TEST REPORT ADDENDUM - RADIATED

FROM

Test of: APIN0314, APIN0315

to

To: FCC CFR 47 Part 15 Subpart E 15.407, IC RSS-247 (DFS Bands)

Test Report Serial No.: ARUB204-U10_Radiated Rev A

Issue Date: 27th May 2016

Master Document Number	Addendum Reports
ARUB204-U10_Master	ARUB204-U10_Conducted
	ARUB204-U10_Radiated
	ARUB204-U10_DFS
	ARUB204-U17 (FCC Part 15B & ICES-003)

Table of Contents

1. MEASUREMENT AND PRESENTATION OF TEST DATA 3
2. RADIATED EMISSIONS 4
2.1.1. Radiated TX Spurious Emissions *7*
2.1.1.1. AP-ANT-13B 7
2.1.1.2. AP-ANT-19 13
2.1.1.3. AP-ANT-1W 19
2.1.1.4. AP-ANT-20W 25
2.1.1.5. AP-ANT-40 31
2.1.1.6. AP-ANT-45 37
2.1.1.7. AP-ANT-48 43
2.1.1.8. Metal Sheet 49
2.1.2. Restricted Band and Band-Edge Emissions *55*
2.1.2.1. AP-ANT-13B 55
2.1.2.2. AP-ANT-19 67
2.1.2.3. AP-ANT-1W 79
2.1.2.4. AP-ANT-20W 92
2.1.2.5. AP-ANT-40 104
2.1.2.6. AP-ANT-45 116
2.1.2.7. AP-ANT-48 128
2.1.2.8. Metal Sheet 140

APPENDIX A - GRAPHICAL IMAGES 152
A.1. Radiated 153
A.1.1. Radiated TX Spurious Emissions *153*
A.1.1.1. AP-ANT-13B 153
A.1.1.2. AP-ANT-19 159
A.1.1.3. AP-ANT-1W 162
A.1.1.4. AP-ANT-20W 168
A.1.1.5. AP-ANT-40 174
A.1.1.6. AP-ANT-45 180
A.1.1.7. AP-ANT-48 186
A.1.1.8. Metal Sheet 192
A.1.2. Restricted Band and Band-Edge Emissions *198*
A.1.2.1. AP-ANT-13B 198
A.1.2.2. AP-ANT-19 210
A.1.2.3. AP-ANT-1W 222
A.1.2.4. AP-ANT-20W 234
A.1.2.5. AP-ANT-40 246
A.1.2.6. AP-ANT-45 258
A.1.2.7. AP-ANT-48 270
A.1.2.8. Metal Sheet 282

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

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.

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

2. RADIATED EMISSIONS

Radiated Test Conditions for Radiated Spurious and Band-Edge Emissions			
Standard:	FCC CFR 47:15.407	**Ambient Temp. (ºC):**	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 and waveguide 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 dBuV/m
Average emission: 54 dBuV/m

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 or Waveguide Loss

Example:
The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength (dBµV/m);

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

where P is the EIRP in Watts

Therefore: -27 dBm/MHz equates to 68.23 dBuV/m

Conversion between dBmV/m (or dBmV) and mV/m (or mV) are as follows:
Level (dBmV/m) = 20 * Log (level (mV/m))

40 dBmV/m = 100 mV/m
48 dBmV/m = 250 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
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).

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

2.1.1. Radiated TX Spurious Emissions

2.1.1.1. AP-ANT-13B

Equipment Configuration for Radiated Spurious - Restricted Band Emissions			
Antenna:	AP-ANT-13B	**Variant:**	802.11a
Antenna Gain (dBi):	3.30	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5260.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5264.89	87.40	3.67	-11.27	79.80	Fundamental	Horizontal	101	0	--	--	
#2	7013.26	54.59	4.18	-7.42	51.35	Peak (NRB)	Horizontal	101	71	--	--	Pass
#3	10522.41	50.19	5.43	-4.20	51.42	Peak (NRB)	Horizontal	101	3	--	--	Pass

Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-13B	**Variant:**	802.11a
Antenna Gain (dBi):	3.30	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5300.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5305.70	79.22	3.79	-11.08	71.93	Fundamental	Horizontal	100	1	--	--	
#2	7066.63	52.12	4.18	-7.34	48.96	Peak (NRB)	Horizontal	100	151	--	--	Pass
#3	10600.56	40.86	5.58	-3.93	42.51	Max Avg	Horizontal	161	301	54.0	-11.5	Pass
#4	10600.56	55.76	5.58	-3.93	57.41	Max Peak	Horizontal	161	301	74.0	-16.6	Pass

Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-13B	**Variant:**	802.11a
Antenna Gain (dBi):	3.30	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5320.00	**Data Rate:**	6.00 MBit/s
Power Setting:	16	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5326.05	78.22	3.73	-11.06	70.89	Fundamental	Horizontal	101	1	--	--	
#2	7093.30	54.42	4.23	-7.33	51.32	Peak (NRB)	Horizontal	101	27	--	--	Pass

Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-13B	**Variant:**	802.11a
Antenna Gain (dBi):	3.30	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5500.00	**Data Rate:**	6.00 MBit/s
Power Setting:	19	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5506.73	69.49	3.75	-11.18	62.06	Fundamental	Vertical	101	41	--	--	
Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber												

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-13B	**Variant:**	802.11a
Antenna Gain (dBi):	3.30	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5580.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5582.00	81.99	3.80	-11.20	74.59	Fundamental	Horizontal	101	1	--	--	
Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber												

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-13B	**Variant:**	802.11a
Antenna Gain (dBi):	3.30	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5720.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5723.68	68.91	3.79	-10.72	61.98	Fundamental	Horizontal	101	0	--	--	
#2	11436.48	41.73	5.36	-4.92	42.17	Max Avg	Horizontal	151	339	54.0	-11.8	Pass
#3	11436.48	56.12	5.36	-4.92	56.56	Max Peak	Horizontal	151	339	74.0	-17.4	Pass

Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

2.1.1.2. AP-ANT-19

Equipment Configuration for Radiated Spurious - Restricted Band Emissions			
Antenna:	AP-ANT-19	**Variant:**	802.11a
Antenna Gain (dBi):	6.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5720.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5258.72	91.27	3.65	-11.29	83.63	Fundamental	Vertical	151	1	--	--	
#2	7013.26	58.56	4.18	-7.42	55.32	Peak (NRB)	Vertical	151	51	--	--	Pass
#3	10525.14	52.95	5.43	-4.19	54.19	Peak (NRB)	Vertical	151	0	--	--	Pass
Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber												

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-19	**Variant:**	802.11a
Antenna Gain (dBi):	6.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5720.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5298.00	88.23	3.81	-11.10	80.94	Fundamental	Vertical	151	0	--	--	
#2	7066.69	54.41	4.18	-7.34	51.25	Peak (NRB)	Vertical	151	0	--	--	Pass
#3	10601.82	38.31	5.57	-3.93	39.95	Max Avg	Vertical	158	289	54.0	-14.1	Pass
#4	10601.82	53.35	5.57	-3.93	54.99	Max Peak	Vertical	158	289	74.0	-19.0	Pass
#5	13206.89	48.82	5.34	-6.39	47.77	Peak (NRB)	Horizontal	151	176	--	--	Pass

Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-19	**Variant:**	802.11a
Antenna Gain (dBi):	6.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5720.00	**Data Rate:**	6.00 MBit/s
Power Setting:	16	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5318.08	78.93	3.75	-11.07	71.61	Fundamental	Vertical	101	1	--	--	
#2	7093.23	51.94	4.23	-7.33	48.84	Peak (NRB)	Vertical	101	1	--	--	Pass

Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-19	**Variant:**	802.11a
Antenna Gain (dBi):	6.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5720.00	**Data Rate:**	6.00 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5498.71	70.72	3.74	-11.17	63.29	Fundamental	Vertical	101	1	--	--	
Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber												

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-19	**Variant:**	802.11a
Antenna Gain (dBi):	6.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5720.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5578.96	80.67	3.80	-11.20	73.27	Fundamental	Vertical	101	1	--	--	
Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber												

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-19	**Variant:**	802.11a
Antenna Gain (dBi):	6.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5720.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	3809.75	45.56	3.25	-10.85	37.96	Max Avg	Vertical	141	317	54.0	-16.0	Pass
#2	3809.75	60.35	3.25	-10.85	52.75	Max Peak	Vertical	141	317	74.0	-21.3	Pass
#3	5715.59	69.09	3.81	-10.76	62.14	Fundamental	Vertical	151	0	--	--	

Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

2.1.1.3. AP-ANT-1W

Equipment Configuration for Radiated Spurious - Restricted Band Emissions			
Antenna:	AP-ANT-1W	**Variant:**	802.11a
Antenna Gain (dBi):	5.80	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5260.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5255.43	83.31	3.64	-11.32	75.63	Fundamental	Horizontal	200	1	--	--	
#2	7013.23	53.66	4.18	-7.42	50.42	Peak (NRB)	Horizontal	148	0	--	--	Pass
#3	10525.98	49.20	5.42	-4.18	50.44	Peak (NRB)	Vertical	148	94	--	--	Pass

Test Notes: EUT on 150cm table, powered by POE. Connected to laptop outside chamber

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-1W	**Variant:**	802.11a
Antenna Gain (dBi):	5.80	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5300.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5296.00	83.47	3.79	-11.11	76.15	Fundamental	Horizontal	101	1	--	--	
#2	7066.59	51.87	4.18	-7.34	48.71	Peak (NRB)	Horizontal	151	140	--	--	Pass
#3	10600.52	38.15	5.58	-3.93	39.80	Max Avg	Vertical	191	2	54.0	-14.2	Pass
#4	10600.52	53.01	5.58	-3.93	54.66	Max Peak	Vertical	191	2	74.0	-19.3	Pass

Test Notes: EUT on 150cm table, powered by POE. Connected to laptop outside chamber.

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-1W	**Variant:**	802.11a
Antenna Gain (dBi):	5.80	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5320.00	**Data Rate:**	6.00 MBit/s
Power Setting:	17	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5316.83	79.60	3.76	-11.07	72.29	Fundamental	Horizontal	151	14	--	--	
#2	7093.29	51.87	4.23	-7.33	48.77	Peak (NRB)	Horizontal	151	62	--	--	Pass

Test Notes: EUT on 150cm table, powered by POE. Connected to laptop outside chamber.

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-1W	**Variant:**	802.11a
Antenna Gain (dBi):	5.80	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5500.00	**Data Rate:**	6.00 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5500.56	71.27	3.75	-11.17	63.85	Fundamental	Horizontal	200	7	--	--	
#2	7333.26	47.12	4.28	-7.24	44.16	Max Avg	Horizontal	176	125	54.0	-9.8	Pass
#3	7333.26	54.10	4.28	-7.24	51.14	Max Peak	Horizontal	176	125	74.0	-22.9	Pass

Test Notes: EUT on 150cm table, powered by POE. Connected to laptop outside chamber.

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-1W	**Variant:**	802.11a
Antenna Gain (dBi):	5.80	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5580.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5584.01	82.76	3.79	-11.19	75.36	Fundamental	Horizontal	101	1	--	--	
Test Notes: EUT on 150cm table, powered by POE. Connected to laptop outside chamber.												

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-1W	**Variant:**	802.11a
Antenna Gain (dBi):	5.80	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5720.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5714.03	68.40	3.82	-10.76	61.46	Fundamental	Horizontal	101	38	--	--	
Test Notes: EUT on 150cm table, powered by POE. Connected to laptop outside chamber.												

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

2.1.1.4. AP-ANT-20W

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-20W	**Variant:**	802.11a
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5260.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5265.05	85.64	3.67	-11.27	78.04	Fundamental	Horizontal	151	1	--	--	
#2	7013.34	55.13	4.18	-7.42	51.89	Peak (NRB)	Horizontal	151	1	--	--	Pass
#3	10513.03	49.75	5.47	-4.24	50.98	Peak (NRB)	Vertical	151	158	--	--	Pass

Test Notes: EUT on 150cm table, powered by POE. Connected to laptop outside chamber.

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-20W	**Variant:**	802.11a
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5300.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5272.59	49.46	3.70	-11.23	41.93	Fundamental	Horizontal	151	31	--	--	
#2	7066.70	51.94	4.18	-7.34	48.78	Peak (NRB)	Horizontal	151	31	--	--	Pass
#3	10601.57	39.78	5.57	-3.93	41.42	Max Avg	Horizontal	156	298	54.0	-12.6	Pass
#4	10601.57	54.07	5.57	-3.93	55.71	Max Peak	Horizontal	156	298	74.0	-18.3	Pass

Test Notes: EUT on 150cm table, powered by POE. Connected to laptop outside chamber.

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-20W	**Variant:**	802.11a
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5320.00	**Data Rate:**	6.00 MBit/s
Power Setting:	17.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5315.31	76.50	3.76	-11.07	69.19	Fundamental	Horizontal	101	11	--	--	
#2	7093.28	54.21	4.23	-7.33	51.11	Peak (NRB)	Horizontal	101	141	--	--	Pass

Test Notes: EUT on 150cm table, powered by POE. Connected to laptop outside chamber.

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-20W	**Variant:**	802.11a
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5500.00	**Data Rate:**	6.00 MBit/s
Power Setting:	18.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5494.30	67.72	3.72	-11.17	60.27	Fundamental	Horizontal	101	1	--	--	
Test Notes: EUT on 150cm table, powered by POE. Connected to laptop outside chamber.												

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-20W	**Variant:**	802.11a
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5580.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5574.63	80.34	3.81	-11.21	72.94	Fundamental	Horizontal	101	1	--	--	
#2	11156.76	36.26	5.98	-4.06	38.18	Max Avg	Horizontal	140	81	54.0	-15.8	Pass
#3	11156.76	50.47	5.98	-4.06	52.39	Max Peak	Horizontal	140	81	74.0	-21.6	Pass

Test Notes: EUT on 150cm table, powered by POE. Connected to laptop outside chamber.

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-20W	**Variant:**	802.11a
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5720.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5716.31	66.21	3.81	-10.76	59.26	Fundamental	Horizontal	101	32	--	--	
Test Notes: EUT on 150cm table, powered by POE. Connected to laptop outside chamber.												

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

2.1.1.5. AP-ANT-40

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-40	**Variant:**	802.11a
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5260.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5258.08	87.95	3.65	-11.30	80.30	Fundamental	Horizontal	200	23	--	--	
#2	7013.29	55.26	4.18	-7.42	52.02	Peak (NRB)	Horizontal	200	23	--	--	Pass
#3	10521.84	55.23	5.43	-4.20	56.46	Peak (NRB)	Horizontal	200	58	--	--	Pass

Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber.

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-40	**Variant:**	802.11a
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5300.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5293.11	81.09	3.77	-11.13	73.73	Fundamental	Horizontal	151	0	--	--	
#2	7066.54	54.85	4.18	-7.34	51.69	Peak (NRB)	Horizontal	151	50	--	--	Pass
#3	10607.42	38.95	5.55	-3.92	40.58	Max Avg	Horizontal	158	56	54.0	-13.4	Pass
#4	10607.42	54.55	5.55	-3.92	56.18	Max Peak	Horizontal	158	56	74.0	-17.8	Pass

Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber.

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-40	**Variant:**	802.11a
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5320.00	**Data Rate:**	6.00 MBit/s
Power Setting:	16.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5313.78	79.01	3.76	-11.07	71.70	Fundamental	Horizontal	151	29	--	--	
#2	7093.32	52.73	4.23	-7.33	49.63	Peak (NRB)	Horizontal	151	29	--	--	Pass

Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber.

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-40	**Variant:**	802.11a
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5500.00	**Data Rate:**	6.00 MBit/s
Power Setting:	18.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5503.92	73.38	3.75	-11.18	65.95	Fundamental	Horizontal	101	60	--	--	
Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber.												

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-40	**Variant:**	802.11a
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5580.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5577.72	81.93	3.81	-11.20	74.54	Fundamental	Horizontal	101	65	--	--	
Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber.												

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-40	**Variant:**	802.11a
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5720.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	3810.43	46.31	3.25	-10.85	38.71	Max Avg	Horizontal	165	63	54.0	-15.3	Pass
#2	3810.43	60.77	3.25	-10.85	53.17	Max Peak	Horizontal	165	63	74.0	-20.8	Pass
#3	5713.95	69.71	3.82	-10.76	62.77	Fundamental	Horizontal	101	69	--	--	

Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber.

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

2.1.1.6. AP-ANT-45

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-45	**Variant:**	802.11a
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5260.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5258.56	87.75	3.65	-11.29	80.11	Fundamental	Vertical	101	0	--	--	
#2	7013.31	53.24	4.18	-7.42	50.00	Peak (NRB)	Vertical	151	0	--	--	Pass
#3	10527.34	50.43	5.42	-4.18	51.67	Peak (NRB)	Vertical	151	0	--	--	Pass

Test Notes: Eut on 150cm table powered by POE. Connected to laptop outside chamber.

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-45	**Variant:**	802.11a
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5300.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5294.39	88.24	3.78	-11.12	80.90	Fundamental	Horizontal	101	1	--	--	
#2	7066.63	52.36	4.18	-7.34	49.20	Peak (NRB)	Vertical	151	2	--	--	Pass
#3	10600.52	41.87	5.58	-3.93	43.52	Max Avg	Horizontal	151	358	54.0	-10.5	Pass
#4	10600.52	57.08	5.58	-3.93	58.73	Max Peak	Horizontal	151	358	74.0	-15.3	Pass

Test Notes: Eut on 150cm table powered by POE. Connected to laptop outside chamber.

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-45	**Variant:**	802.11a
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5320.00	**Data Rate:**	6.00 MBit/s
Power Setting:	17	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5317.95	79.67	3.75	-11.07	72.35	Fundamental	Vertical	151	0	--	--	
#2	7093.35	52.81	4.23	-7.33	49.71	Peak (NRB)	Horizontal	151	0	--	--	Pass

Test Notes: Eut on 150cm table powered by POE. Connected to laptop outside chamber.

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-45	**Variant:**	802.11a
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5500.00	**Data Rate:**	6.00 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5497.43	70.47	3.73	-11.17	63.03	Fundamental	Vertical	151	1	--	--	
Test Notes: Eut on 150cm table powered by POE. Connected to laptop outside chamber.												

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-45	**Variant:**	802.11a
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5580.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5578.72	86.13	3.80	-11.20	78.73	Fundamental	Vertical	151	0	--	--	
#2	11159.57	37.63	5.85	-4.07	39.41	Max Avg	Vertical	128	30	54.0	-14.6	Pass
#3	11159.57	51.91	5.85	-4.07	53.69	Max Peak	Vertical	128	30	74.0	-20.3	Pass

Test Notes: Eut on 150cm table powered by POE. Connected to laptop outside chamber.

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-45	**Variant:**	802.11a
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5720.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5714.27	70.97	3.82	-10.76	64.03	Fundamental	Horizontal	101	0	--	--	
Test Notes: Eut on 150cm table powered by POE. Connected to laptop outside chamber.												

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

2.1.1.7. AP-ANT-48

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-48	**Variant:**	802.11a
Antenna Gain (dBi):	8.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5260.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5254.31	92.33	3.64	-11.32	84.65	Fundamental	Vertical	151	1	--	--	
#2	7013.22	56.54	4.18	-7.42	53.30	Peak (NRB)	Horizontal	151	1	--	--	Pass
#3	10529.66	54.49	5.44	-4.16	55.77	Peak (NRB)	Vertical	151	21	--	--	Pass

Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-48	**Variant:**	802.11a
Antenna Gain (dBi):	8.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5300.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5294.31	92.43	3.78	-11.12	85.09	Fundamental	Vertical	151	1	--	--	
#2	7066.52	55.49	4.18	-7.34	52.33	Peak (NRB)	Vertical	151	21	--	--	Pass
#3	10602.37	38.38	5.57	-3.93	40.02	Max Avg	Vertical	172	314	54.0	-14.0	Pass
#4	10602.37	53.07	5.57	-3.93	54.71	Max Peak	Vertical	172	314	74.0	-19.3	Pass

Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-48	**Variant:**	802.11a
Antenna Gain (dBi):	8.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5320.00	**Data Rate:**	6.00 MBit/s
Power Setting:	15.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5314.10	79.81	3.76	-11.07	72.50	Fundamental	Vertical	151	0	--	--	
#2	7093.40	53.54	4.23	-7.33	50.44	Peak (NRB)	Vertical	151	0	--	--	Pass

Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-48	**Variant:**	802.11a
Antenna Gain (dBi):	8.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5500.00	**Data Rate:**	6.00 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5493.26	72.32	3.72	-11.18	64.86	Fundamental	Vertical	200	0	--	--	
#2	7333.23	46.56	4.28	-7.24	43.60	Max Avg	Vertical	150	356	54.0	-10.4	Pass
#3	7333.23	53.38	4.28	-7.24	50.42	Max Peak	Vertical	150	356	74.0	-23.6	Pass
Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber												

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-48	**Variant:**	802.11a
Antenna Gain (dBi):	8.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5580.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5584.89	84.12	3.79	-11.19	76.72	Fundamental	Horizontal	101	0	--	--	
Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber												

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	AP-ANT-48	**Variant:**	802.11a
Antenna Gain (dBi):	8.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5720.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	3813.71	48.44	3.24	-10.85	40.83	Max Avg	Horizontal	186	15	54.0	-13.2	Pass
#2	3813.71	62.88	3.24	-10.85	55.27	Max Peak	Horizontal	186	15	74.0	-18.7	Pass
#3	5721.16	71.45	3.80	-10.73	64.52	Fundamental	Vertical	101	0	--	--	
Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber												

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

2.1.1.8. Metal Sheet

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Metal Sheet	**Variant:**	802.11a
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5260.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5254.87	85.38	3.64	-11.32	77.70	Fundamental	Horizontal	101	24	--	--	
#2	7013.34	59.68	4.18	-7.42	56.44	Peak (NRB)	Horizontal	101	51	--	--	Pass
#3	10524.05	55.03	5.43	-4.19	56.27	Peak (NRB)	Horizontal	101	51	--	--	Pass

Test Notes: EUT on 150cm table powered by POE, connected to laptop outside table.

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Metal Sheet	**Variant:**	802.11a
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5300.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5303.61	85.94	3.80	-11.08	78.66	Fundamental	Horizontal	153	37	--	--	
#2	7066.73	57.12	4.18	-7.34	53.96	Peak (NRB)	Horizontal	148	0	--	--	Pass
#3	10603.88	45.77	5.56	-3.92	47.41	Max Avg	Horizontal	185	277	54.0	-6.6	Pass
#4	10603.88	61.22	5.56	-3.92	62.86	Max Peak	Horizontal	185	277	74.0	-11.1	Pass

Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Metal Sheet	**Variant:**	802.11a
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5320.00	**Data Rate:**	6.00 MBit/s
Power Setting:	16.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5314.51	78.95	3.76	-11.07	71.64	Fundamental	Horizontal	101	19	--	--	
#2	7093.34	59.06	4.23	-7.33	55.96	Peak (NRB)	Horizontal	101	68	--	--	Pass

Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Metal Sheet	**Variant:**	802.11a
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5500.00	**Data Rate:**	6.00 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5493.66	72.60	3.72	-11.17	65.15	Fundamental	Horizontal	101	25	--	--	
Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber												

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Metal Sheet	**Variant:**	802.11a
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5580.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5574.55	82.78	3.81	-11.21	75.38	Fundamental	Horizontal	101	18	--	--	
#2	11161.20	37.25	5.81	-4.07	38.99	Max Avg	Horizontal	150	307	54.0	-15.0	Pass
#3	11161.20	51.28	5.81	-4.07	53.02	Max Peak	Horizontal	150	307	74.0	-21.0	Pass

Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Radiated Spurious - Restricted Band Emissions

Antenna:	Metal Sheet	**Variant:**	802.11a
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5720.00	**Data Rate:**	6.00 MBit/s
Power Setting:	21	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5725.13	69.89	3.79	-10.72	62.96	Fundamental	Horizontal	151	30	--	--	
#2	11449.54	43.23	5.44	-4.92	43.75	Max Avg	Horizontal	169	55	54.0	-10.3	Pass
#3	11449.54	57.61	5.44	-4.92	58.13	Max Peak	Horizontal	169	55	74.0	-15.9	Pass

Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

2.1.2. Restricted Band and Band-Edge Emissions

2.1.2.1. AP-ANT-13B

RESULTS SUMMARY FOR RESTRICTED BAND and BAND-EDGE EMISSIONS

5250 - 5350 MHz

AP-ANT-13B		Restricted Band and Band Edge Freq	Limit 54.0	Limit 74.0	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5320.00	5350.00	52.21	68.93	16
802.11n HT-20	5320.00	5350.00	50.85	68.09	16
802.11n HT-40	5310.00	5350.00	53.77	71.63	15.5
802.11ac-80	5290.00	5350.00	52.76	73.48	11.5
802.11ac-160	5250.00	5150.00	52.10	67.68	14
802.11ac-160	5250.00	5350.00	53.08	70.04	

5470 - 5725 MHz

AP-ANT-13B		Restricted Band Freq	Limit 54.0	Limit 74.0	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5500.00	5460.00	52.67	67.29	19
802.11n HT-20	5500.00	5460.00	52.56	66.52	19
802.11n HT-40	5510.00	5460.00	50.90	66.37	15.5
802.11ac-80	5530.00	5460.00	52.89	71.54	13.5
802.11ac-160	5570.00	5460.00	53.49	70.21	14.5

AP-ANT-13B		Band Edge Freq	Limit 68.23	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	
802.11a	5500.00	5470.00	65.83	19
802.11n HT-20	5500.00	5470.00	65.81	19
802.11n HT-40	5510.00	5470.00	50.21	15.5
802.11ac-80	5530.00	5470.00	52.23	13.5
802.11ac-160	5570.00	5470.00	53.20	14.5

80 + 80 MHz: 5250 - 5350 and 5470 - 5725 MHz Simultaneous Operation

AP-ANT-13B		Restricted Band Freq	Limit 54.0	Limit 74.0	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11ac-80+80	5290.00	5350.00	53.08	71.35	13.5
	5530.00	5460.00	50.62	67.75	

AP-ANT-13B		Band-Edge Freq	Limit 68.23	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	
802.11ac-80+80	5530.00	5470.00	51.90	13.5

Click on the links to view the data.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-13B	**Variant:**	802.11a
Antenna Gain (dBi):	3.30	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5500.00	**Data Rate:**	6.00 MBit/s
Power Setting:	19	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5447.54	29.22	3.77	34.30	67.29	Max Peak	Horizontal	153	30	74.0	-6.7	Pass
#2	5449.04	14.60	3.77	34.30	52.67	Max Avg	Horizontal	153	30	54.0	-1.3	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5469.79	27.72	3. 479	34.32	65.83	Max Avg	Horizontal	153	30	68.2*	-2.4	Pass
#5	5470.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-13B	**Variant:**	802.11ac-80
Antenna Gain (dBi):	3.30	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5530.00	**Data Rate:**	29.30 MBit/s
Power Setting:	13.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5457.35	33.44	3.80	34.30	71.54	Max Peak	Horizontal	153	30	74.0	-2.5	Pass
#2	5458.90	14.79	3.79	34.31	52.89	Max Avg	Horizontal	153	30	54.0	-1.1	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5460.20	14.13	3.79	34.31	52.23	Max Avg	Horizontal	153	30	68.2*	-16.0	Pass
#5	5470.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-13B	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	3.30	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5500.00	**Data Rate:**	6.50 MBit/s
Power Setting:	19	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5447.82	28.45	3.77	34.30	66.52	Max Peak	Horizontal	153	30	74.0	-7.5	Pass
#2	5448.80	14.49	3.77	34.30	52.56	Max Avg	Horizontal	153	30	54.0	-1.4	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5469.24	27.70	3.79	34.32	65.81	Max Avg	Horizontal	153	30	68.2*	-2.4	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-13B	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	3.30	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5510.00	**Data Rate:**	13.50 MBit/s
Power Setting:	15.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5459.18	12.80	3.79	34.31	50.90	Max Avg	Horizontal	153	30	54.0	-3.1	Pass
#2	5459.98	28.27	3.79	34.31	66.37	Max Peak	Horizontal	153	30	74.0	-7.6	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5460.26	12.11	3.79	34.31	50.21	Max Avg	Horizontal	153	30	68.2*	-18.0	Pass
#5	5460.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-13B	**Variant:**	802.11a
Antenna Gain (dBi):	3.30	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5320.00	**Data Rate:**	6.00 MBit/s
Power Setting:	16	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	14.00	3.70	34.51	52.21	Max Avg	Horizontal	171	317	54.0	-1.8	Pass
#2	5350.00	30.72	3.70	34.51	68.93	Max Peak	Horizontal	171	317	74.0	-5.1	Pass
#3	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-13B	**Variant:**	802.11ac-80
Antenna Gain (dBi):	3.30	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5290.00	**Data Rate:**	29.30 MBit/s
Power Setting:	11.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#2	5358.44	35.28	3.71	34.49	73.48	Max Peak	Horizontal	171	317	74.0	-0.5	Pass
#3	5359.34	14.56	3.71	34.49	52.76	Max Avg	Horizontal	171	317	54.0	-1.2	Pass
#1	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-13B	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	3.30	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5320.00	**Data Rate:**	6.50 MBit/s
Power Setting:	16	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	12.64	3.70	34.51	50.85	Max Avg	Horizontal	171	317	54.0	-3.2	Pass
#2	5350.00	29.88	3.70	34.51	68.09	Max Peak	Horizontal	171	317	74.0	-5.9	Pass
#3	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-13B	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	3.30	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5310.00	**Data Rate:**	13.50 MBit/s
Power Setting:	15.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#2	5357.92	33.43	3.71	34.49	71.63	Max Peak	Horizontal	171	317	74.0	-2.4	Pass
#3	5358.82	15.57	3.71	34.49	53.77	Max Avg	Horizontal	171	317	54.0	-0.2	Pass
#1	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

80 + 80 MHz: The following measurements were made with the unit operating in ac80+80 mode. As this report is for DFS operation applicable channel frequencies were 5290 and 5530 MHz.

The Restricted Band-Edges for 5350 and 5460 MHz were operating simultaneously and measured, with results reported below.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-13B	**Variant:**	802.11ac-80+80
Antenna Gain (dBi):	3.30	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5290.00 + 5530	**Data Rate:**	58.60 MBit/s
Power Setting:	13.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#2	5357.41	33.15	3.71	34.49	71.35	Max Peak	Horizontal	171	317	74.0	-2.7	Pass
#3	5359.08	14.88	3.71	34.49	53.08	Max Avg	Horizontal	171	317	54.0	-0.9	Pass
#4	5448.63	12.55	3.77	34.30	50.62	Max Avg	Horizontal	171	317	54.0	-3.4	Pass
#5	5449.27	29.68	3.77	34.30	67.75	Max Peak	Horizontal	171	317	74.0	-5.3	Pass
#6	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#7	5468.84	13.79	3.79	34.32	51.90	Max Avg	Horizontal	153	30	68.2*	-16.3	Pass
#8	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber												

*Note 68.2 is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-13B	**Variant:**	802.11ac-160
Antenna Gain (dBi):	3.30	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	91
Channel Frequency (MHz):	5250.00	**Data Rate:**	58.60 MBit/s
Power Setting:	14	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5143.89	14.28	3.70	34.12	52.10	Max Avg	Vertical	200	357	54.0	-1.9	Pass
#2	5143.89	29.86	3.70	34.12	67.68	Max Peak	Vertical	200	357	74.0	-6.3	Pass
#3	5150.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by PDSine 9001GR POE. Power reduced to meet Band Edge Limits.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-13B	**Variant:**	802.11ac-160
Antenna Gain (dBi):	3.30	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	91
Channel Frequency (MHz):	5250.00	**Data Rate:**	58.60 MBit/s
Power Setting:	14	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#2	5355.03	14.87	3.71	34.50	53.08	Max Avg	Vertical	200	357	54.0	-0.9	Pass
#3	5356.07	31.83	3.71	34.50	70.04	Max Peak	Vertical	200	357	74.0	-4.0	Pass
#1	5350.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by PDSine 9001GR POE. Power reduced to meet Band Edge Limits.

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-13B	**Variant:**	802.11ac-160
Antenna Gain (dBi):	3.30	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	91
Channel Frequency (MHz):	5570.00	**Data Rate:**	58.60 MBit/s
Power Setting:	14.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5457.86	32.11	3.80	34.30	70.21	Max Peak	Vertical	199	357	74.0	-3.8	Pass
#2	5458.68	15.39	3.79	34.31	53.49	Max Avg	Vertical	199	357	54.0	-0.5	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5460.32	15.10	3.79	34.31	53.20	Max Avg	Horizontal	153	30	68.2*	-15.0	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by PDSine 9001GR POE. Power reduced to meet Band Edge Limits.

*Note 68.2 is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

2.1.2.2. AP-ANT-19

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5250 - 5350 MHz

AP-ANT-19		Band-Edge Freq	Limit 54.0	Limit 74.0	Power Setting
Operational Mode	Operating Frequency (MHz)	dBµV/m	MHz	dBµV/m	
802.11a	5320.00	5350.00	52.55	68.31	16
802.11n HT-20	5320.00	5350.00	51.74	68.07	16
802.11n HT-40	5310.00	5350.00	52.65	69.06	15
802.11ac-80	5290.00	5350.00	53.77	73.86	11
802.11ac-160	5250.00	5150.00	53.43	71.58	14
802.11ac-160	5250.00	5350.00	53.08	70.04	

5470 - 5725 MHz

AP-ANT-19		Band-Edge Freq	Limit 54.0dBµV/m	Limit 74.0dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5500.00	5460.00	52.78	67.70	18
802.11n HT-20	5500.00	5460.00	52.01	67.47	18
802.11n HT-40	5510.00	5460.00	52.24	68.72	15.5
802.11ac-80	5530.00	5460.00	52.56	70.99	12.5
802.11ac-160	5570.00	5460.00	52.34	70.50	13.5

AP-ANT-19		Band Edge Freq	Limit 68.23	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	
802.11a	5500.00	5470.00	58.86	18
802.11n HT-20	5500.00	5470.00	58.15	18
802.11n HT-40	5510.00	5470.00	56.16	15.5
802.11ac-80	5530.00	5470.00	54.16	12.5
802.11ac-160	5570.00	5470.00	50.90	13.5

80 + 80 MHz: 5250 - 5350 and 5470 - 5725 MHz Simultaneous Operation

AP-ANT-19		Band-Edge Freq	Limit 54.0dBµV/m	Limit 74.0dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11ac-80+80	5290.00	5350.00	53.68	72.90	12.0
	5530.00	5460.00	48.13	65.13	

AP-ANT-19		Band-Edge Freq	Limit 68.23	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	
802.11ac-80+80	5530.00	5470.00	47.95	13.5

Click on the links to view the data.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks AP-ANT-19	**Variant:**	802.11a
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5500.00	**Data Rate:**	6.00 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5456.93	14.68	3.80	34.30	52.78	Max Avg	Vertical	145	15	54.0	-1.2	Pass
#2	5457.07	29.60	3.80	34.30	67.70	Max Peak	Vertical	145	15	74.0	-6.3	Pass
#3	5460.00	--	--	--	--	Band Edge	--	--	--	--	--	--
#4	5469.52	20.75	3.79	34.32	58.86	Max Avg	Horizontal	153	30	68.2*	-9.4	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba Networks AP-ANT-19	**Variant:**	802.11ac-80
Antenna Gain (dBi):	Not Applicable	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5530.00	**Data Rate:**	29.30 MBit/s
Power Setting:	12.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5446.13	32.93	3.76	34.30	70.99	Max Peak	Vertical	145	15	74.0	-3.0	Pass
#2	5446.55	14.50	3.76	34.30	52.56	Max Avg	Vertical	145	15	54.0	-1.4	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5466.43	16.05	3.79	34.32	54.16	Max Avg	Horizontal	153	30	68.2*	-14.1	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-19	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	6.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5500.00	**Data Rate:**	6.50 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5456.51	29.37	3.80	34.30	67.47	Max Peak	Vertical	145	15	74.0	-6.5	Pass
#2	5457.49	13.91	3.80	34.30	52.01	Max Avg	Vertical	145	15	54.0	-2.0	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5469.80	20.04	3.79	34.32	58.15	Max Avg	Horizontal	153	30	68.2*	-10.1	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-19	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	6.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5510.00	**Data Rate:**	13.50 MBit/s
Power Setting:	15.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5459.04	30.62	3.79	34.31	68.72	Max Peak	Vertical	145	15	74.0	-5.3	Pass
#2	5459.46	14.14	3.79	34.31	52.24	Max Avg	Vertical	145	15	54.0	-1.8	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5466.99	18.05	3.79	34.32	56.16	Max Avg	Horizontal	153	30	68.2*	-12.1	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-19	**Variant:**	802.11a
Antenna Gain (dBi):	6.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5320.00	**Data Rate:**	6.00 MBit/s
Power Setting:	16	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#2	5350.36	30.10	3.70	34.51	68.31	Max Peak	Vertical	163	1	74.0	-5.7	Pass
#3	5350.48	14.34	3.70	34.51	52.55	Max Avg	Vertical	163	1	54.0	-1.5	Pass
#1	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by POE, connected to laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-19	**Variant:**	802.11ac-80
Antenna Gain (dBi):	6.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5290.00	**Data Rate:**	29.30 MBit/s
Power Setting:	11	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#2	5361.30	35.68	3.70	34.48	73.86	Max Peak	Vertical	0	0	74.0	-0.1	Pass
#3	5362.73	15.59	3.70	34.48	53.77	Max Avg	Vertical	0	0	54.0	-0.2	Pass
#1	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by POE, connected to laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-19	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	6.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5320.00	**Data Rate:**	6.50 MBit/s
Power Setting:	16	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#2	5350.36	29.86	3.70	34.51	68.07	Max Peak	Vertical	163	1	74.0	-5.9	Pass
#3	5351.26	13.52	3.71	34.51	51.74	Max Avg	Vertical	163	1	54.0	-2.3	Pass
#1	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE, connected to laptop outside chamber												

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-19	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	6.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5310.00	**Data Rate:**	13.50 MBit/s
Power Setting:	15	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#2	5362.46	14.47	3.70	34.48	52.65	Max Avg	Vertical	163	1	54.0	-1.4	Pass
#3	5362.61	30.88	3.70	34.48	69.06	Max Peak	Vertical	163	1	74.0	-4.9	Pass
#1	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE, connected to laptop outside chamber												

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

80 + 80 MHz: The following measurements were made with the unit operating in ac80+80 mode. As this report is for DFS operation applicable channel frequencies were 5290 and 5530 MHz.

The Restricted Band-Edges for 5350 and 5460 MHz were operating simulataneously and measured, with results reported below.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-19	**Variant:**	802.11ac-80+80
Antenna Gain (dBi):	6.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5290.00 + 5530.00	**Data Rate:**	58.60 MBit/s
Power Setting:	12	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#2	5362.40	15.50	3.70	34.48	53.68	Max Avg	Vertical	163	1	54.0	-0.3	Pass
#3	5362.42	34.72	3.70	34.48	72.90	Max Peak	Vertical	163	1	74.0	-1.1	Pass
#4	5453.45	14.50	3.76	34.30	48.13	Max Avg	Vertical	163	1	54.0	-5.9	Pass
#5	5456.78	27.07	3.76	34.30	65.13	Max Peak	Vertical	163	1	74.0	-8.9	Pass
#6	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#7	5469.80	9.84	3.79	34.32	47.95	Max Avg	Horizontal	153	30	68.2*	-20.3	Pass
#8	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber												

*Note 68.2 is band edge average limit for 5470 MHz per FCC 407

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-19	**Variant:**	802.11ac-160
Antenna Gain (dBi):	6.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	91
Channel Frequency (MHz):	5250.00	**Data Rate:**	58.60 MBit/s
Power Setting:	14	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5135.47	15.62	3.69	34.12	53.43	Max Avg	Vertical	200	201	54.0	-0.6	Pass
#2	5150.00	33.80	3.67	34.11	71.58	Max Peak	Vertical	200	201	74.0	-2.4	Pass
#3	5150.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by PDSine 9001GR POE. Power reduced to meet Band Edge Limits.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-19	**Variant:**	802.11ac-160
Antenna Gain (dBi):	6.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	91
Channel Frequency (MHz):	5250.00	**Data Rate:**	58.60 MBit/s
Power Setting:	14	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#2	5359.90	14.89	3.70	34.49	53.08	Max Avg	Vertical	200	201	54.0	-0.9	Pass
#3	5360.42	31.85	3.70	34.49	70.04	Max Peak	Vertical	200	201	74.0	-4.0	Pass
#1	5350.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by PDSine 9001GR POE. Power reduced to meet Band Edge Limits.

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-19	**Variant:**	802.11ac-160
Antenna Gain (dBi):	6.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	91
Channel Frequency (MHz):	5570.00	**Data Rate:**	58.60 MBit/s
Power Setting:	13.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5453.93	32.41	3.79	34.30	70.50	Max Peak	Vertical	141	201	74.0	-3.5	Pass
#2	5454.89	14.25	3.79	34.30	52.34	Max Avg	Vertical	141	201	54.0	-1.7	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5469.93	12.79	3.79	34.32	50.90	Max Avg	Horizontal	153	30	68.2*	-17.3	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by PDSine 9001GR POE. Power reduced to meet Band Edge Limits.

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

2.1.2.3. AP-ANT-1W

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5250 - 5350 MHz

AP-ANT-1W		Band-Edge Freq	Limit 54.0	Limit 74.0	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5320.00	5350.00	51.62	67.14	17
802.11n HT-20	5320.00	5350.00	51.50	66.64	17
802.11n HT-40	5310.00	5350.00	53.18	69.16	16
802.11ac-80	5290.00	5350.00	52.43	70.16	13
802.11ac-160	5250.00	5150.00	53.54	71.07	14
802.11ac-160	5250.00	5350.00	53.58	70.20	

5470 - 5725 MHz

AP-ANT-1W		Band-Edge Freq	Limit 54.0	Limit 74.0	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5500.00	5460.00	48.66	62.63	18
802.11n HT-20	5500.00	5460.00	48.99	64.30	18
802.11n HT-40	5510.00	5460.00	53.19	68.91	16
802.11ac-80	5530.00	5460.00	53.29	71.25	13.5
802.11ac-160	5570.00	5460.00	53.87	71.33	14.5

AP-ANT-1W		Band Edge Freq	Limit 68.23	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	
802.11a	5500.00	5470.00	55.79	18
802.11n HT-20	5500.00	5470.00	56.02	18
802.11n HT-40	5510.00	5470.00	56.98	16
802.11ac-80	5530.00	5470.00	53.20	13.5
802.11ac-160	5570.00	5470.00	53.50	14.5

80 + 80 MHz: 5250 - 5350 and 5470 - 5725 MHz Simultaneous Operation

AP-ANT-1W		Band-Edge Freq	Limit 54.0	Limit 74.0	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11ac-80+80	5290.00	5350.00	53.08	70.58	14.0
	5530.00	5460.00	46.76	64.71	

AP-ANT-1W		Band-Edge Freq	Limit 68.23	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	
802.11ac-80+80	5530.00	5470.00	46.76	14.0

Click on the links to view the data.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-1W	**Variant:**	802.11a
Antenna Gain (dBi):	5.80	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5500.00	**Data Rate:**	6.00 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5452.55	24.54	3.79	34.30	62.63	Max Peak	Horizontal	175	46	74.0	-11.4	Pass
#2	5459.12	10.56	3.79	34.31	48.66	Max Avg	Horizontal	175	46	54.0	-5.3	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5466.71	17.68	3.79	34.32	55.79	Max Avg	Horizontal	153	30	68.2*	-12.4	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-1W	**Variant:**	802.11ac-80
Antenna Gain (dBi):	5.80	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5530.00	**Data Rate:**	29.30 MBit/s
Power Setting:	13.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5454.95	33.16	3.79	34.30	71.25	Max Peak	Horizontal	175	46	74.0	-2.8	Pass
#2	5455.81	15.19	3.80	34.30	53.29	Max Avg	Horizontal	175	46	54.0	-0.7	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5468.96	15.09	3.79	34.32	53.20	Max Avg	Horizontal	153	30	68.2*	-15.0	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-1W	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	5.80	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5500.00	**Data Rate:**	6.50 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5458.04	10.89	3.80	34.30	48.99	Max Avg	Horizontal	175	46	54.0	-5.0	Pass
#2	5458.96	26.20	3.79	34.31	64.30	Max Peak	Horizontal	175	46	74.0	-9.7	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5465.87	17.91	3.79	34.32	56.02	Max Avg	Horizontal	153	30	68.2*	-12.2	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-1W	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	5.80	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5510.00	**Data Rate:**	13.50 MBit/s
Power Setting:	16	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5455.65	15.09	3.80	34.30	53.19	Max Avg	Horizontal	175	46	54.0	-0.8	Pass
#2	5456.65	30.81	3.80	34.30	68.91	Max Peak	Horizontal	175	46	74.0	-5.1	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5468.96	18.87	3.79	34.32	56.98	Max Avg	Horizontal	153	30	68.2*	-11.3	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-1W	**Variant:**	802.11a
Antenna Gain (dBi):	5.80	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5320.00	**Data Rate:**	6.00 MBit/s
Power Setting:	17	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#2	5350.78	28.92	3.71	34.51	67.14	Max Peak	Horizontal	181	328	74.0	-6.9	Pass
#3	5350.86	13.40	3.71	34.51	51.62	Max Avg	Horizontal	181	328	54.0	-2.4	Pass
#1	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-1W	**Variant:**	802.11ac-80
Antenna Gain (dBi):	5.80	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5290.00	**Data Rate:**	29.30 MBit/s
Power Setting:	13	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#2	5362.73	14.25	3.70	34.48	52.43	Max Avg	Horizontal	181	328	54.0	-1.6	Pass
#3	5363.77	31.98	3.70	34.48	70.16	Max Peak	Horizontal	181	328	74.0	-3.8	Pass
#1	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-1W	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	5.80	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5320.00	**Data Rate:**	6.50 MBit/s
Power Setting:	17	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#2	5350.84	13.28	3.71	34.51	51.50	Max Avg	Horizontal	181	328	54.0	-2.5	Pass
#3	5352.61	28.43	3.71	34.50	66.64	Max Peak	Horizontal	181	328	74.0	-7.4	Pass
#1	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-1W	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	5.80	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5310.00	**Data Rate:**	13.50 MBit/s
Power Setting:	16	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#2	5362.10	15.00	3.70	34.48	53.18	Max Avg	Horizontal	181	328	54.0	-0.8	Pass
#3	5362.61	30.98	3.70	34.48	69.16	Max Peak	Horizontal	181	328	74.0	-4.8	Pass
#1	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

80 + 80 MHz: The following measurements were made with the unit operating in ac80+80 mode. As this report is for DFS operation applicable channel frequencies were 5290 and 5530 MHz.

The Restricted Band-Edges for 5350 and 5460 MHz were operating simulataneously and measured, with results reported below.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-1W	**Variant:**	802.11ac-80+80
Antenna Gain (dBi):	5.80	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5290.00 + 5530.00	**Data Rate:**	58.60 MBit/s
Power Setting:	14	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#2	5356.73	32.38	3.71	34.49	70.58	Max Peak	Horizontal	180	328	74.0	-3.4	Pass
#3	5359.94	14.89	3.70	34.49	53.08	Max Avg	Horizontal	180	328	54.0	-0.9	Pass
#4	5456.97	26.62	3.79	34.30	64.71	Max Peak	Horizontal	180	328	74.0	-9.3	Pass
#5	5459.86	8.66	3.80	34.30	46.76	Max Avg	Horizontal	180	328	54.0	-7.2	Pass
#6	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#7	5461.78	8.66	3.79	34.32	46.76	Max Avg	Horizontal	153	30	68.2*	-21.5	Pass
#8	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber.												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-1W	**Variant:**	802.11ac-160
Antenna Gain (dBi):	5.80	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	91
Channel Frequency (MHz):	5250.00	**Data Rate:**	58.60 MBit/s
Power Setting:	14	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5150.00	15.76	3.67	34.11	53.54	Max Avg	Horizontal	158	319	54.0	-0.5	Pass
#2	5150.00	33.29	3.67	34.11	71.07	Max Peak	Horizontal	158	319	74.0	-2.9	Pass
#3	5150.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by PDSine 9001GR POE. Power reduced to meet Band Edge Limits.

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-1W	**Variant:**	802.11ac-160
Antenna Gain (dBi):	5.80	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	91
Channel Frequency (MHz):	5250.00	**Data Rate:**	58.60 MBit/s
Power Setting:	14	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	--	--	--	--	Band Edge	--	--	--	--	--	--
#2	5351.14	15.36	3.71	34.51	53.58	Max Avg	Horizontal	153	317	54.0	-0.4	Pass
#3	5351.48	31.98	3.71	34.51	70.20	Max Peak	Horizontal	153	317	74.0	-3.8	Pass

Test Notes: EUT on 150cm table powered by PDSine 9001GR POE. Power reduced to meet Band Edge Limits.

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-1W	**Variant:**	802.11ac-160
Antenna Gain (dBi):	5.80	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	91
Channel Frequency (MHz):	5570.00	**Data Rate:**	58.60 MBit/s
Power Setting:	14.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5455.91	33.23	3.80	34.30	71.33	Max Peak	Horizontal	157	313	74.0	-2.7	Pass
#2	5458.60	15.77	3.79	34.31	53.87	Max Avg	Horizontal	157	313	54.0	-0.1	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5469.64	15.39	3.79	34.32	53.50	Max Avg	Horizontal	153	30	68.2*	-14.7	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by PDSine 9001GR POE. Power reduced to meet Band Edge Limits.												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

2.1.2.4. AP-ANT-20W

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5250 - 5350 MHz

AP-ANT-20W		Band-Edge Freq	Limit 54.0	Limit 74.0	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5320.00	5350.00	53.58	70.14	17.5
802.11n HT-20	5320.00	5350.00	53.29	70.88	17.5
802.11n HT-40	5310.00	5350.00	53.96	69.00	16.5
802.11ac-80	5290.00	5350.00	53.18	71.01	14
802.11ac-160	5250.00	5150.00	53.82	70.93	14.5
802.11ac-160	5250.00	5350.00	53.58	69.80	

5470 - 5725 MHz

AP-ANT-20W		Band-Edge Freq	Limit 54.0	Limit 74.0	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5500.00	5460.00	51.28	66.37	18.5
802.11n HT-20	5500.00	5460.00	50.21	64.42	18.5
802.11n HT-40	5510.00	5460.00	51.77	66.99	16.5
802.11ac-80	5530.00	5460.00	51.89	68.97	14.5
802.11ac-160	5570.00	5460.00	52.56	69.81	15

AP-ANT-20W		Band Edge Freq	Limit 68.23	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	
802.11a	5500.00	5470.00	56.38	18.5
802.11n HT-20	5500.00	5470.00	55.65	18.5
802.11n HT-40	5510.00	5470.00	56.92	16.5
802.11ac-80	5530.00	5470.00	54.15	14.5
802.11ac-160	5570.00	5470.00	53.30	15

80 + 80 MHz: 5250 - 5350 and 5470 - 5725 MHz Simultaneous Operation

AP-ANT-20W		Band-Edge Freq	Limit 54.0dBµV/m	Limit 74.0dBµV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11ac-80+80	5290.00	5350.00	52.21	68.48	14.5
	5530.00	5460.00	44.32	58.79	

AP-ANT-20W		Band-Edge Freq	Limit 68.23	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	
802.11ac-80+80	5530.00	5470.00	45.39	14.5

Click on the links to view the data.

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-20W	**Variant:**	802.11a
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5500.00	**Data Rate:**	6.00 MBit/s
Power Setting:	18.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5456.51	28.27	3.80	34.30	66.37	Max Peak	Horizontal	152	16	74.0	-7.6	Pass
#2	5457.49	13.18	3.80	34.30	51.28	Max Avg	Horizontal	152	16	54.0	-2.7	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5469.80	18.27	3.79	34.32	56.38	Max Avg	Horizontal	153	30	68.2*	-11.9	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-20W	**Variant:**	802.11ac-80
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5530.00	**Data Rate:**	29.30 MBit/s
Power Setting:	14.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5459.16	30.87	3.79	34.31	68.97	Max Peak	Horizontal	152	16	74.0	-5.0	Pass
#2	5460.00	13.79	3.79	34.31	51.89	Max Avg	Horizontal	152	16	54.0	-2.1	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5467.56	16.04	3.79	34.32	54.15	Max Avg	Horizontal	153	30	68.2*	-14.1	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-20W	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5500.00	**Data Rate:**	6.50 MBit/s
Power Setting:	18.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5457.78	12.11	3.80	34.30	50.21	Max Avg	Horizontal	152	16	54.0	-3.8	Pass
#2	5458.20	26.32	3.80	34.30	64.42	Max Peak	Horizontal	152	16	74.0	-9.6	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5469.80	17.54	3.79	34.32	55.65	Max Avg	Horizontal	153	30	68.2*	-12.6	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-20W	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5510.00	**Data Rate:**	13.50 MBit/s
Power Setting:	16.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5460.00	13.67	3.79	34.31	51.77	Max Avg	Horizontal	152	16	54.0	-2.2	Pass
#2	5460.00	28.89	3.79	34.31	66.99	Max Peak	Horizontal	152	16	74.0	-7.0	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5467.56	18.81	3.79	34.32	56.92	Max Avg	Horizontal	153	30	68.2*	-11.3	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-20W	**Variant:**	802.11a
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5320.00	**Data Rate:**	6.00 MBit/s
Power Setting:	17.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	15.37	3.70	34.51	53.58	Max Avg	Vertical	158	342	54.0	-0.4	Pass
#2	5350.00	31.93	3.70	34.51	70.14	Max Peak	Vertical	158	342	74.0	-3.9	Pass
#3	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-20W	**Variant:**	802.11ac-80
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5290.00	**Data Rate:**	29.30 MBit/s
Power Setting:	14	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
#2	5357.92	32.81	3.71	34.49	71.01	Max Peak	Vertical	158	342	74.0	-3.0	Pass
#3	5358.30	14.98	3.71	34.49	53.18	Max Avg	Vertical	158	342	54.0	-0.8	Pass
Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber												

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-20W	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5320.00	**Data Rate:**	6.50 MBit/s
Power Setting:	17.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	15.08	3.70	34.51	53.29	Max Avg	Vertical	158	342	54.0	-0.7	Pass
#2	5350.00	32.67	3.70	34.51	70.88	Max Peak	Vertical	158	342	74.0	-3.1	Pass
#3	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber												

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-20W	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5310.00	**Data Rate:**	13.50 MBit/s
Power Setting:	16.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
#2	5353.87	15.75	3.71	34.50	53.96	Max Avg	Vertical	158	342	54.0	0.0	Pass
#3	5355.05	30.79	3.71	34.50	69.00	Max Peak	Vertical	158	342	74.0	-5.0	Pass

Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

80 + 80 MHz: The following measurements were made with the unit operating in ac80+80 mode. As this report is for DFS operation applicable channel frequencies were 5290 and 5530 MHz.

The Restricted Band-Edges for 5350 and 5460 MHz were operating simulataneously and measured, with results reported below.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-20W	**Variant:**	802.11ac-80+80
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5290.00 + 5530.00	**Data Rate:**	58.60 MBit/s
Power Setting:	14.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#2	5352.81	30.24	3.71	34.50	68.45	Max Peak	Vertical	158	342	74.0	-5.6	Pass
#3	5357.60	14.01	3.71	34.49	52.21	Max Avg	Vertical	158	342	54.0	-1.8	Pass
#4	5447.67	6.22	3.79	34.31	44.32	Max Avg	Horizontal	158	342	54.0	-9.7	Pass
#5	5449.27	20.69	3.79	34.31	58.79	Max Peak	Horizontal	158	342	74.0	-15.2	Pass
#6	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#7	5468.20	7.28	3.79	34.32	45.39	Max Avg	Horizontal	153	30	68.2*	-22.8	Pass
#8	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-20W	**Variant:**	802.11ac-160
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	91
Channel Frequency (MHz):	5250.00	**Data Rate:**	58.6 MBit/s
Power Setting:	14.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5148.85	16.04	3.67	34.11	53.82	Max Avg	Horizontal	152	321	54.0	-0.2	Pass
#2	5150.00	33.15	3.67	34.11	70.93	Max Peak	Horizontal	152	321	74.0	-3.1	Pass
#3	5150.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by PDSine 9001GR POE. Power reduced to meet Band Edge Limits.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-20W	**Variant:**	802.11ac-160
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	91
Channel Frequency (MHz):	5250.00	**Data Rate:**	58.6 MBit/s
Power Setting:	14.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	--	--	--	--	Band Edge	--	--	--	--	--	--
#2	5364.75	15.42	3.69	34.47	53.58	Max Avg	Horizontal	143	-8	54.0	-0.4	Pass
#3	5365.29	31.64	3.69	34.47	69.80	Max Peak	Horizontal	143	-8	74.0	-4.2	Pass

Test Notes: EUT on 150cm table powered by PDSine 9001GR POE. Power reduced to meet Band Edge Limits.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-20W	**Variant:**	802.11ac-160
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	6.00	**Duty Cycle (%):**	91
Channel Frequency (MHz):	5570.00	**Data Rate:**	58.6 MBit/s
Power Setting:	15	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5453.65	31.72	3.79	34.30	69.81	Max Peak	Horizontal	154	313	74.0	-4.2	Pass
#2	5455.47	14.47	3.79	34.30	52.56	Max Avg	Horizontal	154	313	54.0	-1.4	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5469.64	15.19	3.79	34.32	53.30	Max Avg	Horizontal	153	30	68.2*	-14.9	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by PDSine 9001GR POE.												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

2.1.2.5. AP-ANT-40

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5250 - 5350 MHz

AP-ANT-40		Band-Edge Freq	Limit 54.0	Limit 74.0	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5320.00	5350.00	52.21	68.07	16.5
802.11n HT-20	5320.00	5350.00	51.12	68.73	16.5
802.11n HT-40	5310.00	5350.00	52.10	67.20	15.5
802.11ac-80	5290.00	5350.00	53.28	71.57	13.0
802.11ac-160	5250.00	5150.00	53.15	71.36	13.5
802.11ac-160	5250.00	5350.00	52.98	70.44	

5470 - 5725 MHz

AP-ANT-40		Band-Edge Freq	Limit 54.0	Limit 74.0	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5500.00	5460.00	53.30	66.30	18.5
802.11n HT-20	5500.00	5460.00	52.57	65.63	18.5
802.11n HT-40	5510.00	5460.00	52.12	67.68	16.0
802.11ac-80	5530.00	5460.00	53.09	70.39	13.5
802.11ac-160	5570.00	5460.00	53.30	69.80	14.0

AP-ANT-40		Band Edge Freq	Limit 68.23	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	
802.11a	5500.00	5470.00	60.44	18.5
802.11n HT-20	5500.00	5470.00	60.08	18.5
802.11n HT-40	5510.00	5470.00	57.73	16.0
802.11ac-80	5530.00	5470.00	53.50	13.5
802.11ac-160	5570.00	5470.00	53.87	14.0

80 + 80 MHz: 5250 - 5350 and 5470 - 5725 MHz Simultaneous Operation

AP-ANT-40		Band-Edge Freq	Limit 54.0	Limit 74.0	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11ac-80+80	5290.00	5350.00	53.48	69.79	14.0
	5530.00	5460.00	48.12	65.07	

AP-ANT-40		Band-Edge Freq	Limit 68.23	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	
802.11ac-80+80	5530.00	5470.00	48.49	14.0

Click on the links to view the data.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-40	**Variant:**	802.11a
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5500.00	**Data Rate:**	6.00 MBit/s
Power Setting:	18.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5460.00	15.20	3.79	34.31	53.30	Max Avg	Horizontal	148	24	54.0	-0.7	Pass
#2	5460.00	28.20	3.79	34.31	66.30	Max Peak	Horizontal	148	24	74.0	-7.7	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5469.80	22.33	3.79	34.32	60.44	Max Avg	Horizontal	153	30	68.2*	-7.8	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-40	**Variant:**	802.11ac-80
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5530.00	**Data Rate:**	29.30 MBit/s
Power Setting:	13.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5451.18	32.31	3.78	34.30	70.39	Max Peak	Horizontal	148	24	74.0	-3.6	Pass
#2	5452.16	15.01	3.78	34.30	53.09	Max Avg	Horizontal	148	24	54.0	-0.9	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5469.80	15.39	3.79	34.32	53.50	Max Avg	Horizontal	153	30	68.2*	-14.7	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-40	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5500.00	**Data Rate:**	6.50 MBit/s
Power Setting:	18.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5460.00	14.47	3.79	34.31	52.57	Max Avg	Horizontal	148	24	54.0	-1.4	Pass
#2	5460.00	27.53	3.79	34.31	65.63	Max Peak	Horizontal	148	24	74.0	-8.4	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5469.80	21.97	3.79	34.32	60.08	Max Avg	Horizontal	153	30	68.2*	-8.2	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-40	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5510.00	**Data Rate:**	13.50 MBit/s
Power Setting:	16	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5451.74	29.60	3.78	34.30	67.68	Max Peak	Horizontal	148	24	74.0	-6.3	Pass
#2	5453.01	14.03	3.79	34.30	52.12	Max Avg	Horizontal	148	24	54.0	-1.9	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5469.80	19.62	3.79	34.32	57.73	Max Avg	Horizontal	153	30	68.2*	-10.5	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-40	**Variant:**	802.11a
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5320.00	**Data Rate:**	6.00 MBit/s
Power Setting:	16.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	14.00	3.70	34.51	52.21	Max Avg	Horizontal	157	321	54.0	-1.8	Pass
#2	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
#3	5350.52	29.85	3.71	34.51	68.07	Max Peak	Horizontal	157	321	74.0	-5.9	Pass

Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-40	**Variant:**	802.11ac-80
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5290.00	**Data Rate:**	29.30 MBit/s
Power Setting:	13	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
#2	5360.26	33.38	3.70	34.49	71.57	Max Peak	Horizontal	157	321	74.0	-2.4	Pass
#3	5360.90	15.10	3.70	34.48	53.28	Max Avg	Horizontal	157	321	54.0	-0.7	Pass

Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-40	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5320.00	**Data Rate:**	6.50 MBit/s
Power Setting:	16.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	12.91	3.70	34.51	51.12	Max Avg	Horizontal	157	321	54.0	-2.9	Pass
#2	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
#3	5350.10	30.52	3.70	34.51	68.73	Max Peak	Horizontal	157	321	74.0	-5.3	Pass
Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber												

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-40	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5310.00	**Data Rate:**	13.50 MBit/s
Power Setting:	15.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5349.96	13.89	3.70	34.51	52.10	Max Avg	Horizontal	157	321	54.0	-1.9	Pass
#2	5350.00	28.99	3.70	34.51	67.20	Max Peak	Horizontal	157	321	74.0	-6.8	Pass
#3	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by POE. Connected to laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

80 + 80 MHz: The following measurements were made with the unit operating in ac80+80 mode. As this report is for DFS operation applicable channel frequencies were 5290 and 5530 MHz.

The Restricted Band-Edges for 5350 and 5460 MHz were operating simulataneously and measured, with results reported below.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-40	**Variant:**	802.11ac-80+80
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5290.00 + 5530.00	**Data Rate:**	58.60 MBit/s
Power Setting:	14	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#2	5362.73	15.30	3.70	34.48	53.48	Max Avg	Horizontal	157	321	54.0	-0.5	Pass
#3	5364.99	31.63	3.69	34.47	69.79	Max Peak	Horizontal	157	321	74.0	-4.2	Pass
#4	5446.39	26.86	3.70	34.51	65.07	Max Peak	Horizontal	157	321	74.0	-8.9	Pass
#5	5446.71	9.91	3.70	34.51	48.12	Max Avg	Horizontal	157	321	54.0	-5.9	Pass
#6	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#7	5469.80	10.38	3.79	34.32	48.49	Max Avg	Horizontal	153	30	68.2*	-19.7	Pass
#8	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-40	**Variant:**	802.11ac-160
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	91
Channel Frequency (MHz):	5250.00	**Data Rate:**	58.60 MBit/s
Power Setting:	13.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5150.00	15.37	3.67	34.11	53.15	Max Avg	Horizontal	200	42	54.0	-0.9	Pass
#2	5150.00	33.58	3.67	34.11	71.36	Max Peak	Horizontal	200	42	74.0	-2.6	Pass
#3	5150.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by PDSine 9001GR POE. Power reduced to meet Band Edge Limits.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-40	**Variant:**	802.11ac-160
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	91
Channel Frequency (MHz):	5250.00	**Data Rate:**	58.60 MBit/s
Power Setting:	13.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	--	--	--	--	Band Edge	--	--	--	--	--	--
#2	5355.39	14.77	3.71	34.50	52.98	Max Avg	Horizontal	200	42	54.0	-1.0	Pass
#3	5355.57	32.23	3.71	34.50	70.44	Max Peak	Horizontal	200	42	74.0	-3.6	Pass

Test Notes: EUT on 150cm table powered by PDSine 9001GR POE. Power reduced to meet Band Edge Limits.

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-40	**Variant:**	802.11ac-160
Antenna Gain (dBi):	4.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	91
Channel Frequency (MHz):	5570.00	**Data Rate:**	58.60 MBit/s
Power Setting:	14	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5460.00	15.20	3.79	34.31	53.30	Max Avg	Horizontal	141	41	54.0	-0.7	Pass
#2	5460.00	31.70	3.79	34.31	69.80	Max Peak	Horizontal	141	41	74.0	-4.2	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5462.12	15.77	3.79	34.31	53.87	Max Avg	Horizontal	153	30	68.2*	-14.4	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by PDSine 9001GR POE. Power reduced to meet Band Edge Limits.												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

2.1.2.6. AP-ANT-45

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5250 - 5350 MHz

AP-ANT-45		Band-Edge Freq	Limit 54.0	Limit 74.0	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5320.00	5350.00	53.48	69.54	17
802.11n HT-20	5320.00	5350.00	53.39	70.96	17
802.11n HT-40	5310.00	5350.00	51.74	68.85	15.5
802.11ac-80	5290.00	5350.00	53.58	69.97	13
802.11ac-160	5250.00	5150.00	53.90	70.94	13.5
802.11ac-160	5250.00	5350.00	52.66	69.39	

5470 - 5725 MHz

AP-ANT-45		Band-Edge Freq	Limit 54.0	Limit 74.0	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5500.00	5460.00	53.39	67.43	18
802.11n HT-20	5500.00	5460.00	52.67	67.57	18
802.11n HT-40	5510.00	5460.00	52.23	68.56	16
802.11ac-80	5530.00	5460.00	52.11	70.99	13
802.11ac-160	5570.00	5460.00	53.96	71.11	14

AP-ANT-45		Band Edge Freq	Limit 68.23	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	
802.11a	5500.00	5470.00	55.41	18
802.11n HT-20	5500.00	5470.00	54.68	18
802.11n HT-40	5510.00	5470.00	61.36	16
802.11ac-80	5530.00	5470.00	54.34	13
802.11ac-160	5570.00	5470.00	53.78	14

80 + 80 MHz: 5250 - 5350 and 5470 - 5725 MHz Simultaneous Operation

AP-ANT-45		Band-Edge Freq	Limit 54.0	Limit 74.0	Power Setting
Operational Mode	Operating Frequency (MHz)	dBµV/m	dBµV/m	dBµV/m	
802.11ac-80+80	5290.00	5350.00	51.86	68.20	13.5
	5530.00	5460.00	47.56	64.97	

AP-ANT-45		Band-Edge Freq	Limit 68.23	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	
802.11ac-80+80	5530.00	5470.00	48.32	13.5

Click on the links to view the data.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-45	**Variant:**	802.11a
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5500.00	**Data Rate:**	6.00 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5456.51	29.33	3.80	34.30	67.43	Max Peak	Horizontal	163	22	74.0	-6.6	Pass
#2	5457.49	15.29	3.80	34.30	53.39	Max Avg	Horizontal	163	22	54.0	-0.6	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5469.80	17.30	3.79	34.32	55.41	Max Avg	Horizontal	153	30	68.2*	-12.8	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-45	**Variant:**	802.11ac-80
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5530.00	**Data Rate:**	29.30 MBit/s
Power Setting:	13	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5448.10	32.92	3.77	34.30	70.99	Max Peak	Horizontal	163	22	74.0	-3.0	Pass
#2	5448.80	14.04	3.77	34.30	52.11	Max Avg	Horizontal	163	22	54.0	-1.9	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5468.68	16.23	3.79	34.32	54.34	Max Avg	Horizontal	153	30	68.2*	-13.9	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-45	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5500.00	**Data Rate:**	6.50 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5457.78	14.57	3.80	34.30	52.67	Max Avg	Horizontal	163	22	54.0	-1.3	Pass
#2	5458.48	29.47	3.80	34.30	67.57	Max Peak	Horizontal	163	22	74.0	-6.4	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5469.80	16.57	3.79	34.32	54.68	Max Avg	Horizontal	153	30	68.2*	-13.6	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-45	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5510.00	**Data Rate:**	13.50 MBit/s
Power Setting:	16	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5448.24	14.16	3.77	34.30	52.23	Max Avg	Horizontal	163	22	54.0	-1.8	Pass
#2	5448.66	30.49	3.77	34.30	68.56	Max Peak	Horizontal	163	22	74.0	-5.4	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5468.40	23.26	3.79	34.31	61.36	Max Avg	Horizontal	153	30	68.2*	-6.9	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-45	**Variant:**	802.11a
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5320.00	**Data Rate:**	6.00 MBit/s
Power Setting:	17	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	15.27	3.70	34.51	53.48	Max Avg	Horizontal	167	345	54.0	-0.5	Pass
#2	5350.00	31.33	3.70	34.51	69.54	Max Peak	Horizontal	167	345	74.0	-4.5	Pass
#3	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-45	**Variant:**	802.11ac-80
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5290.00	**Data Rate:**	29.30 MBit/s
Power Setting:	13	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
#2	5350.22	15.37	3.70	34.51	53.58	Max Avg	Horizontal	167	345	54.0	-0.4	Pass
#3	5350.62	31.75	3.71	34.51	69.97	Max Peak	Horizontal	167	345	74.0	-4.0	Pass
Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber												

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-45	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5320.00	**Data Rate:**	6.50 MBit/s
Power Setting:	17	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	15.18	3.70	34.51	53.39	Max Avg	Horizontal	167	345	54.0	-0.6	Pass
#2	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
#3	5350.26	32.75	3.70	34.51	70.96	Max Peak	Horizontal	167	345	74.0	-3.0	Pass

Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-45	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5310.00	**Data Rate:**	13.50 MBit/s
Power Setting:	15.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	13.53	3.70	34.51	51.74	Max Avg	Horizontal	167	345	54.0	-2.3	Pass
#2	5350.00	30.64	3.70	34.51	68.85	Max Peak	Horizontal	167	345	74.0	-5.2	Pass
#3	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber												

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

80 + 80 MHz: The following measurements were made with the unit operating in ac80+80 mode. As this report is for DFS operation applicable channel frequencies were 5290 and 5530 MHz.

The Restricted Band-Edges for 5350 and 5460 MHz were operating simultaneously and measured, with results reported below.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-45	**Variant:**	802.11ac-80+80
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5290.00+5530.00	**Data Rate:**	58.60 MBit/s
Power Setting:	13.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
#2	5350.24	29.99	3.70	34.51	68.20	Max Peak	Horizontal	167	345	74.0	-5.8	Pass
#3	5350.32	13.65	3.70	34.51	51.86	Max Avg	Horizontal	167	345	54.0	-2.1	Pass
#4	5444.14	26.90	3.77	34.30	64.97	Max Peak	Horizontal	163	22	74.0	-9.0	Pass
#5	5446.71	9.49	3.77	34.30	47.56	Max Avg	Horizontal	163	22	54.0	-6.4	Pass
#6	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#7	5468.52	10.21	3.79	34.32	48.32	Max Avg	Horizontal	153	30	68.2*	-19.9	Pass
#8	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-45	**Variant:**	802.11ac-160
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	91
Channel Frequency (MHz):	5250.00	**Data Rate:**	58.60 MBit/s
Power Setting:	13.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5138.73	33.12	3.70	34.12	70.94	Max Peak	Horizontal	151	6	74.0	-3.1	Pass
#2	5140.18	16.08	3.70	34.12	53.90	Max Avg	Horizontal	151	6	54.0	-0.1	Pass
#3	5150.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by PDSine 9001GR POE. Power reduced to meet Band Edge Limits.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-45	**Variant:**	802.11ac-160
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	91
Channel Frequency (MHz):	5250.00	**Data Rate:**	58.60 MBit/s
Power Setting:	13.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#2	5354.35	14.45	3.71	34.50	52.66	Max Avg	Horizontal	151	6	54.0	-1.3	Pass
#3	5354.61	31.18	3.71	34.50	69.39	Max Peak	Horizontal	151	6	74.0	-4.6	Pass
#1	5350.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by PDSine 9001GR POE. Power reduced to meet Band Edge Limits.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-45	**Variant:**	802.11ac-160
Antenna Gain (dBi):	5.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	91
Channel Frequency (MHz):	5570.00	**Data Rate:**	58.60 MBit/s
Power Setting:	14	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5454.01	33.02	3.79	34.30	71.11	Max Peak	Horizontal	150	6	74.0	-2.9	Pass
#2	5454.71	15.87	3.79	34.30	53.96	Max Avg	Horizontal	150	6	54.0	0.0	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5469.94	15.67	3.79	-34.32	53.78	Max Avg	Horizontal	153	30	68.2*	-14.5	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by PDSine 9001GR POE. Power reduced to meet Band Edge Limits.												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

2.1.2.7. AP-ANT-48

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5250 - 5350 MHz

AP-ANT-48		Band-Edge Freq	Limit 54.0	Limit 74.0	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5320.00	5350.00	50.85	65.20	15.5
802.11n HT-20	5320.00	5350.00	52.66	70.20	16
802.11n HT-40	5310.00	5350.00	53.39	70.72	15
802.11ac-80	5290.00	5350.00	53.58	73.97	11.5
802.11ac-160	5250.00	5150.00	53.90	72.29	12.5
802.11ac-160	5250.00	5350.00	52.76	70.10	

5470 - 5725 MHz

AP-ANT-48		Band-Edge Freq	Limit 54.0	Limit 74.0	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5500.00	5460.00	52.56	66.28	18
802.11n HT-20	5500.00	5460.00	52.57	67.09	18
802.11n HT-40	5510.00	5460.00	53.59	71.47	15
802.11ac-80	5530.00	5460.00	53.78	73.57	12
802.11ac-160	5570.00	5460.00	52.89	72.28	13

AP-ANT-48		Band Edge Freq	Limit 68.23	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	
802.11a	5500.00	5470.00	65.42	18
802.11n HT-20	5500.00	5470.00	64.90	18
802.11n HT-40	5510.00	5470.00	53.49	15
802.11ac-80	5530.00	5470.00	53.19	12
802.11ac-160	5570.00	5470.00	52.46	13

80 + 80 MHz: 5250 - 5350 and 5470 - 5725 MHz Simultaneous Operation

AP-ANT-48		Band-Edge Freq	Limit 54.0	Limit 74.0	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11ac-80+80	5290.00	5350.00	52.66	71.57	12.0
	5530.00	5460.00	49.31	67.70	

AP-ANT-45		Band-Edge Freq	Limit 68.23	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	
802.11ac-80+80	5530.00	5470.00	49.63	12.0

Click on the links to view the data.

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-48	**Variant:**	802.11a
Antenna Gain (dBi):	8.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5500.00	**Data Rate:**	6.00 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5456.63	14.46	3.80	34.30	52.56	Max Avg	Horizontal	154	347	54.0	-1.4	Pass
#2	5457.76	28.18	3.80	34.30	66.28	Max Peak	Horizontal	154	347	74.0	-7.7	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5469.80	27.31	3.79	34.32	65.42	Max Avg	Horizontal	153	30	68.2*	-2.8	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE, connected to laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-48	**Variant:**	802.11ac-80
Antenna Gain (dBi):	8.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5530.00	**Data Rate:**	29.30 MBit/s
Power Setting:	12	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5459.18	15.68	3.79	34.31	53.78	Max Avg	Horizontal	154	347	54.0	-0.2	Pass
#2	5459.72	35.47	3.79	34.31	73.57	Max Peak	Horizontal	154	347	74.0	-0.4	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5460.26	15.09	3.79	34.31	53.19	Max Avg	Horizontal	153	30	68.2*	-15.0	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE, connected to laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-48	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	8.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5500.00	**Data Rate:**	6.50 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5456.93	14.47	3.80	34.30	52.57	Max Avg	Horizontal	154	347	54.0	-1.4	Pass
#2	5457.92	28.99	3.80	34.30	67.09	Max Peak	Horizontal	154	347	74.0	-6.9	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5469.80	26.79	3.79	34.32	64.90	Max Avg	Horizontal	153	30	68.2*	-3.3	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE, connected to laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-48	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	8.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5510.00	**Data Rate:**	13.50 MBit/s
Power Setting:	15	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5459.60	33.37	3.79	34.31	71.47	Max Peak	Horizontal	154	347	74.0	-2.5	Pass
#2	5459.74	15.49	3.79	34.31	53.59	Max Avg	Horizontal	154	347	54.0	-0.4	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5460.26	15.39	3.79	34.31	53.49	Max Avg	Horizontal	153	30	68.2*	-14.7	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE, connected to laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-48	**Variant:**	802.11a
Antenna Gain (dBi):	8.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5320.00	**Data Rate:**	6.00 MBit/s
Power Setting:	15.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	12.64	3.70	34.51	50.85	Max Avg	Horizontal	152	346	54.0	-3.2	Pass
#2	5350.00	26.99	3.70	34.51	65.20	Max Peak	Horizontal	152	346	74.0	-8.8	Pass
#3	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by POE, connected to laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-48	**Variant:**	802.11ac-80
Antenna Gain (dBi):	8.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5290.00	**Data Rate:**	29.30 MBit/s
Power Setting:	11.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
#2	5360.90	15.40	3.70	34.48	53.58	Max Avg	Horizontal	152	346	54.0	-0.4	Pass
#3	5361.30	35.79	3.70	34.48	73.97	Max Peak	Horizontal	152	346	74.0	0.0	Pass
Test Notes: EUT on 150cm table powered by POE, connected to laptop outside chamber												

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-48	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	8.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5320.00	**Data Rate:**	6.50 MBit/s
Power Setting:	16	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	14.45	3.70	34.51	52.66	Max Avg	Horizontal	152	346	54.0	-1.3	Pass
#2	5350.00	31.99	3.70	34.51	70.20	Max Peak	Horizontal	152	346	74.0	-3.8	Pass
#3	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE, connected to laptop outside chamber												

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-48	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	8.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5310.00	**Data Rate:**	13.50 MBit/s
Power Setting:	15	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	15.18	3.70	34.51	53.39	Max Avg	Horizontal	152	346	54.0	-0.6	Pass
#3	5350.26	32.51	3.70	34.51	70.72	Max Peak	Horizontal	152	346	74.0	-3.3	Pass
#2	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE, connected to laptop outside chamber												

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

80 + 80 MHz: The following measurements were made with the unit operating in ac80+80 mode. As this report is for DFS operation applicable channel frequencies were 5290 and 5530 MHz.

The Restricted Band-Edges for 5350 and 5460 MHz were operating simulataneously and measured, with results reported below.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-48	**Variant:**	802.11ac-80+80
Antenna Gain (dBi):	8.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5290.00+5530.00	**Data Rate:**	58.60 MBit/s
Power Setting:	12	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#2	5359.50	33.37	3.71	34.49	71.57	Max Peak	Horizontal	147	346	74.0	-2.4	Pass
#3	5361.76	14.48	3.70	34.48	52.66	Max Avg	Horizontal	147	346	54.0	-1.3	Pass
#4	5458.58	29.60	3.79	34.31	67.70	Max Peak	Horizontal	154	347	74.0	-6.3	Pass
#5	5459.86	11.21	3.79	34.31	49.31	Max Avg	Horizontal	154	347	54.0	-4.7	Pass
#6	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#7	5463.39	11.74	3.79	34.31	49.63	Max Avg	Horizontal	153	30	68.2*	-18.6	Pass
#8	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-48	**Variant:**	802.11ac-160
Antenna Gain (dBi):	8.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	91
Channel Frequency (MHz):	5250.00	**Data Rate:**	58.60 MBit/s
Power Setting:	12.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5141.58	16.08	3.70	34.12	53.90	Max Avg	Horizontal	182	-6	54.0	-0.1	Pass
#2	5141.58	34.47	3.70	34.12	72.29	Max Peak	Horizontal	182	-6	74.0	-1.7	Pass
#3	5150.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by PDSine 9001GR POE. Power reduced to meet Band Edge Limits.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	AP-ANT-48	**Variant:**	802.11ac-160
Antenna Gain (dBi):	8.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	91
Channel Frequency (MHz):	5250.00	**Data Rate:**	58.60 MBit/s
Power Setting:	12.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	--	--	--	--	Band Edge	--	--	--	--	--	--
#2	5352.87	31.89	3.71	34.50	70.10	Max Peak	Horizontal	182	-6	74.0	-3.9	Pass
#3	5353.65	14.55	3.71	34.50	52.76	Max Avg	Horizontal	182	-6	54.0	-1.2	Pass

Test Notes: EUT on 150cm table powered by PDSine 9001GR POE. Power reduced to meet Band Edge Limits.

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	AP-ANT-48	**Variant:**	802.11ac-160
Antenna Gain (dBi):	8.50	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	91
Channel Frequency (MHz):	5570.00	**Data Rate:**	58.60 MBit/s
Power Setting:	13	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5458.10	14.79	3.80	34.30	52.89	Max Avg	Horizontal	153	-7	54.0	-1.1	Pass
#2	5458.14	34.18	3.80	34.30	72.28	Max Peak	Horizontal	153	-7	74.0	-1.7	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5460.02	14.36	3.79	34.31	52.46	Max Avg	Horizontal	153	30	68.2*	-15.8	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by PDSine 9001GR POE. Power reduced to meet Band Edge Limits.

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

2.1.2.8. Metal Sheet

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5250 - 5350 MHz

Metal Sheet		Band-Edge Freq	Limit 54.0	Limit 74.0	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5320.00	5350.00	53.08	68.68	16.5
802.11n HT-20	5320.00	5350.00	52.76	71.62	16.5
802.11n HT-40	5310.00	5350.00	52.10	68.62	15.5
802.11ac-80	5290.00	5350.00	53.08	72.88	11.5
802.11ac-160	5250.00	5150.00	52.42	70.05	13.5
802.11ac-160	5250.00	5350.00	53.18	72.31	

5470 - 5725 MHz

Metal Sheet		Band-Edge Freq	Limit 54.0	Limit 74.0	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11a	5500.00	5460.00	52.23	65.77	18
802.11n HT-20	5500.00	5460.00	52.99	67.87	18
802.11n HT-40	5510.00	5460.00	53.19	68.51	16.5
802.11ac-80	5530.00	5460.00	53.77	71.03	14
802.11ac-160	5570.00	5460.00	52.89	70.41	13.5

Metal Sheet		Band Edge Freq	Limit 68.23	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	
802.11a	5500.00	5470.00	53.10	18
802.11n HT-20	5500.00	5470.00	52.01	18
802.11n HT-40	5510.00	5470.00	63.55	16.5
802.11ac-80	5530.00	5470.00	56.72	14
802.11ac-160	5570.00	5470.00	52.67	13.5

80 + 80 MHz: 5250 - 5350 and 5470 - 5725 MHz Simultaneous Operation

Metal Sheet		Band-Edge Freq	Limit 54.0	Limit 74.0	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	dBµV/m	
802.11ac-80+80	5290.00	5350.00	52.66	70.57	13.0
	5530.00	5460.00	50.89	67.02	

Metal Sheet		Band-Edge Freq	Limit 68.23	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBµV/m	
802.11ac-80+80	5530.00	5470.00	53.00	13.0

Click on the links to view the data.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Metal Sheet	**Variant:**	802.11a
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5500.00	**Data Rate:**	6.00 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5456.51	27.67	3.80	34.30	65.77	Max Peak	Vertical	179	45	74.0	-8.2	Pass
#2	5458.34	14.13	3.80	34.30	52.23	Max Avg	Vertical	179	45	54.0	-1.8	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5469.80	14.99	3.79	34.32	53.10	Max Avg	Horizontal	153	30	68.2*	-15.1	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Metal Sheet	**Variant:**	802.11ac-80
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5530.00	**Data Rate:**	29.30 MBit/s
Power Setting:	14	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5447.96	15.70	3.77	34.30	53.77	Max Avg	Vertical	179	45	54.0	-0.2	Pass
#2	5448.94	32.96	3.77	34.30	71.03	Max Peak	Vertical	179	45	74.0	-3.0	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5468.12	18.61	3.79	34.32	56.72	Max Avg	Horizontal	153	30	68.2*	-11.5	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Metal Sheet	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5500.00	**Data Rate:**	6.50 MBit/s
Power Setting:	18	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5457.92	29.77	3.80	34.30	67.87	Max Peak	Vertical	179	45	74.0	-6.1	Pass
#2	5458.06	14.89	3.80	34.30	52.99	Max Avg	Vertical	179	45	54.0	-1.0	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5469.79	13.90	3.79	34.32	52.01	Max Avg	Horizontal	153	30	68.2*	-16.2	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Metal Sheet	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5510.00	**Data Rate:**	13.50 MBit/s
Power Setting:	16.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5446.69	30.45	3.76	34.30	68.51	Max Peak	Vertical	179	45	74.0	-5.5	Pass
#2	5448.52	15.12	3.77	34.30	53.19	Max Avg	Vertical	179	45	54.0	-0.8	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5468.40	25.44	3.79	34.32	63.55	Max Avg	Horizontal	153	30	68.2*	-4.7	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	Metal Sheet	**Variant:**	802.11a
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5320.00	**Data Rate:**	6.00 MBit/s
Power Setting:	16.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	14.87	3.70	34.51	53.08	Max Avg	Vertical	180	324	54.0	-0.9	Pass
#2	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
#3	5350.52	30.46	3.71	34.51	68.68	Max Peak	Vertical	180	324	74.0	-5.3	Pass

Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	Metal Sheet	**Variant:**	802.11ac-80
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5290.00	**Data Rate:**	29.30 MBit/s
Power Setting:	11.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
#2	5361.16	14.90	3.70	34.48	53.08	Max Avg	Vertical	180	324	54.0	-0.9	Pass
#3	5361.56	34.70	3.70	34.48	72.88	Max Peak	Vertical	180	324	74.0	-1.1	Pass

Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	Metal Sheet	**Variant:**	802.11n HT-20
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5320.00	**Data Rate:**	6.50 MBit/s
Power Setting:	16.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	14.55	3.70	34.51	52.76	Max Avg	Vertical	180	324	54.0	-1.2	Pass
#2	5350.00	33.41	3.70	34.51	71.62	Max Peak	Vertical	180	324	74.0	-2.4	Pass
#3	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	Metal Sheet	**Variant:**	802.11n HT-40
Antenna Gain (dBi):	2.00	**Modulation:**	OFDM
Beam Forming Gain (Y):	Not Applicable	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5310.00	**Data Rate:**	13.50 MBit/s
Power Setting:	15.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
#2	5351.52	13.88	3.71	34.51	52.10	Max Avg	Vertical	180	324	54.0	-1.9	Pass
#3	5362.08	30.44	3.70	34.48	68.62	Max Peak	Vertical	180	324	74.0	-5.4	Pass

Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

80 + 80 MHz: The following measurements were made with the unit operating in ac80+80 mode. As this report is for DFS operation applicable channel frequencies were 5290 and 5530 MHz.

The Restricted Band-Edges for 5350 and 5460 MHz were operating simulataneously and measured, with results reported below.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	Metal Sheet	**Variant:**	802.11ac-80+80
Antenna Gain (dBi):	2.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	3.00	**Duty Cycle (%):**	100
Channel Frequency (MHz):	5290.00+5530.00	**Data Rate:**	58.60 MBit/s
Power Setting:	13	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#2	5355.99	14.45	3.71	34.50	52.66	Max Avg	Vertical	180	324	54.0	-1.3	Pass
#3	5356.97	32.37	3.71	34.49	70.57	Max Peak	Vertical	180	324	74.0	-3.4	Pass
#4	5447.68	13.82	3.77	34.30	50.89	Max Avg	Vertical	179	45	54.0	-3.1	Pass
#5	5449.28	29.95	3.77	34.30	67.02	Max Peak	Vertical	179	45	74.0	-7.0	Pass
#6	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#7	5468.52	27.72	3.79	34.32	53.00	Max Avg	Horizontal	153	30	68.2*	-15.2	Pass
#8	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--
Test Notes: EUT on 150cm table powered by POE. Connected to Laptop outside chamber												

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Metal Sheet	**Variant:**	802.11ac-160
Antenna Gain (dBi):	2.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	5.70	**Duty Cycle (%):**	91
Channel Frequency (MHz):	5250.00	**Data Rate:**	58.60 MBit/s
Power Setting:	13.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5138.68	14.60	3.70	34.12	52.42	Max Avg	Horizontal	152	63	54.0	-1.6	Pass
#2	5147.39	32.26	3.68	34.11	70.05	Max Peak	Horizontal	152	63	74.0	-4.0	Pass
#3	5150.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by PDSine 9001GR POE. Power reduced to meet Band Edge Limits.

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	Metal Sheet	**Variant:**	802.11ac-160
Antenna Gain (dBi):	2.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	5.70	**Duty Cycle (%):**	91
Channel Frequency (MHz):	5250.00	**Data Rate:**	58.60 MBit/s
Power Setting:	13.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5350.00	--	--	--	--	Band Edge	--	--	--	--	--	--
#2	5359.52	14.99	3.70	34.49	53.18	Max Avg	Horizontal	152	63	54.0	-0.8	Pass
#3	5361.12	34.13	3.70	34.48	72.31	Max Peak	Horizontal	152	63	74.0	-1.7	Pass

Test Notes: EUT on 150cm table powered by PDSine 9001GR POE. Power reduced to meet Band Edge Limits.

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Metal Sheet	**Variant:**	802.11ac-160
Antenna Gain (dBi):	2.70	**Modulation:**	OFDM
Beam Forming Gain (Y):	5.70	**Duty Cycle (%):**	91
Channel Frequency (MHz):	5570.00	**Data Rate:**	58.60 MBit/s
Power Setting:	13.5	**Tested By:**	JMH

Test Measurement Results

Num	Frequency MHz	Raw dBµV	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5457.29	32.31	3.80	34.30	70.41	Max Peak	Horizontal	152	63	74.0	-3.6	Pass
#2	5457.72	14.79	3.80	34.30	52.89	Max Avg	Horizontal	152	63	54.0	-1.1	Pass
#3	5460.00	--	--	--	--	Restricted Band	--	--	--	--	--	--
#4	5461.22	14.57	3.79	34.31	52.67	Max Avg	Horizontal	153	30	68.2*	-15.6	Pass
#5	5470.00	--	--	--	--	Band Edge	--	--	--	--	--	--

Test Notes: EUT on 150cm table powered by PDSine 9001GR POE. Power reduced to meet Band Edge Limits.

*Note 68.2 dBµV/m is band edge average limit for 5470 MHz per FCC 407

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.