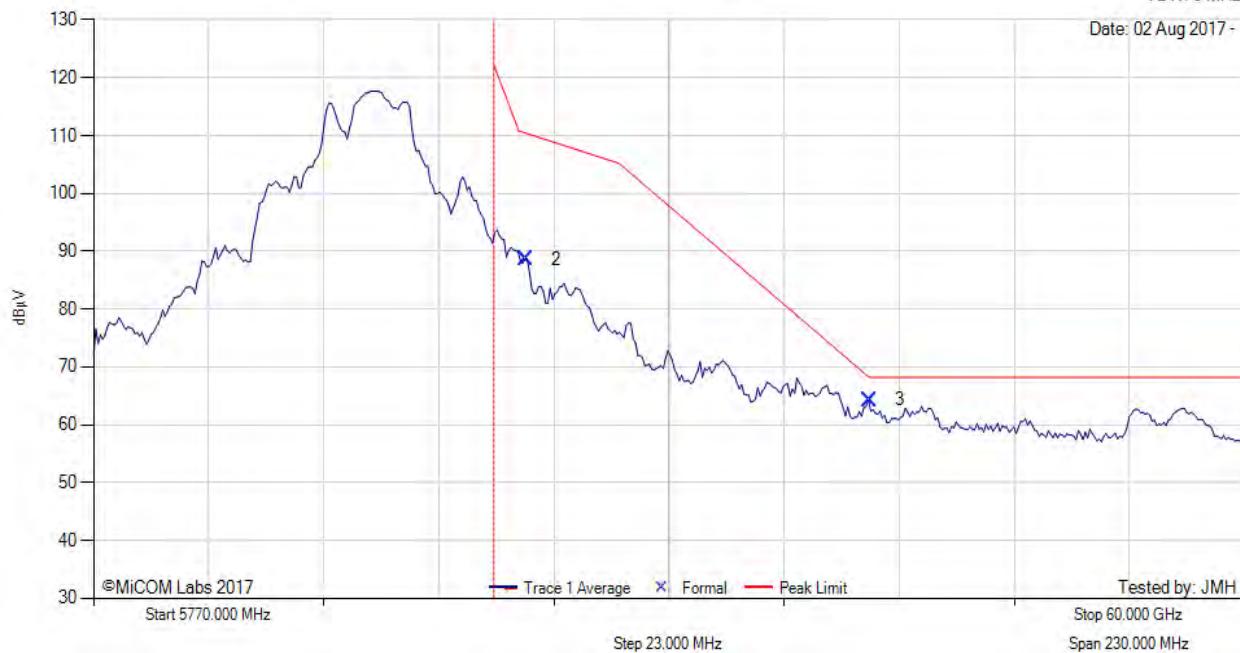
Variant: 802.11a, Test Freq: 5825.00 MHz, Antenna: Aruba AP-ANT-1W, Power Setting: 91, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 10.0 s

RBW: 1 MHz
VBW: 3 MHz

Date: 02 Aug 2017 -



5770.00 - 60000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
2	5856.45	50.16	3.84	34.64	88.64	Max Peak	Horizontal	197	92	110.2	-21.6	Pass	
3	5924.99	25.62	3.84	34.82	64.28	Max Peak	Horizontal	197	92	68.9	-4.7	Pass	
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

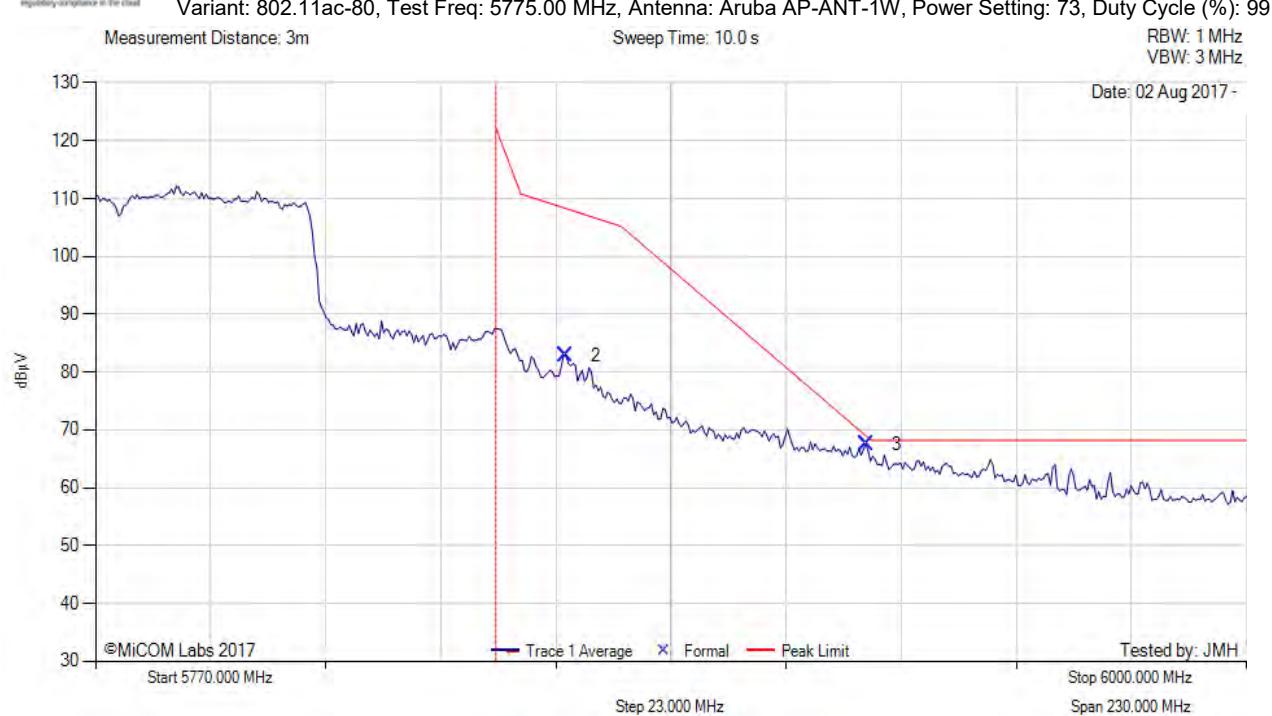
Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH165 a mode.

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5850 MHz RADIATED BAND-EDGE EMISSIONS



5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
2	5863.83	44.39	3.84	34.66	82.89	Max Peak	Horizontal	197	92	108.3	-25.4	Pass	
3	5924.07	28.90	3.84	34.82	67.56	Max Peak	Horizontal	197	92	68.9	-1.4	Pass	
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH155 ac 80 mode.

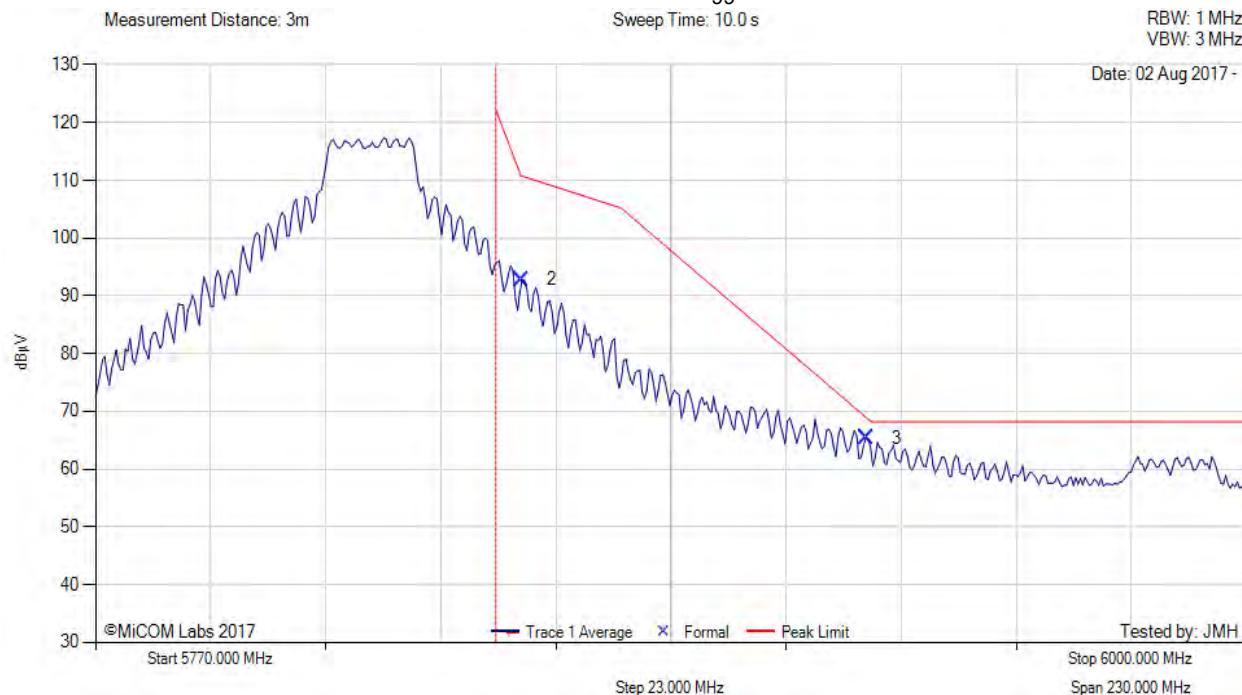
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5850 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 802.11n HT-20, Test Freq: 5825.00 MHz, Antenna: Aruba AP-ANT-1W, Power Setting: 93, Duty Cycle (%): 99



Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH165 nHT20 mode.

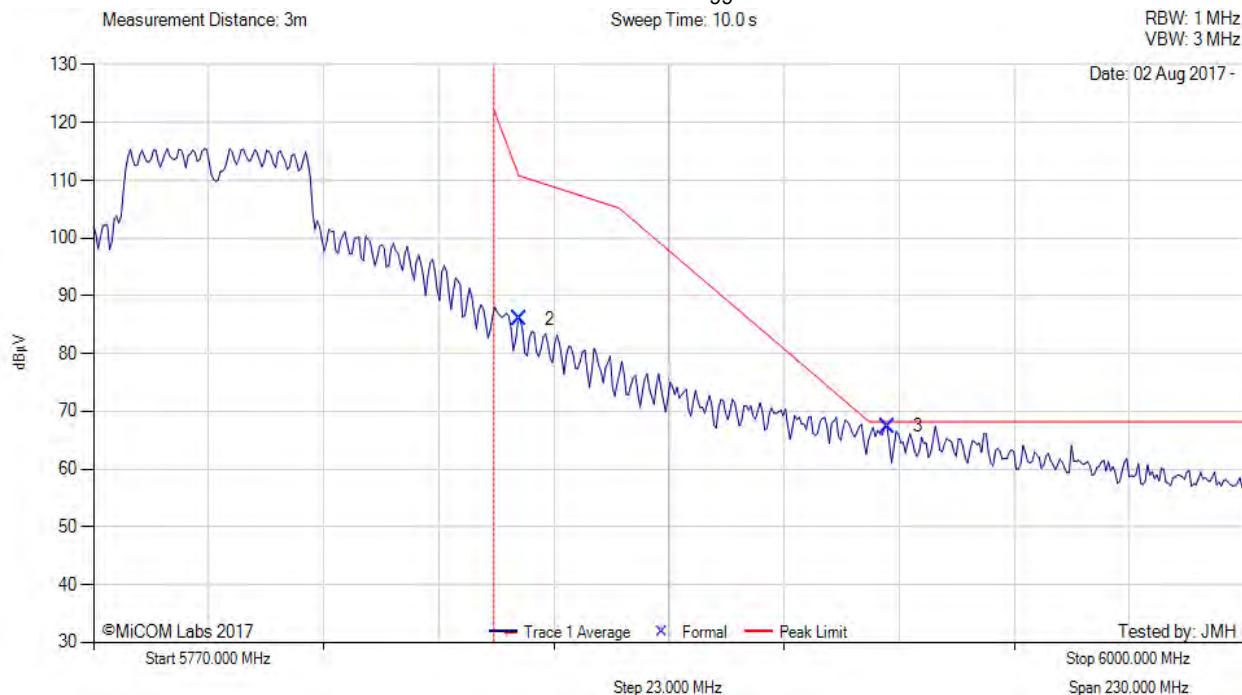
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5850 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 802.11n HT-40, Test Freq: 5795.00 MHz, Antenna: Aruba AP-ANT-1W, Power Setting: 89, Duty Cycle (%): 99



5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
2	5855.07	47.47	3.83	34.64	85.94	Max Peak	Horizontal	197	92	110.7	-24.8	Pass	
3	5928.68	28.75	3.83	34.83	67.41	Max Peak	Horizontal	197	92	68.9	-1.5	Pass	
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH159 nHT40 mode.

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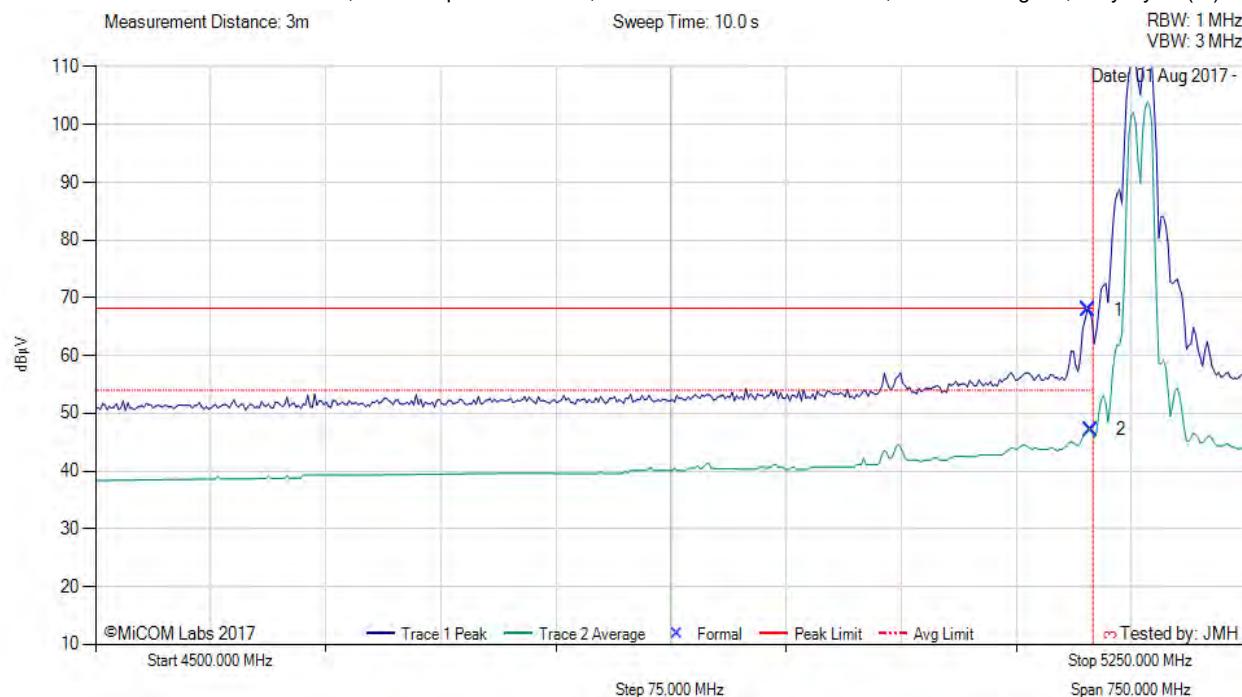
Antenna: AP-ANT-20W

5150 - 5250 MHz

RESTRICTED LOWER BAND-EDGE EMISSIONS



Variant: 802.11a, Test Freq: 5180.00 MHz, Antenna: Aruba AP-ANT-20W, Power Setting: 64, Duty Cycle (%): 99



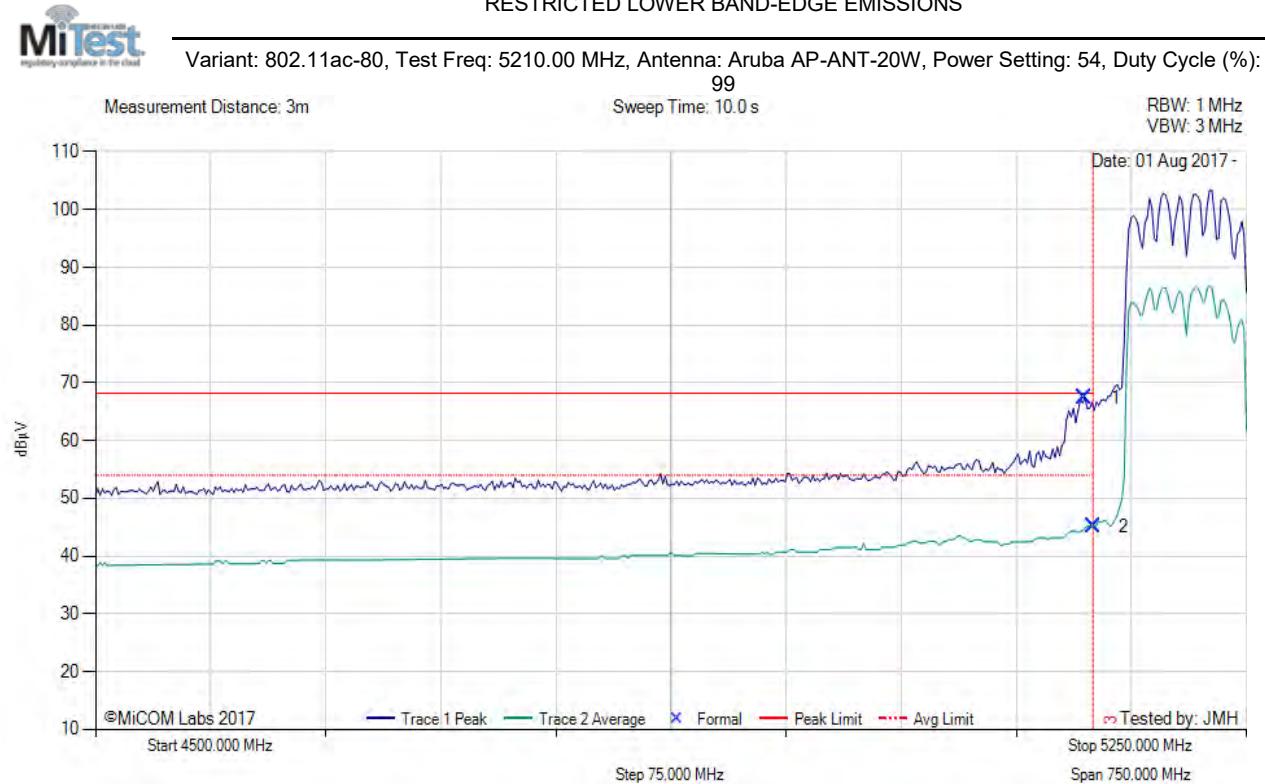
4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5146.99	30.04	3.68	34.11	67.83	Max Peak	Horizontal	126	358	68.2	-0.4	Pass	
2	5148.50	9.34	3.68	34.11	47.13	Max Avg	Horizontal	126	358	54.0	-6.9	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 a mode.

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RESTRICTED LOWER BAND-EDGE EMISSIONS



4500.00 - 5250.00 MHz												
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
1	5144.79	29.66	3.69	34.11	67.46	Max Peak	Horizontal	126	358	68.2	-0.7	Pass
2	5150.00	7.36	3.67	34.11	45.14	Max Avg	Horizontal	126	358	54.0	-8.9	Pass
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--

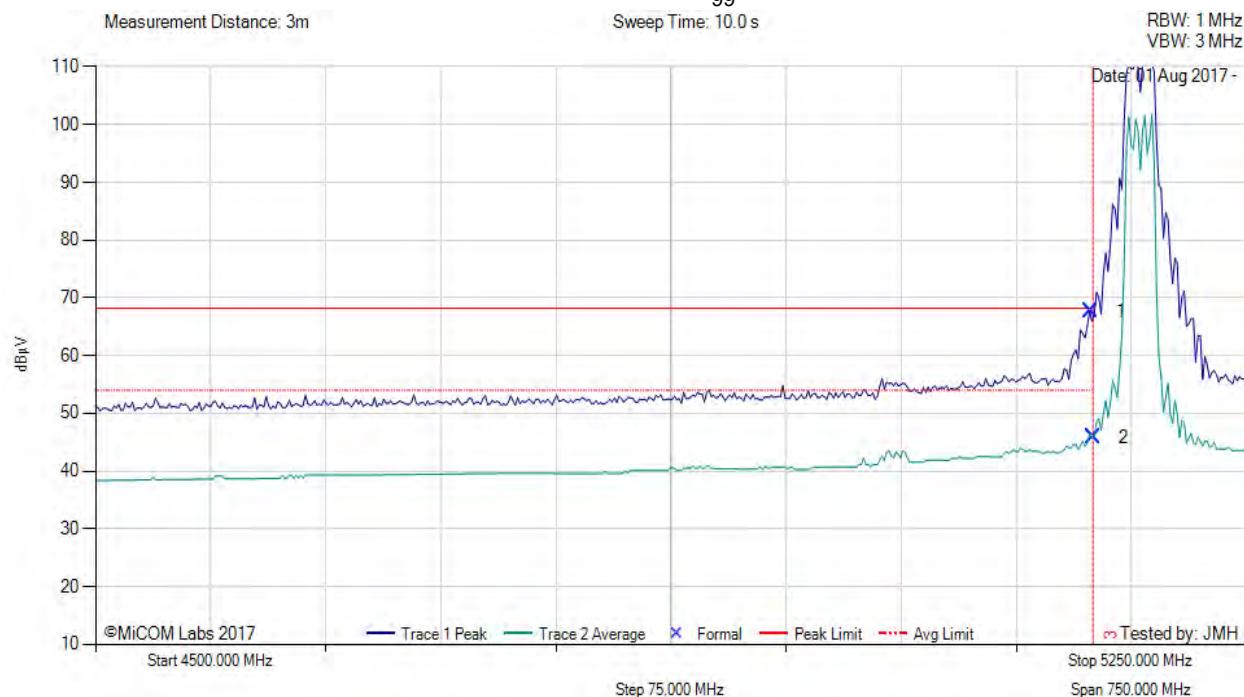
Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH42 ac 80 mode.

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RESTRICTED LOWER BAND-EDGE EMISSIONS



Variant: 802.11n HT-20, Test Freq: 5180.00 MHz, Antenna: Aruba AP-ANT-20W, Power Setting: 60, Duty Cycle (%): 99



4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5148.50	29.86	3.68	34.11	67.65	Max Peak	Horizontal	126	358	68.2	-0.6	Pass	
2	5150.00	8.08	3.67	34.11	45.86	Max Avg	Horizontal	126	358	54.0	-8.1	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 nHT20 mode.

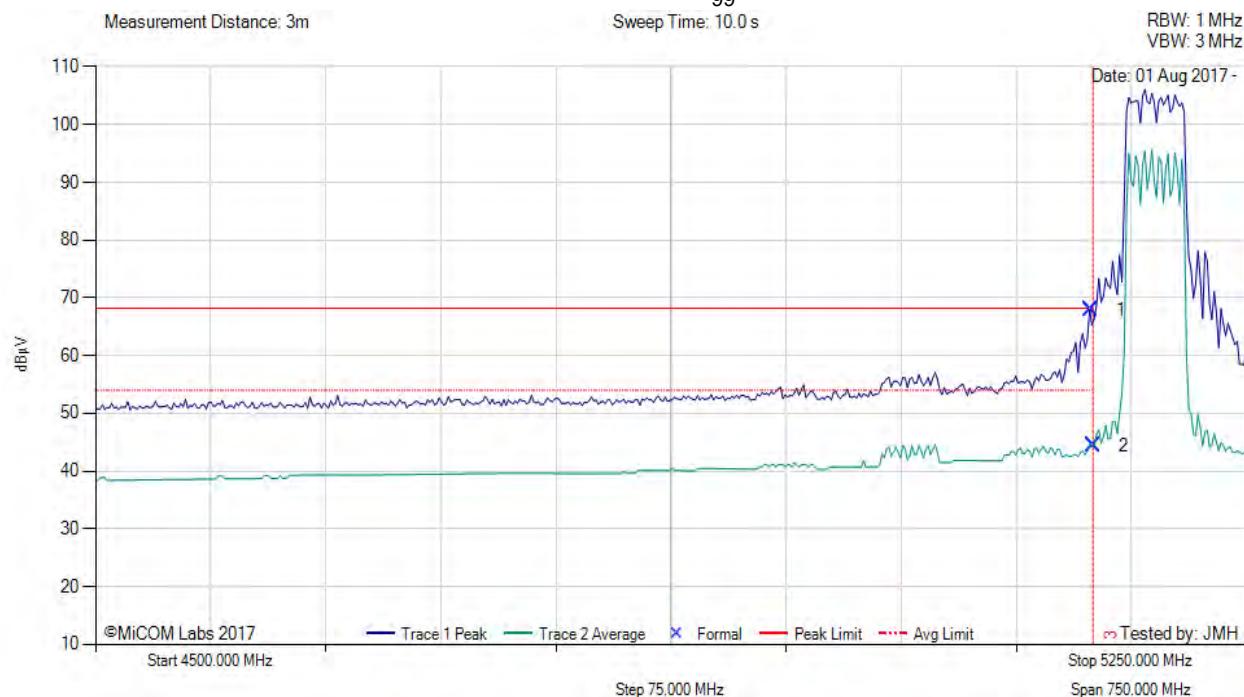
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RESTRICTED LOWER BAND-EDGE EMISSIONS



Variant: 802.11n HT-40, Test Freq: 5190.00 MHz, Antenna: Aruba AP-ANT-20W, Power Setting: 50, Duty Cycle (%): 99



4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5148.50	30.13	3.68	34.11	67.92	Max Peak	Horizontal	126	358	68.2	-0.3	Pass	
2	5150.00	6.59	3.67	34.11	44.37	Max Avg	Horizontal	126	358	54.0	-9.6	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH38 nHT40 mode.

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RESTRICTED LOWER BAND-EDGE EMISSIONS

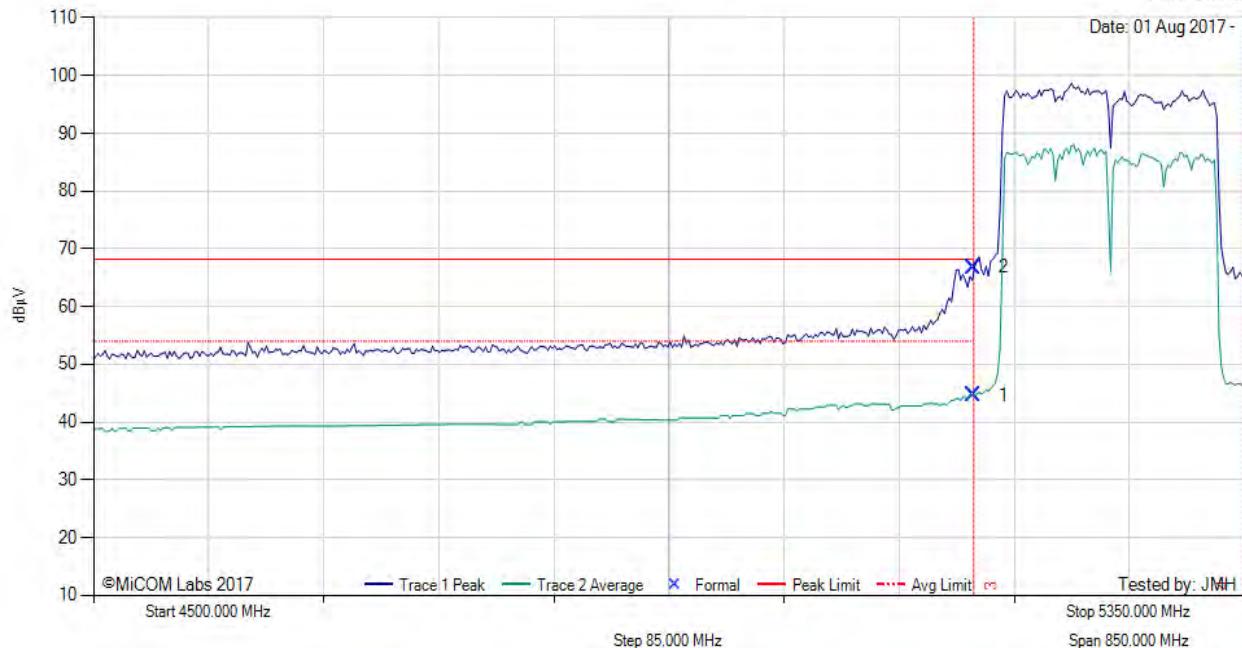


Variant: 802.11ac-80+80, Test Freq: 5210.00 + 5290.00 MHz, Antenna: Aruba AP-ANT-20W, Power Setting: 13 d, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 10.0 s

RBW: 1 MHz
VBW: 3 MHz



4500.00 - 5350.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5150.00	6.86	3.67	34.11	44.64	Max Avg	Horizontal	137	1	54.0	-9.4	Pass	
2	5150.00	29.01	3.67	34.11	66.79	Max Peak	Horizontal	137	1	68.2	-1.4	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	
4	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH42-58 ac 80+80 mode.

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5725 - 5850 MHz

5725 MHz RADIATED BAND-EDGE EMISSIONS

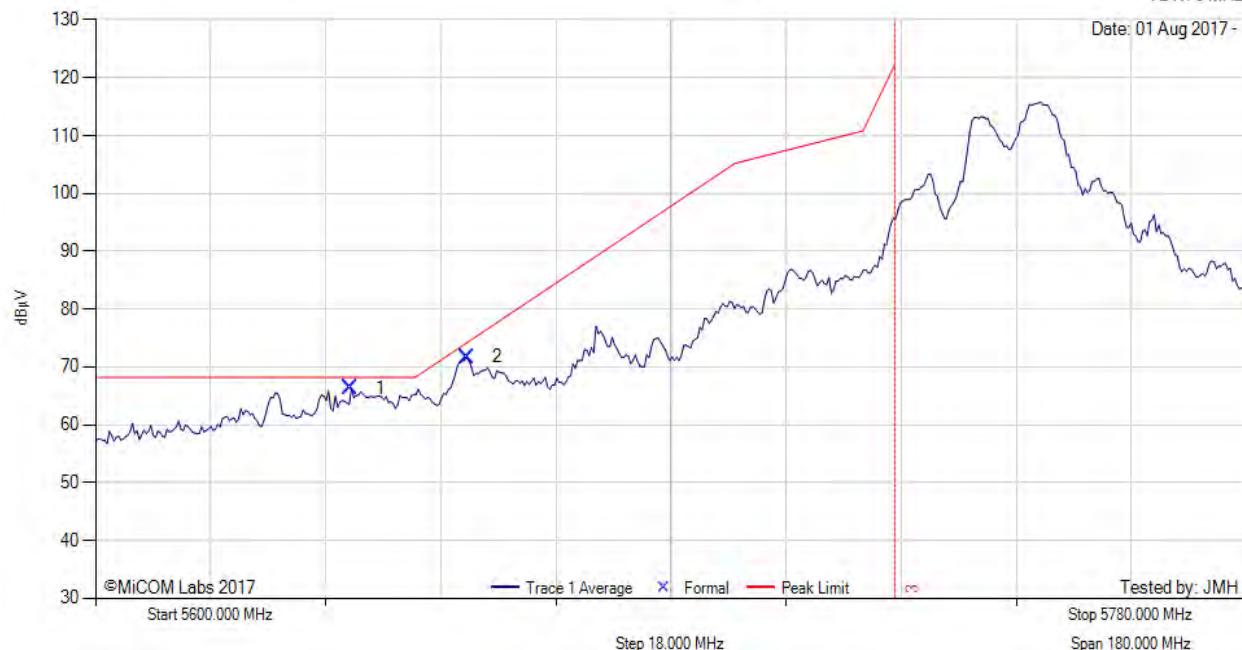


Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: Aruba AP-ANT-20W, Power Setting: 92, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 10.0 s

RBW: 1 MHz
VBW: 3 MHz



5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5639.87	28.34	3.76	34.19	66.29	Max Peak	Horizontal	153	2	68.2	-1.9	Pass	
2	5658.01	33.76	3.77	34.20	71.73	Max Peak	Horizontal	153	2	74.1	-2.4	Pass	
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH149 a mode.

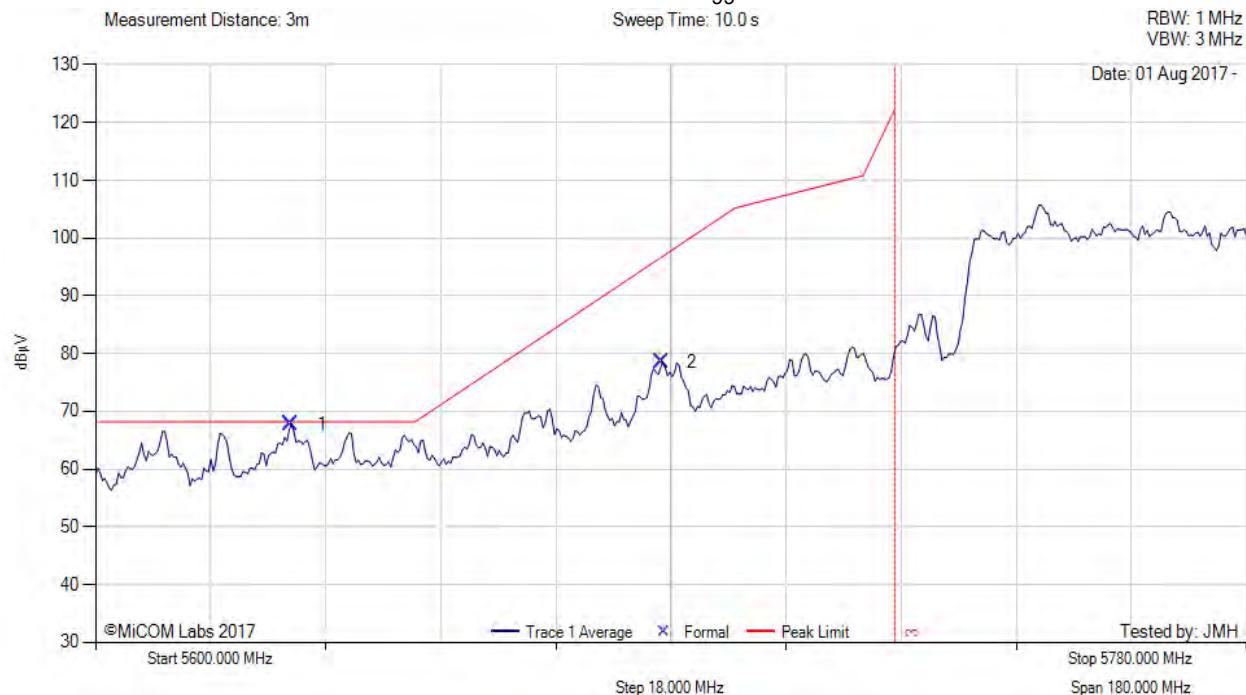
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5725 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 802.11ac-80, Test Freq: 5775.00 MHz, Antenna: Aruba AP-ANT-20W, Power Setting: 76, Duty Cycle (%): 99



5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5630.59	29.85	3.76	34.20	67.81	Max Peak	Horizontal	153	2	68.2	-0.4	Pass	
2	5688.57	40.44	3.84	34.30	78.58	Max Peak	Horizontal	153	2	97.1	-18.5	Pass	
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH155 ac 80 mode.

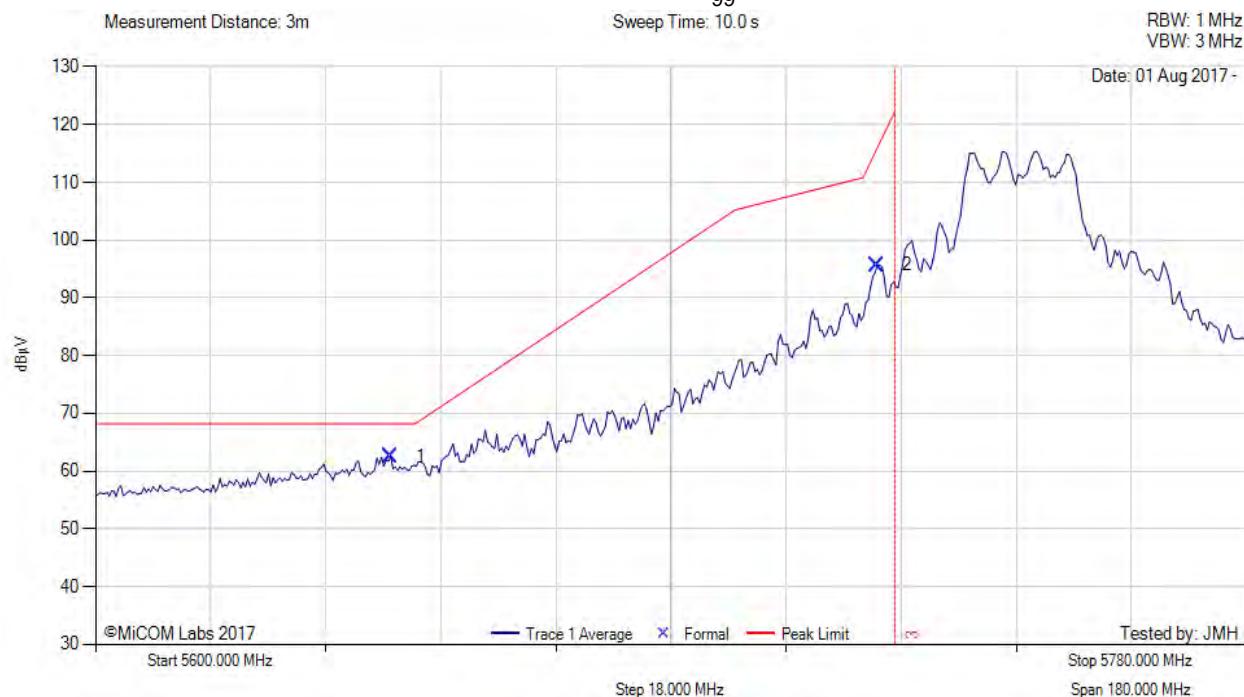
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5725 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 802.11n HT-20, Test Freq: 5745.00 MHz, Antenna: Aruba AP-ANT-20W, Power Setting: 90, Duty Cycle (%): 99



5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5646.10	24.56	3.75	34.18	62.49	Max Peak	Horizontal	153	2	68.2	-5.7	Pass	
2	5722.11	57.54	3.80	34.35	95.69	Max Peak	Horizontal	153	2	115.4	-19.7	Pass	
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH149 nHT20 mode.

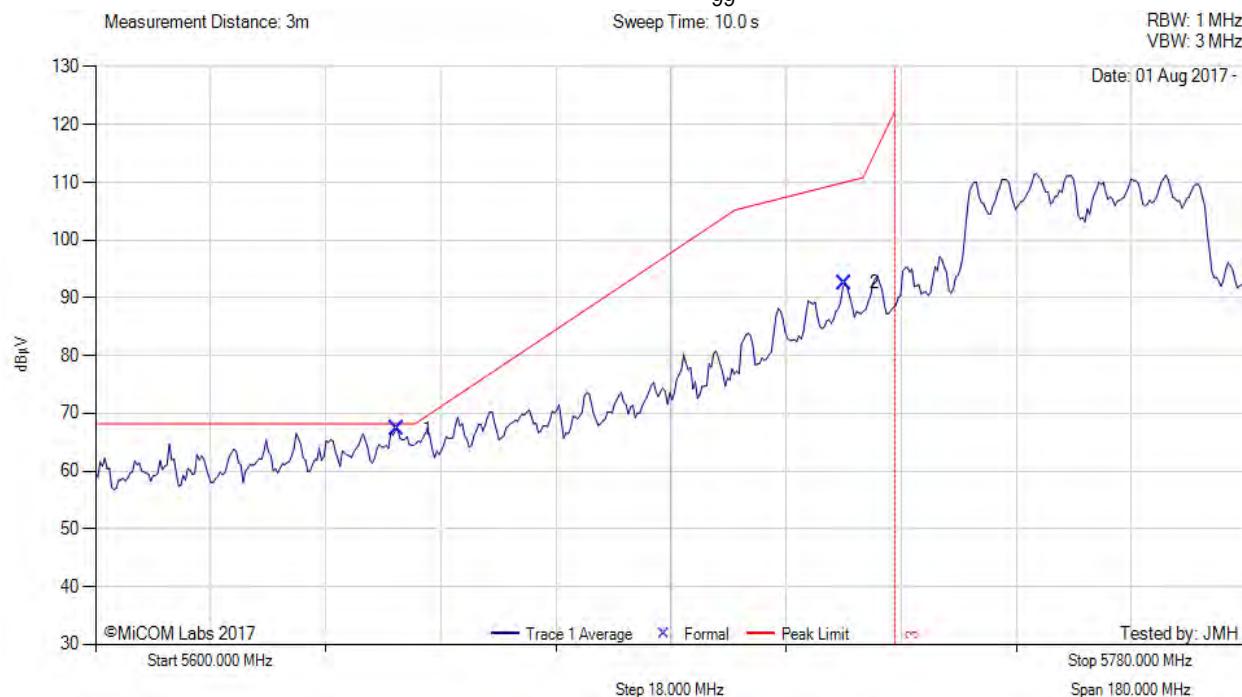
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5725 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 802.11n HT-40, Test Freq: 5755.00 MHz, Antenna: Aruba AP-ANT-20W, Power Setting: 85, Duty Cycle (%): 99



5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5647.18	29.32	3.75	34.18	67.25	Max Peak	Horizontal	153	2	68.2	-1.0	Pass	
2	5717.06	54.38	3.81	34.34	92.53	Max Peak	Horizontal	153	2	110.0	-17.4	Pass	
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH151 nHT40 mode.

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5850 MHz RADIATED BAND-EDGE EMISSIONS



5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
2	5857.84	52.30	3.85	34.65	90.80	Max Peak	Horizontal	153	2	110.2	-19.4	Pass	
3	5937.43	26.41	3.87	34.85	65.13	Max Peak	Horizontal	153	2	68.2	-3.1	Pass	
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

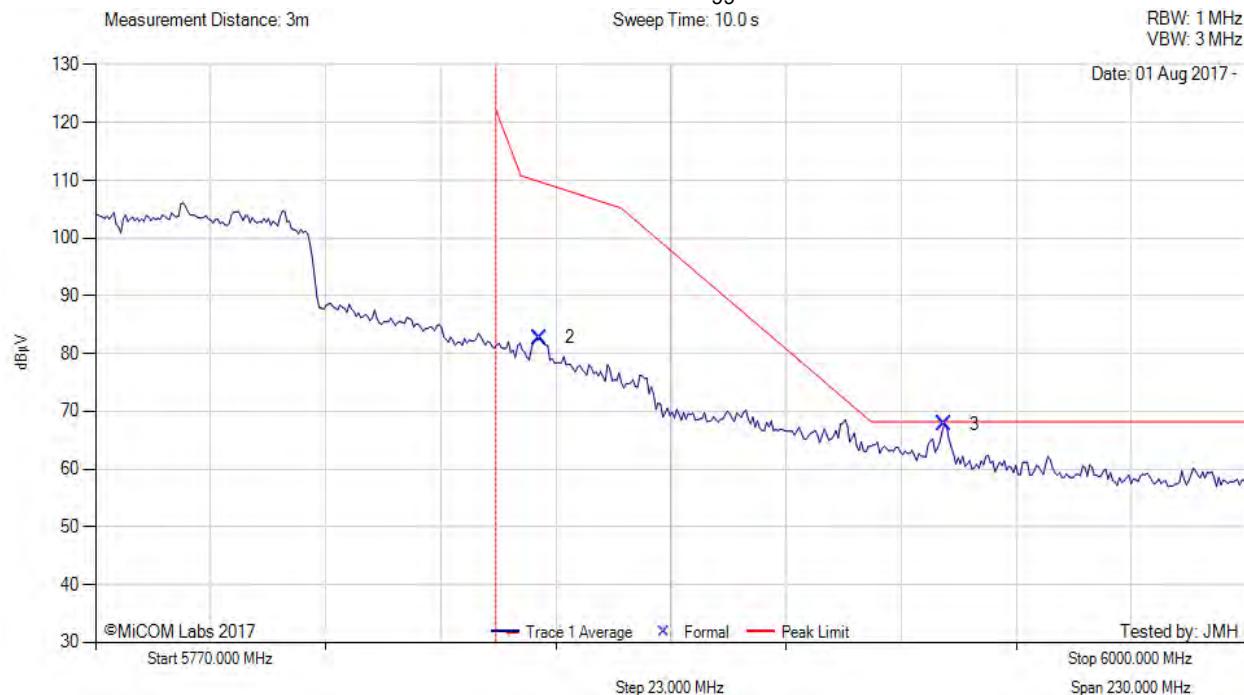
Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH165 a mode.

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5850 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 802.11ac-80, Test Freq: 5775.00 MHz, Antenna: Aruba AP-ANT-20W, Power Setting: 86, Duty Cycle (%): 99



5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
2	5858.76	44.27	3.85	34.65	82.77	Max Peak	Horizontal	153	2	109.9	-27.0	Pass	
3	5939.62	28.98	3.89	34.86	67.73	Max Peak	Horizontal	153	2	68.2	-0.5	Pass	
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH155 ac 80 mode.

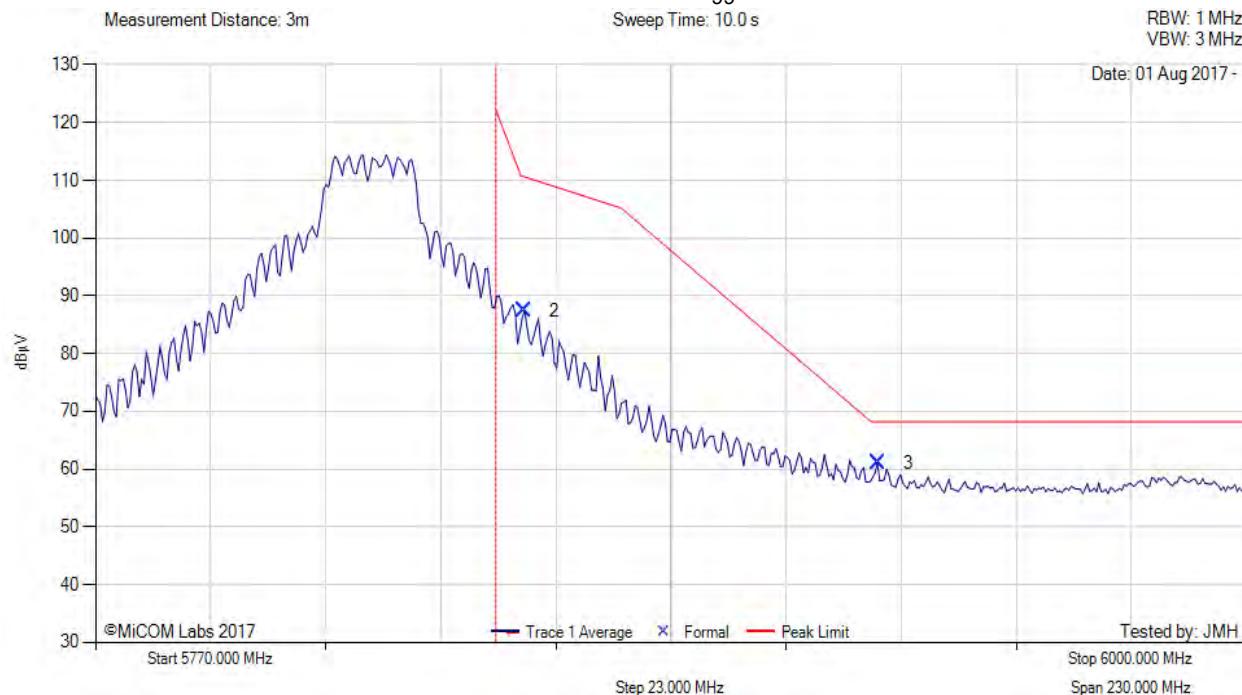
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5850 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 802.11n HT-20, Test Freq: 5825.00 MHz, Antenna: Aruba AP-ANT-20W, Power Setting: 93, Duty Cycle (%): 99



5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
2	5855.53	48.91	3.84	34.64	87.39	Max Peak	Horizontal	153	2	110.1	-22.7	Pass	
3	5926.37	22.40	3.84	34.82	61.06	Max Peak	Horizontal	153	2	68.2	-7.2	Pass	
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH165 nHT20 mode.

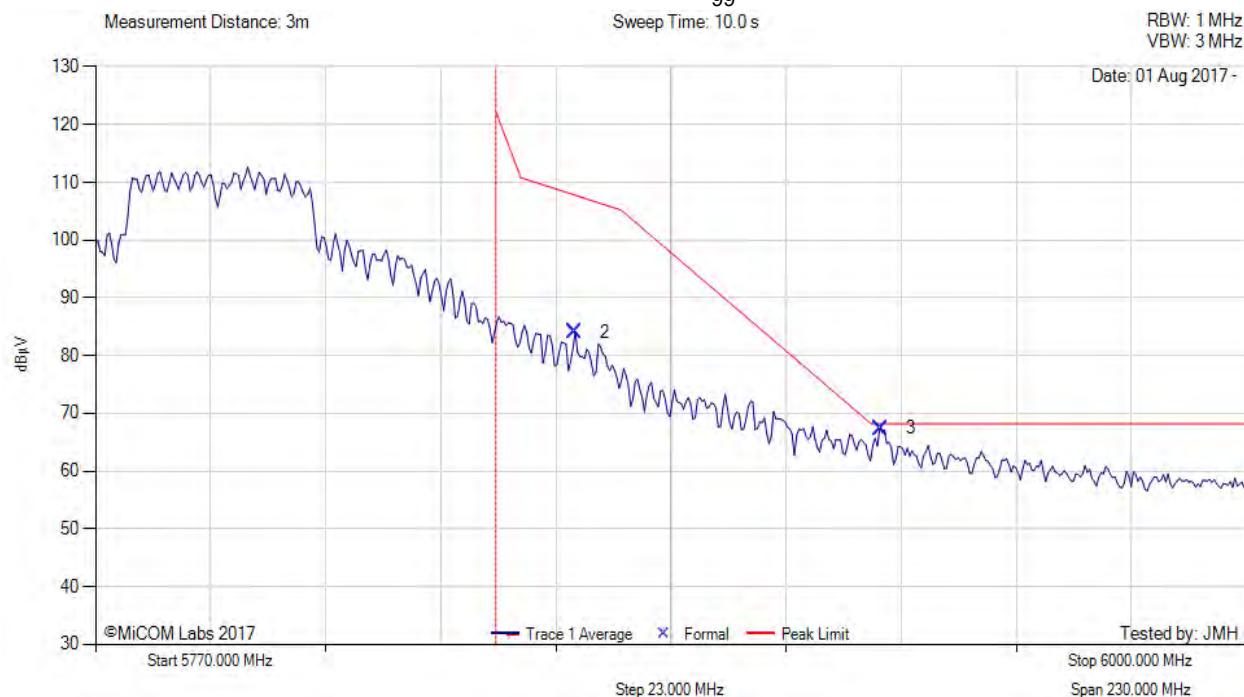
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5850 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 802.11n HT-40, Test Freq: 5795.00 MHz, Antenna: Aruba AP-ANT-20W, Power Setting: 92, Duty Cycle (%): 99



5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
2	5865.67	45.58	3.83	34.67	84.08	Max Peak	Horizontal	153	2	107.5	-23.4	Pass	
3	5926.83	28.77	3.83	34.83	67.43	Max Peak	Horizontal	153	2	68.2	-0.8	Pass	
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH159 nHT40 mode.

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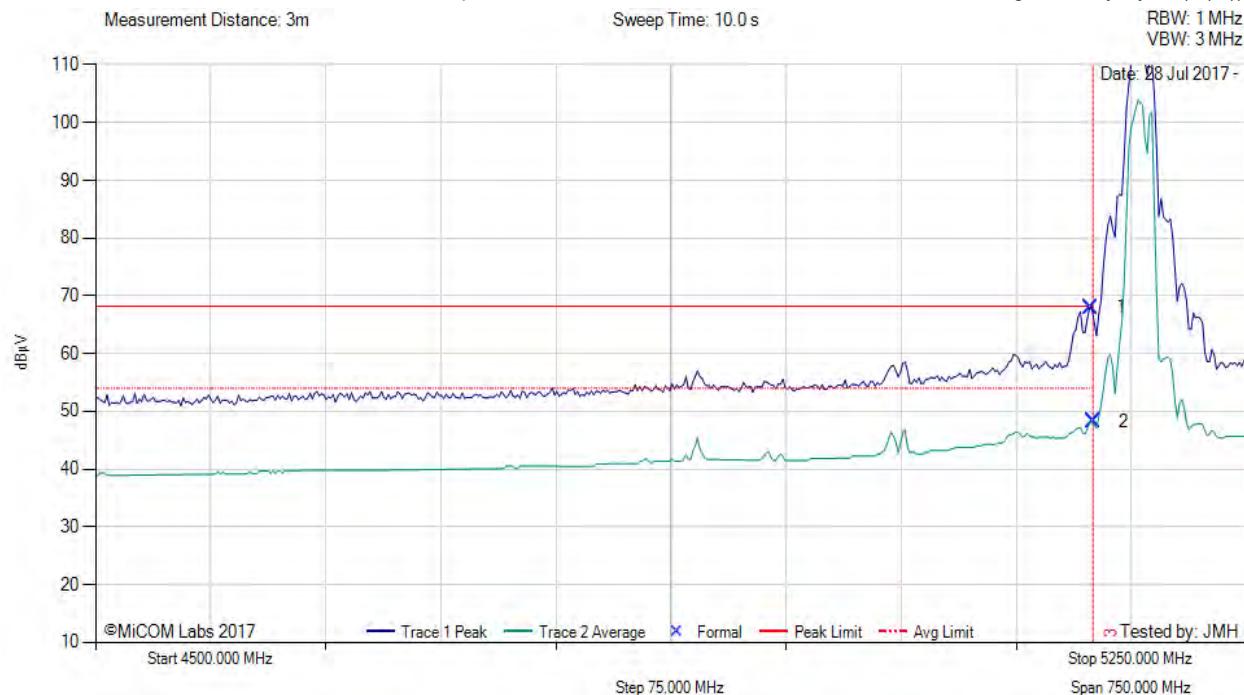
Antenna: AP-ANT-40

5150 - 5250 MHz

RESTRICTED LOWER BAND-EDGE EMISSIONS



Variant: 802.11a, Test Freq: 5180.00 MHz, Antenna: Aruba AP-ANT-40, Power Setting: 63, Duty Cycle (%): ((



4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5148.50	30.22	3.68	34.11	68.01	Max Peak	Horizontal	160	39	68.2	-0.2	Pass	
2	5150.00	10.46	3.67	34.11	48.24	Max Avg	Horizontal	160	39	54.0	-5.8	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

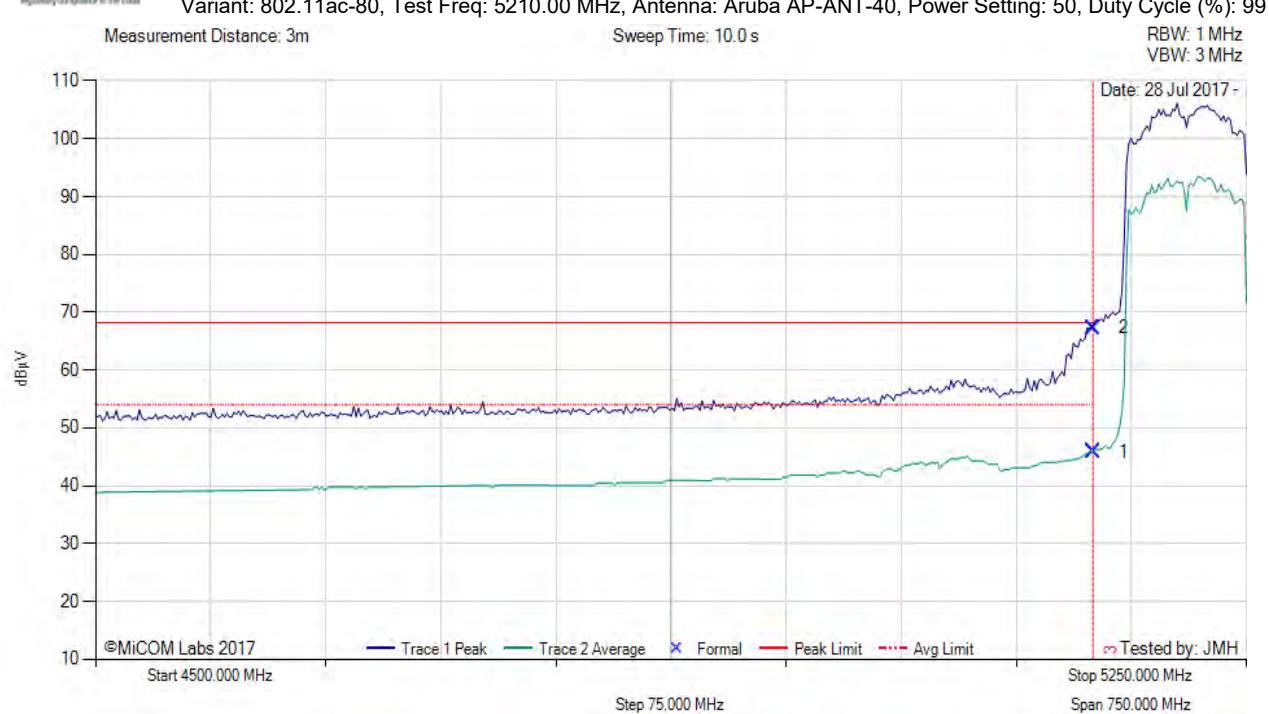
Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 a mode.

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RESTRICTED LOWER BAND-EDGE EMISSIONS



4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5150.00	8.08	3.67	34.11	45.86	Max Avg	Horizontal	160	39	54.0	-8.1	Pass	
2	5150.00	29.53	3.67	34.11	67.31	Max Peak	Horizontal	160	39	68.2	-0.9	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH42 ac 80 mode.

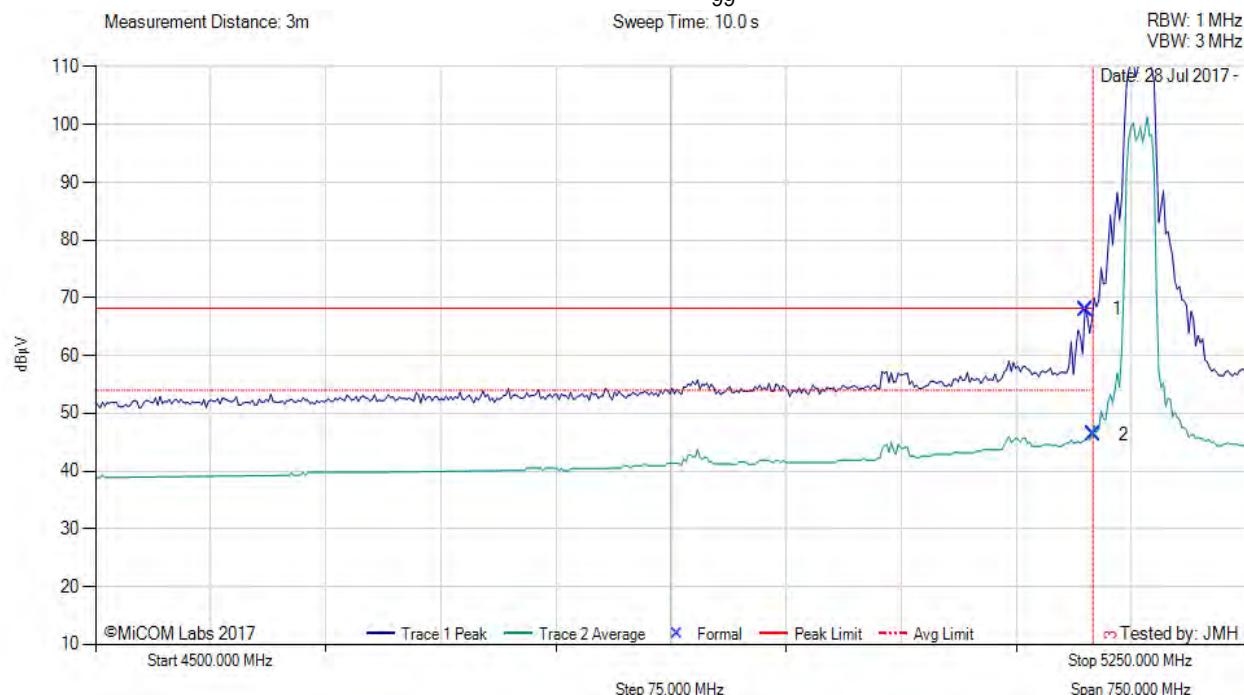
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RESTRICTED LOWER BAND-EDGE EMISSIONS



Variant: 802.11n HT-20, Test Freq: 5180.00 MHz, Antenna: Aruba AP-ANT-40, Power Setting: 57, Duty Cycle (%): 99



4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5145.49	30.21	3.69	34.11	68.01	Max Peak	Horizontal	160	39	68.2	-0.2	Pass	
2	5150.00	8.52	3.67	34.11	46.30	Max Avg	Horizontal	160	39	54.0	-7.7	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 nHT20 mode.

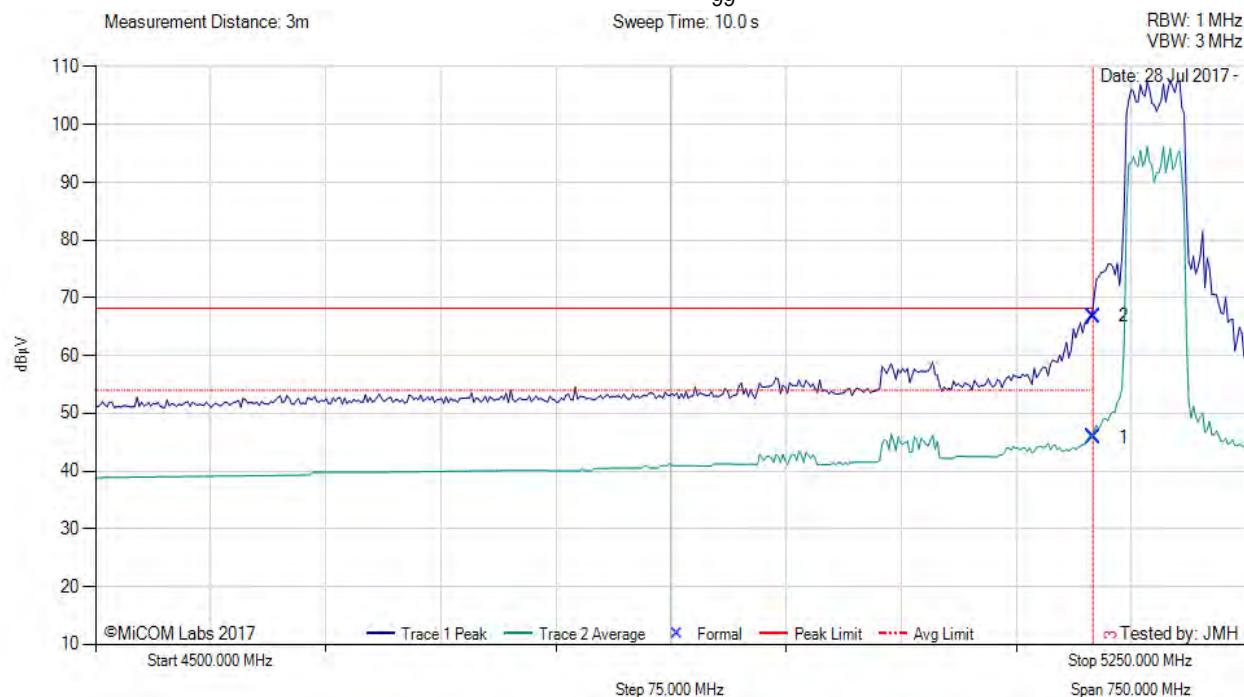
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RESTRICTED LOWER BAND-EDGE EMISSIONS



Variant: 802.11n HT-40, Test Freq: 5190.00 MHz, Antenna: Aruba AP-ANT-40, Power Setting: 52, Duty Cycle (%): 99



4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5150.00	8.08	3.67	34.11	45.86	Max Avg	Horizontal	160	39	54.0	-8.1	Pass	
2	5150.00	29.05	3.67	34.11	66.83	Max Peak	Horizontal	160	39	68.2	-1.5	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH38 nHT40 mode.

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RESTRICTED LOWER BAND-EDGE EMISSIONS

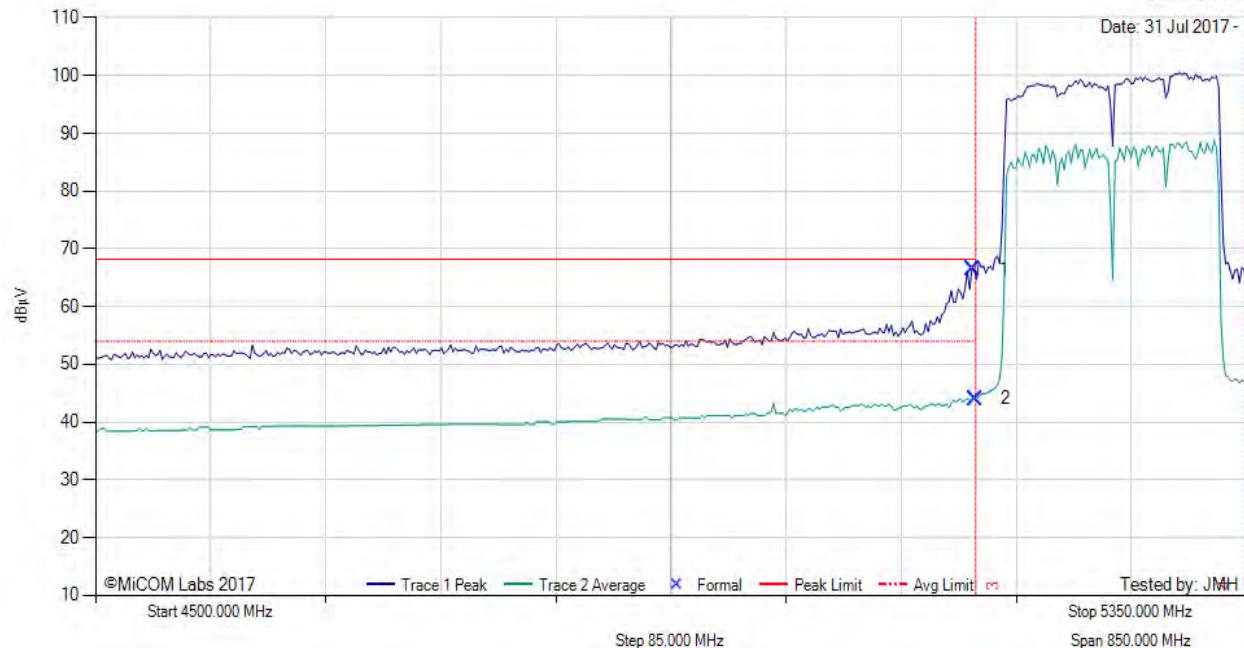


Variant: 802.11ac-80+80, Test Freq: 5210.00 + 5290.00 MHz, Antenna: Aruba AP-ANT-40, Power Setting: 13 d, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 10.0 s

RBW: 1 MHz
VBW: 3 MHz



4500.00 - 5350.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5148.30	28.73	3.68	34.11	66.52	Max Peak	Horizontal	182	44	68.2	-1.7	Pass	
2	5150.00	6.31	3.67	34.11	44.09	Max Avg	Horizontal	182	44	54.0	-9.9	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	
4	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH42-58 ac 80+80 mode.

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5725 - 5850 MHz

5725 MHz RADIATED BAND-EDGE EMISSIONS



5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5652.23	26.97	3.76	34.18	64.91	Max Peak	Horizontal	165	326	69.7	-4.8	Pass	
2	5717.42	52.39	3.81	34.34	90.54	Max Peak	Horizontal	165	326	110.0	-19.4	Pass	
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

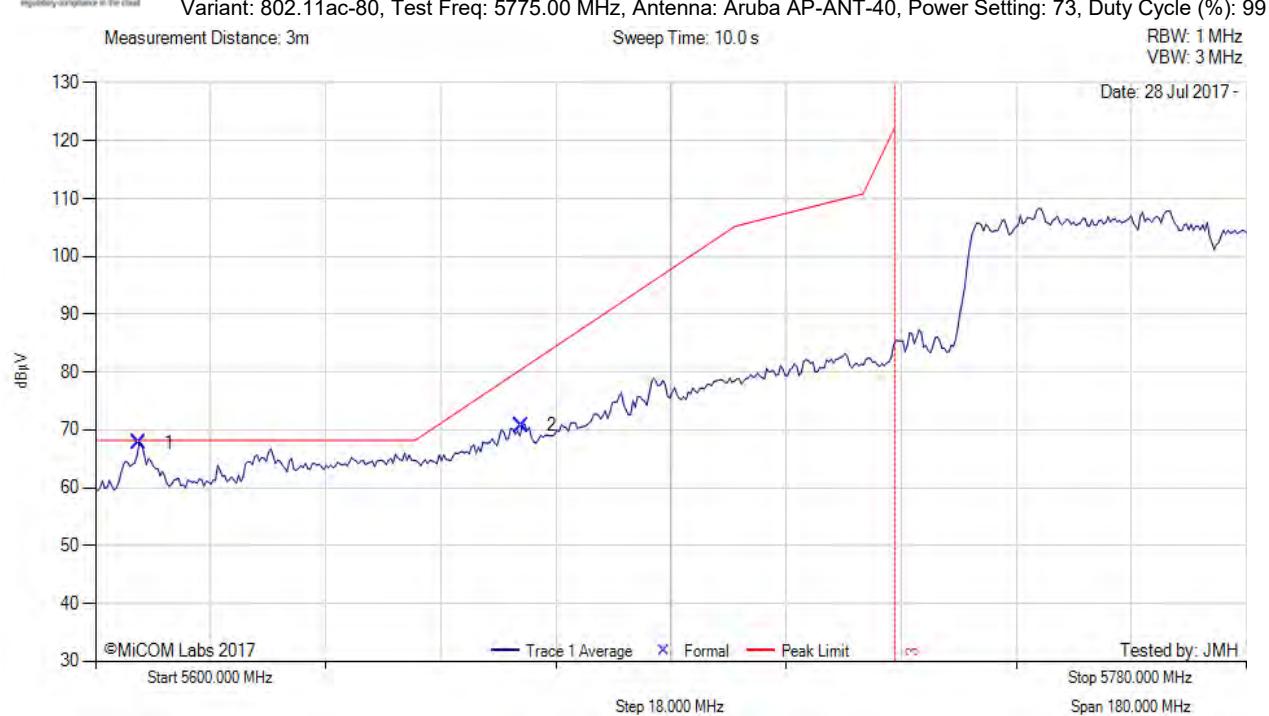
Test Notes: EUT powered by AC/DC PS. connected to laptop outside chamber via telnet. 2GF, 5GF Mode 1 Radio 0 Chan 149 a mode.

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5725 MHz RADIATED BAND-EDGE EMISSIONS



5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5606.78	29.82	3.78	34.23	67.83	Max Peak	Horizontal	165	326	68.2	-0.4	Pass	
2	5666.56	32.75	3.77	34.23	70.75	Max Peak	Horizontal	165	326	80.8	-10.0	Pass	
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. connected to laptop outside chamber via telnet. 2GF, 5GF Mode 1 Radio 0 Chan 155 ac80 mode.

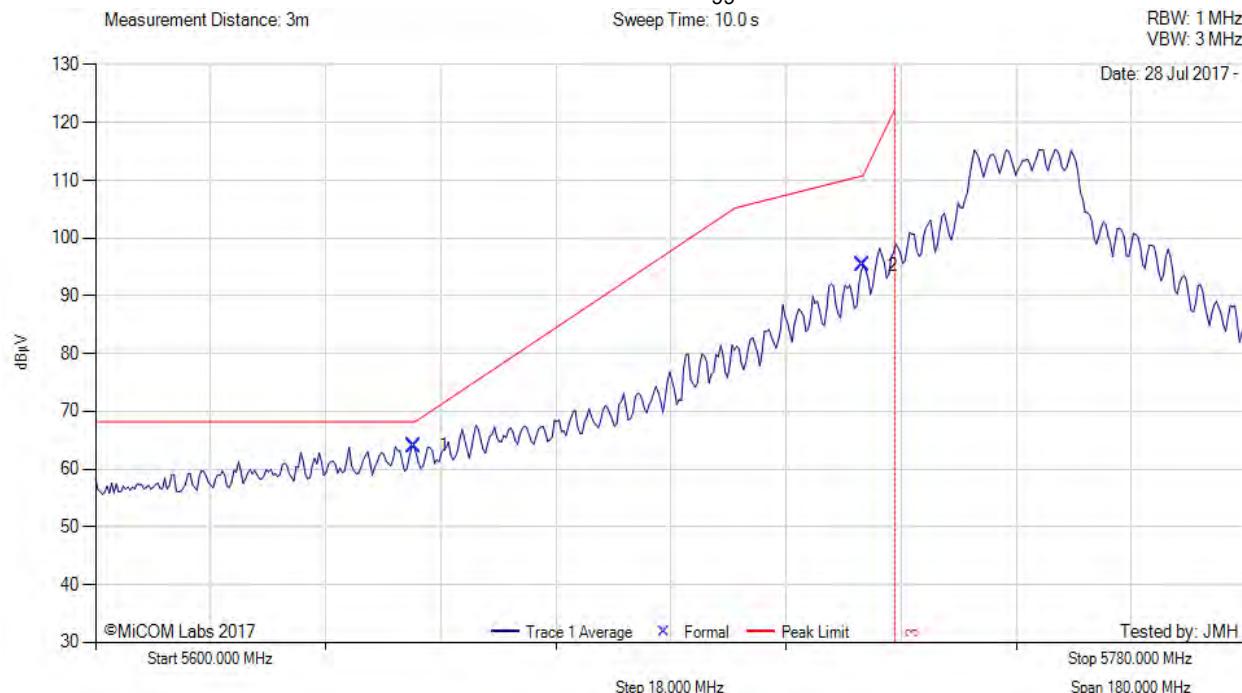
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5725 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 802.11n HT-20, Test Freq: 5745.00 MHz, Antenna: Aruba AP-ANT-40, Power Setting: 91, Duty Cycle (%): 99



5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5649.71	26.12	3.75	34.18	64.05	Max Peak	Horizontal	165	326	68.2	-4.2	Pass	
2	5719.95	57.11	3.80	34.35	95.26	Max Peak	Horizontal	165	326	110.0	-14.7	Pass	
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. connected to laptop outside chamber via telnet. 2GF, 5GF Mode 1 Radio 0 Chan 149 nHT20 mode.

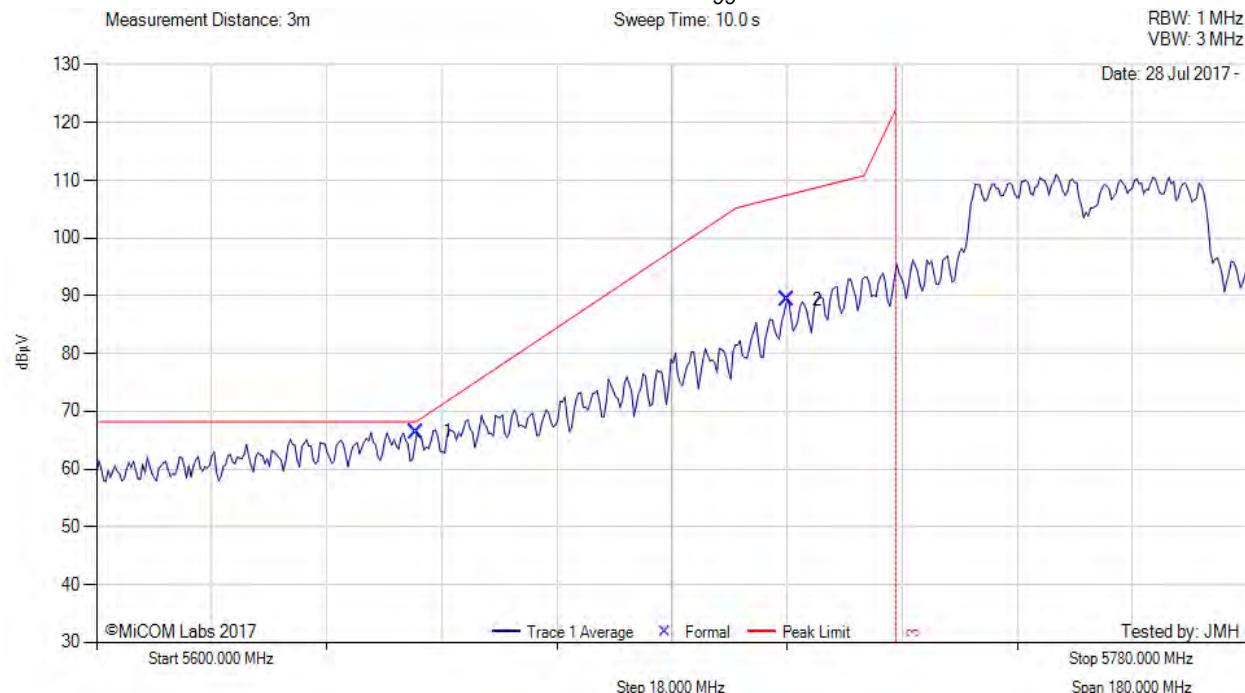
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5725 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 802.11n HT-40, Test Freq: 5755.00 MHz, Antenna: Aruba AP-ANT-40, Power Setting: 88, Duty Cycle (%): 99



5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5650.07	28.49	3.75	34.18	66.42	Max Peak	Horizontal	165	326	68.2	-1.8	Pass	
2	5708.05	51.19	3.85	34.34	89.38	Max Peak	Horizontal	165	326	107.4	-18.1	Pass	
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. connected to laptop outside chamber via telnet. 2GF, 5GF Mode 1 Radio 0 Chan 151 nHT40 mode.

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5850 MHz RADIATED BAND-EDGE EMISSIONS



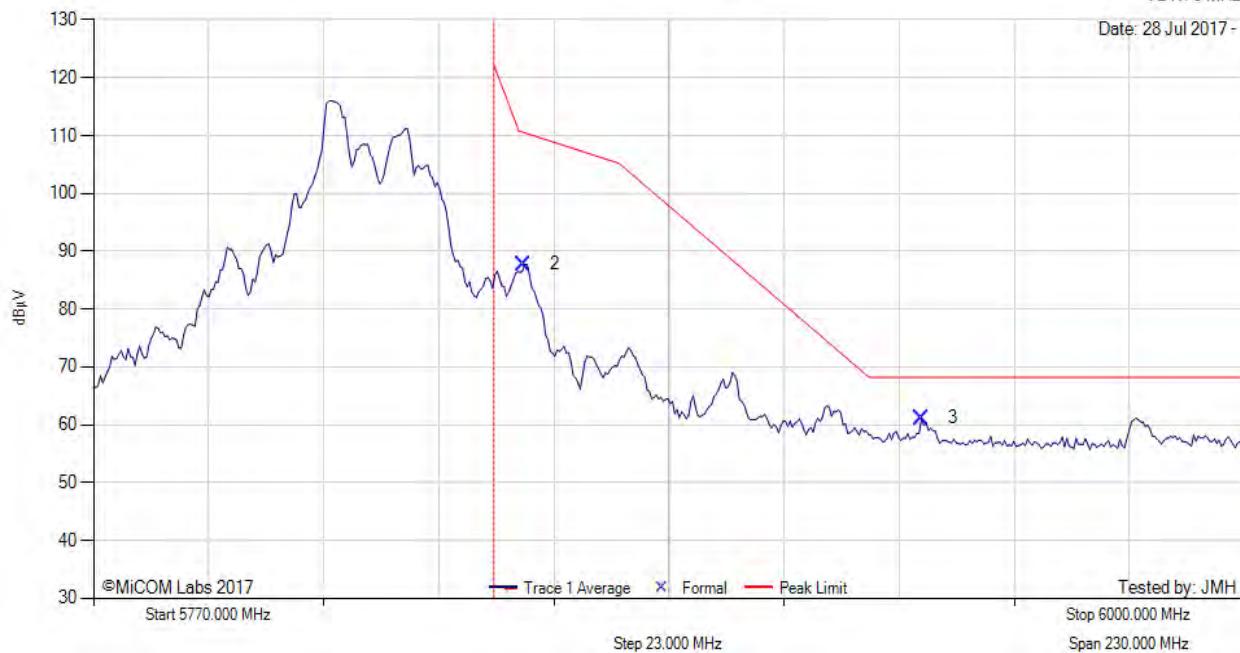
Variant: 802.11a, Test Freq: 5825.00 MHz, Antenna: Aruba AP-ANT-40, Power Setting: 91, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 10.0 s

RBW: 1 MHz
VBW: 3 MHz

Date: 28 Jul 2017 -



5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
2	5855.99	49.26	3.84	34.64	87.74	Max Peak	Horizontal	165	326	111.0	-23.3	Pass	
3	5935.59	22.43	3.87	34.85	61.15	Max Peak	Horizontal	165	326	68.2	-7.1	Pass	
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. connected to laptop outside chamber via telnet. 2GF, 5GF Mode 1 Radio 0 Chan 165 a mode.

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5850 MHz RADIATED BAND-EDGE EMISSIONS



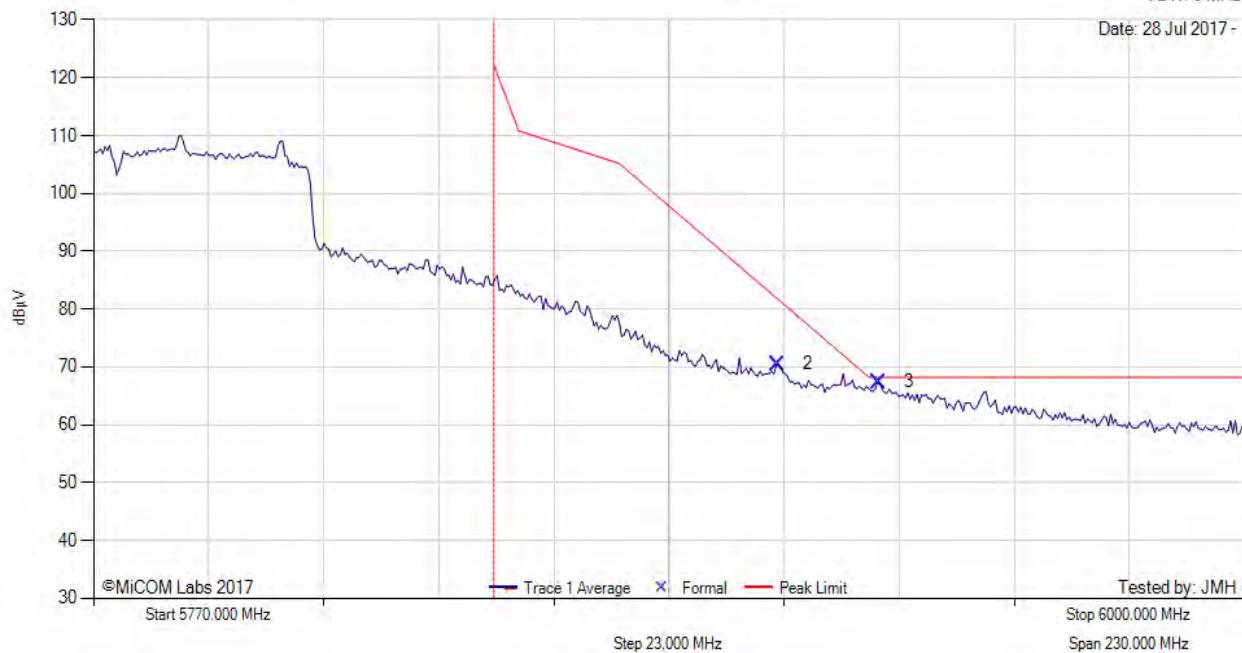
Variant: 802.11ac-80, Test Freq: 5775.00 MHz, Antenna: Aruba AP-ANT-40, Power Setting: 84, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 10.0 s

RBW: 1 MHz
VBW: 3 MHz

Date: 28 Jul 2017 -



5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
2	5906.69	31.92	3.82	34.78	70.52	Max Peak	Horizontal	165	326	81.4	-10.9	Pass	
3	5926.83	28.78	3.83	34.83	67.44	Max Peak	Horizontal	165	326	68.2	-0.8	Pass	
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH155 ac 80 mode.

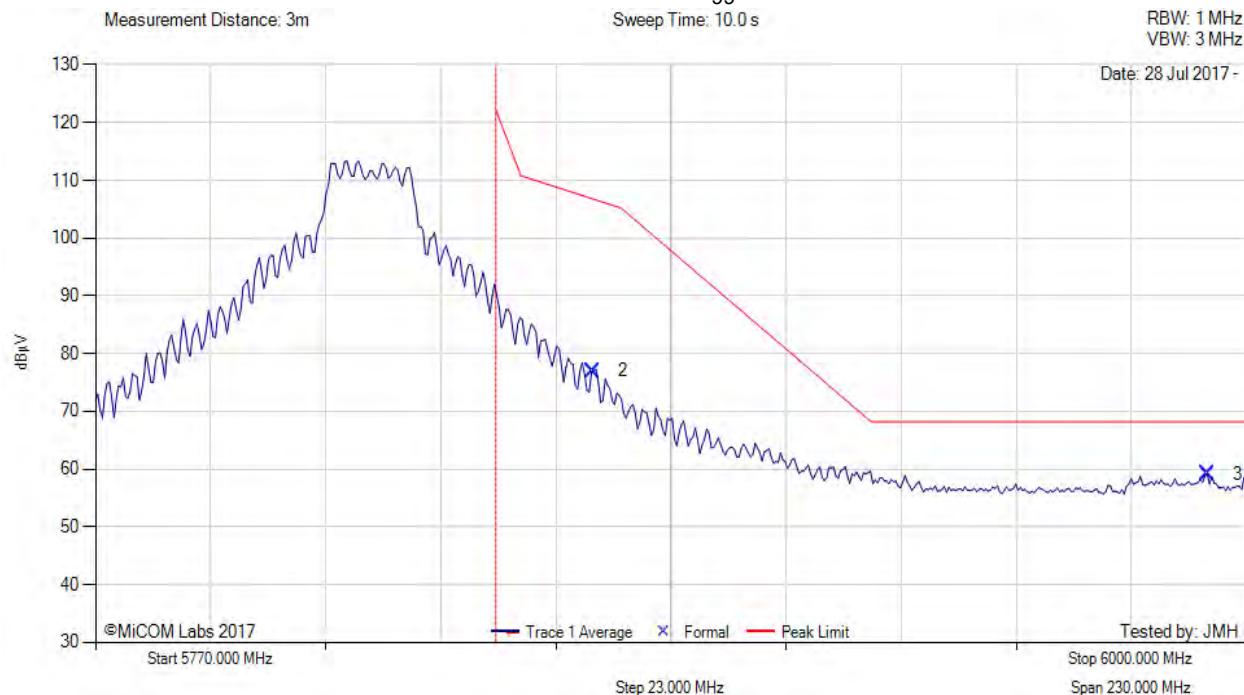
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5850 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 802.11n HT-20, Test Freq: 5825.00 MHz, Antenna: Aruba AP-ANT-40, Power Setting: 93, Duty Cycle (%): 99



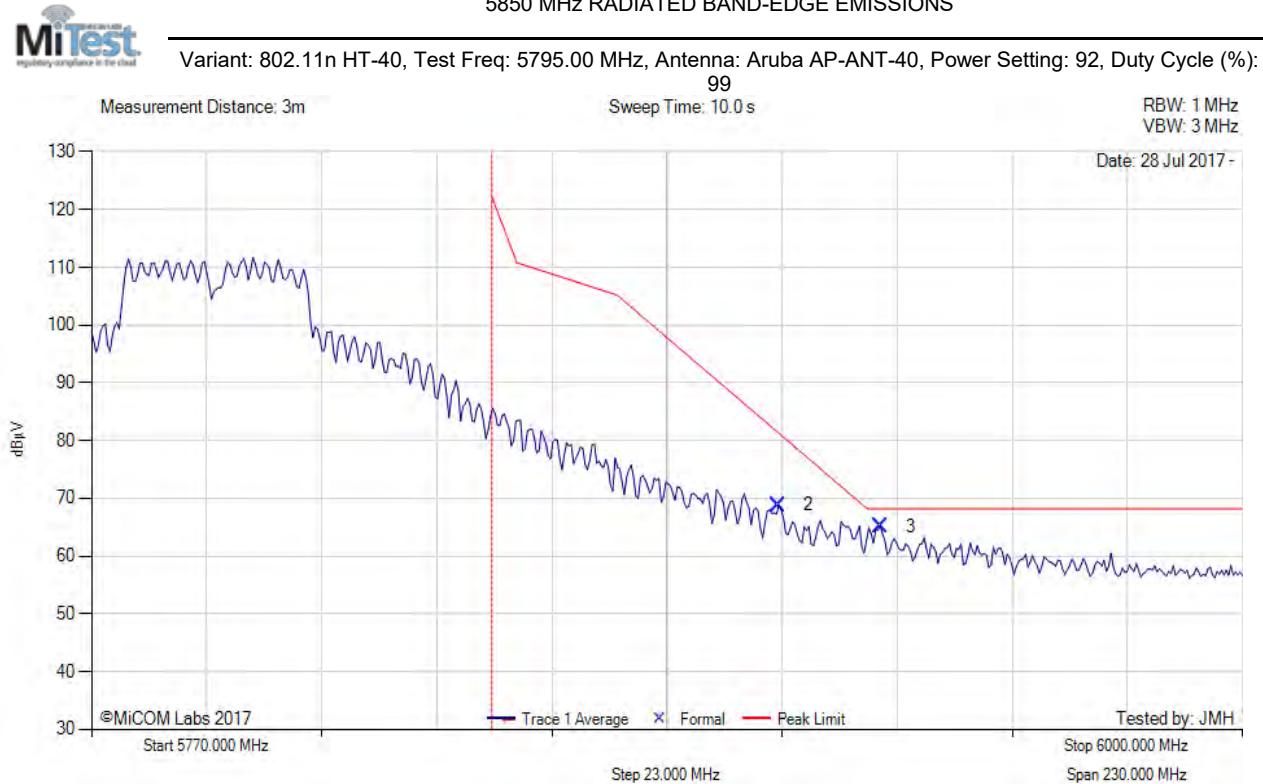
5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
2	5869.36	38.53	3.82	34.68	77.03	Max Peak	Horizontal	165	326	107.8	-30.7	Pass	
3	5992.28	20.33	3.89	34.93	59.15	Max Peak	Horizontal	165	326	68.2	-9.1	Pass	
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. connected to laptop outside chamber via telnet. 2GF, 5GF Mode 1 Radio 0 Chan 165

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5850 MHz RADIATED BAND-EDGE EMISSIONS



5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
2	5907.15	30.27	3.82	34.78	68.87	Max Peak	Horizontal	165	326	81.5	-13.7	Pass	
3	5927.76	26.51	3.83	34.83	65.17	Max Peak	Horizontal	165	326	68.2	-3.1	Pass	
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. connected to laptop outside chamber via telnet. 2GF, 5GF Mode 1 Radio 0 Chan 159

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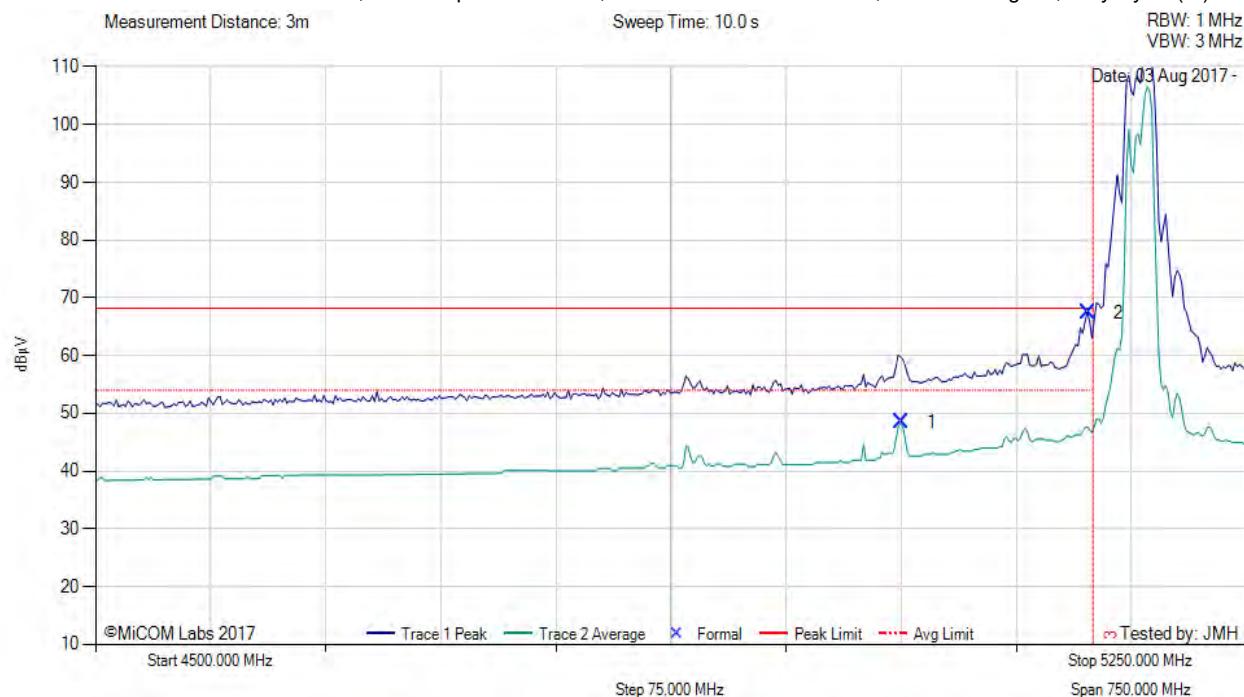
Antenna: AP-ANT-45

5150 - 5250 MHz

RESTRICTED LOWER BAND-EDGE EMISSIONS



Variant: 802.11a, Test Freq: 5180.00 MHz, Antenna: Aruba AP-ANT-45, Power Setting: 59, Duty Cycle (%): 99



4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5025.25	10.59	3.68	34.21	48.48	Max Avg	Vertical	145	359	54.0	-5.5	Pass	
2	5146.99	29.65	3.68	34.11	67.44	Max Peak	Vertical	145	359	68.2	-0.8	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 a mode.

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RESTRICTED LOWER BAND-EDGE EMISSIONS

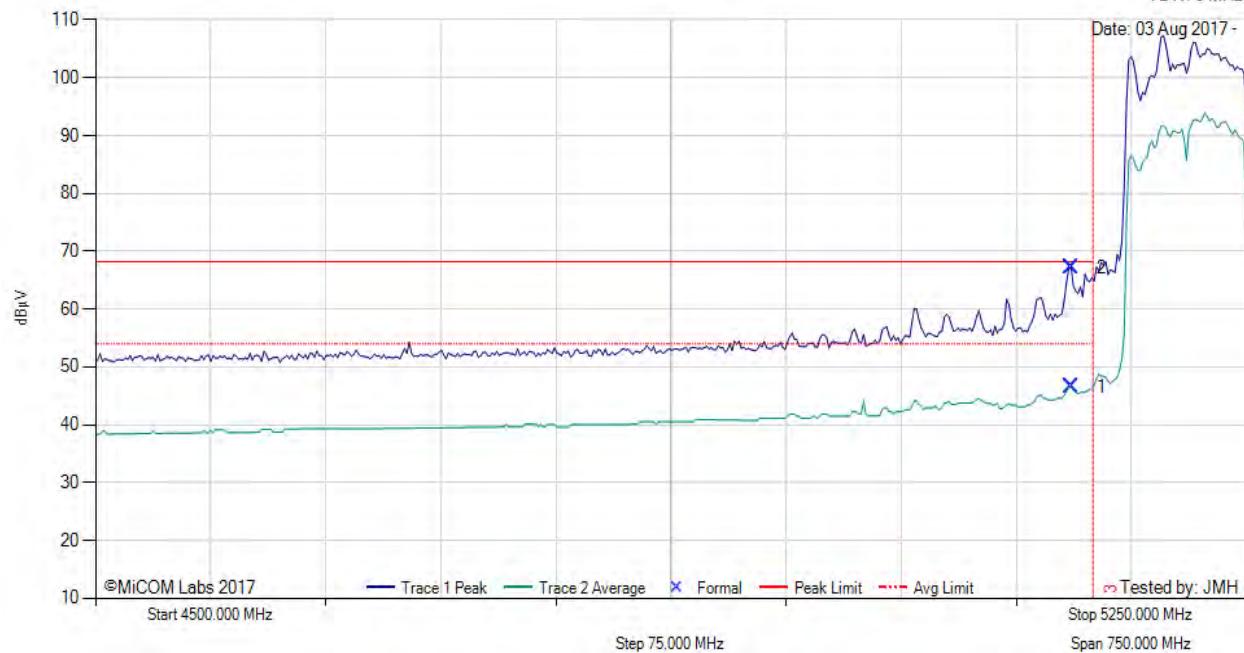


Variant: 802.11ac-80, Test Freq: 5210.00 MHz, Antenna: Aruba AP-ANT-45, Power Setting: 53, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 10.0 s

RBW: 1 MHz
VBW: 3 MHz



4500.00 - 5250.00 MHz												
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
1	5135.77	8.69	3.69	34.12	46.50	Max Avg	Vertical	145	359	54.0	-7.5	Pass
2	5135.77	29.38	3.69	34.12	67.19	Max Peak	Vertical	145	359	68.2	-1.0	Pass
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH42 ac 80 mode.

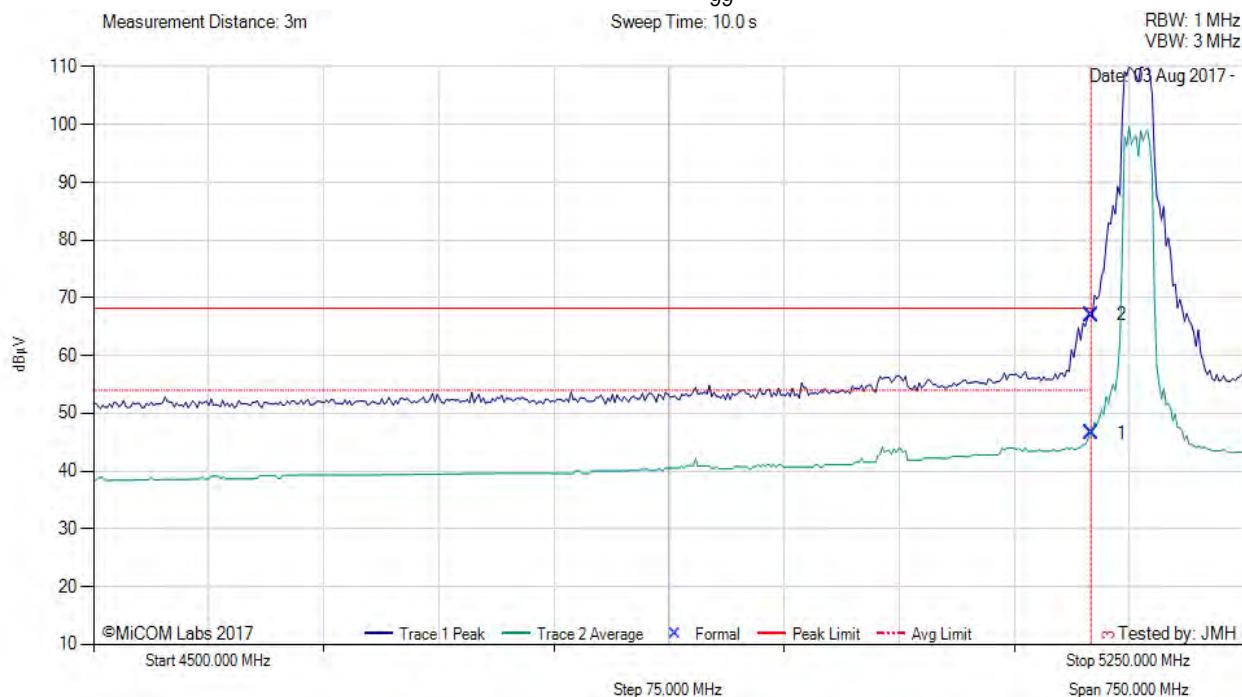
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RESTRICTED LOWER BAND-EDGE EMISSIONS



Variant: 802.11n HT-20, Test Freq: 5180.00 MHz, Antenna: Aruba AP-ANT-45, Power Setting: 60, Duty Cycle (%): 99



4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5150.00	8.74	3.67	34.11	46.52	Max Avg	Vertical	145	359	54.0	-7.5	Pass	
2	5150.00	29.25	3.67	34.11	67.03	Max Peak	Vertical	145	359	68.2	-1.2	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 nHT20 mode.

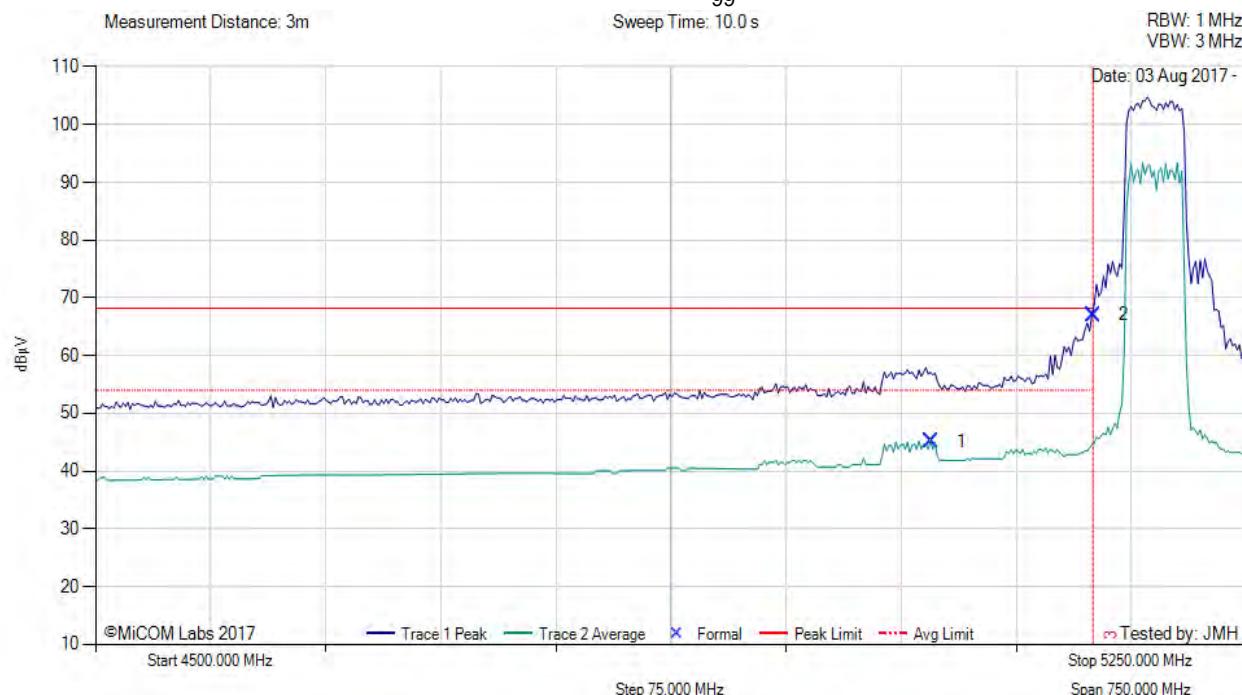
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RESTRICTED LOWER BAND-EDGE EMISSIONS



Variant: 802.11n HT-40, Test Freq: 5190.00 MHz, Antenna: Aruba AP-ANT-45, Power Setting: 50, Duty Cycle (%): 99



4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5044.79	7.33	3.65	34.20	45.18	Max Avg	Vertical	145	359	54.0	-8.8	Pass	
2	5150.00	29.23	3.67	34.11	67.01	Max Peak	Vertical	145	359	68.2	-1.2	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH38 nHT40 mode.

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RESTRICTED LOWER BAND-EDGE EMISSIONS

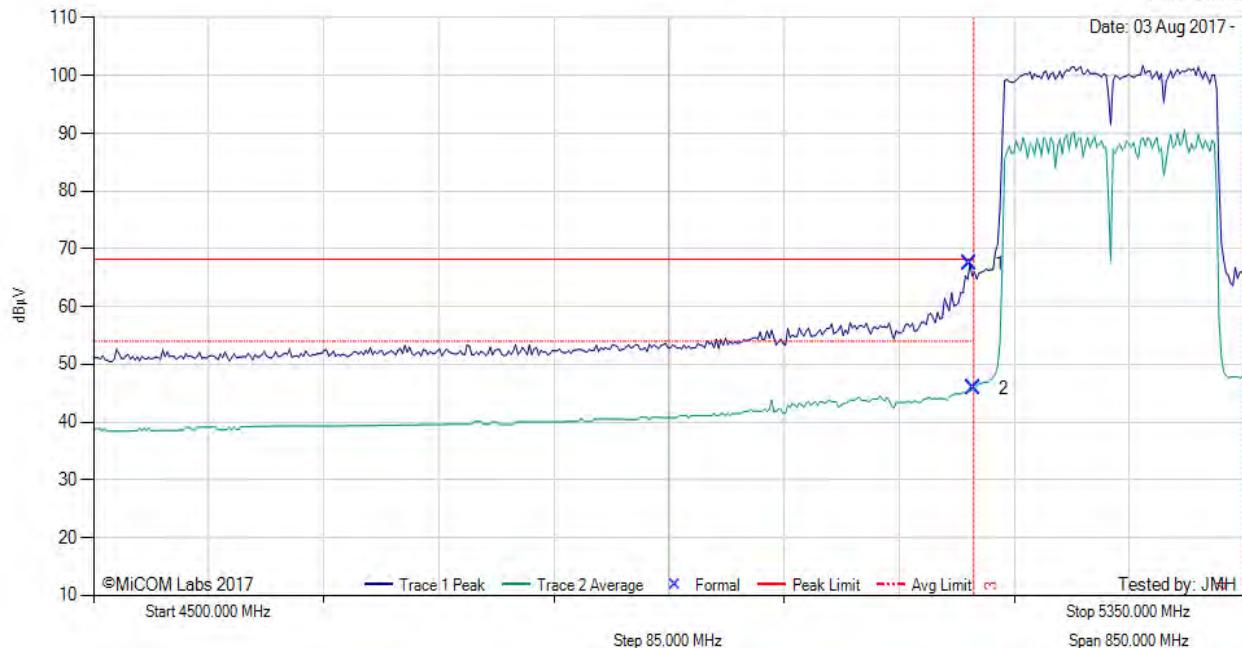


Variant: 802.11ac-80+80, Test Freq: 5210.00 + 5290.00 MHz, Antenna: Aruba AP-ANT-45, Power Setting: 12 d, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 10.0 s

RBW: 1 MHz
VBW: 3 MHz



4500.00 - 5350.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5146.89	29.57	3.68	34.11	67.36	Max Peak	Vertical	146	358	68.2	-0.8	Pass	
2	5150.00	8.08	3.67	34.11	45.86	Max Avg	Vertical	146	358	54.0	-8.1	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	
4	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH42-58 ac 80+80 mode.

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5725 - 5850 MHz

5725 MHz RADIATED BAND-EDGE EMISSIONS

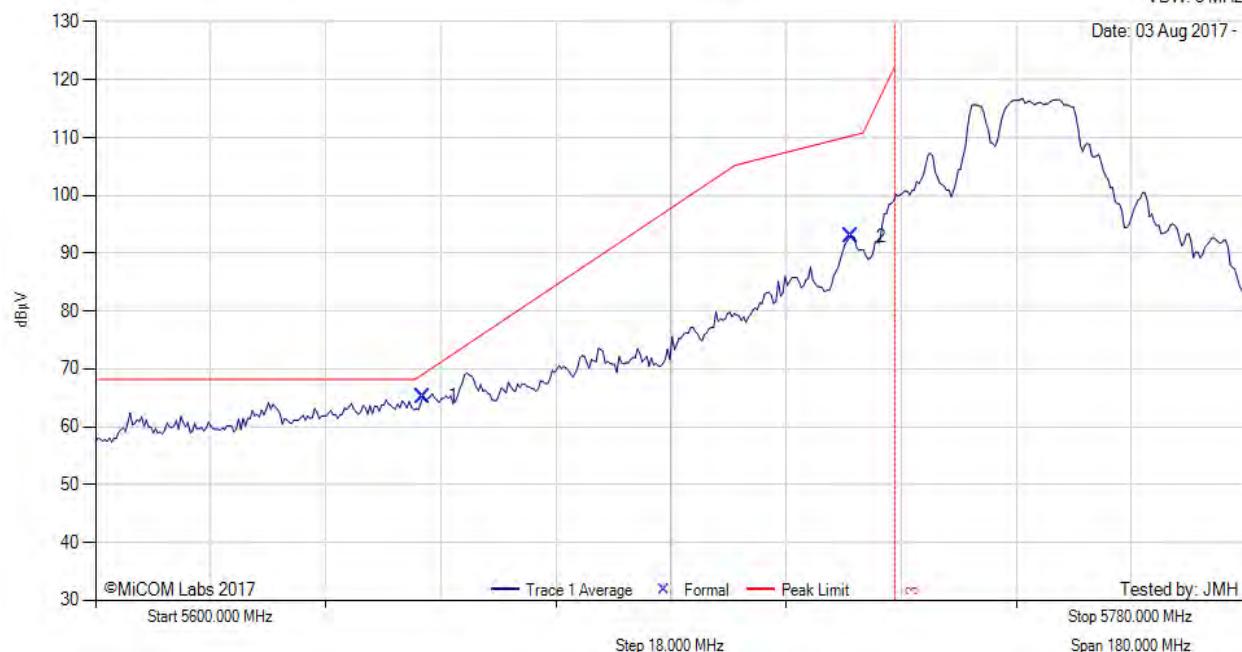


Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: Aruba AP-ANT-45, Power Setting: 91, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 10.0 s

RBW: 1 MHz
VBW: 3 MHz



5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
1	5651.15	27.34	3.76	34.18	65.28	Max Peak	Vertical	146	359	68.9	-3.7	Pass
2	5718.15	54.83	3.81	34.34	92.98	Max Peak	Vertical	146	359	110.2	-17.3	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

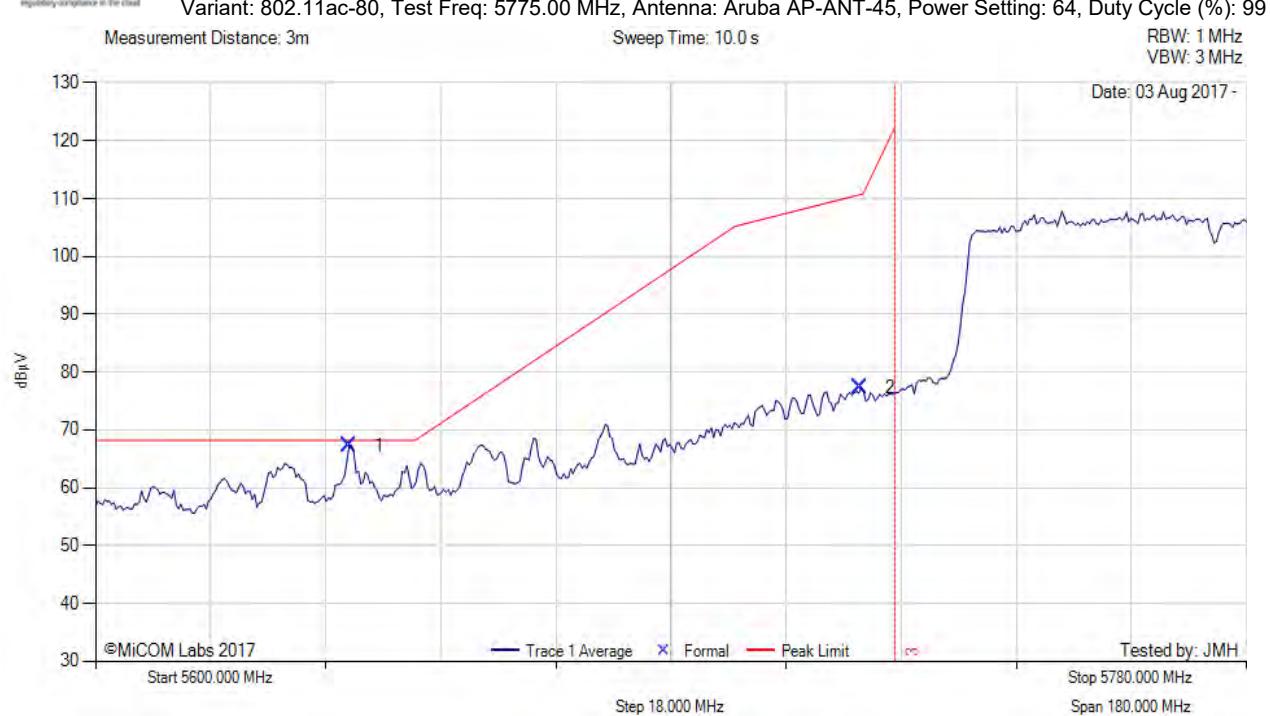
Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH149 a mode.

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5725 MHz RADIATED BAND-EDGE EMISSIONS



5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
1	5639.61	29.37	3.76	34.19	67.32	Max Peak	Vertical	146	359	68.2	-0.9	Pass
2	5719.59	39.18	3.80	34.35	77.33	Max Peak	Vertical	146	359	110.5	-33.2	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH155 ac 80 mode.

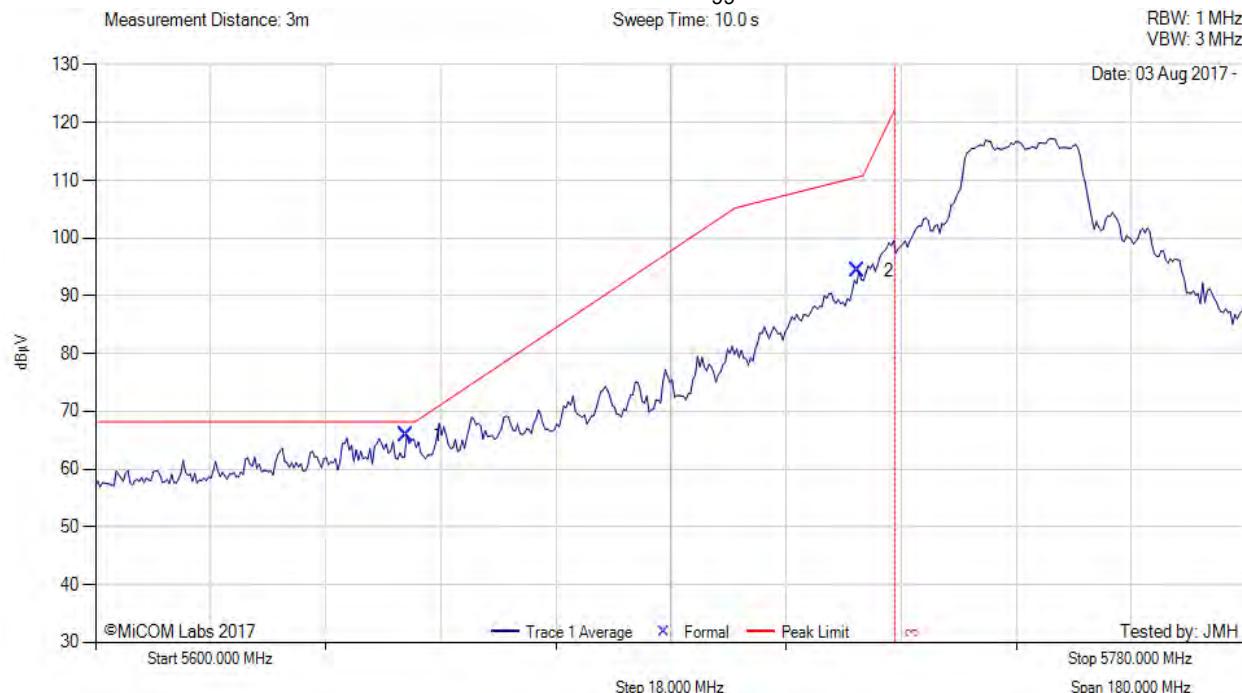
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5725 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 802.11n HT-20, Test Freq: 5745.00 MHz, Antenna: Aruba AP-ANT-45, Power Setting: 90, Duty Cycle (%): 99



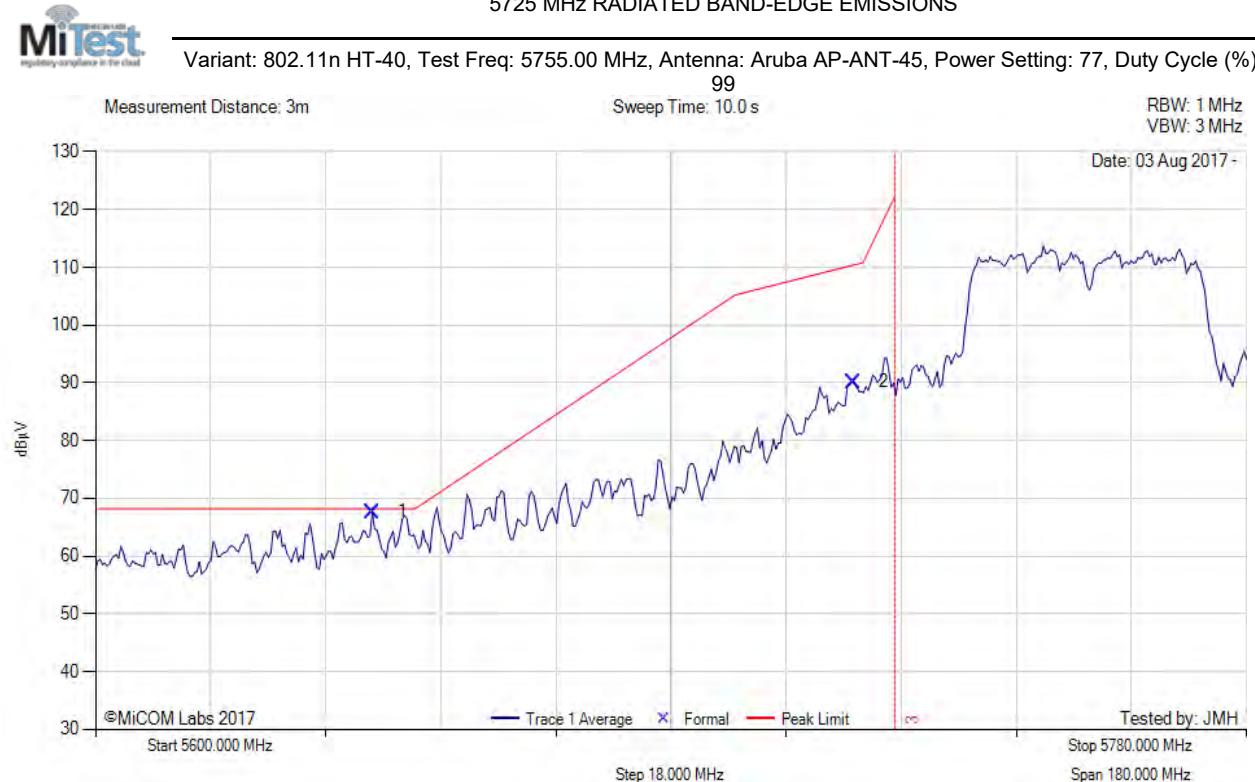
5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5648.63	27.94	3.75	34.18	65.87	Max Peak	Vertical	146	359	68.2	-2.4	Pass	
2	5719.23	56.18	3.80	34.34	94.32	Max Peak	Vertical	146	359	110.5	-16.2	Pass	
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH149 nHT20 mode.

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5725 MHz RADIATED BAND-EDGE EMISSIONS

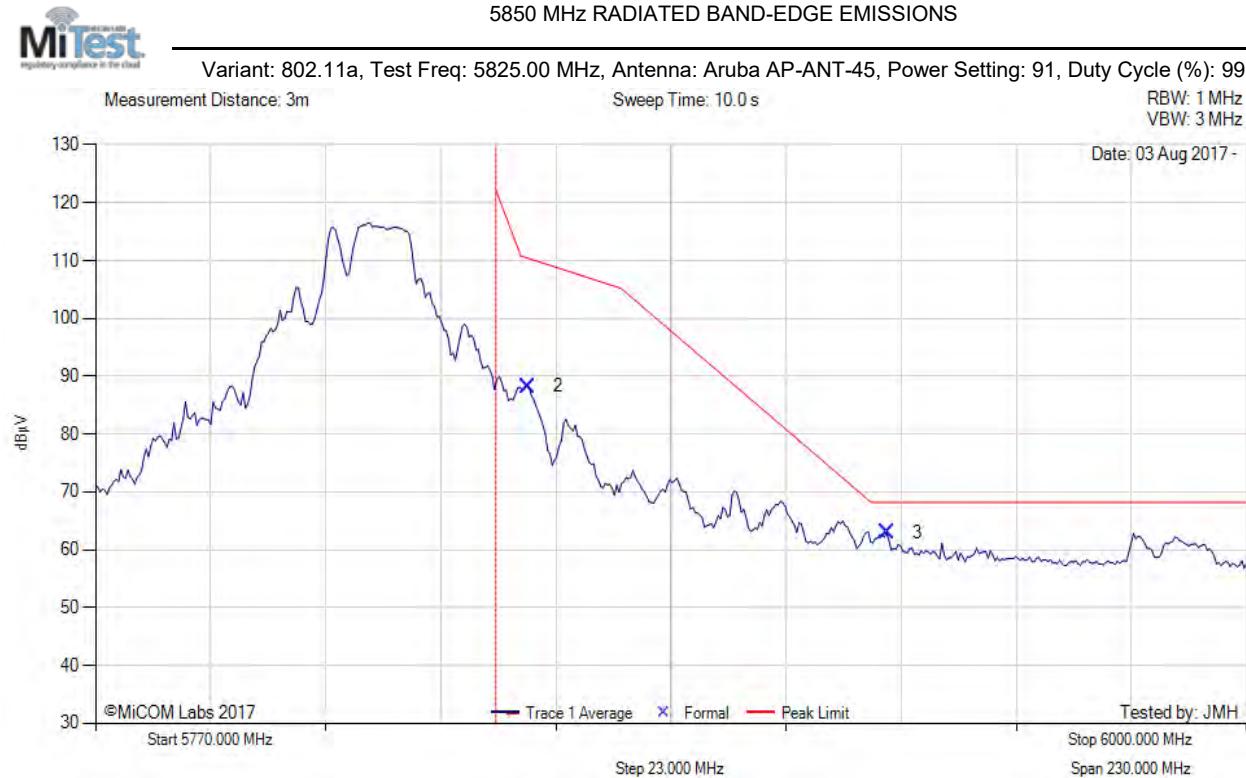


5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
1	5643.22	29.72	3.76	34.19	67.67	Max Peak	Vertical	146	359	68.2	-0.6	Pass
2	5718.51	51.99	3.80	34.34	90.13	Max Peak	Vertical	146	359	110.5	-20.4	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH151 nHT40 mode.

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5850 MHz RADIATED BAND-EDGE EMISSIONS



5770.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
2	5856.45	49.76	3.84	34.64	88.24	Max Peak	Vertical	146	359	109.7	-21.5	Pass
3	5928.22	24.28	3.83	34.83	62.94	Max Peak	Vertical	146	359	68.2	-5.3	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH165 a mode.

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5850 MHz RADIATED BAND-EDGE EMISSIONS



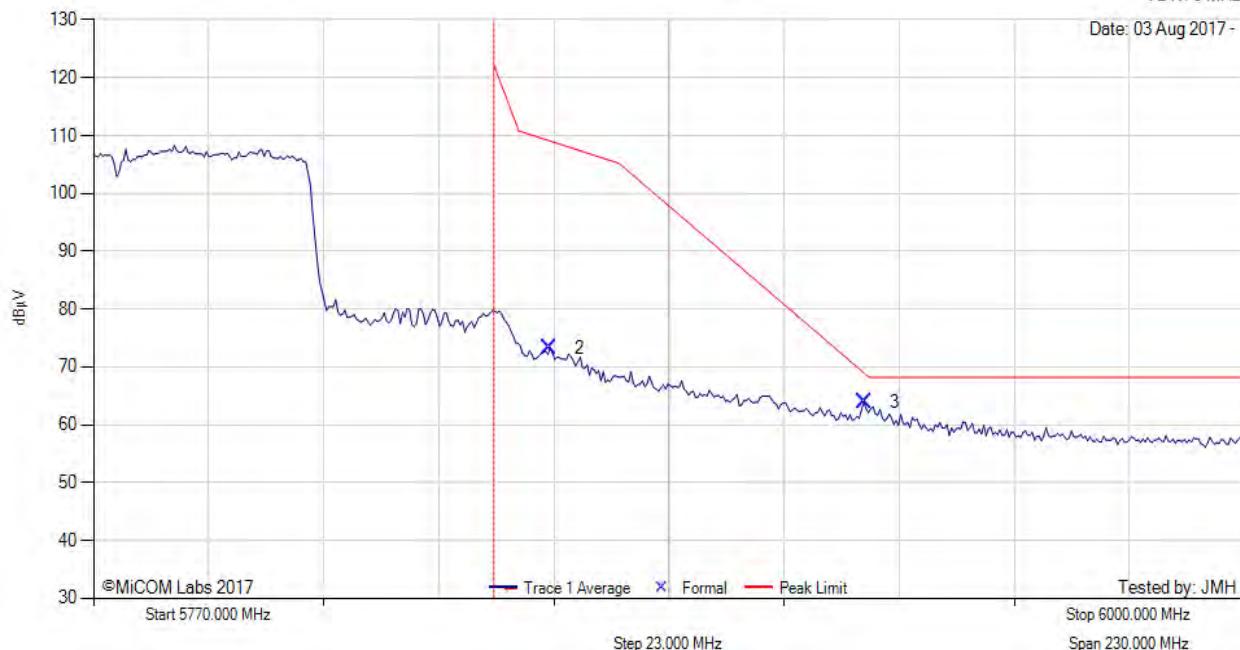
Variant: 802.11ac-80, Test Freq: 5775.00 MHz, Antenna: Aruba AP-ANT-45, Power Setting: 64, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 10.0 s

RBW: 1 MHz
VBW: 3 MHz

Date: 03 Aug 2017 -



5770.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
2	5861.06	34.73	3.86	34.66	73.25	Max Peak	Vertical	146	359	109.1	-35.9	Pass
3	5924.07	25.22	3.84	34.82	63.88	Max Peak	Vertical	146	359	68.9	-5.1	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH155 ac 80 mode.

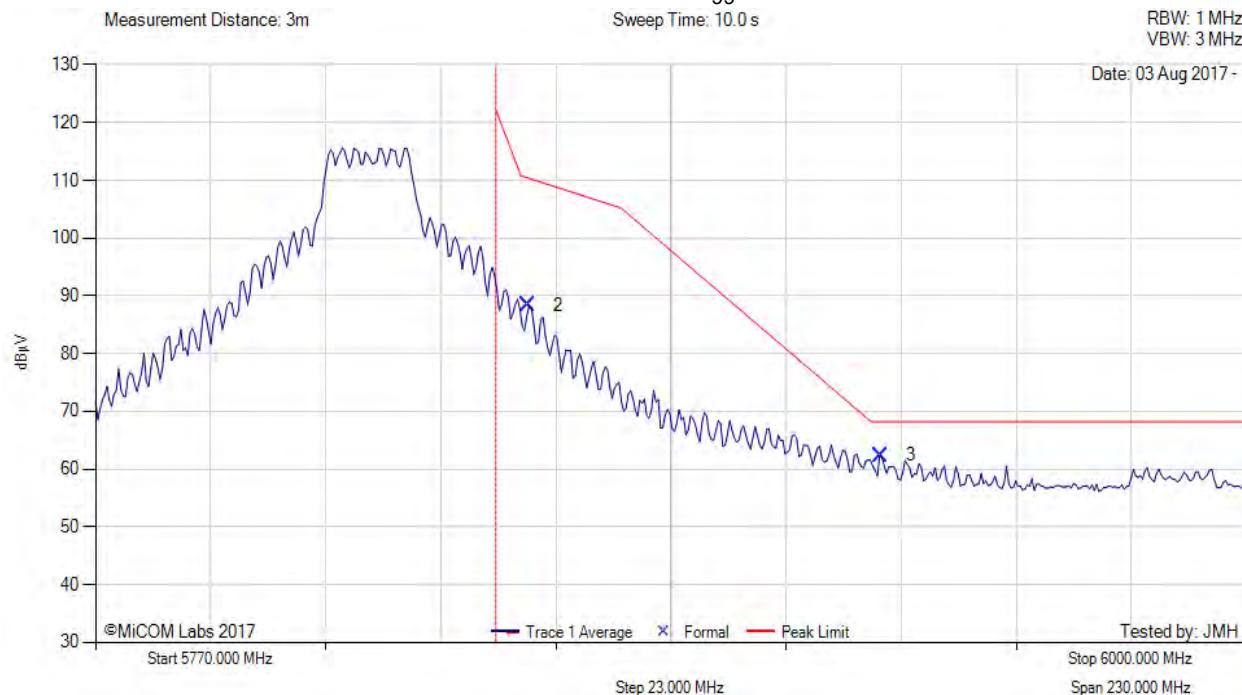
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5850 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 802.11n HT-20, Test Freq: 5825.00 MHz, Antenna: Aruba AP-ANT-45, Power Setting: 93, Duty Cycle (%): 99



5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
2	5856.45	49.89	3.84	34.64	88.37	Max Peak	Vertical	146	359	109.9	-21.5	Pass	
3	5926.83	23.75	3.83	34.83	62.41	Max Peak	Vertical	146	359	68.2	-5.8	Pass	
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

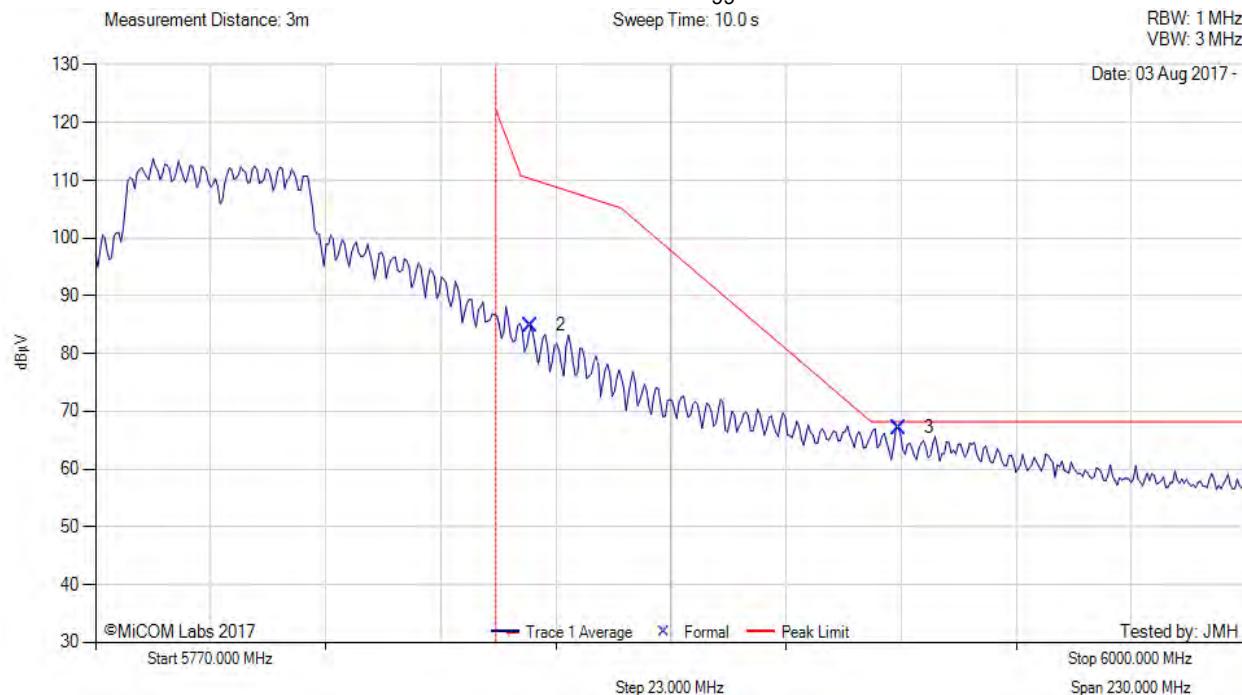
Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH165 nHT20 mode.

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5850 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 802.11n HT-40, Test Freq: 5795.00 MHz, Antenna: Aruba AP-ANT-45, Power Setting: 91, Duty Cycle (%): 99



5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
2	5856.91	46.37	3.84	34.65	84.86	Max Peak	Vertical	146	359	109.9	-25.0	Pass	
3	5930.52	28.49	3.84	34.84	67.17	Max Peak	Vertical	146	359	68.2	-1.1	Pass	
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH159 nHT40 mode.

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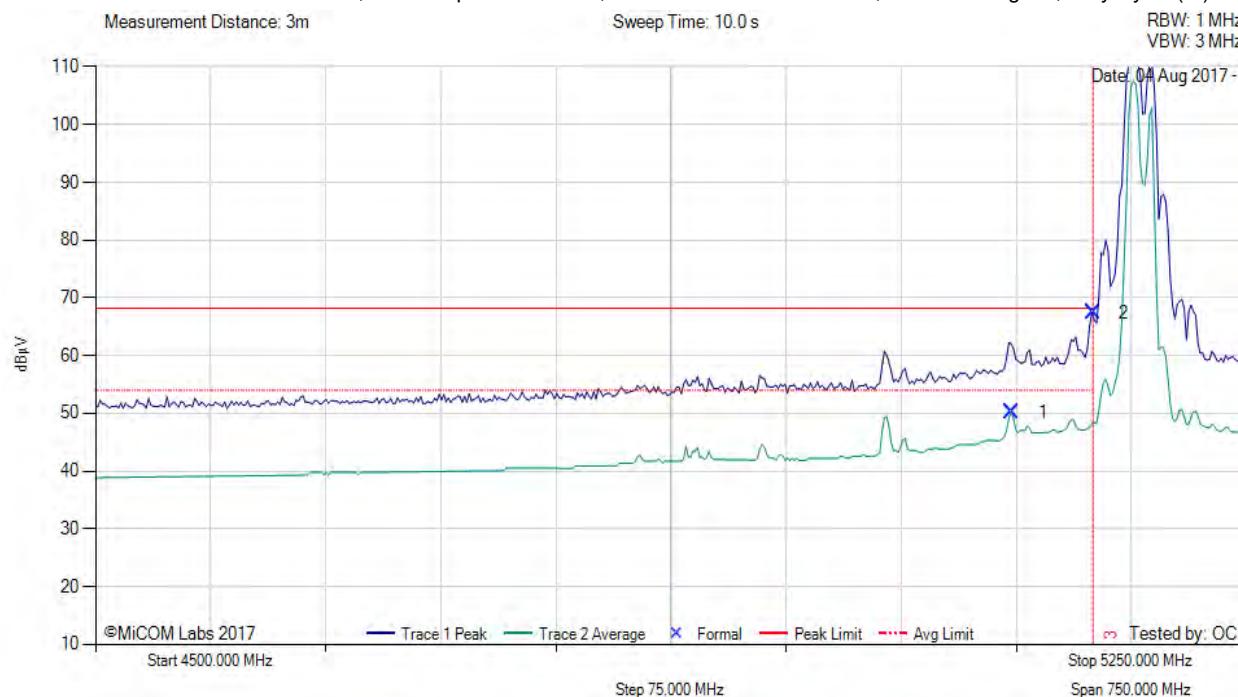
Antenna: AP-ANT-48

5150 - 5250 MHz

RESTRICTED LOWER BAND-EDGE EMISSIONS



Variant: 802.11a, Test Freq: 5180.00 MHz, Antenna: Aruba AP-ANT-48, Power Setting: 57, Duty Cycle (%): 99



4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5097.39	12.43	3.58	34.13	50.14	Max Avg	Horizontal	164	7	54.0	-3.9	Pass	
2	5150.00	29.64	3.67	34.11	67.42	Max Peak	Horizontal	164	7	68.2	-0.8	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

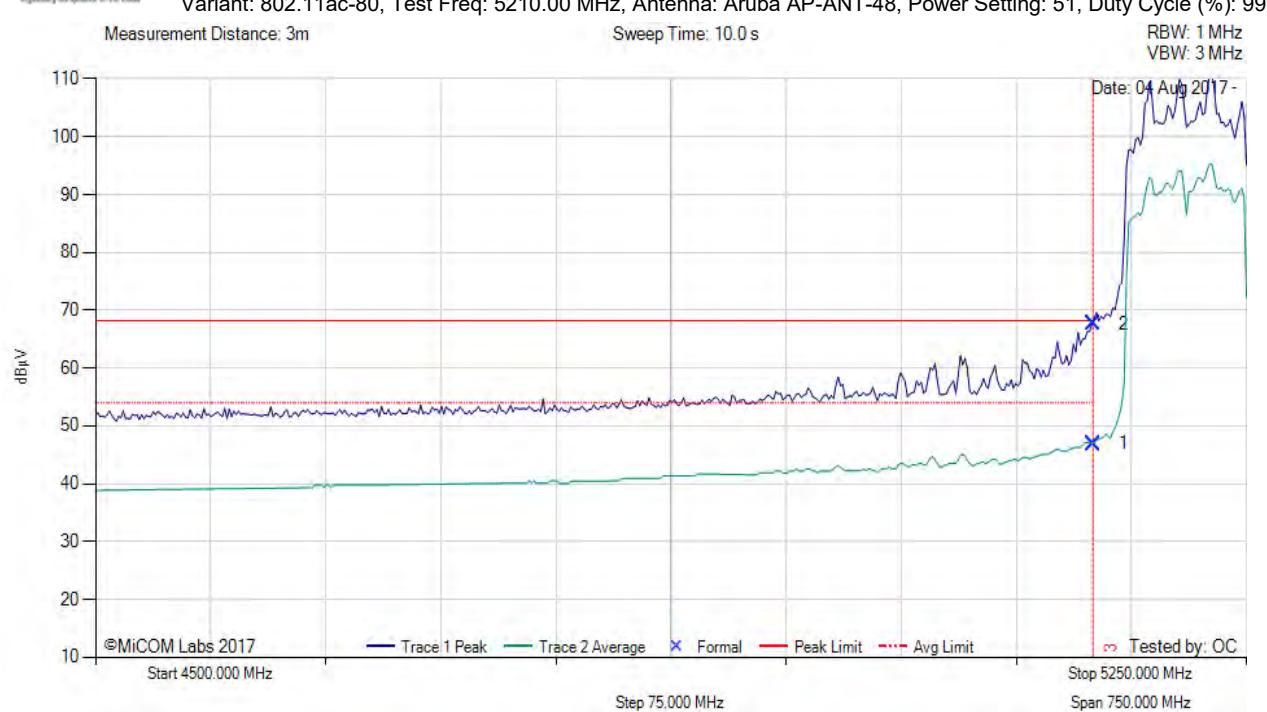
Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 a mode.

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RESTRICTED LOWER BAND-EDGE EMISSIONS



4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5150.00	9.15	3.67	34.11	46.93	Max Avg	Horizontal	164	7	54.0	-7.1	Pass	
2	5150.00	29.81	3.67	34.11	67.59	Max Peak	Horizontal	164	7	68.2	-0.6	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH42 ac 80 mode.

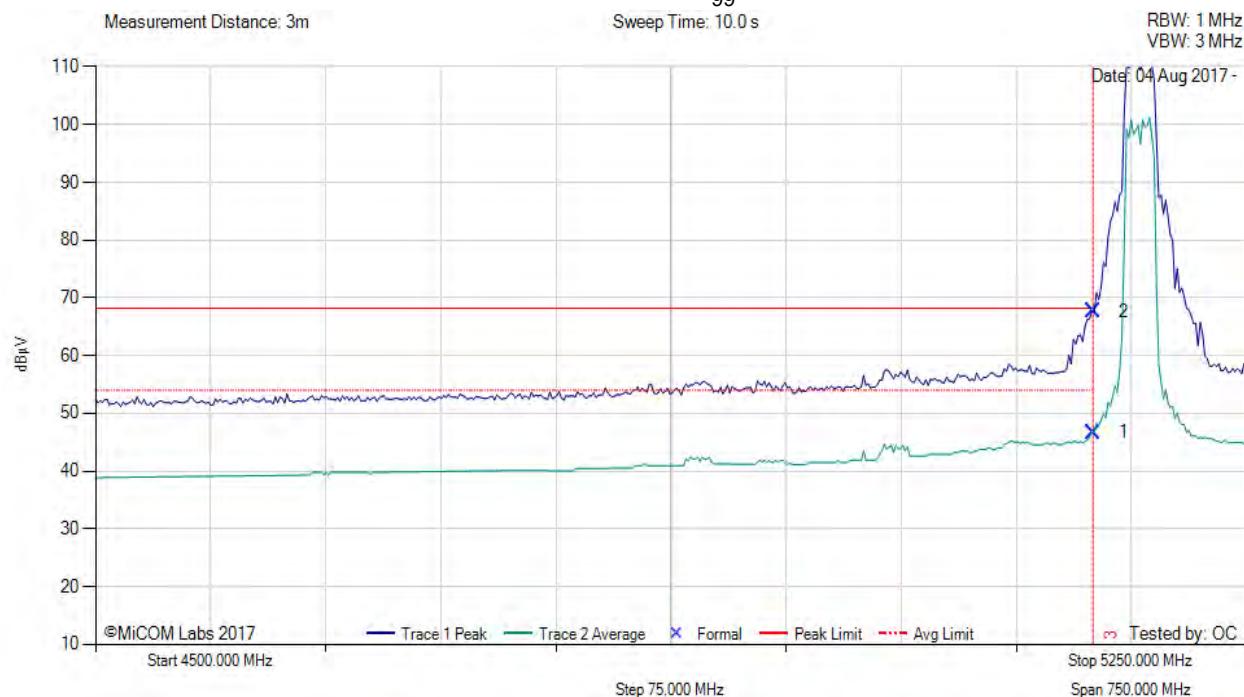
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RESTRICTED LOWER BAND-EDGE EMISSIONS



Variant: 802.11n HT-20, Test Freq: 5180.00 MHz, Antenna: Aruba AP-ANT-48, Power Setting: 57, Duty Cycle (%): 99



4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5150.00	8.95	3.67	34.11	46.73	Max Avg	Horizontal	164	7	54.0	-7.3	Pass	
2	5150.00	29.94	3.67	34.11	67.72	Max Peak	Horizontal	164	7	68.2	-0.5	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 nHT20 mode.

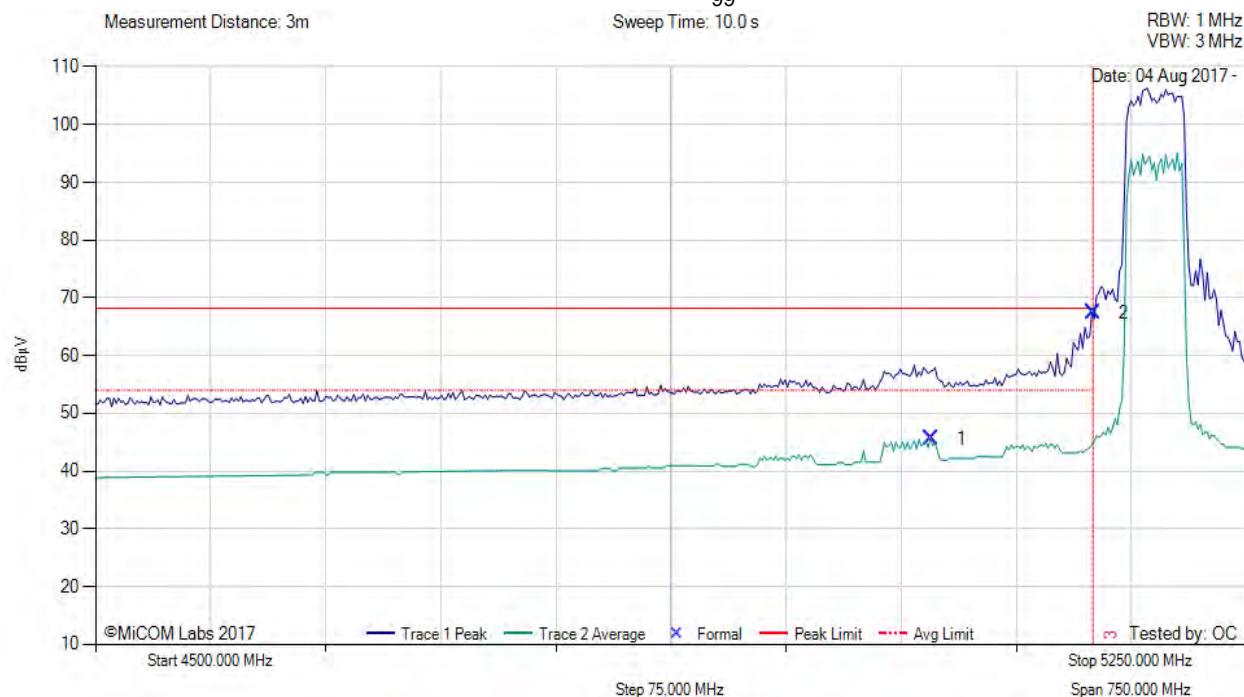
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RESTRICTED LOWER BAND-EDGE EMISSIONS



Variant: 802.11n HT-40, Test Freq: 5190.00 MHz, Antenna: Aruba AP-ANT-48, Power Setting: 46, Duty Cycle (%): 99



4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5044.79	7.81	3.65	34.20	45.66	Max Avg	Horizontal	164	7	54.0	-8.3	Pass	
2	5150.00	29.59	3.67	34.11	67.37	Max Peak	Horizontal	164	7	68.2	-0.9	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH38 nHT40 mode.

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RESTRICTED LOWER BAND-EDGE EMISSIONS

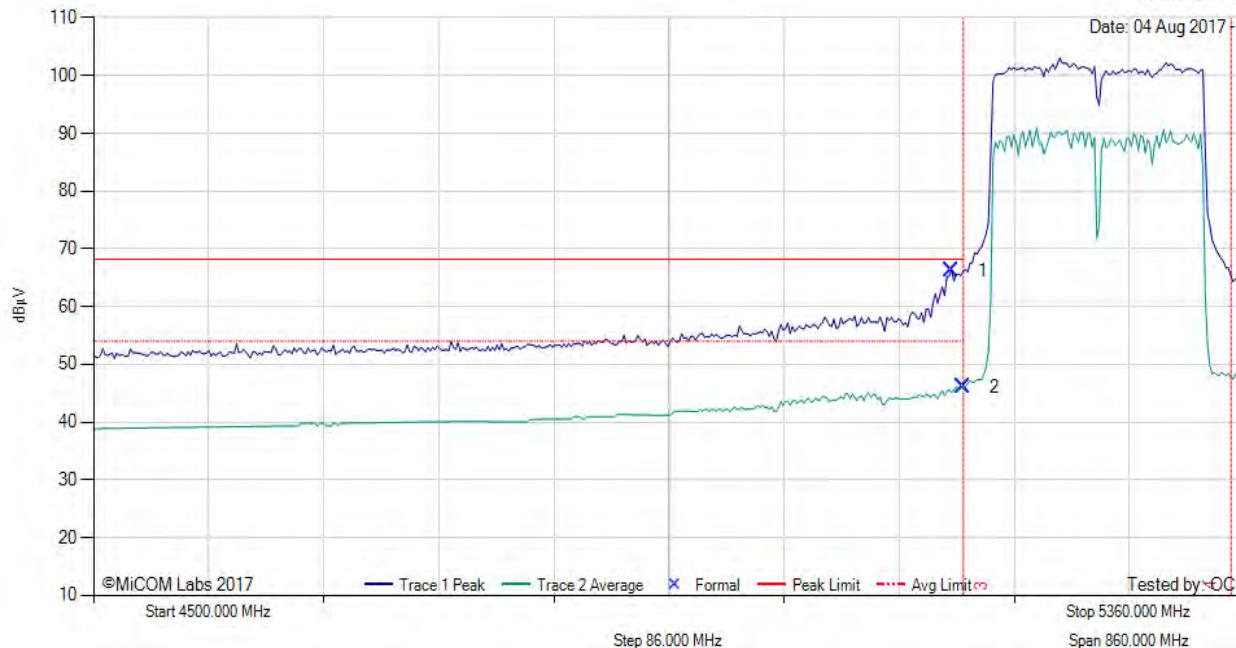


Variant: 802.11ac-80+80, Test Freq: 5210.00 + 5290.00 MHz, Antenna: Aruba AP-ANT-48, Power Setting: 11 d, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 10.0 s

RBW: 1 MHz
VBW: 3 MHz



4500.00 - 5360.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5141.38	28.45	3.70	34.12	66.27	Max Peak	Horizontal	164	7	68.2	-2.0	Pass	
2	5150.00	8.31	3.67	34.11	46.09	Max Avg	Horizontal	164	7	54.0	-7.9	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	
4	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH42-58 ac 80+80 mode.

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5725 - 5850 MHz

5725 MHz RADIATED BAND-EDGE EMISSIONS

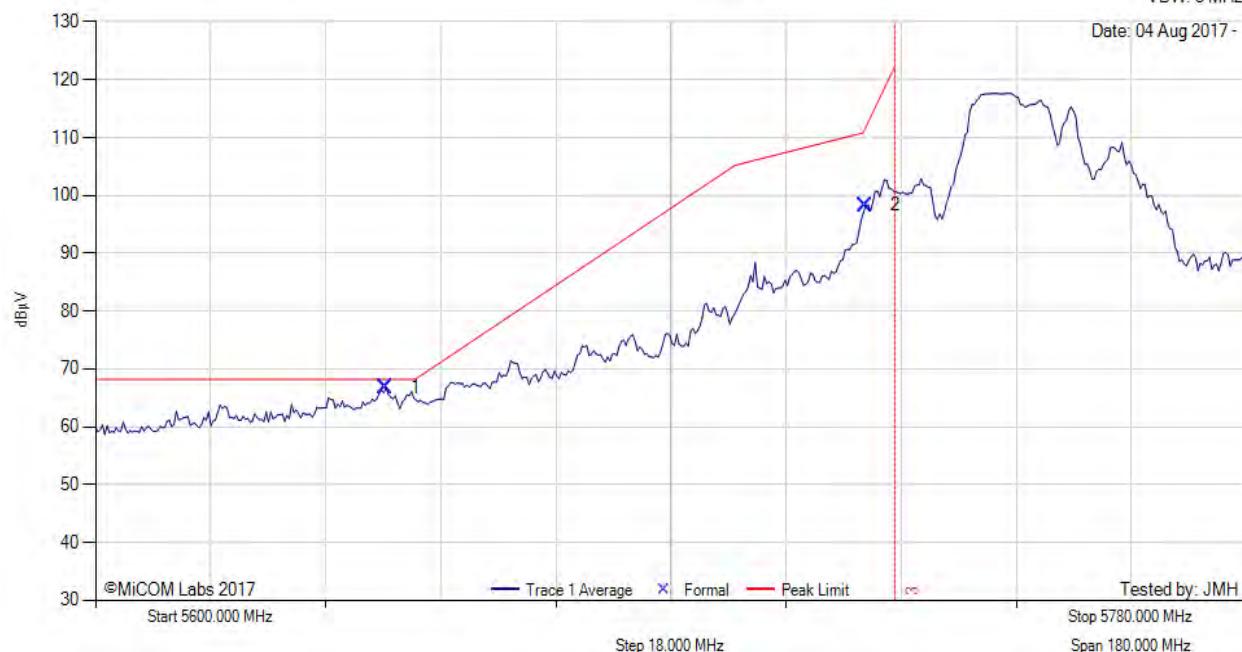


Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: Aruba AP-ANT-48, Power Setting: 91, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 10.0 s

RBW: 1 MHz
VBW: 3 MHz



5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5645.38	28.81	3.76	34.18	66.75	Max Peak	Horizontal	154	10	68.2	-1.5	Pass	
2	5720.31	60.14	3.80	34.35	98.29	Max Peak	Horizontal	154	10	111.2	-12.9	Pass	
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

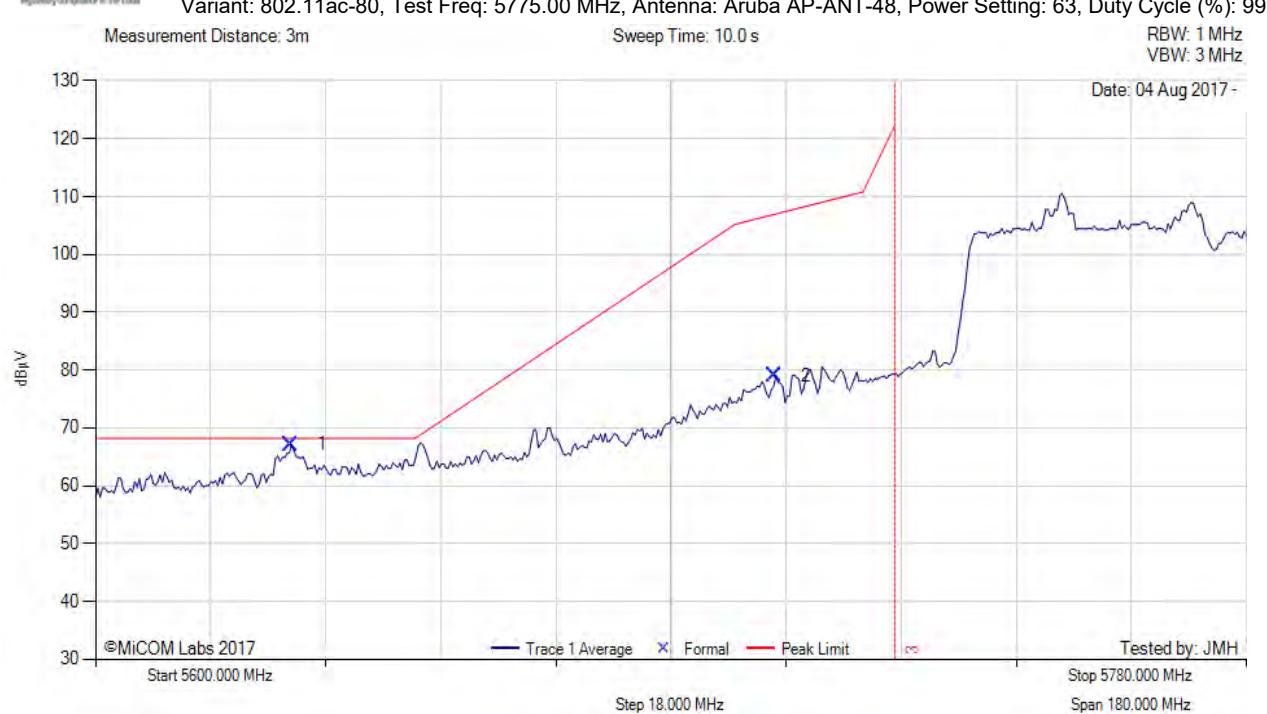
Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH149 a mode.

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5725 MHz RADIATED BAND-EDGE EMISSIONS



5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5630.59	29.19	3.76	34.20	67.15	Max Peak	Horizontal	154	10	68.2	-1.1	Pass	
2	5706.24	40.89	3.86	34.33	79.08	Max Peak	Horizontal	154	10	106.9	-27.8	Pass	
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH155 ac 80 mode.

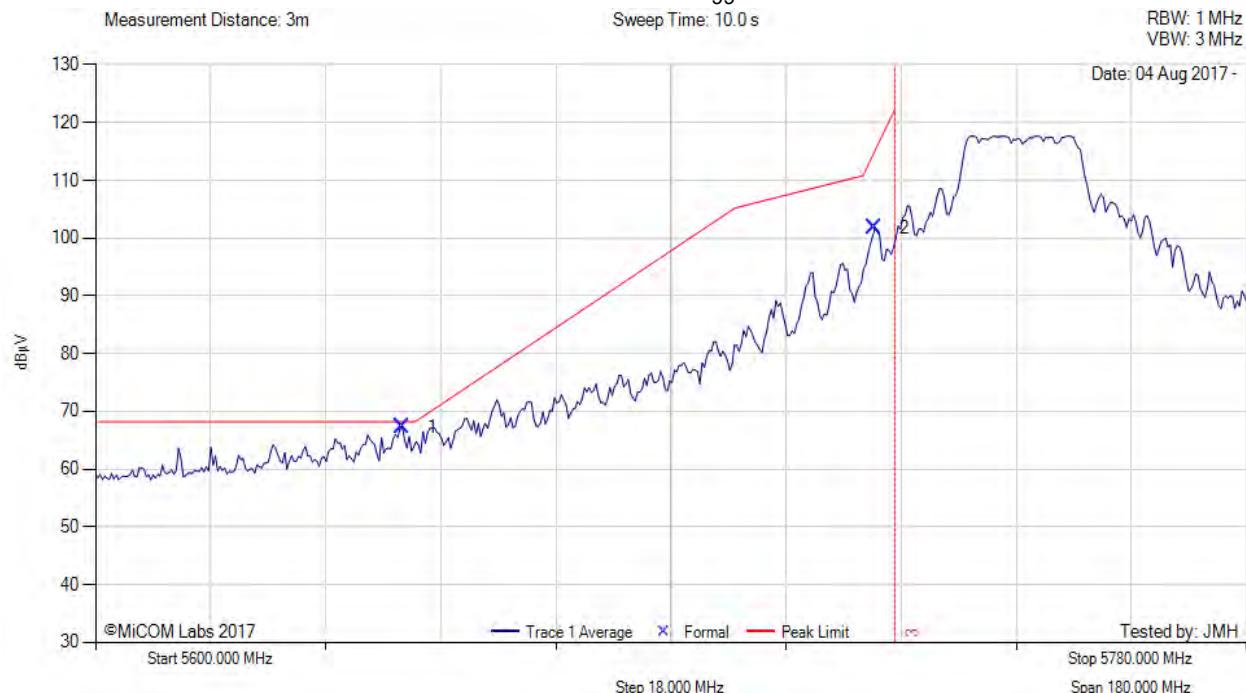
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5725 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 802.11n HT-20, Test Freq: 5745.00 MHz, Antenna: Aruba AP-ANT-48, Power Setting: 90, Duty Cycle (%): 99



5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5647.91	29.37	3.75	34.18	67.30	Max Peak	Horizontal	154	10	68.2	-0.9	Pass	
2	5721.75	63.64	3.80	34.35	101.79	Max Peak	Horizontal	154	10	115.4	-13.6	Pass	
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

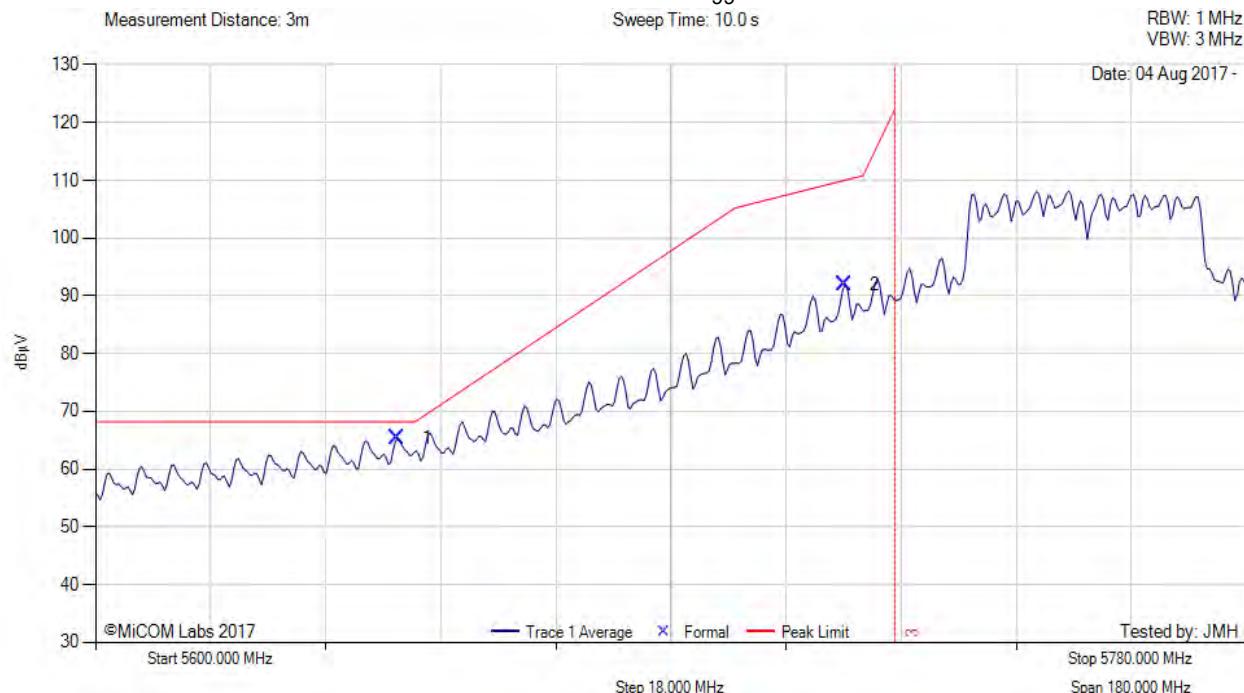
Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH149 nHT20 mode.

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5725 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 802.11n HT-40, Test Freq: 5755.00 MHz, Antenna: Aruba AP-ANT-48, Power Setting: 91, Duty Cycle (%): 99



5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5647.18	27.39	3.75	34.18	65.32	Max Peak	Horizontal	154	10	68.2	-2.9	Pass	
2	5717.06	53.75	3.81	34.34	91.90	Max Peak	Horizontal	154	10	110.0	-18.1	Pass	
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH151 nHT40 mode.

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5850 MHz RADIATED BAND-EDGE EMISSIONS

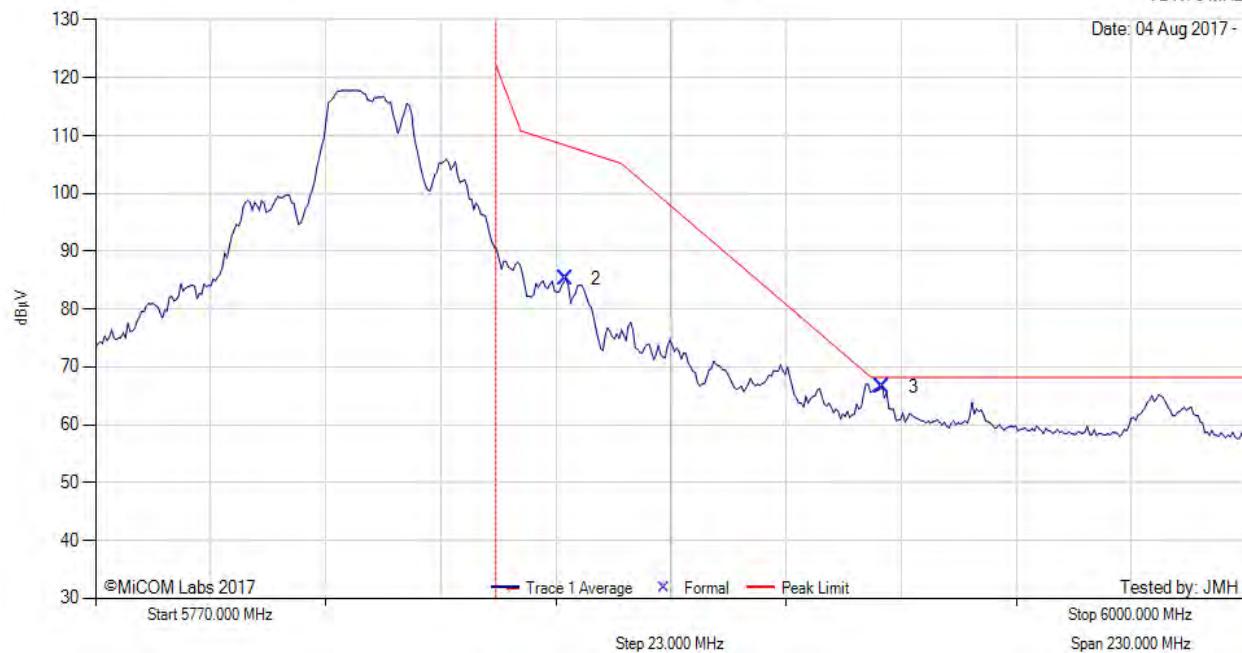


Variant: 802.11a, Test Freq: 5825.00 MHz, Antenna: Aruba AP-ANT-48, Power Setting: 91, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 10.0 s

RBW: 1 MHz
VBW: 3 MHz



5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
2	5863.83	46.74	3.84	34.66	85.24	Max Peak	Horizontal	154	10	108.1	-22.9	Pass	
3	5927.29	27.94	3.83	34.83	66.60	Max Peak	Horizontal	154	10	68.2	-1.6	Pass	
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH165 a mode.

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5850 MHz RADIATED BAND-EDGE EMISSIONS

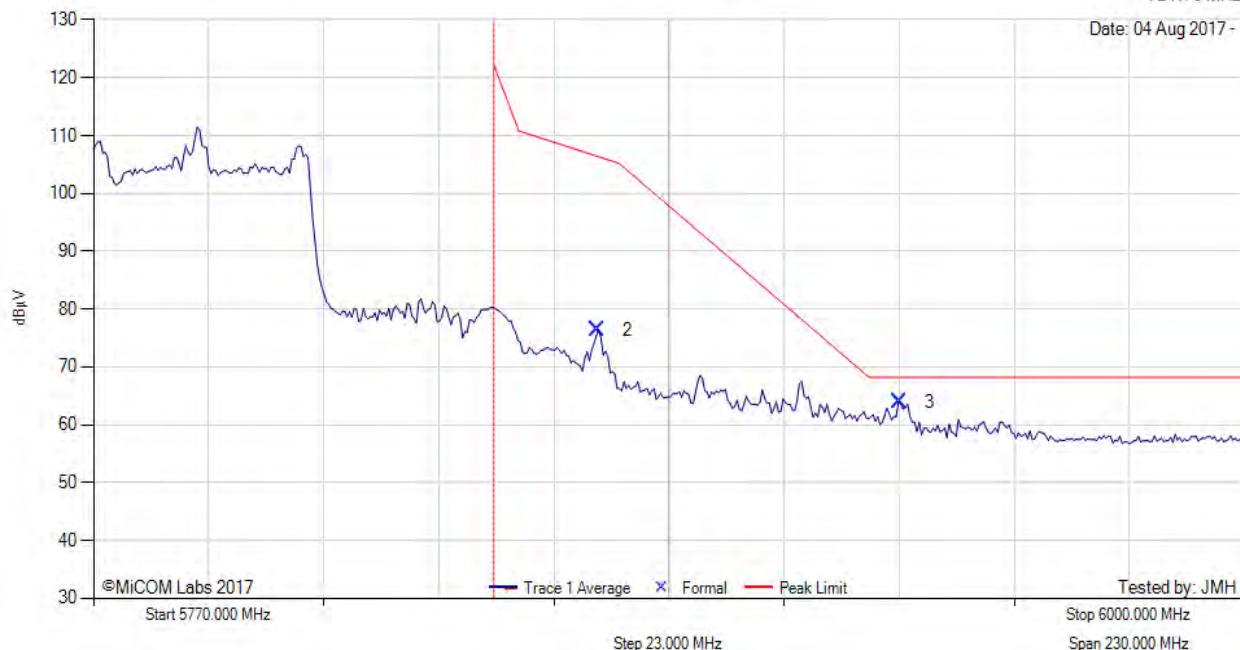


Variant: 802.11ac-80, Test Freq: 5775.00 MHz, Antenna: Aruba AP-ANT-48, Power Setting: 63, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 10.0 s

RBW: 1 MHz
VBW: 3 MHz



5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
2	5870.74	37.96	3.81	34.68	76.45	Max Peak	Horizontal	154	10	107.0	-30.6	Pass	
3	5930.98	25.27	3.84	34.84	63.95	Max Peak	Horizontal	154	10	68.2	-4.3	Pass	
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH155 ac 80 mode.

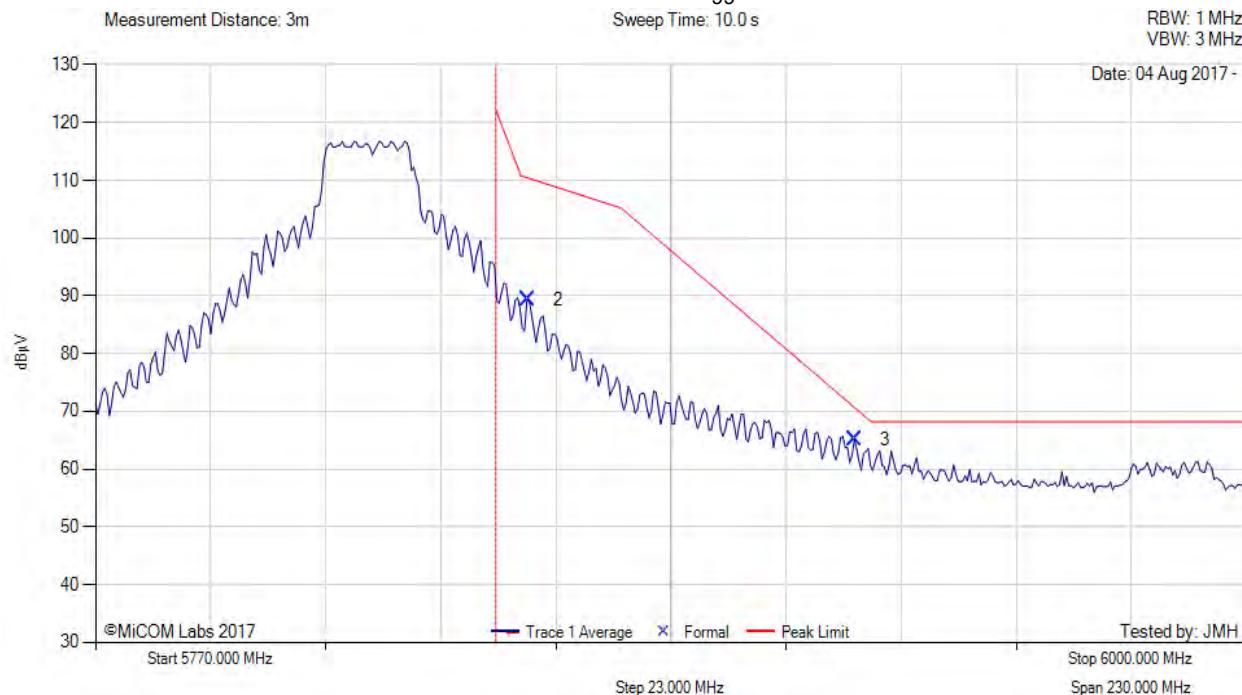
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5850 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 802.11n HT-20, Test Freq: 5825.00 MHz, Antenna: Aruba AP-ANT-48, Power Setting: 92, Duty Cycle (%): 99



5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
2	5856.45	50.86	3.84	34.64	89.34	Max Peak	Horizontal	154	10	110.5	-21.2	Pass	
3	5921.76	26.39	3.85	34.82	65.06	Max Peak	Horizontal	154	10	70.4	-5.4	Pass	
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

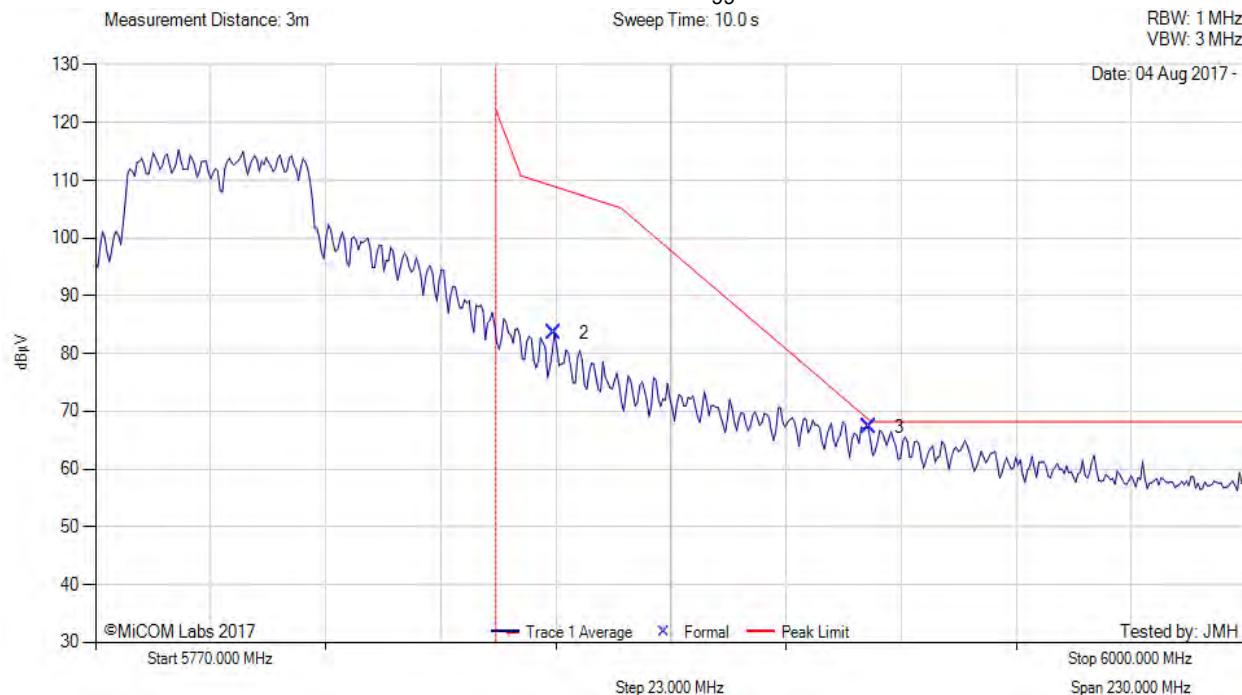
Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH165 nHT20 mode.

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5850 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 802.11n HT-40, Test Freq: 5795.00 MHz, Antenna: Aruba AP-ANT-48, Power Setting: 89, Duty Cycle (%): 99



5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
2	5861.52	45.00	3.85	34.66	83.51	Max Peak	Horizontal	154	2	108.5	-25.0	Pass	
3	5924.53	28.56	3.84	34.82	67.22	Max Peak	Horizontal	154	2	68.2	-1.0	Pass	
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH159 nHT40 mode.

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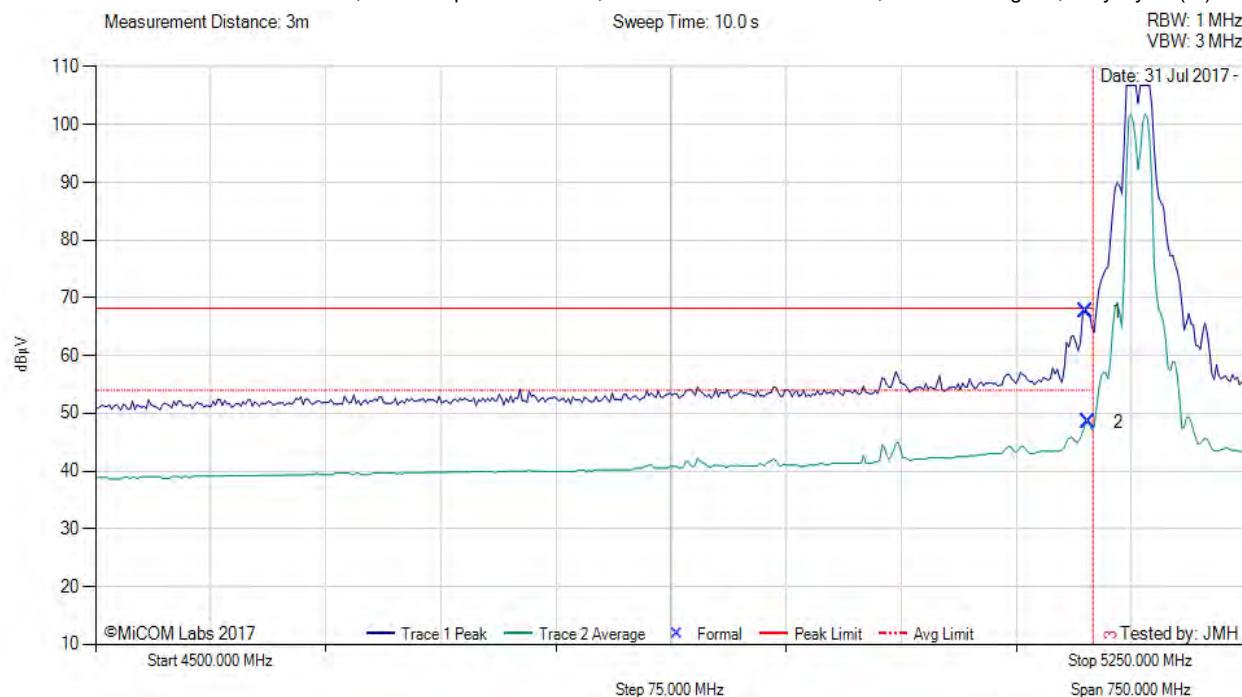
Antenna: Metal Sheet

5150 - 5250 MHz

RESTRICTED LOWER BAND-EDGE EMISSIONS



Variant: 802.11a, Test Freq: 5180.00 MHz, Antenna: Aruba Metal Sheet, Power Setting: 72, Duty Cycle (%): 99



4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5145.49	29.82	3.69	34.11	67.62	Max Peak	Vertical	198	292	68.2	-0.6	Pass	
2	5146.99	10.62	3.68	34.11	48.41	Max Avg	Vertical	198	292	54.0	-5.6	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

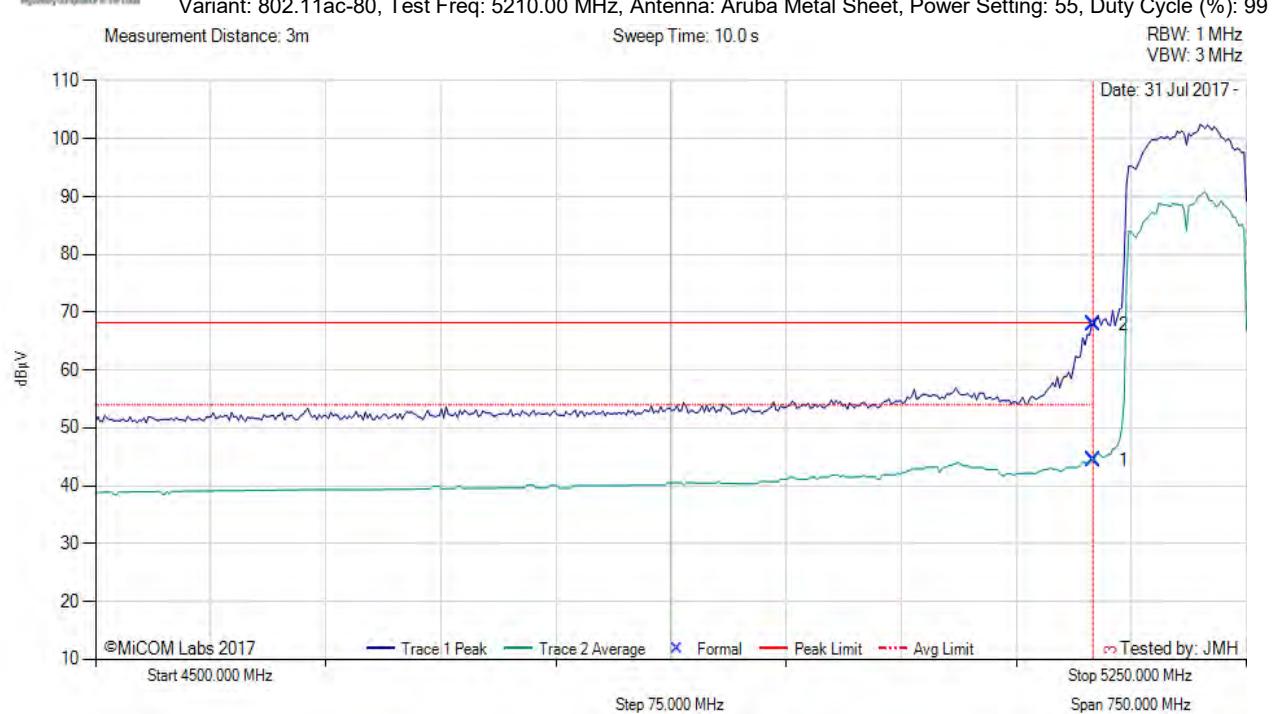
Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 a mode.

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RESTRICTED LOWER BAND-EDGE EMISSIONS



4500.00 - 5250.00 MHz												
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
1	5150.00	6.59	3.67	34.11	44.37	Max Avg	Vertical	198	292	54.0	-9.6	Pass
2	5150.00	30.14	3.67	34.11	67.92	Max Peak	Vertical	198	292	68.2	-0.3	Pass
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH42 ac 80 mode.

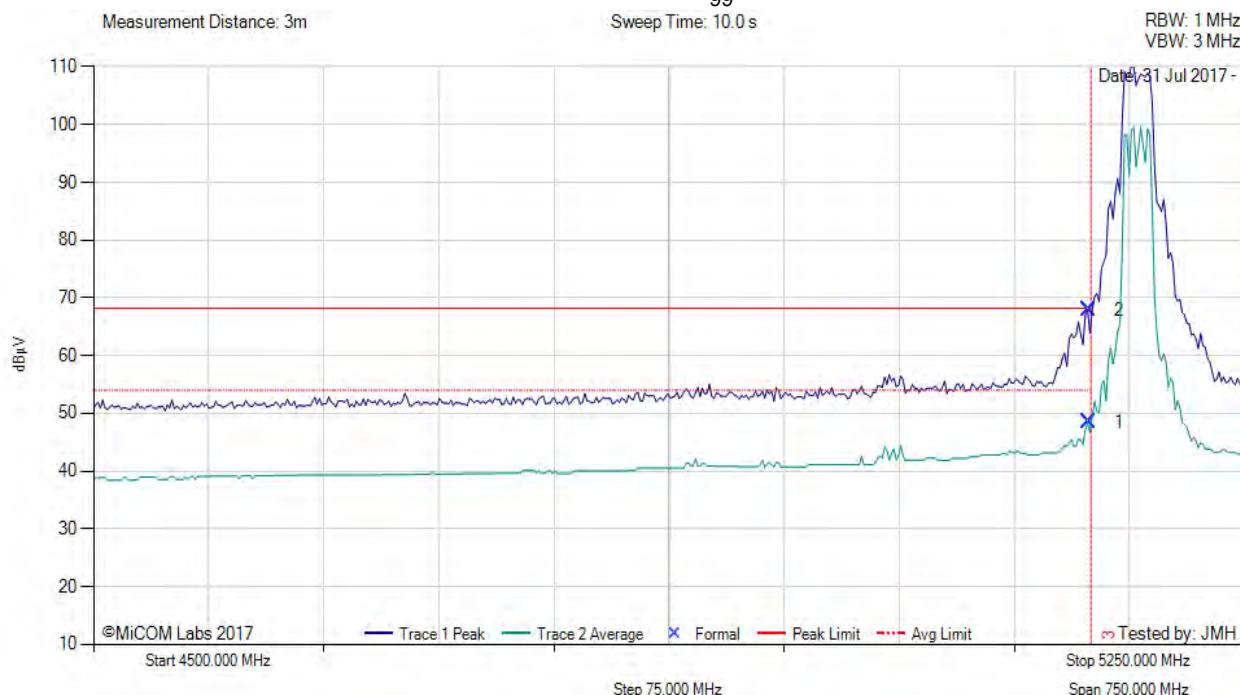
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RESTRICTED LOWER BAND-EDGE EMISSIONS



Variant: 802.11n HT-20, Test Freq: 5180.00 MHz, Antenna: Aruba Metal Sheet, Power Setting: 67, Duty Cycle (%): 99



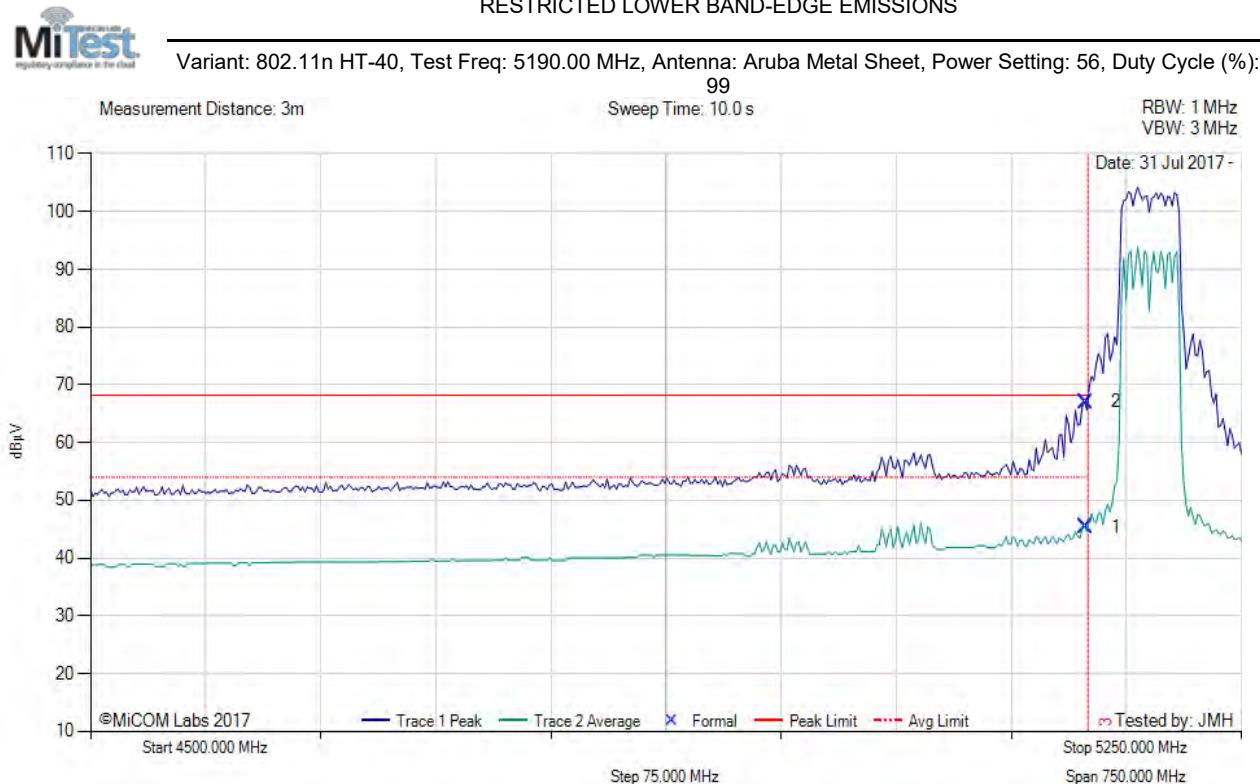
4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5148.50	10.62	3.68	34.11	48.41	Max Avg	Vertical	198	292	54.0	-5.6	Pass	
2	5148.50	30.06	3.68	34.11	67.85	Max Peak	Vertical	198	292	68.2	-0.4	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 nHT20 mode.

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RESTRICTED LOWER BAND-EDGE EMISSIONS



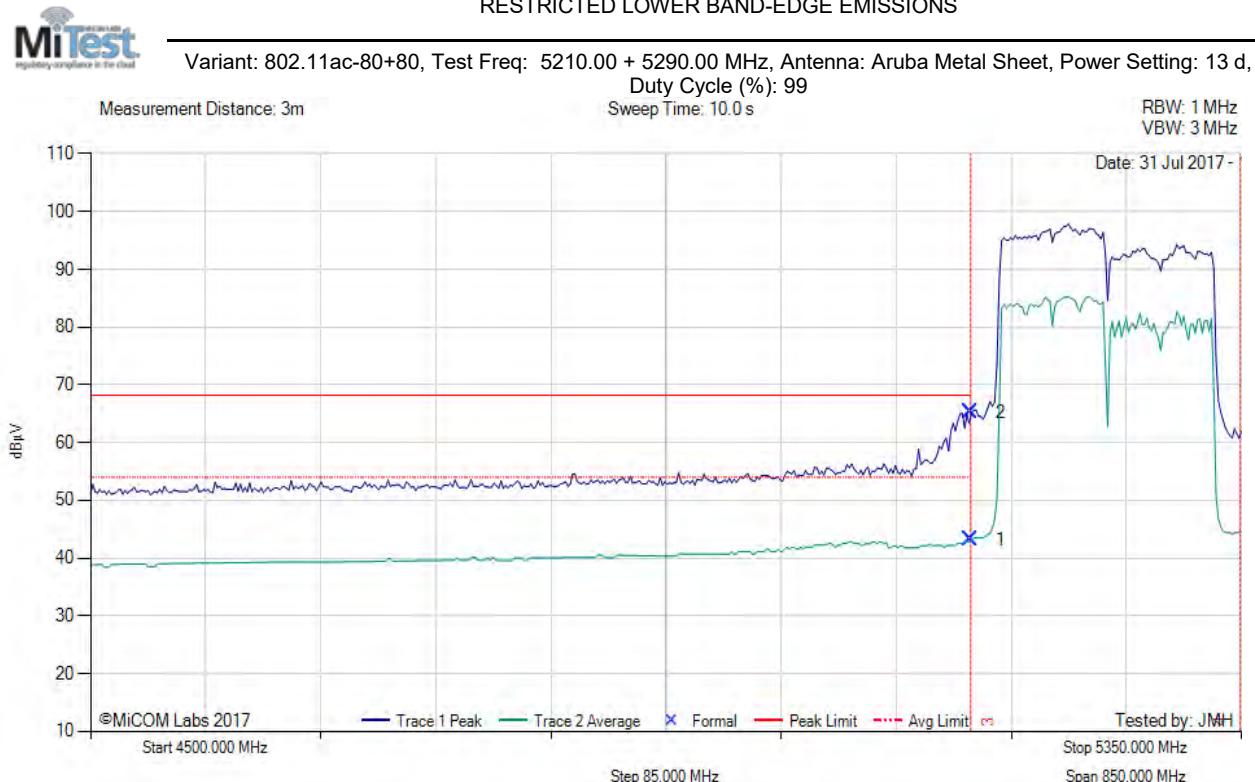
4500.00 - 5250.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5148.50	7.60	3.68	34.11	45.39	Max Avg	Vertical	198	292	54.0	-8.6	Pass	
2	5148.50	29.26	3.68	34.11	67.05	Max Peak	Vertical	198	292	68.2	-1.2	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH38 nHT40 mode.

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RESTRICTED LOWER BAND-EDGE EMISSIONS



4500.00 - 5350.00 MHz													
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail	
1	5150.00	5.43	3.67	34.11	43.21	Max Avg	Vertical	198	292	54.0	-10.8	Pass	
2	5150.00	27.46	3.67	34.11	65.24	Max Peak	Vertical	198	292	68.2	-3.0	Pass	
3	5150.00	--	--	--	--	RBE	--	--	--	--	--	--	
4	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH50 ac 80+80 mode.

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5725 - 5850 MHz

5725 MHz RADIATED BAND-EDGE EMISSIONS

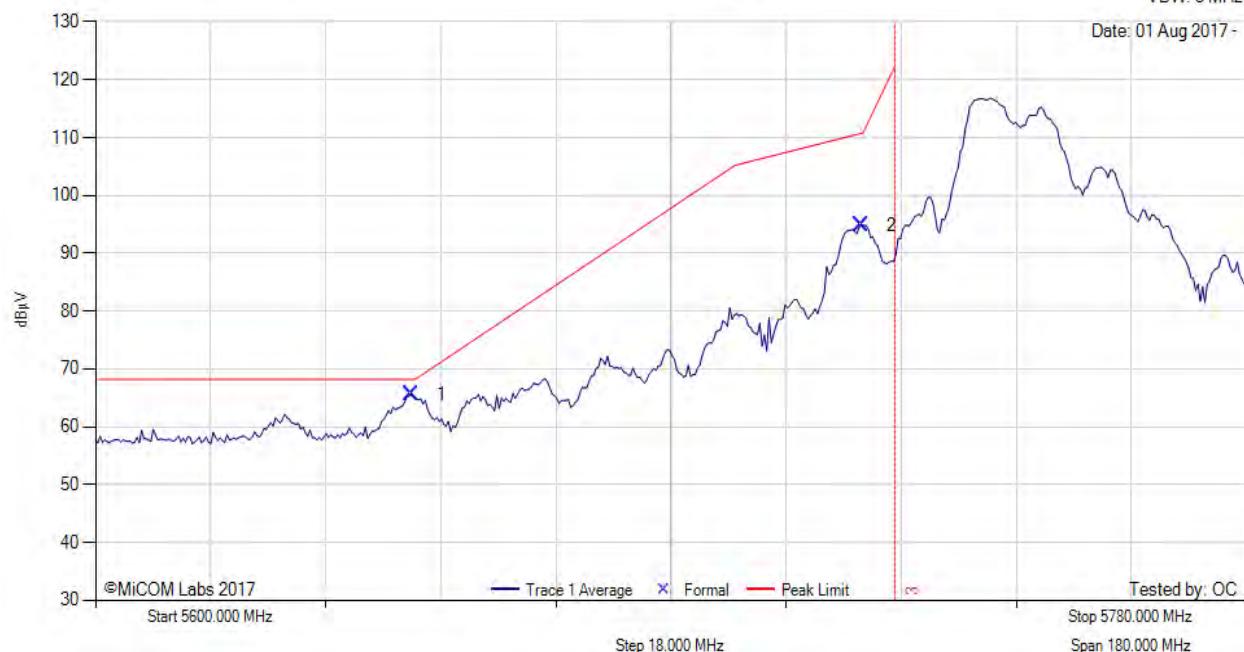


Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: Aruba Metal Sheet, Power Setting: 92, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 20.0 s

RBW: 1 MHz
VBW: 3 MHz



5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
1	5649.42	27.69	3.75	34.18	65.62	Max Peak	Horizontal	159	285	68.2	-2.6	Pass
2	5719.76	56.67	3.80	34.35	94.82	Max Peak	Horizontal	159	285	110.1	-15.3	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

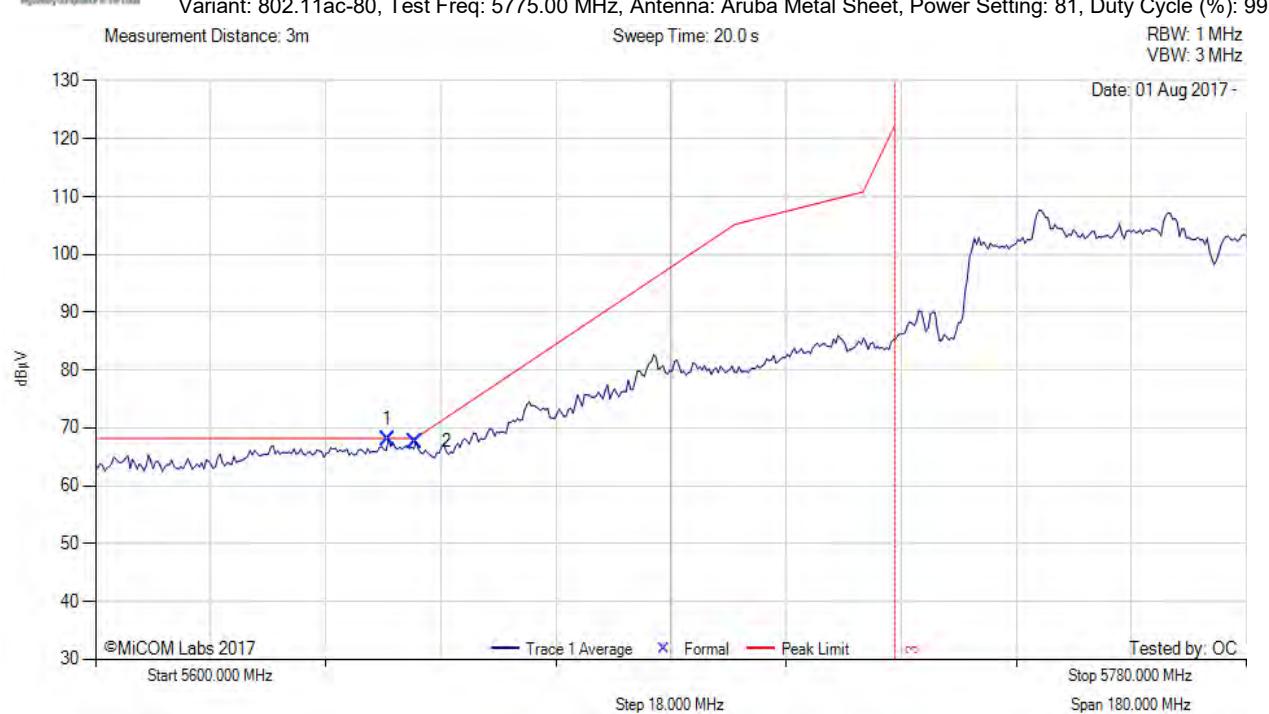
Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH149 a mode.

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5725 MHz RADIATED BAND-EDGE EMISSIONS



5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5645.64	30.01	3.75	34.18	67.94	Max Peak	Horizontal	159	285	68.2	-0.3	Pass	
2	5650.07	29.73	3.75	34.18	67.66	Max Peak	Horizontal	159	285	68.2	-0.6	Pass	
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH155 ac 80 mode.

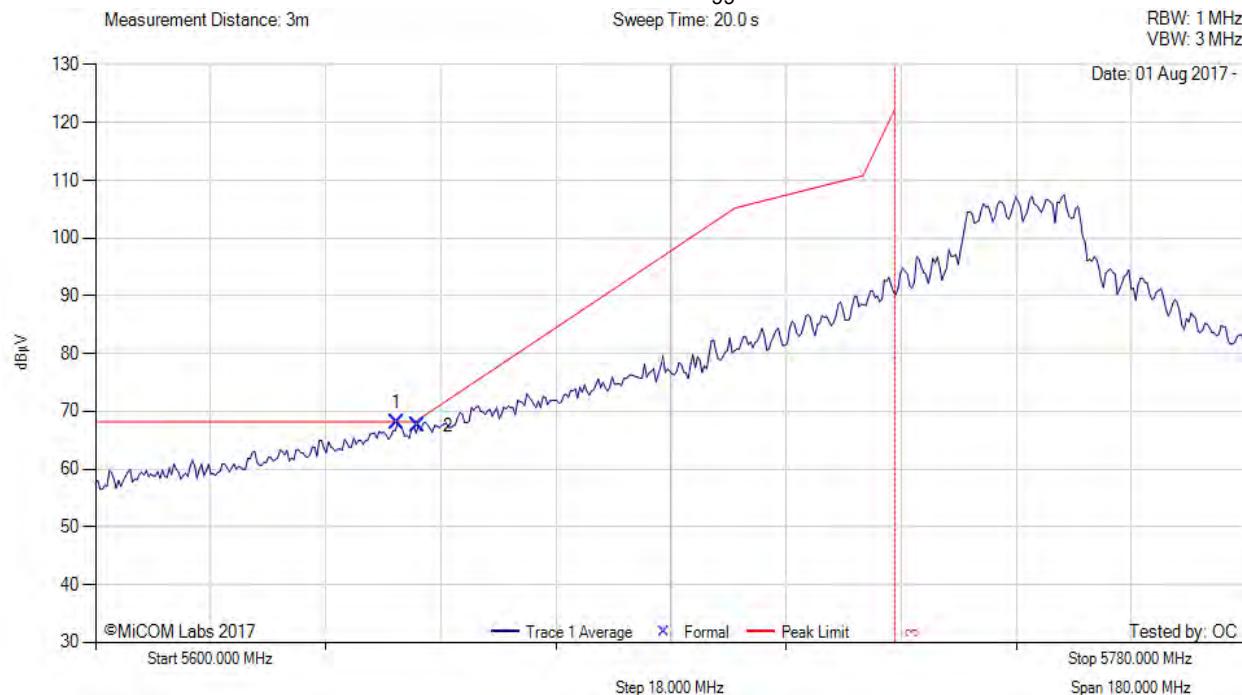
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5725 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 802.11n HT-20, Test Freq: 5745.00 MHz, Antenna: Aruba Metal Sheet, Power Setting: 95, Duty Cycle (%): 99



5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5647.08	30.03	3.75	34.18	67.96	Max Peak	Horizontal	159	285	68.2	-0.3	Pass	
2	5650.43	29.66	3.75	34.18	67.59	Max Peak	Horizontal	159	285	68.2	-0.6	Pass	
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH149 nHT20 mode.

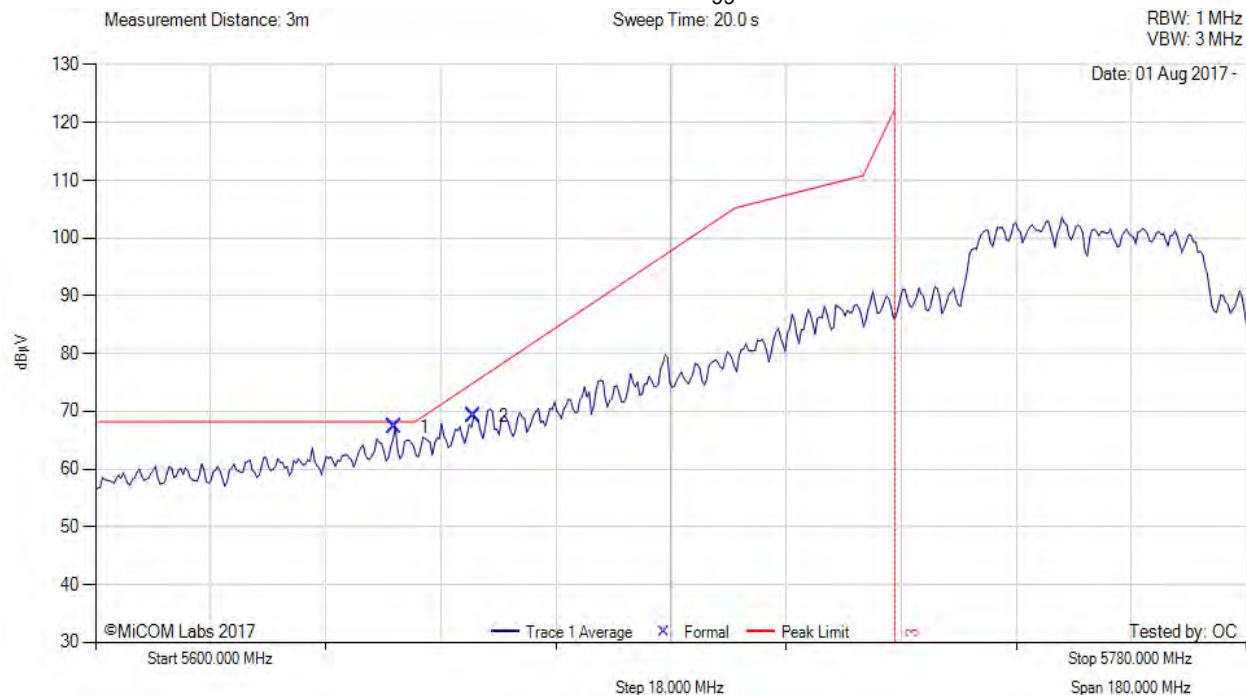
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5725 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 802.11n HT-40, Test Freq: 5755.00 MHz, Antenna: Aruba Metal Sheet, Power Setting: 92, Duty Cycle (%): 99



5600.00 - 5780.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
1	5646.72	29.36	3.75	34.18	67.29	Max Peak	Horizontal	159	285	68.2	-0.9	Pass	
2	5659.09	31.20	3.77	34.20	69.17	Max Peak	Horizontal	159	285	74.9	-5.7	Pass	
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

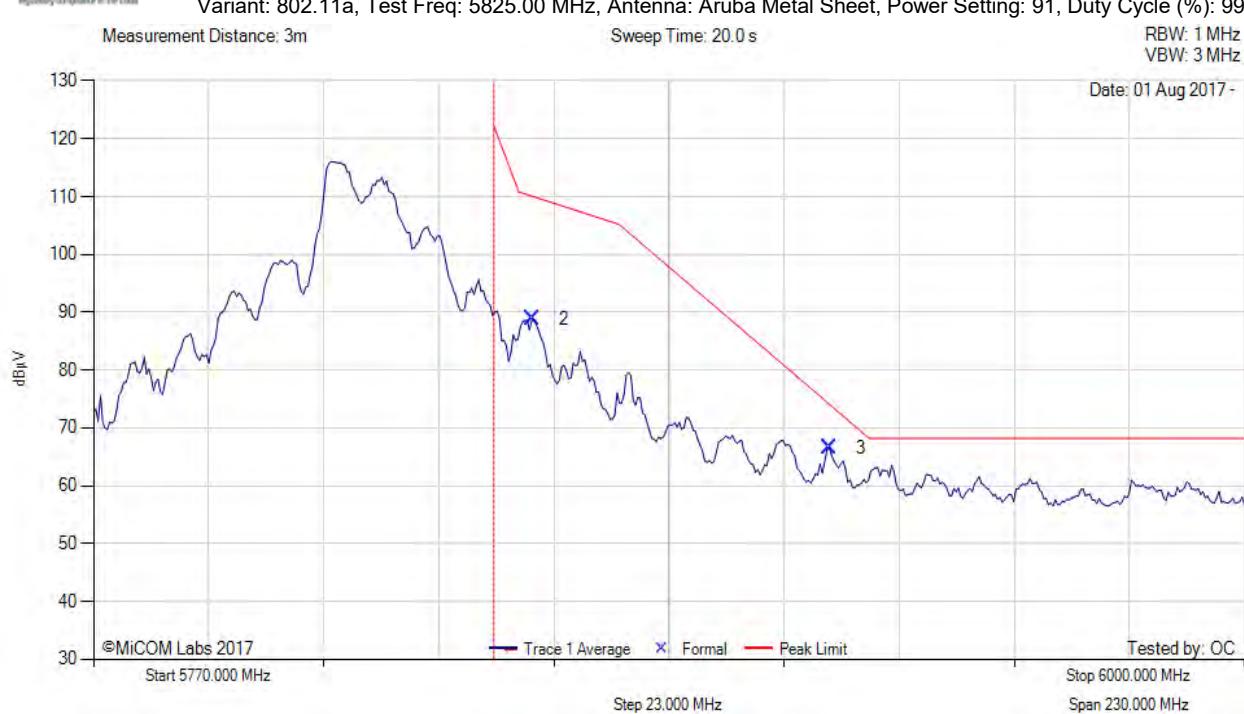
Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH151 nHT40 mode.

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5850 MHz RADIATED BAND-EDGE EMISSIONS



5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
2	5857.84	50.31	3.85	34.65	88.81	Max Peak	Horizontal	159	285	110.0	-21.2	Pass	
3	5917.15	27.89	3.86	34.80	66.55	Max Peak	Horizontal	159	285	74.1	-7.6	Pass	
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH165 a mode.

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5850 MHz RADIATED BAND-EDGE EMISSIONS



5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
2	5919.60	27.68	3.85	34.81	66.34	Max Peak	Horizontal	159	285	72.2	-5.9	Pass	
3	5940.20	26.99	3.89	34.86	65.74	Max Peak	Horizontal	159	285	68.2	-2.5	Pass	
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH155 ac 80 mode.

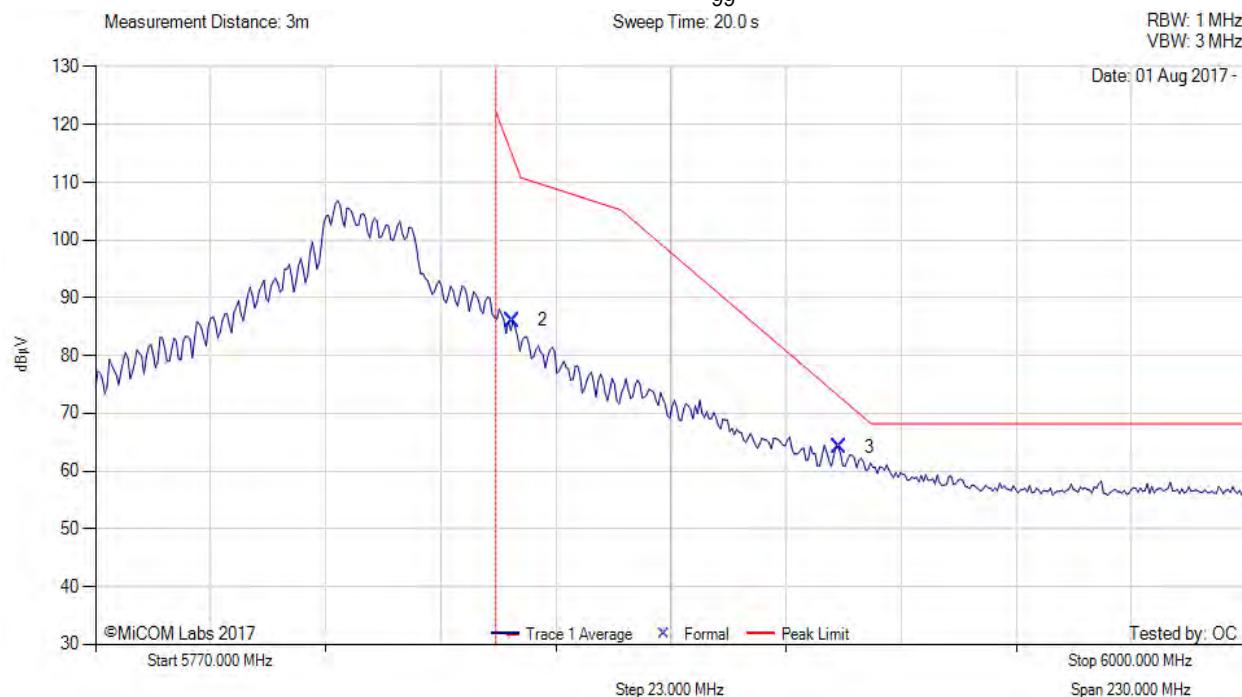
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5850 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 802.11n HT-20, Test Freq: 5825.00 MHz, Antenna: Aruba Metal Sheet, Power Setting: 100, Duty Cycle (%): 99



5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
2	5853.23	47.62	3.82	34.63	86.07	Max Peak	Horizontal	159	285	115.4	-29.3	Pass	
3	5918.54	25.57	3.85	34.81	64.23	Max Peak	Horizontal	159	285	72.6	-8.4	Pass	
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH165 nHT20 mode.

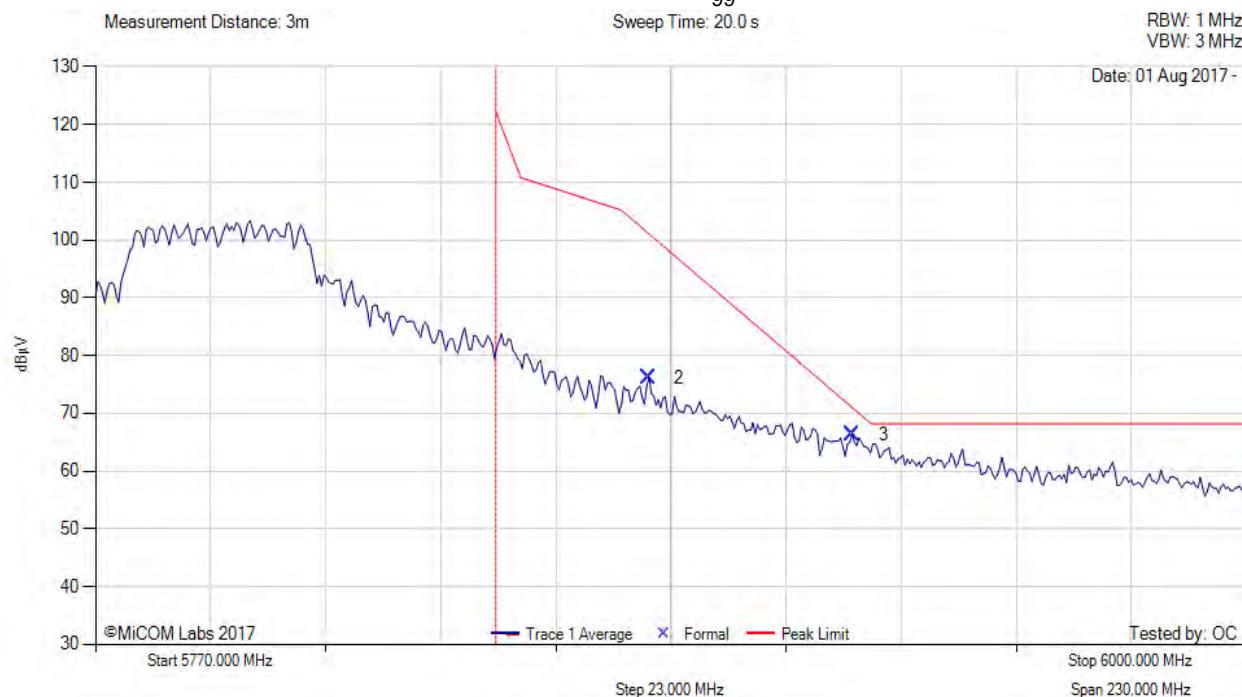
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5850 MHz RADIATED BAND-EDGE EMISSIONS



Variant: 802.11n HT-40, Test Freq: 5795.00 MHz, Antenna: Aruba Metal Sheet, Power Setting: 100, Duty Cycle (%): 99



5770.00 - 6000.00 MHz													
Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail	
2	5880.42	37.67	3.81	34.71	76.19	Max Peak	Horizontal	159	285	101.5	-25.3	Pass	
3	5921.30	27.67	3.85	34.81	66.33	Max Peak	Horizontal	159	285	71.2	-4.8	Pass	
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--	

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH159 nHT40 mode.

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