

1.1. Radiated: Transmitter Spurious and Band-Edge

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

Test Procedure for Radiated Spurious and Band-Edge Emissions

Radiated emissions for restricted bands above 1 GHz are measured in the anechoic chamber at a 3-meter distance on every azimuth in both horizontal and vertical polarities. The emissions are recorded and maximized as a function of azimuth by rotation through 360° with a spectrum analyzer in peak hold mode. Depending on the frequency band spanned a notch filter was used to remove the fundamental frequency. The highest emissions relative to the limit are listed for each frequency spanned. Measurements on any restricted band frequency or frequencies above 1 GHz are based on the use of measurement instrumentation employing peak and average detectors. All measurements were performed using a resolution bandwidth of 1 MHz.

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

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

- (1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (4) For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.
- (6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.
- (7) The provisions of §15.205 apply to intentional radiators operating under this section.
- (8) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.

Limits for Restricted Bands (15.205, 15.209)

Peak emission: 74 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

Example:

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

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

where P is the EIRP in Watts

Therefore: -27 dBm/MHz equates to 68.23 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).

1.1.1. TX Spurious & Restricted Band Emissions

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AB1	Variant:	802.11a
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5180.00	Data Rate:	6.00 MBit/s
Power Setting:	18	Tested By:	SB

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	2589.82	56.86	-1.84	-12.03	42.99	Peak (NRB)	Horizontal	100	0	--	--	Pass
#2	2589.89	54.55	-1.84	-12.03	40.68	Peak (NRB)	Vertical	158	0	--	--	Pass
#3	4586.04	75.17	-2.50	-12.04	60.63	Max Peak	Vertical	98	0	68.2	-7.6	Pass
#4	4586.04	48.91	-2.50	-12.04	34.37	Max Avg	Vertical	98	0	54.0	-19.6	Pass
#5	5181.30	83.89	-2.67	-11.99	69.23	Fundamental	Vertical	150	30	--	--	
#6	6137.98	58.09	-2.86	-9.65	45.58	Peak (NRB)	Vertical	150	30	--	--	Pass
#7	6477.90	63.25	-2.94	-8.91	51.40	Peak (NRB)	Vertical	150	30	--	--	Pass
#8	10359.75	59.73	-3.86	-5.61	50.26	Peak (NRB)	Horizontal	150	30	--	--	Pass

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AB1	Variant:	802.11a
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5200.00	Data Rate:	6.00 MBit/s
Power Setting:	18	Tested By:	SB

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	2599.72	59.18	-1.85	-11.92	45.41	Peak (NRB)	Horizontal	154	48	--	--	Pass
#2	4596.03	76.70	-2.46	-12.00	62.24	Max Peak	Vertical	145	357	68.2	-6.0	Pass
#3	4596.03	50.93	-2.46	-12.00	36.47	Max Avg	Vertical	145	357	54.0	-17.5	Pass
#4	5206.20	88.09	-2.64	-11.98	73.47	Fundamental	Vertical	154	0	--	--	
#5	6492.79	63.00	-2.95	-8.91	51.14	Peak (NRB)	Vertical	154	48	--	--	Pass
#6	10395.81	62.80	-3.99	-5.69	53.12	Peak (NRB)	Horizontal	154	48	--	--	Pass

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AB1	Variant:	802.11a
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5240.00	Data Rate:	6.00 MBit/s
Power Setting:	18	Tested By:	SB

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	2618.64	55.48	-1.83	-11.95	41.70	Peak (NRB)	Horizontal	100	0	--	--	Pass
#2	4563.06	73.38	-2.44	-11.92	59.02	Max Peak	Vertical	195	323	68.2	-9.2	Pass
#3	4563.06	47.83	-2.44	-11.92	33.47	Max Avg	Vertical	195	323	54.0	-20.5	Pass
#4	5244.33	87.79	-2.62	-12.19	72.98	Fundamental	Vertical	100	0	--	--	
#5	6547.52	59.17	-3.00	-8.71	47.46	Peak (NRB)	Vertical	100	0	--	--	Pass
#6	10481.21	54.82	-3.82	-6.22	44.78	Peak (NRB)	Vertical	100	0	--	--	Pass

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AB1	Variant:	802.11a
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5260.00	Data Rate:	6.00 MBit/s
Power Setting:	18	Tested By:	SB

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	2630.40	54.01	-1.86	-12.00	40.15	Peak (NRB)	Vertical	100	0	--	--	Pass
#2	4561.82	75.98	-2.44	-11.91	61.63	Max Peak	Vertical	178	1	68.2	-6.6	Pass
#3	4561.82	49.58	-2.44	-11.91	35.23	Max Avg	Vertical	178	1	54.0	-18.8	Pass
#4	5260.48	89.90	-2.62	-12.13	75.15	Fundamental	Vertical	155	0	--	--	
#5	6573.56	59.62	-2.97	-8.61	48.04	Peak (NRB)	Vertical	155	0	--	--	Pass
#6	10526.08	53.05	-3.92	-5.94	43.19	Peak (NRB)	Horizontal	155	0	--	--	Pass
#7	15981.62	58.41	-4.90	-1.03	52.48	Max Peak	Vertical	161	3	68.2	-15.8	Pass
#8	15981.62	45.17	-4.90	-1.03	39.24	Max Avg	Vertical	161	3	54.0	-14.8	Pass

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Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AB1	Variant:	802.11a
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5300.00	Data Rate:	6.00 MBit/s
Power Setting:	18	Tested By:	SB

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	2649.83	59.28	-1.83	-11.95	45.50	Peak (NRB)	Horizontal	100	0	--	--	Pass
#2	2650.23	57.96	-1.83	-11.95	44.18	Peak (NRB)	Horizontal	159	40	--	--	Pass
#3	2650.23	58.19	-1.83	-11.95	44.41	Peak (NRB)	Vertical	159	40	--	--	Pass
#4	3533.32	57.85	-2.14	-11.88	43.83	Max Peak	Horizontal	142	357	68.2	-24.4	Pass
#5	3533.32	43.97	-2.14	-11.88	29.95	Max Avg	Horizontal	142	357	54.0	-24.1	Pass
#6	3533.42	58.03	-2.14	-11.88	44.01	Peak (NRB)	Vertical	159	40	--	--	Pass
#7	3534.18	60.14	-2.14	-11.86	46.14	Peak (NRB)	Vertical	100	0	--	--	Pass
#8	4659.05	66.07	-2.50	-12.31	51.26	Peak (Scan)	Horizontal	159	40	68.2	-17.0	Pass
#9	4672.02	57.83	-2.47	-12.26	43.10	Peak (Scan)	Horizontal	159	40	68.2	-25.1	Pass
#10	5298.32	80.04	-2.66	-12.11	65.27	Peak (NRB)	Horizontal	159	40	--	--	Pass
#11	6630.85	61.36	-2.96	-8.52	49.88	Peak (NRB)	Vertical	159	40	--	--	Pass
#12	10596.61	66.53	-3.82	-5.61	57.10	Peak (NRB)	Horizontal	159	40	--	--	Pass

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Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AB1	Variant:	802.11a
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5320.00	Data Rate:	6.00 MBit/s
Power Setting:	18	Tested By:	SB

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	2659.83	58.34	-1.84	-11.88	44.62	Peak (NRB)	Horizontal	100	0	--	--	Pass
#2	3546.94	60.44	-2.14	-11.68	46.62	Peak (NRB)	Vertical	100	0	--	--	Pass
#3	4569.08	61.49	-2.48	-11.97	47.04	Max Peak	Horizontal	194	0	68.2	-21.2	Pass
#4	4569.08	46.15	-2.48	-11.97	31.70	Max Avg	Horizontal	194	0	54.0	-22.3	Pass
#5	4862.07	67.22	-2.53	-12.40	52.29	Max Peak	Vertical	145	54	68.2	-15.9	Pass
#6	4862.07	46.45	-2.53	-12.40	31.52	Max Avg	Vertical	145	54	54.0	-22.5	Pass
#7	5317.19	83.49	-2.67	-12.18	68.64	Peak (NRB)	Vertical	100	0	--	--	Pass
#8	6277.03	61.23	-2.88	-9.15	49.20	Peak (NRB)	Vertical	100	0	--	--	Pass
#9	10634.98	69.86	-4.08	-5.07	60.71	Max Peak	Horizontal	128	73	68.2	-7.5	Pass
#10	10634.98	55.25	-4.08	-5.07	46.10	Max Avg	Horizontal	128	73	54.0	-7.9	Pass
#11	10639.94	68.63	-4.19	-5.02	59.42	Max Peak	Vertical	123	342	68.2	-8.8	Pass
#12	10639.94	54.24	-4.19	-5.02	45.03	Max Avg	Vertical	123	342	54.0	-9.0	Pass

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AB1	Variant:	802.11a
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5500.00	Data Rate:	6.00 MBit/s
Power Setting:	18	Tested By:	SB

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	2000.16	49.49	-1.59	-12.85	35.05	Peak (NRB)	Horizontal	139	0	--	--	Pass
#2	2749.81	60.42	-1.91	-11.95	46.56	Max Peak	Vertical	175	355	68.2	-21.7	Pass
#3	2749.81	54.95	-1.91	-11.95	41.09	Max Avg	Vertical	175	355	54.0	-12.9	Pass
#4	2749.88	60.54	-1.91	-11.95	46.68	Max Peak	Horizontal	178	41	68.2	-21.6	Pass
#5	2749.88	54.96	-1.91	-11.95	41.10	Max Avg	Horizontal	178	41	54.0	-12.9	Pass
#6	3666.54	63.44	-2.15	-11.67	49.62	Max Peak	Vertical	165	13	68.2	-18.6	Pass
#7	3666.54	51.15	-2.15	-11.67	37.33	Max Avg	Vertical	165	13	54.0	-16.7	Pass
#8	4122.18	66.94	-2.34	-12.33	52.27	Max Peak	Vertical	160	34	68.2	-16.0	Pass
#9	4122.18	54.69	-2.34	-12.33	40.02	Max Avg	Vertical	160	34	54.0	-14.0	Pass
#10	4537.64	75.25	-2.44	-11.92	60.89	Max Peak	Vertical	116	340	68.2	-7.3	Pass
#11	4537.64	55.83	-2.44	-11.92	41.47	Max Avg	Vertical	116	340	54.0	-12.5	Pass
#12	4537.64	68.55	-2.44	-11.92	54.19	Max Peak	Horizontal	98	306	68.2	-14.0	Pass
#13	4537.64	48.87	-2.44	-11.92	34.51	Max Avg	Horizontal	98	306	54.0	-19.5	Pass
#14	5507.60	73.38	-2.69	-11.59	59.10	Fundamental	Vertical	139	34	--	--	
#15	6455.11	57.88	-2.91	-9.17	45.80	Peak (NRB)	Vertical	139	34	--	--	Pass
#16	7332.95	68.76	-3.00	-7.89	57.87	Max Peak	Vertical	151	346	68.2	-10.4	Pass
#17	7332.95	62.76	-3.00	-7.89	51.87	Max Avg	Vertical	151	346	54.0	-2.1	Pass
#18	7332.95	69.45	-3.00	-7.89	58.56	Max Peak	Horizontal	194	293	68.2	-9.7	Pass
#19	7332.95	63.40	-3.00	-7.89	52.51	Max Avg	Horizontal	194	293	54.0	-1.5	Pass
#20	11002.99	70.96	-3.92	-6.27	60.77	Max Peak	Horizontal	135	47	68.2	-7.5	Pass
#21	11002.99	57.83	-3.92	-6.27	47.64	Max Avg	Horizontal	135	47	54.0	-6.4	Pass
#22	11004.90	70.10	-3.92	-6.28	59.90	Max Peak	Vertical	127	323	68.2	-8.3	Pass
#23	11004.90	56.16	-3.92	-6.28	45.96	Max Avg	Vertical	127	323	54.0	-8.0	Pass
#24	16180.72	58.11	-4.90	0.26	53.47	Max Peak	Horizontal	174	145	68.2	-14.8	Pass
#25	16180.72	45.10	-4.90	0.26	40.46	Max Avg	Horizontal	174	145	54.0	-13.5	Pass

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AB1	Variant:	802.11a
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5580.00	Data Rate:	6.00 MBit/s
Power Setting:	18	Tested By:	SB

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	2789.89	59.26	-1.88	-11.80	45.58	Max Peak	Vertical	134	37	68.2	-22.7	Pass
#2	2789.89	52.52	-1.88	-11.80	38.84	Max Avg	Vertical	134	37	54.0	-15.2	Pass
#3	2789.89	57.68	-1.88	-11.80	44.00	Max Peak	Horizontal	140	333	68.2	-24.2	Pass
#4	2789.89	50.06	-1.88	-11.80	36.38	Max Avg	Horizontal	140	333	54.0	-17.6	Pass
#5	4180.38	65.06	-2.34	-12.36	50.36	Max Peak	Horizontal	123	353	68.2	-17.9	Pass
#6	4180.38	52.10	-2.34	-12.36	37.40	Max Avg	Horizontal	123	353	54.0	-16.6	Pass
#7	4180.38	70.20	-2.34	-12.36	55.50	Max Peak	Vertical	122	357	68.2	-12.7	Pass
#8	4180.38	58.46	-2.34	-12.36	43.76	Max Avg	Vertical	122	357	54.0	-10.2	Pass
#9	4625.32	71.80	-2.47	-12.08	57.25	Max Peak	Vertical	195	51	68.2	-11.0	Pass
#10	4625.32	51.53	-2.47	-12.08	36.98	Max Avg	Vertical	195	51	54.0	-17.0	Pass
#11	5576.07	70.43	-2.75	-11.50	56.18	Fundamental	Horizontal	100	0	--	--	
#12	6432.70	51.29	-2.93	-9.03	39.33	Peak (NRB)	Horizontal	100	0	--	--	Pass
#13	11152.64	68.80	-4.04	-4.73	60.03	Max Peak	Vertical	115	340	68.2	-8.2	Pass
#14	11152.64	55.08	-4.04	-4.73	46.31	Max Avg	Vertical	115	340	54.0	-7.7	Pass
#15	11162.53	70.19	-4.07	-4.56	61.56	Max Peak	Horizontal	163	71	68.2	-6.7	Pass
#16	11162.53	57.06	-4.07	-4.56	48.43	Max Avg	Horizontal	163	71	54.0	-5.6	Pass

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AB1	Variant:	802.11a
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5720.00	Data Rate:	6.00 MBit/s
Power Setting:	18	Tested By:	SB

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	2860.46	56.82	-1.92	-11.91	42.99	Max Peak	Vertical	189	357	68.2	-25.2	Pass
#2	2860.46	47.24	-1.92	-11.91	33.41	Max Avg	Vertical	189	357	54.0	-20.6	Pass
#3	4293.24	76.44	-2.36	-12.31	61.77	Max Peak	Vertical	169	1	68.2	-6.5	Pass
#4	4293.24	62.82	-2.36	-12.31	48.15	Max Avg	Vertical	169	1	54.0	-5.9	Pass
#5	4293.24	71.64	-2.36	-12.31	56.97	Max Peak	Horizontal	185	348	68.2	-11.3	Pass
#6	4293.24	60.73	-2.36	-12.31	46.06	Max Avg	Horizontal	185	348	54.0	-7.9	Pass
#7	5713.16	73.63	-2.79	-11.03	59.81	Fundamental	Vertical	154	0	--	--	
#8	6191.45	60.92	-2.87	-9.19	48.86	Peak (NRB)	Vertical	154	0	--	--	Pass
#9	11440.90	70.77	-4.03	-6.28	60.46	Max Peak	Vertical	146	18	68.2	-7.8	Pass
#10	11440.90	57.34	-4.03	-6.28	47.03	Max Avg	Vertical	146	18	54.0	-7.0	Pass
#11	11446.16	72.99	-4.04	-6.30	62.65	Max Peak	Horizontal	172	309	68.2	-5.6	Pass
#12	11446.16	59.29	-4.04	-6.30	48.95	Max Avg	Horizontal	172	309	54.0	-5.1	Pass

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AB1	Variant:	802.11a
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5745.00	Data Rate:	6.00 MBit/s
Power Setting:	18	Tested By:	SB

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	2872.51	60.41	-1.91	-11.85	46.65	Max Peak	Vertical	189	13	68.2	-21.6	Pass
#2	2872.51	54.86	-1.91	-11.85	41.10	Max Avg	Vertical	189	13	54.0	-12.9	Pass
#3	4301.89	67.93	-2.38	-12.40	53.15	Max Peak	Horizontal	185	355	68.2	-15.1	Pass
#4	4301.89	56.63	-2.38	-12.40	41.85	Max Avg	Horizontal	185	355	54.0	-12.2	Pass
#5	4315.50	73.00	-2.36	-12.49	58.15	Max Peak	Vertical	146	23	68.2	-10.1	Pass
#6	4315.50	62.01	-2.36	-12.49	47.16	Max Avg	Vertical	146	23	54.0	-6.8	Pass
#7	5739.39	60.38	-2.75	-10.96	46.67	Fundamental	Horizontal	151	0	--	--	
#8	6297.95	56.84	-2.90	-9.36	44.58	Peak (NRB)	Vertical	151	26	--	--	Pass
#9	11489.07	74.71	-4.03	-6.66	64.02	Max Peak	Horizontal	171	305	68.2	-4.2	Pass
#10	11489.07	60.37	-4.03	-6.66	49.68	Max Avg	Horizontal	171	305	54.0	-4.3	Pass
#11	11490.17	72.43	-4.04	-6.66	61.73	Max Peak	Vertical	107	332	68.2	-6.5	Pass
#12	11490.17	58.67	-4.04	-6.66	47.97	Max Avg	Vertical	107	332	54.0	-6.0	Pass

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AB1	Variant:	802.11a
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5785.00	Data Rate:	6.00 MBit/s
Power Setting:	18	Tested By:	SB

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	3857.04	59.51	-2.21	-11.60	45.70	Max Peak	Horizontal	153	1	68.2	-22.5	Pass
#2	3857.04	45.42	-2.21	-11.60	31.61	Max Avg	Horizontal	153	1	54.0	-22.4	Pass
#3	3859.24	62.80	-2.21	-11.57	49.02	Max Peak	Vertical	138	1	68.2	-19.2	Pass
#4	3859.24	49.10	-2.21	-11.57	35.32	Max Avg	Vertical	138	1	54.0	-18.7	Pass
#5	4336.53	67.85	-2.39	-12.43	53.03	Max Peak	Horizontal	126	352	68.2	-15.2	Pass
#6	4336.53	57.00	-2.39	-12.43	42.18	Max Avg	Horizontal	126	352	54.0	-11.8	Pass
#7	4341.26	72.69	-2.38	-12.41	57.90	Max Peak	Vertical	115	354	68.2	-10.3	Pass
#8	4341.26	60.76	-2.38	-12.41	45.97	Max Avg	Vertical	115	354	54.0	-8.0	Pass
#9	5792.24	67.75	-2.75	-10.81	54.19	Fundamental	Vertical	100	0	--	--	
#10	6263.07	61.19	-2.88	-9.35	48.96	Peak (NRB)	Vertical	100	0	--	--	Pass
#11	11570.20	73.15	-4.07	-6.27	62.81	Max Peak	Horizontal	167	79	68.2	-5.4	Pass
#12	11570.20	59.20	-4.07	-6.27	48.86	Max Avg	Horizontal	167	79	54.0	-5.1	Pass
#13	11575.17	71.15	-4.04	-6.13	60.98	Max Peak	Vertical	111	339	68.2	-7.3	Pass
#14	11575.17	57.36	-4.04	-6.13	47.19	Max Avg	Vertical	111	339	54.0	-6.8	Pass

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AB1	Variant:	802.11a
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5825.00	Data Rate:	6.00 MBit/s
Power Setting:	18	Tested By:	SB

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	3884.18	63.21	-2.24	-11.75	49.22	Max Peak	Vertical	149	0	68.2	-19.0	Pass
#2	3884.18	49.61	-2.24	-11.75	35.62	Max Avg	Vertical	149	0	54.0	-18.4	Pass
#3	4366.30	72.26	-2.37	-12.27	57.62	Max Peak	Vertical	183	26	68.2	-10.6	Pass
#4	4366.30	60.21	-2.37	-12.27	45.57	Max Avg	Vertical	183	26	54.0	-8.4	Pass
#5	4376.28	67.69	-2.38	-12.30	53.01	Max Peak	Horizontal	152	343	68.2	-15.2	Pass
#6	4376.28	56.76	-2.38	-12.30	42.08	Max Avg	Horizontal	152	343	54.0	-11.9	Pass
#7	5828.02	68.75	-2.81	-10.81	55.13	Fundamental	Vertical	150	26	--	--	
#8	6369.53	55.85	-2.92	-9.16	43.77	Peak (NRB)	Vertical	150	26	--	--	Pass
#9	11648.80	71.37	-4.18	-4.43	62.76	Max Peak	Vertical	131	23	68.2	-5.5	Pass
#10	11648.80	58.53	-4.18	-4.43	49.92	Max Avg	Vertical	131	23	54.0	-4.1	Pass
#11	11649.71	71.23	-4.20	-4.41	62.62	Max Peak	Horizontal	169	71	68.2	-5.6	Pass
#12	11649.71	58.63	-4.20	-4.41	50.02	Max Avg	Horizontal	169	71	54.0	-4.0	Pass

Note: click the links in the above matrix to view the graphical image (plot).

1.1.2. Restricted Edge & Band-Edge Emissions

RESULTS SUMMARY FOR RADIATED BAND-EDGE EMISSIONS

5150 - 5250 MHz

Aruba AB1		Band-Edge Freq	Limit 68.2dBμV/m	Limit 54.0dBμV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBμV/m	dBμV/m	
802.11a	5180.00	5150.00	67.89	51.30	15
802.11ac-80	5210.00	5150.00	68.14	53.87	12
802.11n HT-20	5180.00	5150.00	67.89	51.30	14
802.11n HT-40	5190.00	5150.00	67.64	53.34	11

5250 - 5350 MHz

Aruba AB1		Band-Edge Freq	Limit 68.2dBμV/m	Limit 54.0dBμV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBμV/m	dBμV/m	
802.11a	5320.00	5350.00	67.89	51.64	13
802.11ac-80	5290.00	5350.00	66.23	51.24	9
802.11n HT-20	5320.00	5350.00	67.89	51.64	12
802.11n HT-40	5310.00	5350.00	67.85	50.44	11

5470 - 5725 MHz

Aruba AB1		Restricted-Edge Freq	Limit 68.2dBμV/m	Limit 54.0dBμV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBμV/m	dBμV/m	
802.11a	5500.00	5460.00	61.89	45.87	14
802.11ac-80	5530.00	5460.00	66.77	51.40	9
802.11n HT-20	5500.00	5460.00	58.85	45.14	12
802.11n HT-40	5510.00	5460.00	59.80	47.17	11

Note: click the links in the above matrix to view the graphical image (plot).

5470 - 5725 MHz – UNII Band 2C and UNII Band 3 Straddle Channels

Aruba AB1		Restricted-Edge Freq	Limit 68.2dBμV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBμV/m	
802.11a	5720.00	5470.00	59.93	18
	5720.00	5850.00	45.87	18
802.11ac-80	5690.00	5470.00	67.30	17
	5690.00	5850.00	67.63	14
802.11n HT-20	5720.00	5470.00	60.26	18
	5720.00	5850.00	60.16	18
802.11n HT-40	5710.00	5470.00	60.52	18
	5710.00	5850.00	67.19	17

Note: click the links in the above matrix to view the graphical image (plot).

5725 MHz Radiated Lower Band-Edge Emissions

Aruba AB1		Band-Edge Freq	Limit 68.2dBμV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBμV/m	
802.11a	5745.00	5725.00	72.99	18
802.11ac-80	5775.00	5725.00	77.58	18
802.11n HT-20	5745.00	5725.00	72.12	18
802.11n HT-40	5755.00	5725.00	77.22	18

5850 MHz Radiated Higher Band-Edge Emissions

Aruba AB1		Band-Edge Freq	Limit 122.2dBμV/m	Power Setting
Operational Mode	Operating Frequency (MHz)	MHz	dBμV/m	
802.11a	5825.00	5850.00	65.48	18
802.11ac-80	5775.00	5850.00	70.50	18
802.11n HT-20	5825.00	5850.00	68.09	18
802.11n HT-40	5755.00	5850.00	66.57	18

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AB1	Variant:	802.11a
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5180.00	Data Rate:	6.00 MBit/s
Power Setting:	15	Tested By:	SB

Test Measurement Results

4500.00 - 5250.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	5147.80	33.68	0.00	34.21	67.89	Max Peak	Vertical	150	11	68.2	-0.3	Pass
#2	5150.00	19.70	-2.61	34.21	51.30	Max Avg	Vertical	150	11	54.0	-2.7	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AB1	Variant:	802.11ac-80
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5210.00	Data Rate:	29.30 MBit/s
Power Setting:	12	Tested By:	SB

Test Measurement Results

4500.00 - 5300.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	5137.17	36.56	-2.61	34.19	68.14	Max Peak	Horizontal	150	11	68.2	-0.1	Pass
#2	5146.79	22.27	-2.61	34.21	53.87	Max Avg	Horizontal	150	11	54.0	-0.1	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AB1	Variant:	802.11n HT-20
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5180.00	Data Rate:	6.50 MBit/s
Power Setting:	14	Tested By:	SB

Test Measurement Results

4500.00 - 5250.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	5148.50	33.68	0.00	34.21	67.89	Max Peak	Vertical	150	11	68.2	-0.3	Pass
#2	5150.00	19.70	-2.61	34.21	51.30	Max Avg	Vertical	150	11	54.0	-2.7	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AB1	Variant:	802.11n HT-40
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5190.00	Data Rate:	13.50 MBit/s
Power Setting:	11	Tested By:	SB

Test Measurement Results

4500.00 - 5250.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	5146.99	21.74	-2.61	34.21	53.34	Max Avg	Vertical	150	11	54.0	-0.7	Pass
#2	5148.50	36.03	-2.60	34.21	67.64	Max Peak	Vertical	150	11	68.2	-0.6	Pass
#3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AB1	Variant:	802.11a
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5500.00	Data Rate:	6.00 MBit/s
Power Setting:	14	Tested By:	SB

Test Measurement Results

5350.00 - 5500.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	5456.09	30.07	-2.70	34.52	61.89	Max Peak	Vertical	156	1	68.2	-6.3	Pass
#2	5460.00	14.03	-2.69	34.53	45.87	Max Avg	Vertical	156	1	54.0	-8.1	Pass
#4	5466.99	35.63	-2.68	34.55	67.50	Max Avg	Vertical	156	1	68.2	-0.7	Pass
#3	5460.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
#5	5470.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AB1	Variant:	802.11ac-80
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5530.00	Data Rate:	29.30 MBit/s
Power Setting:	9	Tested By:	SB

Test Measurement Results

5350.00 - 5500.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	5435.65	34.96	-2.70	34.51	66.77	Max Peak	Vertical	156	1	68.2	-1.5	Pass
#2	5455.79	19.58	-2.70	34.52	51.40	Max Avg	Vertical	156	1	54.0	-2.6	Pass
#4	5467.90	34.37	-2.68	34.55	66.24	Max Avg	Vertical	156	1	68.2	-2.0	Pass
#3	5460.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
#5	5470.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AB1	Variant:	802.11n HT-20
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5500.00	Data Rate:	6.50 MBit/s
Power Setting:	12	Tested By:	SB

Test Measurement Results

5350.00 - 5500.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	5458.80	27.02	-2.69	34.52	58.85	Max Peak	Vertical	156	1	68.2	-9.4	Pass
#2	5460.00	13.30	-2.69	34.53	45.14	Max Avg	Vertical	156	1	54.0	-8.9	Pass
#4	5465.79	31.08	-2.68	34.54	62.94	Max Avg	Vertical	156	1	68.2	-5.3	Pass
#3	5460.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
#5	5470.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for Restricted Lower Band-Edge Emissions

Antenna:	Aruba AB1	Variant:	802.11n HT-40
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5510.00	Data Rate:	13.50 MBit/s
Power Setting:	11	Tested By:	SB

Test Measurement Results

5350.00 - 5500.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	5458.80	15.34	-2.69	34.52	47.17	Max Avg	Vertical	156	1	54.0	-6.8	Pass
#2	5458.80	27.97	-2.69	34.52	59.80	Max Peak	Vertical	156	1	68.2	-8.4	Pass
#4	5468.50	33.22	-2.68	34.55	65.09	Max Avg	Vertical	156	1	68.2	-3.1	Pass
#3	5460.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
#5	5470.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	Aruba AB1	Variant:	802.11a
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5320.00	Data Rate:	6.00 MBit/s
Power Setting:	13	Tested By:	SB

Test Measurement Results

5300.00 - 5460.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	5350.00	19.87	-2.69	34.46	51.64	Max Avg	Vertical	160	1	54.0	-2.4	Pass
#3	5350.96	33.43	0.00	34.46	67.89	Max Peak	Vertical	160	1	68.2	-0.3	Pass
#2	5350.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for 5470 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AB1	Variant:	802.11a
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5720.00	Data Rate:	6 MBit/s
Power Setting:	18	Tested By:	JMH

Test Measurement Results

5350.00 - 5725.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	5365.78	28.14	-2.69	34.48	59.93	Max Peak	Vertical	155	355	68.2	-8.3	Pass
#2	5470.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: 68.23 Limit

Equipment Configuration for 5850 Radiated Band-Edge Emissions

Antenna:	Aruba AB1	Variant:	802.11a
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5720.00	Data Rate:	6 MBit/s
Power Setting:	18	Tested By:	JMH

Test Measurement Results

5690.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#2	5865.53	27.11	-2.76	35.00	59.35	Max Peak	Vertical	157	7	68.2	-8.9	Pass
#1	5850.00	---	---	---	---	Band-Edge	---	---	---	---	---	---

Test Notes: 68.23 Limit

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for 5460 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AB1	Variant:	802.11n HT-20
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5720.00	Data Rate:	6.5 MBit/s
Power Setting:	18	Tested By:	JMH

Test Measurement Results

5350.00 - 5725.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	5453.71	28.45	-2.70	34.51	60.26	Max Peak	Vertical	155	355	68.2	-8.0	Pass
#2	5470.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: 68.23 Limit

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for 5850 Radiated Band-Edge Emissions

Antenna:	Aruba AB1	Variant:	802.11-HT20
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5720.00	Data Rate:	6.5 MBit/s
Power Setting:	18	Tested By:	JMH

Test Measurement Results

5690.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#2	5850.62	28.00	-2.80	34.96	60.16	Max Peak	Vertical	157	7	68.2	-8.1	Pass
#1	5850.00	---	---	---	---	Band-Edge	---	---	---	---	---	---

Test Notes: 68.23 Limit

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for 5460 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AB1	Variant:	802.11n HT-40
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5710.00	Data Rate:	13.5 MBit/s
Power Setting:	18	Tested By:	JMH

Test Measurement Results

5350.00 - 5725.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	5419.89	28.67	-2.67	34.52	60.52	Max Peak	Vertical	155	355	--	-7.7	Pass
#2	5470.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: 68.23 Limit

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for 5850 Radiated Band-Edge Emissions

Antenna:	Aruba AB1	Variant:	802.11-HT40
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5710.00	Data Rate:	13.5 MBit/s
Power Setting:	17	Tested By:	JMH

Test Measurement Results

5690.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#2	5856.21	35.00	-2.78	34.97	67.19	Max Peak	Vertical	157	7	68.2	-1.0	Pass
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Power Reduced to meet Out of Band Limit

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for 5460 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AB1	Variant:	802.11-ac80
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5690.00	Data Rate:	29.3 MBit/s
Power Setting:	17	Tested By:	JMH

Test Measurement Results

5350.00 - 5725.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	5464.72	35.44	-2.68	34.54	67.30	Max Peak	Vertical	155	355	68.23	-0.9	Pass
#2	5470.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Test Notes: Power Reduced to meet Out of Band Limit

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for 5850 Radiated Band-Edge Emissions

Antenna:	Aruba AB1	Variant:	802.11-ac80
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5690.00	Data Rate:	29.3 MBit/s
Power Setting:	14	Tested By:	JMH

Test Measurement Results

5690.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#2	5853.11	35.45	-2.79	34.97	67.63	Max Peak	Vertical	157	7	68.2	-0.7	Pass
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Power Reduced to meet Out of Band Limit

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	Aruba AB1	Variant:	802.11ac-80
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5290.00	Data Rate:	29.30 MBit/s
Power Setting:	9	Tested By:	SB

Test Measurement Results

5300.00 - 5460.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#2	5353.85	19.46	-2.69	34.47	51.24	Max Avg	Vertical	160	1	54.0	-2.8	Pass
#3	5363.79	34.45	-2.70	34.48	66.23	Max Peak	Vertical	160	1	68.2	-2.0	Pass
#1	5350.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	Aruba AB1	Variant:	802.11n HT-20
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5320.00	Data Rate:	6.50 MBit/s
Power Setting:	12	Tested By:	SB

Test Measurement Results

5300.00 - 5460.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	5350.00	19.87	-2.69	34.46	51.64	Max Avg	Vertical	160	1	54.0	-2.4	Pass
#3	5356.41	36.11	-2.69	34.47	67.89	Max Peak	Vertical	160	1	68.2	-0.3	Pass
#2	5350.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for Restricted Upper Band-Edge Emissions

Antenna:	Aruba AB1	Variant:	802.11n HT-40
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5310.00	Data Rate:	13.50 MBit/s
Power Setting:	11	Tested By:	SB

Test Measurement Results

5300.00 - 5460.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#2	5353.53	18.66	-2.69	34.47	50.44	Max Avg	Vertical	160	1	54.0	-3.6	Pass
#3	5358.66	36.08	-2.70	34.47	67.85	Max Peak	Vertical	160	1	68.2	-0.4	Pass
#1	5350.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AB1	Variant:	802.11a
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5745.00	Data Rate:	6.00 MBit/s
Power Setting:	18	Tested By:	SB

Test Measurement Results

5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	5715.00	29.68	-2.78	34.71	61.61	Max Avg	Vertical	148	46	109.4	-47.8	Pass
#2	5725.00	41.01	-2.74	34.72	72.99	Max Avg	Vertical	148	46	122.2	-49.2	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AB1	Variant:	802.11ac-80
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5775.00	Data Rate:	29.30 MBit/s
Power Setting:	18	Tested By:	SB

Test Measurement Results

5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	5718.97	44.27	-2.76	34.71	76.22	Max Avg	Vertical	148	46	110.5	-34.3	Pass
#2	5723.56	45.60	-2.74	34.72	77.58	Max Avg	Vertical	148	46	119.9	-42.3	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AB1	Variant:	802.11n HT-20
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5745.00	Data Rate:	6.50 MBit/s
Power Setting:	18	Tested By:	SB

Test Measurement Results

5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	5722.21	40.15	-2.75	34.72	72.12	Max Avg	Vertical	148	46	115.4	-43.2	Pass
#2	5725.00	38.97	-2.74	34.72	70.95	Max Avg	Vertical	148	46	122.2	-51.3	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for 5725 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AB1	Variant:	802.11n HT-40
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5755.00	Data Rate:	13.50 MBit/s
Power Setting:	18	Tested By:	SB

Test Measurement Results

5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	5718.97	43.06	-2.76	34.71	75.01	Max Avg	Vertical	148	46	110.5	-35.5	Pass
#2	5723.92	45.24	-2.74	34.72	77.22	Max Avg	Vertical	148	46	119.9	-42.7	Pass
#3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AB1	Variant:	802.11a
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5825.00	Data Rate:	6.00 MBit/s
Power Setting:	18	Tested By:	SB

Test Measurement Results

5770.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#2	5851.84	33.32	-2.80	34.96	65.48	Max Avg	Horizontal	153	54	117.6	-52.2	Pass
#3	5857.70	30.19	-2.77	34.98	62.40	Max Avg	Horizontal	153	54	110.0	-47.6	Pass
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AB1	Variant:	802.11ac-80
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5775.00	Data Rate:	29.30 MBit/s
Power Setting:	18	Tested By:	SB

Test Measurement Results

5735.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	5850.00	38.35	-2.81	34.96	70.50	Max Avg	Vertical	153	54	122.2	-51.7	Pass
#3	5860.00	38.06	-2.77	34.99	70.28	Max Avg	Vertical	153	54	109.4	-39.1	Pass
#2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AB1	Variant:	802.11n HT-20
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5825.00	Data Rate:	6.50 MBit/s
Power Setting:	18	Tested By:	SB

Test Measurement Results

5770.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#2	5851.84	35.93	-2.80	34.96	68.09	Max Avg	Vertical	153	54	117.6	-49.6	Pass
#3	5856.77	33.58	-2.78	34.98	65.78	Max Avg	Vertical	153	54	110.2	-44.5	Pass
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Note: click the links in the above matrix to view the graphical image (plot).

Equipment Configuration for 5850 MHz Radiated Band-Edge Emissions

Antenna:	Aruba AB1	Variant:	802.11n HT-40
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	3.00	Duty Cycle (%):	99
Channel Frequency (MHz):	5795.00	Data Rate:	13.50 MBit/s
Power Setting:	18	Tested By:	SB

Test Measurement Results

5770.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#2	5851.84	34.41	-2.80	34.96	66.57	Max Avg	Vertical	153	54	117.6	-51.1	Pass
#3	5857.70	33.14	-2.77	34.98	65.35	Max Avg	Vertical	153	54	110.0	-44.6	Pass
#1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Note: click the links in the above matrix to view the graphical image (plot).

A. APPENDIX - GRAPHICAL IMAGES

A.1. Radiated

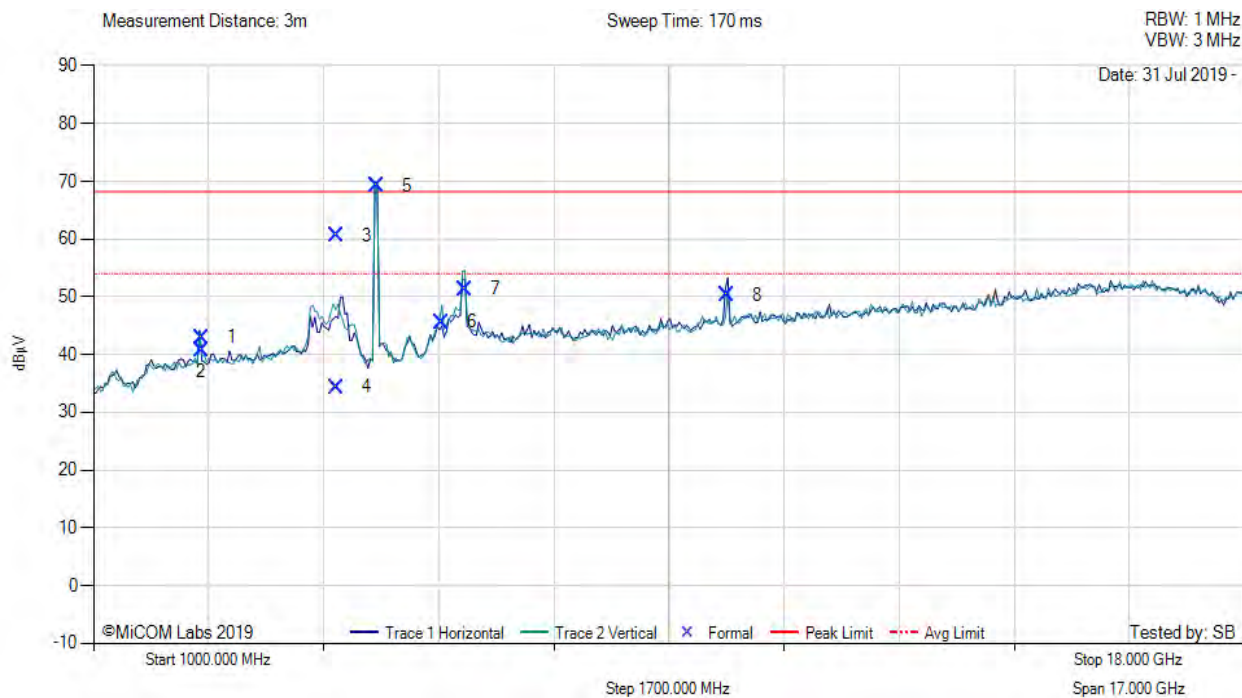
A.1.1. TX Spurious & Restricted Band Emissions

A.1.1.1. Aruba AB1



TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5180.00 MHz, Antenna: Aruba AB1, Power Setting: 18, Duty Cycle (%): 99



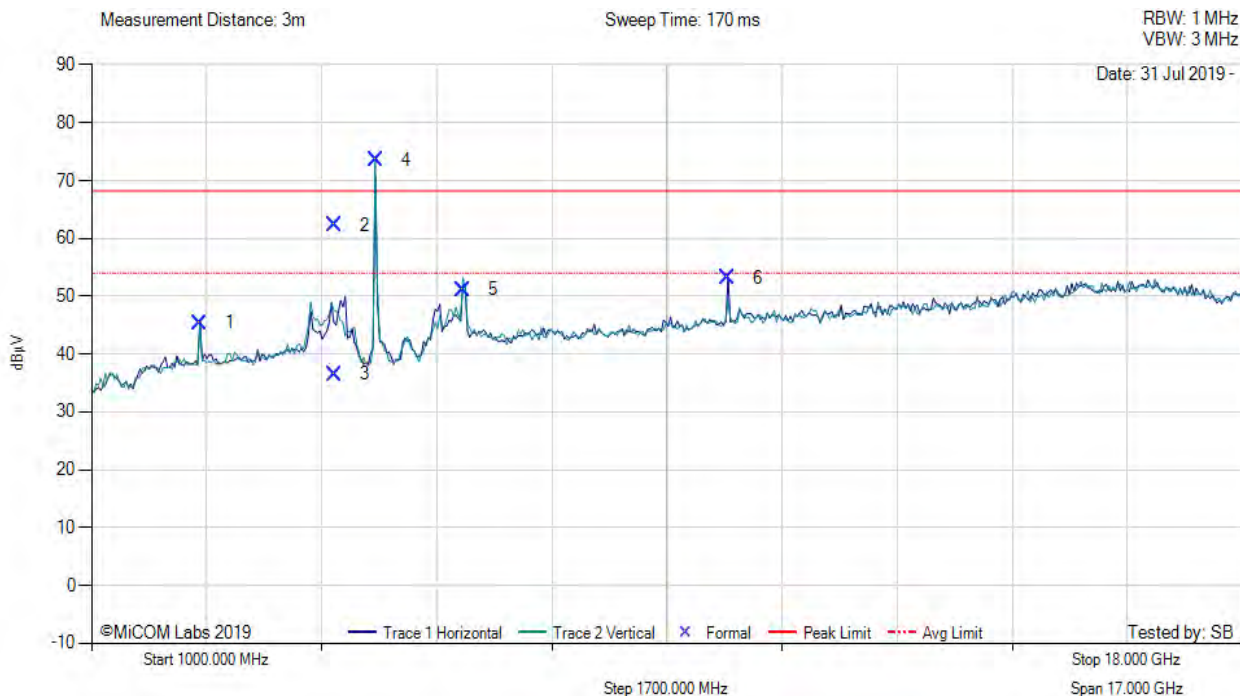
1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	2589.82	56.86	-1.84	-12.03	42.99	Peak (NRB)	Horizontal	100	0	--	--	Pass
2	2589.89	54.55	-1.84	-12.03	40.68	Peak (NRB)	Vertical	158	0	--	--	Pass
3	4586.04	75.17	-2.50	-12.04	60.63	Max Peak	Vertical	98	0	68.2	-7.6	Pass
4	4586.04	48.91	-2.50	-12.04	34.37	Max Avg	Vertical	98	0	54.0	-19.6	Pass
5	5181.30	83.89	-2.67	-11.99	69.23	Fundamental	Vertical	150	30	--	--	
6	6137.98	58.09	-2.86	-9.65	45.58	Peak (NRB)	Vertical	150	30	--	--	Pass
7	6477.90	63.25	-2.94	-8.91	51.40	Peak (NRB)	Vertical	150	30	--	--	Pass
8	10359.75	59.73	-3.86	-5.61	50.26	Peak (NRB)	Horizontal	150	30	--	--	Pass

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TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5200.00 MHz, Antenna: Aruba AB1, Power Setting: 18, Duty Cycle (%): 99



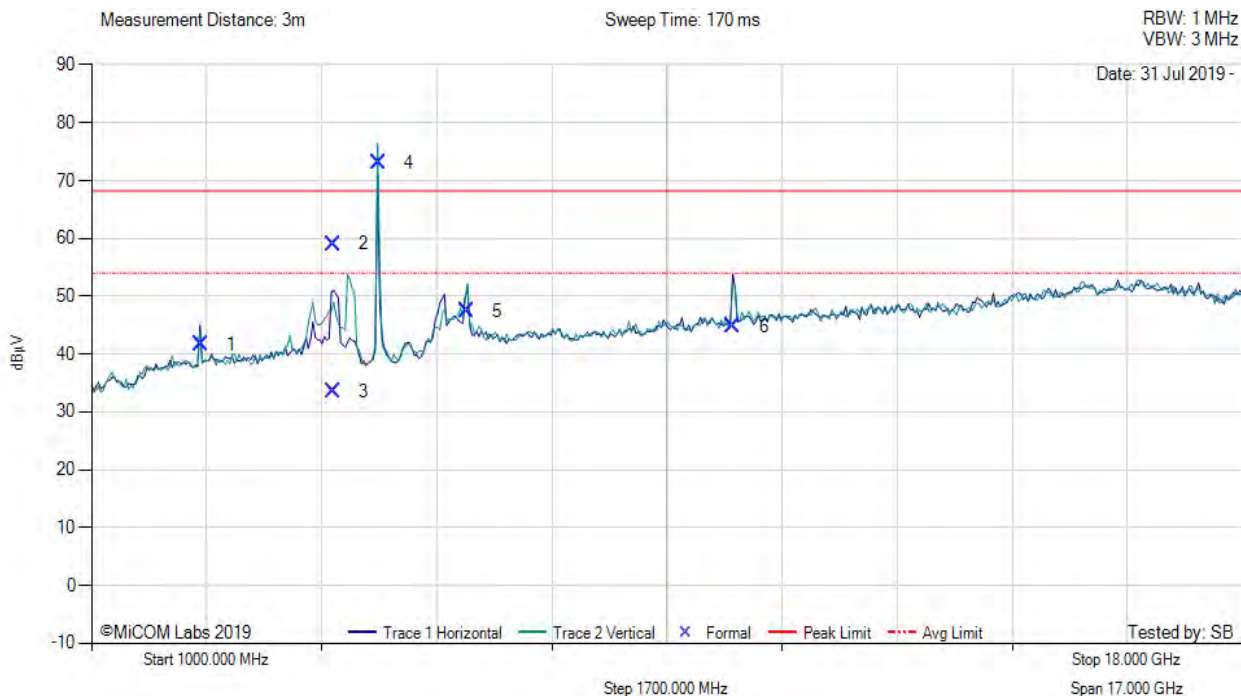
1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	2599.72	59.18	-1.85	-11.92	45.41	Peak (NRB)	Horizontal	154	48	--	--	Pass
2	4596.03	76.70	-2.46	-12.00	62.24	Max Peak	Vertical	145	357	68.2	-6.0	Pass
3	4596.03	50.93	-2.46	-12.00	36.47	Max Avg	Vertical	145	357	54.0	-17.5	Pass
4	5206.20	88.09	-2.64	-11.98	73.47	Fundamental	Vertical	154	0	--	--	
5	6492.79	63.00	-2.95	-8.91	51.14	Peak (NRB)	Vertical	154	48	--	--	Pass
6	10395.81	62.80	-3.99	-5.69	53.12	Peak (NRB)	Horizontal	154	48	--	--	Pass

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TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5240.00 MHz, Antenna: Aruba AB1, Power Setting: 18, Duty Cycle (%): 99



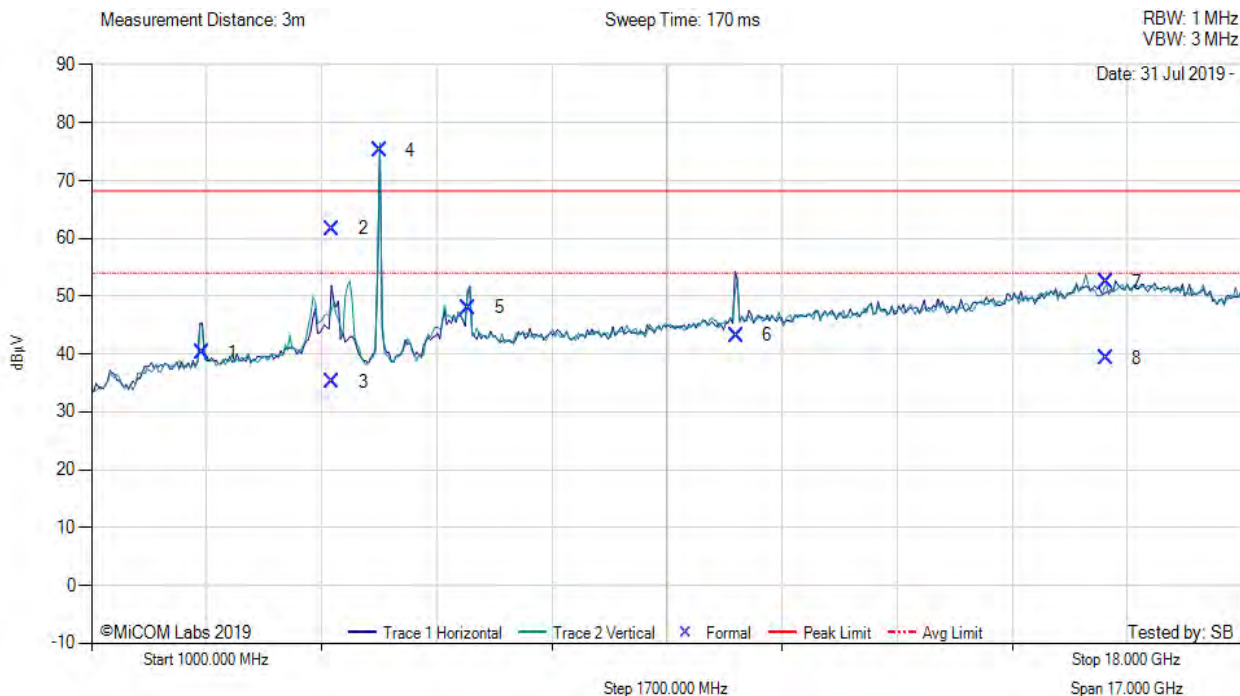
1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	2618.64	55.48	-1.83	-11.95	41.70	Peak (NRB)	Horizontal	100	0	--	--	Pass
2	4563.06	73.38	-2.44	-11.92	59.02	Max Peak	Vertical	195	323	68.2	-9.2	Pass
3	4563.06	47.83	-2.44	-11.92	33.47	Max Avg	Vertical	195	323	54.0	-20.5	Pass
4	5244.33	87.79	-2.62	-12.19	72.98	Fundamental	Vertical	100	0	--	--	
5	6547.52	59.17	-3.00	-8.71	47.46	Peak (NRB)	Vertical	100	0	--	--	Pass
6	10481.21	54.82	-3.82	-6.22	44.78	Peak (NRB)	Vertical	100	0	--	--	Pass

[back to matrix](#)



TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5260.00 MHz, Antenna: Aruba AB1, Power Setting: 18, Duty Cycle (%): 99



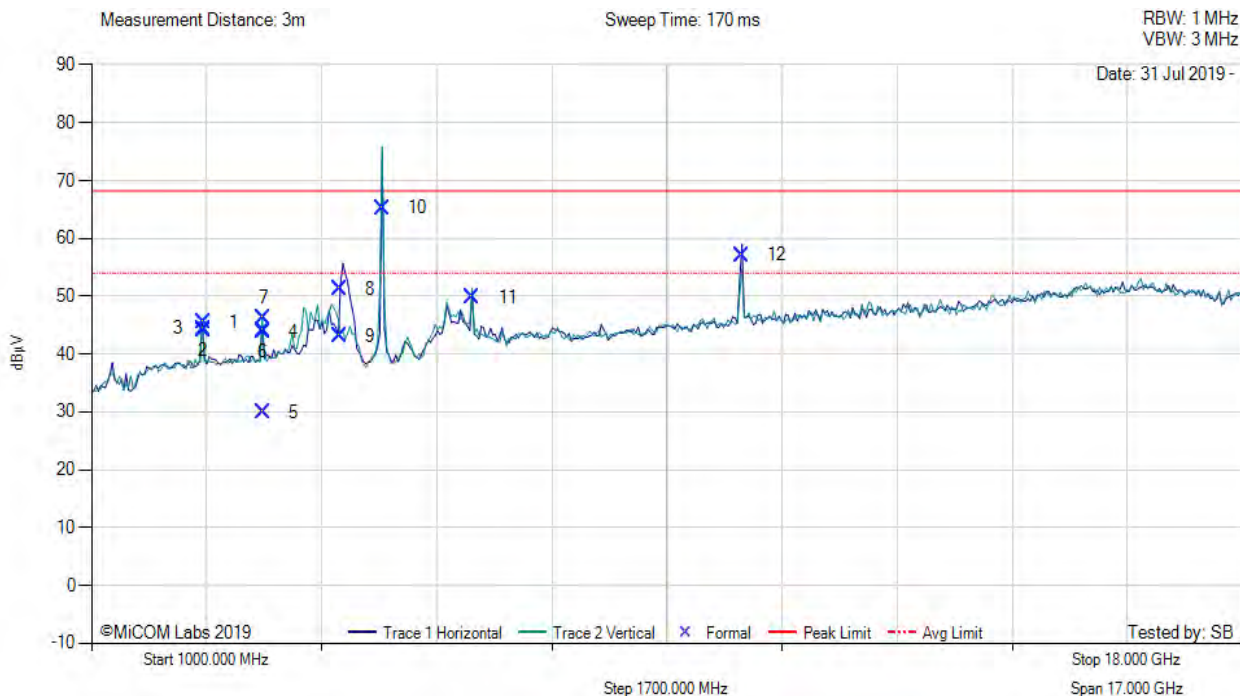
1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	2630.40	54.01	-1.86	-12.00	40.15	Peak (NRB)	Vertical	100	0	--	--	Pass
2	4561.82	75.98	-2.44	-11.91	61.63	Max Peak	Vertical	178	1	68.2	-6.6	Pass
3	4561.82	49.58	-2.44	-11.91	35.23	Max Avg	Vertical	178	1	54.0	-18.8	Pass
4	5260.48	89.90	-2.62	-12.13	75.15	Fundamental	Vertical	155	0	--	--	
5	6573.56	59.62	-2.97	-8.61	48.04	Peak (NRB)	Vertical	155	0	--	--	Pass
6	10526.08	53.05	-3.92	-5.94	43.19	Peak (NRB)	Horizontal	155	0	--	--	Pass
7	15981.62	58.41	-4.90	-1.03	52.48	Max Peak	Vertical	161	3	68.2	-15.8	Pass
8	15981.62	45.17	-4.90	-1.03	39.24	Max Avg	Vertical	161	3	54.0	-14.8	Pass

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TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5300.00 MHz, Antenna: Aruba AB1, Power Setting: 18, Duty Cycle (%): 99



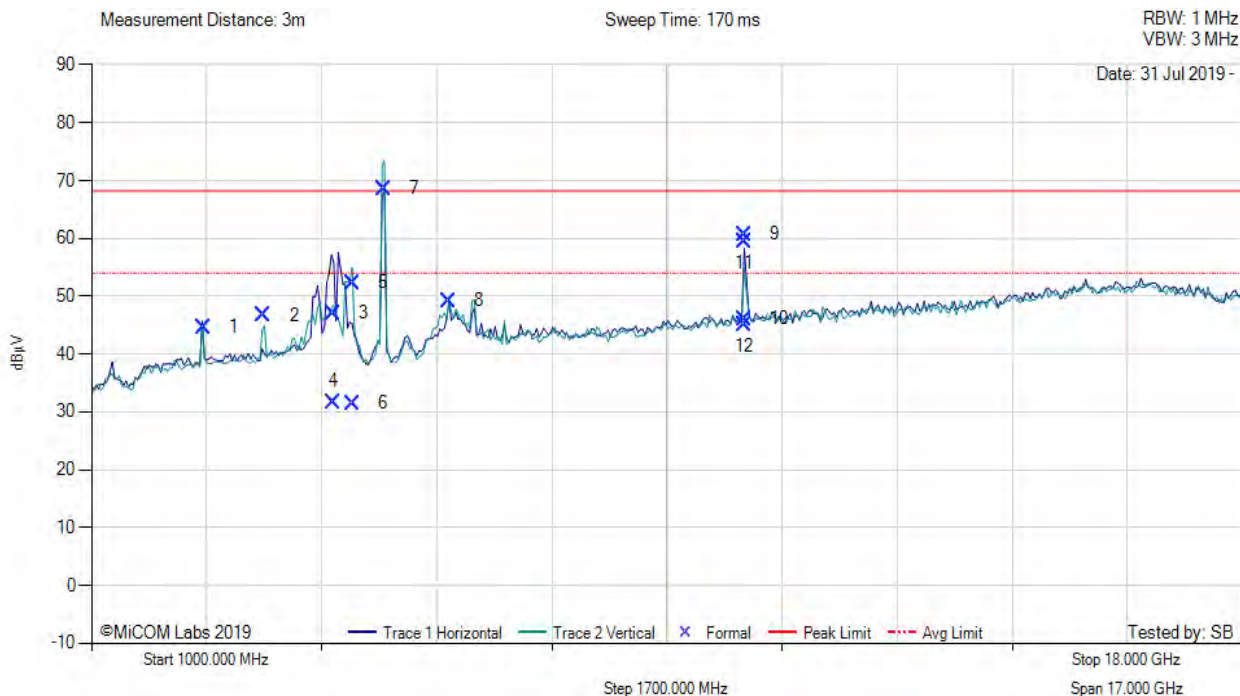
1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	2649.83	59.28	-1.83	-11.95	45.50	Peak (NRB)	Horizontal	100	0	--	--	Pass
2	2650.23	57.96	-1.83	-11.95	44.18	Peak (NRB)	Horizontal	159	40	--	--	Pass
3	2650.23	58.19	-1.83	-11.95	44.41	Peak (NRB)	Vertical	159	40	--	--	Pass
4	3533.32	57.85	-2.14	-11.88	43.83	Max Peak	Horizontal	142	357	68.2	-24.4	Pass
5	3533.32	43.97	-2.14	-11.88	29.95	Max Avg	Horizontal	142	357	54.0	-24.1	Pass
6	3533.42	58.03	-2.14	-11.88	44.01	Peak (NRB)	Vertical	159	40	--	--	Pass
7	3534.18	60.14	-2.14	-11.86	46.14	Peak (NRB)	Vertical	100	0	--	--	Pass
8	4659.05	66.07	-2.50	-12.31	51.26	Peak (Scan)	Horizontal	159	40	68.2	-17.0	Pass
9	4672.02	57.83	-2.47	-12.26	43.10	Peak (Scan)	Horizontal	159	40	68.2	-25.1	Pass
10	5298.32	80.04	-2.66	-12.11	65.27	Peak (NRB)	Horizontal	159	40	--	--	Pass
11	6630.85	61.36	-2.96	-8.52	49.88	Peak (NRB)	Vertical	159	40	--	--	Pass
12	10596.61	66.53	-3.82	-5.61	57.10	Peak (NRB)	Horizontal	159	40	--	--	Pass

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TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5320.00 MHz, Antenna: Aruba AB1, Power Setting: 18, Duty Cycle (%): 99



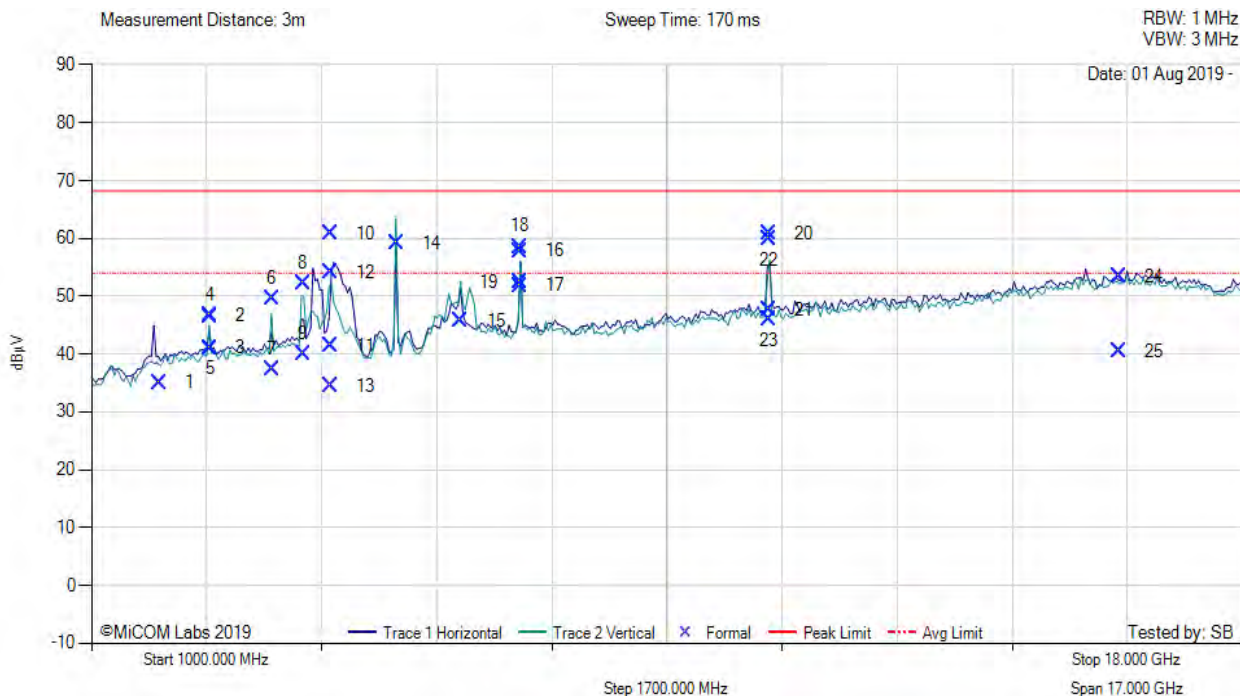
1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	2659.83	58.34	-1.84	-11.88	44.62	Peak (NRB)	Horizontal	100	0	--	--	Pass
2	3546.94	60.44	-2.14	-11.68	46.62	Peak (NRB)	Vertical	100	0	--	--	Pass
3	4569.08	61.49	-2.48	-11.97	47.04	Max Peak	Horizontal	194	0	68.2	-21.2	Pass
4	4569.08	46.15	-2.48	-11.97	31.70	Max Avg	Horizontal	194	0	54.0	-22.3	Pass
5	4862.07	67.22	-2.53	-12.40	52.29	Max Peak	Vertical	145	54	68.2	-15.9	Pass
6	4862.07	46.45	-2.53	-12.40	31.52	Max Avg	Vertical	145	54	54.0	-22.5	Pass
7	5317.19	83.49	-2.67	-12.18	68.64	Peak (NRB)	Vertical	100	0	--	--	Pass
8	6277.03	61.23	-2.88	-9.15	49.20	Peak (NRB)	Vertical	100	0	--	--	Pass
9	10634.98	69.86	-4.08	-5.07	60.71	Max Peak	Horizontal	128	73	68.2	-7.5	Pass
10	10634.98	55.25	-4.08	-5.07	46.10	Max Avg	Horizontal	128	73	54.0	-7.9	Pass
11	10639.94	68.63	-4.19	-5.02	59.42	Max Peak	Vertical	123	342	68.2	-8.8	Pass
12	10639.94	54.24	-4.19	-5.02	45.03	Max Avg	Vertical	123	342	54.0	-9.0	Pass

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TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5500.00 MHz, Antenna: Aruba AB1, Power Setting: 18, Duty Cycle (%): 99



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	2000.16	49.49	-1.59	-12.85	35.05	Peak (NRB)	Horizontal	139	0	--	--	Pass
2	2749.81	60.42	-1.91	-11.95	46.56	Max Peak	Vertical	175	355	68.2	-21.7	Pass
3	2749.81	54.95	-1.91	-11.95	41.09	Max Avg	Vertical	175	355	54.0	-12.9	Pass
4	2749.88	60.54	-1.91	-11.95	46.68	Max Peak	Horizontal	178	41	68.2	-21.6	Pass
5	2749.88	54.96	-1.91	-11.95	41.10	Max Avg	Horizontal	178	41	54.0	-12.9	Pass
6	3666.54	63.44	-2.15	-11.67	49.62	Max Peak	Vertical	165	13	68.2	-18.6	Pass
7	3666.54	51.15	-2.15	-11.67	37.33	Max Avg	Vertical	165	13	54.0	-16.7	Pass
8	4122.18	66.94	-2.34	-12.33	52.27	Max Peak	Vertical	160	34	68.2	-16.0	Pass
9	4122.18	54.69	-2.34	-12.33	40.02	Max Avg	Vertical	160	34	54.0	-14.0	Pass
10	4537.64	75.25	-2.44	-11.92	60.89	Max Peak	Vertical	116	340	68.2	-7.3	Pass
11	4537.64	55.83	-2.44	-11.92	41.47	Max Avg	Vertical	116	340	54.0	-12.5	Pass
12	4537.64	68.55	-2.44	-11.92	54.19	Max Peak	Horizontal	98	306	68.2	-14.0	Pass
13	4537.64	48.87	-2.44	-11.92	34.51	Max Avg	Horizontal	98	306	54.0	-19.5	Pass
14	5507.60	73.38	-2.69	-11.59	59.10	Fundamental	Vertical	139	34	--	--	
15	6455.11	57.88	-2.91	-9.17	45.80	Peak (NRB)	Vertical	139	34	--	--	Pass
16	7332.95	68.76	-3.00	-7.89	57.87	Max Peak	Vertical	151	346	68.2	-10.4	Pass
17	7332.95	62.76	-3.00	-7.89	51.87	Max Avg	Vertical	151	346	54.0	-2.1	Pass
18	7332.95	69.45	-3.00	-7.89	58.56	Max Peak	Horizontal	194	293	68.2	-9.7	Pass

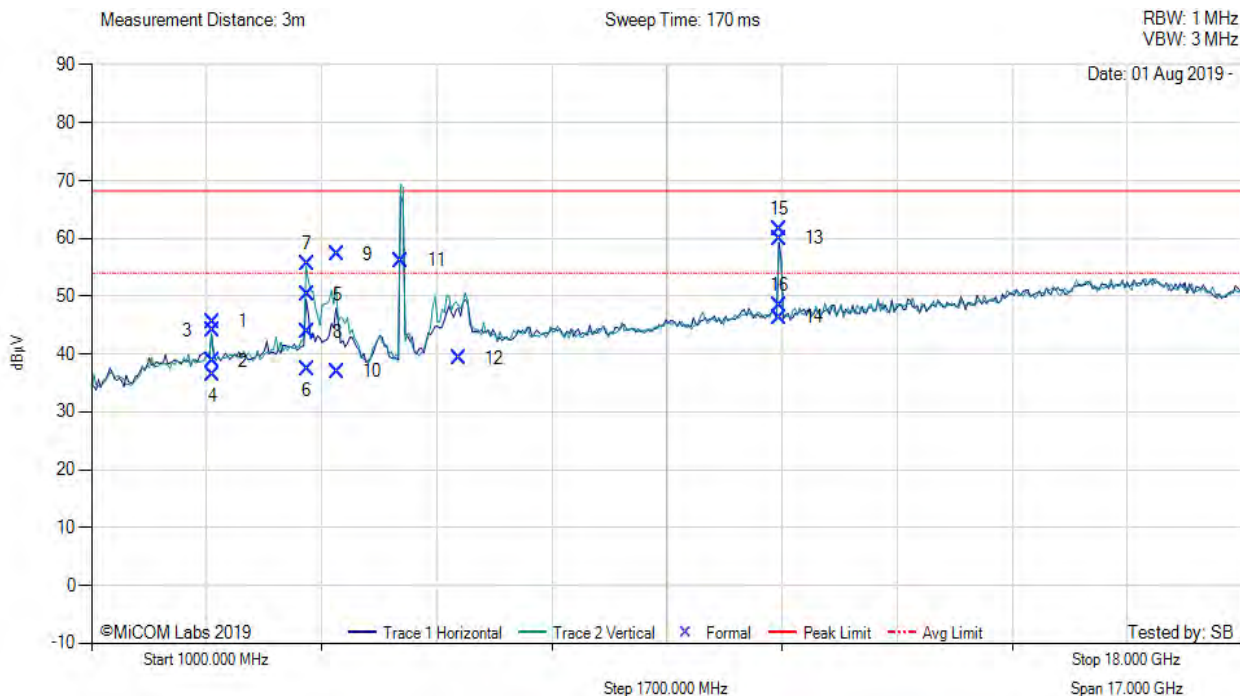
19	7332.95	63.40	-3.00	-7.89	52.51	Max Avg	Horizontal	194	293	54.0	-1.5	Pass
20	11002.99	70.96	-3.92	-6.27	60.77	Max Peak	Horizontal	135	47	68.2	-7.5	Pass
21	11002.99	57.83	-3.92	-6.27	47.64	Max Avg	Horizontal	135	47	54.0	-6.4	Pass
22	11004.90	70.10	-3.92	-6.28	59.90	Max Peak	Vertical	127	323	68.2	-8.3	Pass
23	11004.90	56.16	-3.92	-6.28	45.96	Max Avg	Vertical	127	323	54.0	-8.0	Pass
24	16180.72	58.11	-4.90	0.26	53.47	Max Peak	Horizontal	174	145	68.2	-14.8	Pass
25	16180.72	45.10	-4.90	0.26	40.46	Max Avg	Horizontal	174	145	54.0	-13.5	Pass

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TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5580.00 MHz, Antenna: Aruba AB1, Power Setting: 18, Duty Cycle (%): 99



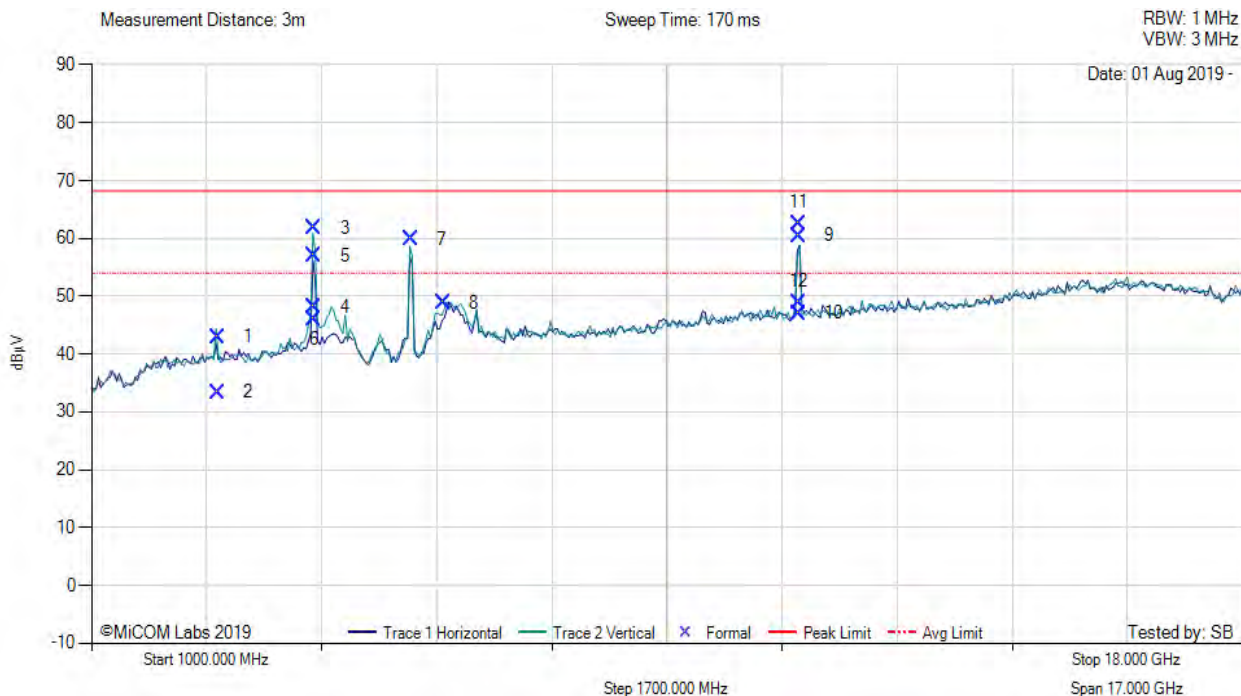
1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	2789.89	59.26	-1.88	-11.80	45.58	Max Peak	Vertical	134	37	68.2	-22.7	Pass
2	2789.89	52.52	-1.88	-11.80	38.84	Max Avg	Vertical	134	37	54.0	-15.2	Pass
3	2789.89	57.68	-1.88	-11.80	44.00	Max Peak	Horizontal	140	333	68.2	-24.2	Pass
4	2789.89	50.06	-1.88	-11.80	36.38	Max Avg	Horizontal	140	333	54.0	-17.6	Pass
5	4180.38	65.06	-2.34	-12.36	50.36	Max Peak	Horizontal	123	353	68.2	-17.9	Pass
6	4180.38	52.10	-2.34	-12.36	37.40	Max Avg	Horizontal	123	353	54.0	-16.6	Pass
7	4180.38	70.20	-2.34	-12.36	55.50	Max Peak	Vertical	122	357	68.2	-12.7	Pass
8	4180.38	58.46	-2.34	-12.36	43.76	Max Avg	Vertical	122	357	54.0	-10.2	Pass
9	4625.32	71.80	-2.47	-12.08	57.25	Max Peak	Vertical	195	51	68.2	-11.0	Pass
10	4625.32	51.53	-2.47	-12.08	36.98	Max Avg	Vertical	195	51	54.0	-17.0	Pass
11	5576.07	70.43	-2.75	-11.50	56.18	Fundamental	Horizontal	100	0	--	--	
12	6432.70	51.29	-2.93	-9.03	39.33	Peak (NRB)	Horizontal	100	0	--	--	Pass
13	11152.64	68.80	-4.04	-4.73	60.03	Max Peak	Vertical	115	340	68.2	-8.2	Pass
14	11152.64	55.08	-4.04	-4.73	46.31	Max Avg	Vertical	115	340	54.0	-7.7	Pass
15	11162.53	70.19	-4.07	-4.56	61.56	Max Peak	Horizontal	163	71	68.2	-6.7	Pass
16	11162.53	57.06	-4.07	-4.56	48.43	Max Avg	Horizontal	163	71	54.0	-5.6	Pass

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TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5720.00 MHz, Antenna: Aruba AB1, Power Setting: 18, Duty Cycle (%): 99

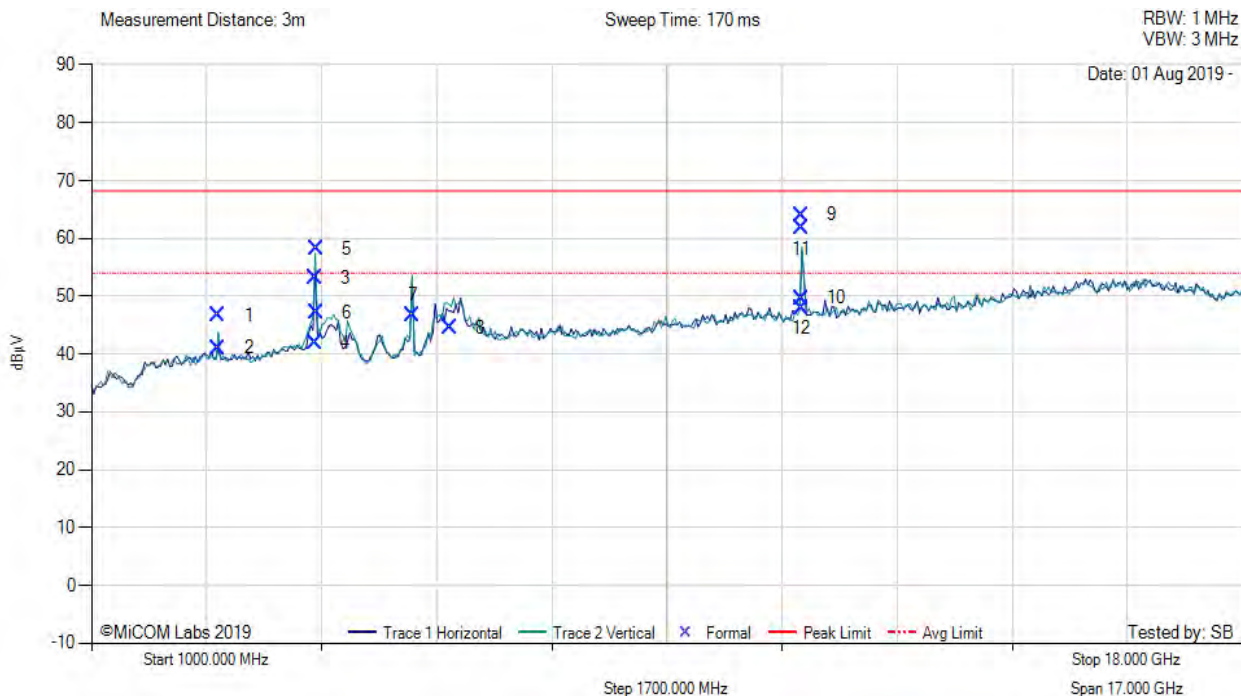


1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	2860.46	56.82	-1.92	-11.91	42.99	Max Peak	Vertical	189	357	68.2	-25.2	Pass
2	2860.46	47.24	-1.92	-11.91	33.41	Max Avg	Vertical	189	357	54.0	-20.6	Pass
3	4293.24	76.44	-2.36	-12.31	61.77	Max Peak	Vertical	169	1	68.2	-6.5	Pass
4	4293.24	62.82	-2.36	-12.31	48.15	Max Avg	Vertical	169	1	54.0	-5.9	Pass
5	4293.24	71.64	-2.36	-12.31	56.97	Max Peak	Horizontal	185	348	68.2	-11.3	Pass
6	4293.24	60.73	-2.36	-12.31	46.06	Max Avg	Horizontal	185	348	54.0	-7.9	Pass
7	5713.16	73.63	-2.79	-11.03	59.81	Fundamental	Vertical	154	0	--	--	
8	6191.45	60.92	-2.87	-9.19	48.86	Peak (NRB)	Vertical	154	0	--	--	Pass
9	11440.90	70.77	-4.03	-6.28	60.46	Max Peak	Vertical	146	18	68.2	-7.8	Pass
10	11440.90	57.34	-4.03	-6.28	47.03	Max Avg	Vertical	146	18	54.0	-7.0	Pass
11	11446.16	72.99	-4.04	-6.30	62.65	Max Peak	Horizontal	172	309	68.2	-5.6	Pass
12	11446.16	59.29	-4.04	-6.30	48.95	Max Avg	Horizontal	172	309	54.0	-5.1	Pass

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TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: Aruba AB1, Power Setting: 18, Duty Cycle (%): 99



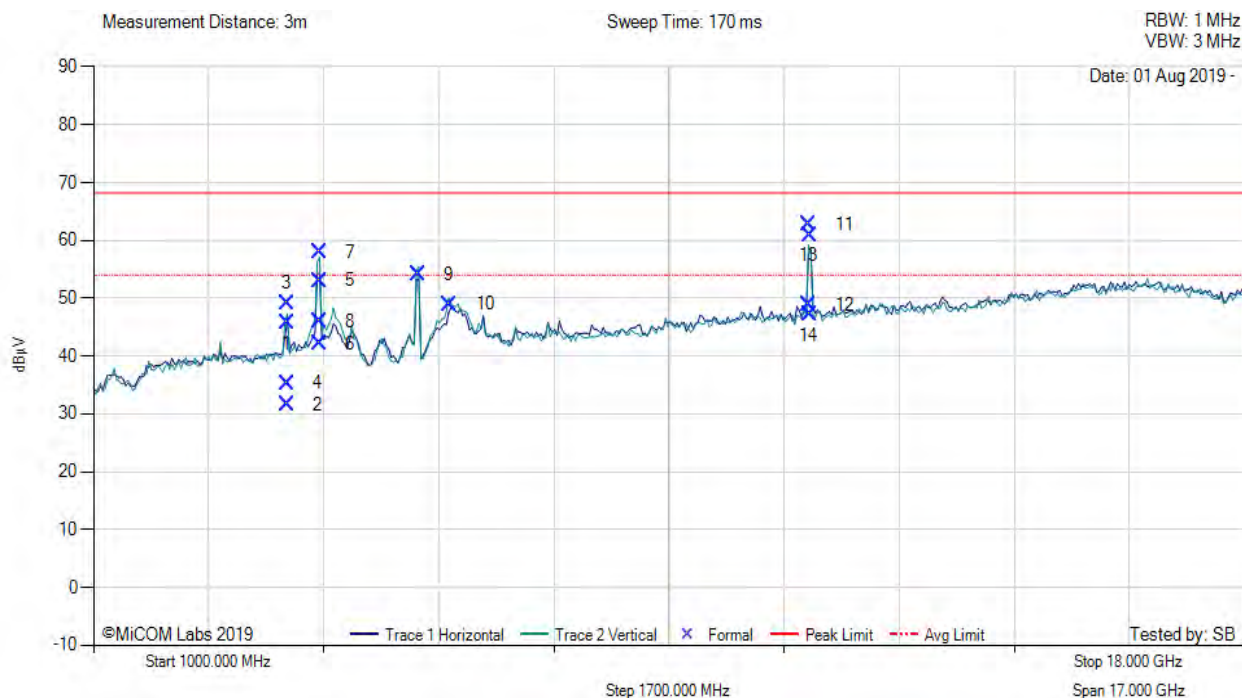
1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	2872.51	60.41	-1.91	-11.85	46.65	Max Peak	Vertical	189	13	68.2	-21.6	Pass
2	2872.51	54.86	-1.91	-11.85	41.10	Max Avg	Vertical	189	13	54.0	-12.9	Pass
3	4301.89	67.93	-2.38	-12.40	53.15	Max Peak	Horizontal	185	355	68.2	-15.1	Pass
4	4301.89	56.63	-2.38	-12.40	41.85	Max Avg	Horizontal	185	355	54.0	-12.2	Pass
5	4315.50	73.00	-2.36	-12.49	58.15	Max Peak	Vertical	146	23	68.2	-10.1	Pass
6	4315.50	62.01	-2.36	-12.49	47.16	Max Avg	Vertical	146	23	54.0	-6.8	Pass
7	5739.39	60.38	-2.75	-10.96	46.67	Fundamental	Horizontal	151	0	--	--	
8	6297.95	56.84	-2.90	-9.36	44.58	Peak (NRB)	Vertical	151	26	--	--	Pass
9	11489.07	74.71	-4.03	-6.66	64.02	Max Peak	Horizontal	171	305	68.2	-4.2	Pass
10	11489.07	60.37	-4.03	-6.66	49.68	Max Avg	Horizontal	171	305	54.0	-4.3	Pass
11	11490.17	72.43	-4.04	-6.66	61.73	Max Peak	Vertical	107	332	68.2	-6.5	Pass
12	11490.17	58.67	-4.04	-6.66	47.97	Max Avg	Vertical	107	332	54.0	-6.0	Pass

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TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5785.00 MHz, Antenna: Aruba AB1, Power Setting: 18, Duty Cycle (%): 99



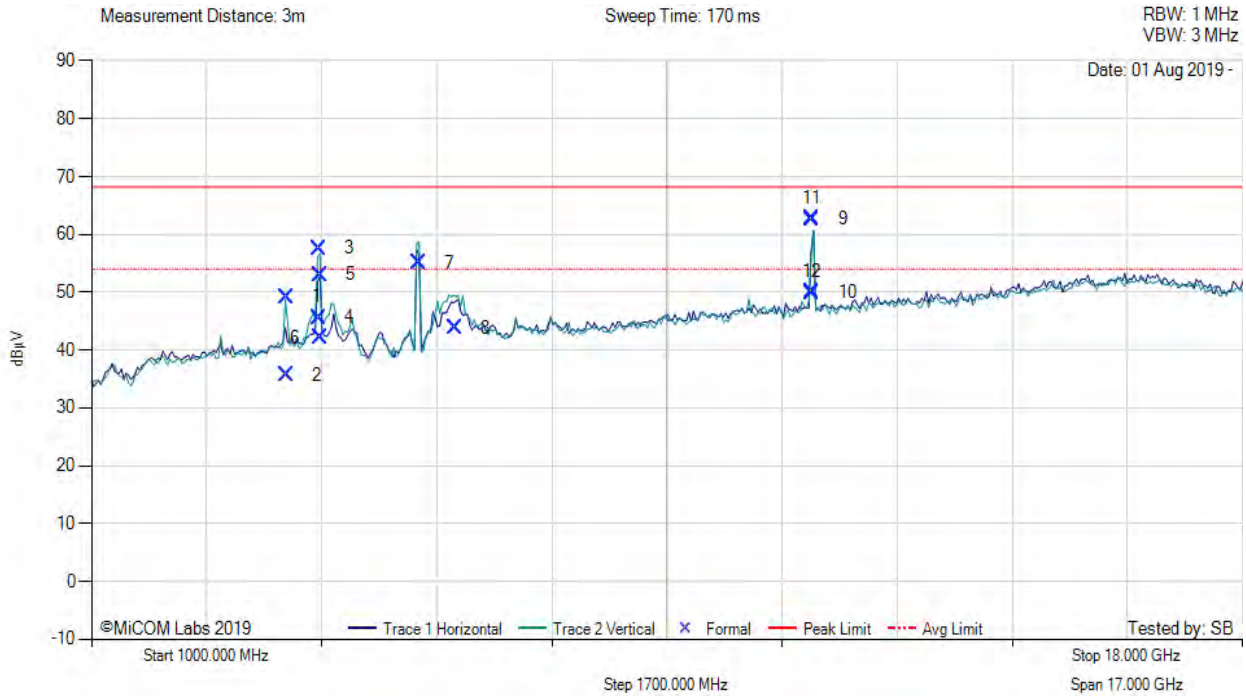
1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	3857.04	59.51	-2.21	-11.60	45.70	Max Peak	Horizontal	153	1	68.2	-22.5	Pass
2	3857.04	45.42	-2.21	-11.60	31.61	Max Avg	Horizontal	153	1	54.0	-22.4	Pass
3	3859.24	62.80	-2.21	-11.57	49.02	Max Peak	Vertical	138	1	68.2	-19.2	Pass
4	3859.24	49.10	-2.21	-11.57	35.32	Max Avg	Vertical	138	1	54.0	-18.7	Pass
5	4336.53	67.85	-2.39	-12.43	53.03	Max Peak	Horizontal	126	352	68.2	-15.2	Pass
6	4336.53	57.00	-2.39	-12.43	42.18	Max Avg	Horizontal	126	352	54.0	-11.8	Pass
7	4341.26	72.69	-2.38	-12.41	57.90	Max Peak	Vertical	115	354	68.2	-10.3	Pass
8	4341.26	60.76	-2.38	-12.41	45.97	Max Avg	Vertical	115	354	54.0	-8.0	Pass
9	5792.24	67.75	-2.75	-10.81	54.19	Fundamental	Vertical	100	0	--	--	
10	6263.07	61.19	-2.88	-9.35	48.96	Peak (NRB)	Vertical	100	0	--	--	Pass
11	11570.20	73.15	-4.07	-6.27	62.81	Max Peak	Horizontal	167	79	68.2	-5.4	Pass
12	11570.20	59.20	-4.07	-6.27	48.86	Max Avg	Horizontal	167	79	54.0	-5.1	Pass
13	11575.17	71.15	-4.04	-6.13	60.98	Max Peak	Vertical	111	339	68.2	-7.3	Pass
14	11575.17	57.36	-4.04	-6.13	47.19	Max Avg	Vertical	111	339	54.0	-6.8	Pass

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TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5825.00 MHz, Antenna: Aruba AB1, Power Setting: 18, Duty Cycle (%): 99



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	3884.18	63.21	-2.24	-11.75	49.22	Max Peak	Vertical	149	0	68.2	-19.0	Pass
2	3884.18	49.61	-2.24	-11.75	35.62	Max Avg	Vertical	149	0	54.0	-18.4	Pass
3	4366.30	72.26	-2.37	-12.27	57.62	Max Peak	Vertical	183	26	68.2	-10.6	Pass
4	4366.30	60.21	-2.37	-12.27	45.57	Max Avg	Vertical	183	26	54.0	-8.4	Pass
5	4376.28	67.69	-2.38	-12.30	53.01	Max Peak	Horizontal	152	343	68.2	-15.2	Pass
6	4376.28	56.76	-2.38	-12.30	42.08	Max Avg	Horizontal	152	343	54.0	-11.9	Pass
7	5828.02	68.75	-2.81	-10.81	55.13	Fundamental	Vertical	150	26	--	--	
8	6369.53	55.85	-2.92	-9.16	43.77	Peak (NRB)	Vertical	150	26	--	--	Pass
9	11648.80	71.37	-4.18	-4.43	62.76	Max Peak	Vertical	131	23	68.2	-5.5	Pass
10	11648.80	58.53	-4.18	-4.43	49.92	Max Avg	Vertical	131	23	54.0	-4.1	Pass
11	11649.71	71.23	-4.20	-4.41	62.62	Max Peak	Horizontal	169	71	68.2	-5.6	Pass
12	11649.71	58.63	-4.20	-4.41	50.02	Max Avg	Horizontal	169	71	54.0	-4.0	Pass

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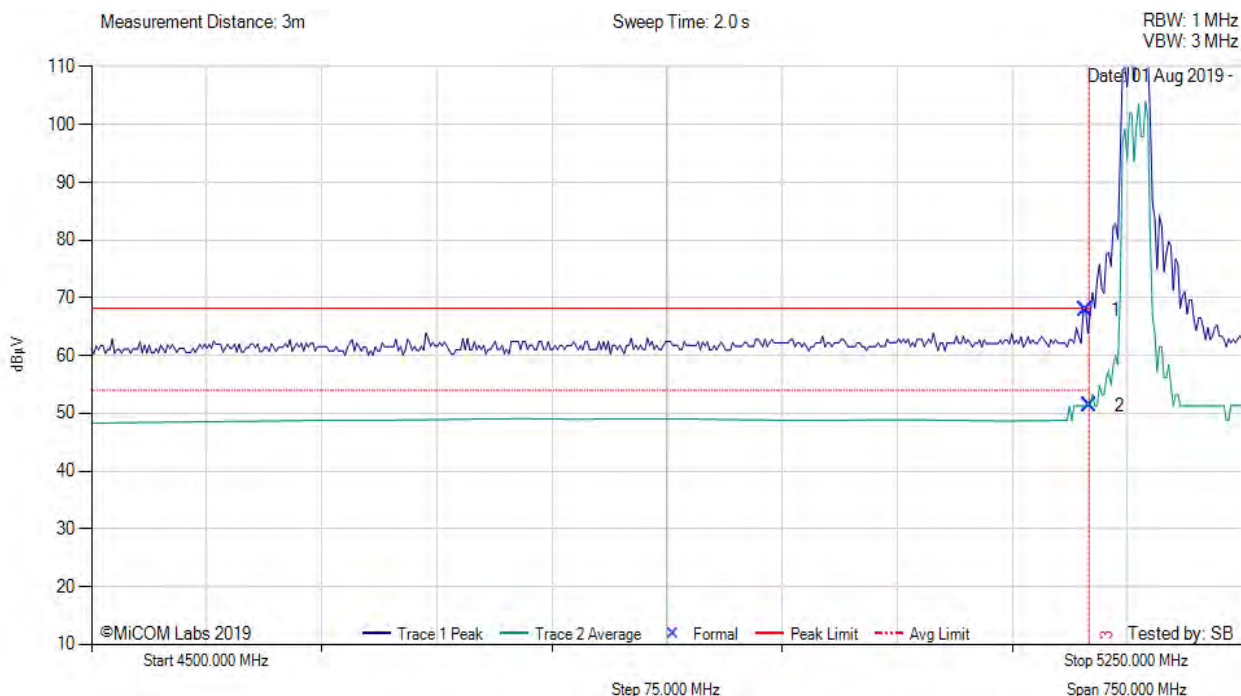
A.1.2. Restricted Edge & Band-Edge Emissions

A.1.2.2. Aruba AB1



RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11a, Test Freq: 5180.00 MHz, Antenna: Aruba AB1, Power Setting: 15, Duty Cycle (%): 99



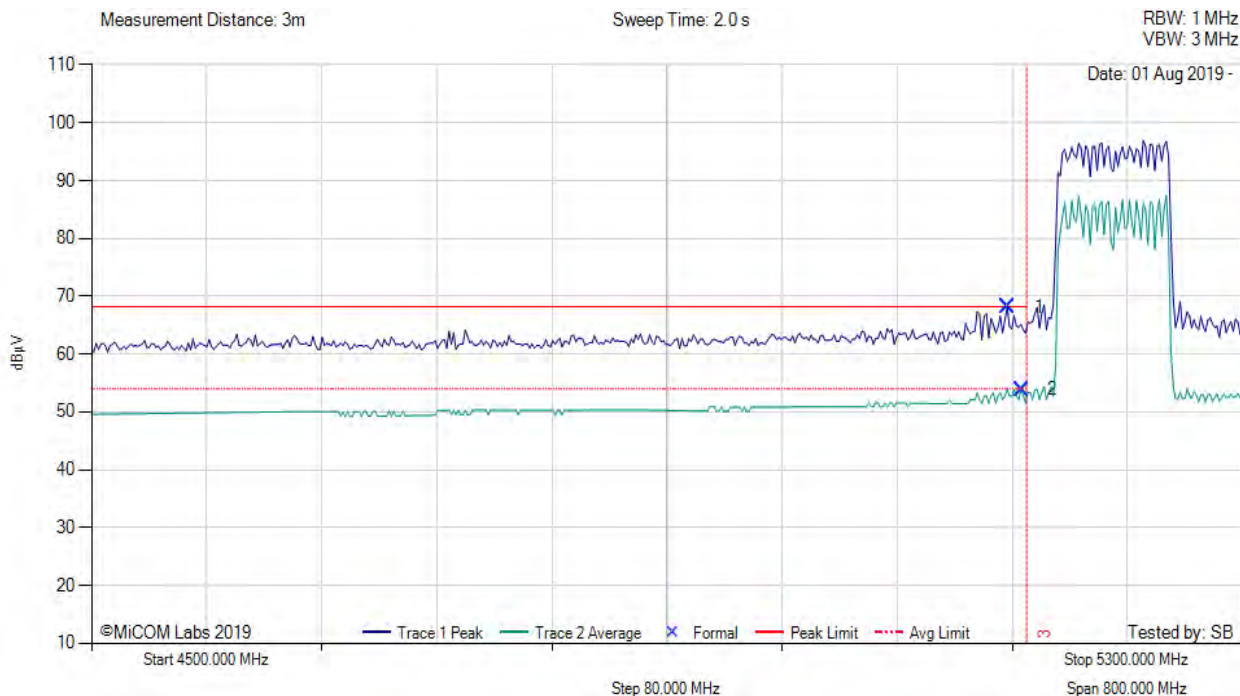
4500.00 - 5250.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	5147.80	33.68	0.00	34.21	67.89	Max Peak	Vertical	150	11	68.2	-0.3	Pass
2	5150.00	19.70	-2.61	34.21	51.30	Max Avg	Vertical	150	11	54.0	-2.7	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

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RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11ac-80, Test Freq: 5210.00 MHz, Antenna: Aruba AB1, Power Setting: 12, Duty Cycle (%): 99



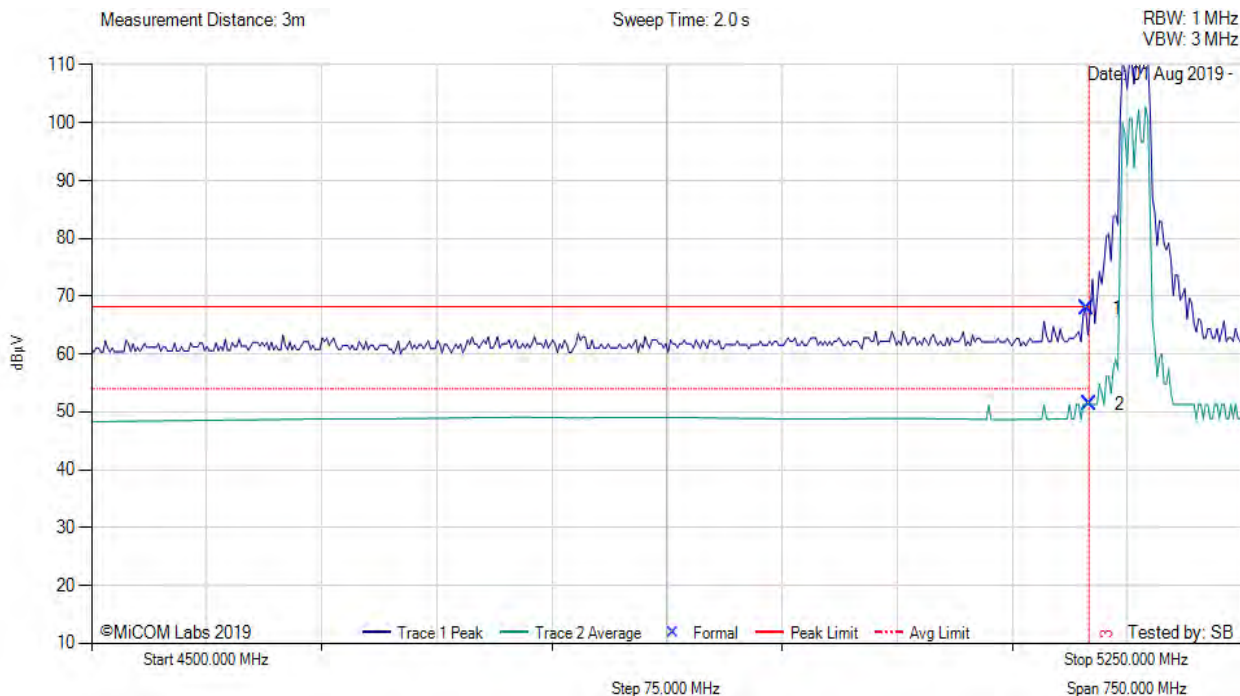
4500.00 - 5300.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	5137.17	36.56	-2.61	34.19	68.14	Max Peak	Horizontal	150	11	68.2	-0.1	Pass
2	5146.79	22.27	-2.61	34.21	53.87	Max Avg	Horizontal	150	11	54.0	-0.1	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

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RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 5180.00 MHz, Antenna: Aruba AB1, Power Setting: 14, Duty Cycle (%): 99



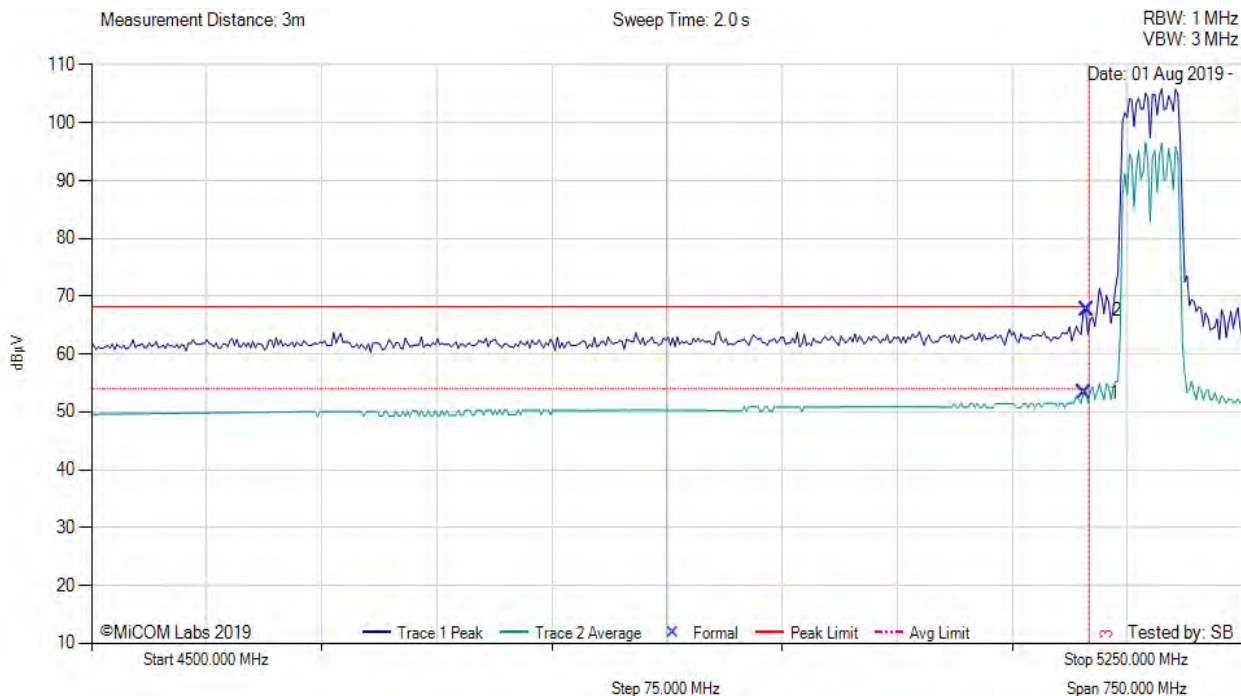
4500.00 - 5250.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	5148.50	33.68	0.00	34.21	67.89	Max Peak	Vertical	150	11	68.2	-0.3	Pass
2	5150.00	19.70	-2.61	34.21	51.30	Max Avg	Vertical	150	11	54.0	-2.7	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

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RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 5190.00 MHz, Antenna: Aruba AB1, Power Setting: 11, Duty Cycle (%): 99



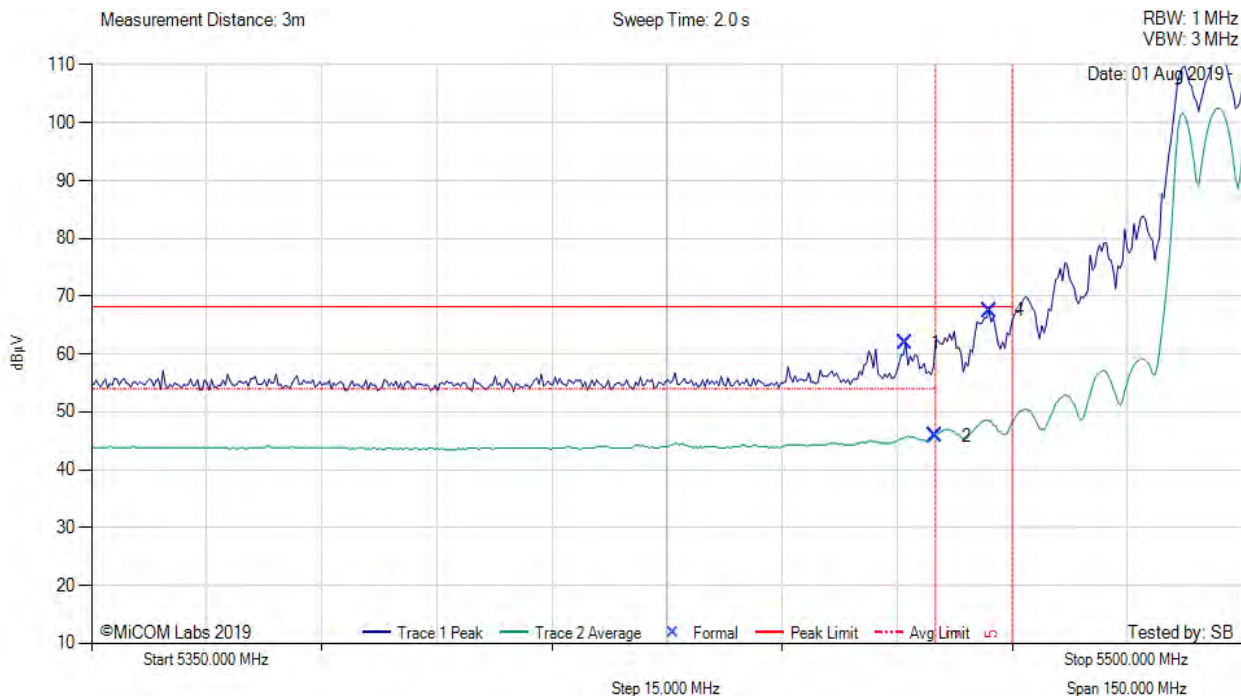
4500.00 - 5250.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	5146.99	21.74	-2.61	34.21	53.34	Max Avg	Vertical	150	11	54.0	-0.7	Pass
2	5148.50	36.03	-2.60	34.21	67.64	Max Peak	Vertical	150	11	68.2	-0.6	Pass
3	5150.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

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RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11a, Test Freq: 5500.00 MHz, Antenna: Aruba AB1, Power Setting: 14, Duty Cycle (%): 99



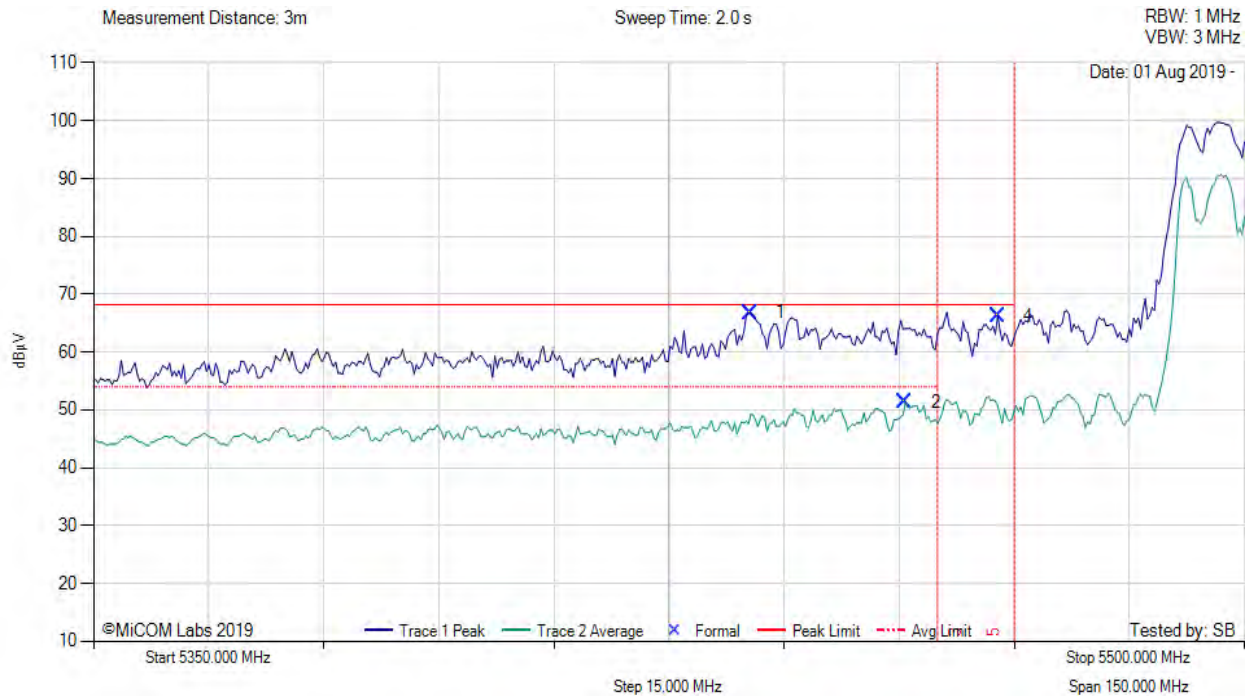
5350.00 - 5500.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	5456.09	30.07	-2.70	34.52	61.89	Max Peak	Vertical	156	1	68.2	-6.3	Pass
2	5460.00	14.03	-2.69	34.53	45.87	Max Avg	Vertical	156	1	54.0	-8.1	Pass
4	5466.99	35.63	-2.68	34.55	67.50	Max Avg	Vertical	156	1	68.2	-0.7	Pass
3	5460.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
5	5470.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

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RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11ac-80, Test Freq: 5530.00 MHz, Antenna: Aruba AB1, Power Setting: 9, Duty Cycle (%): 99



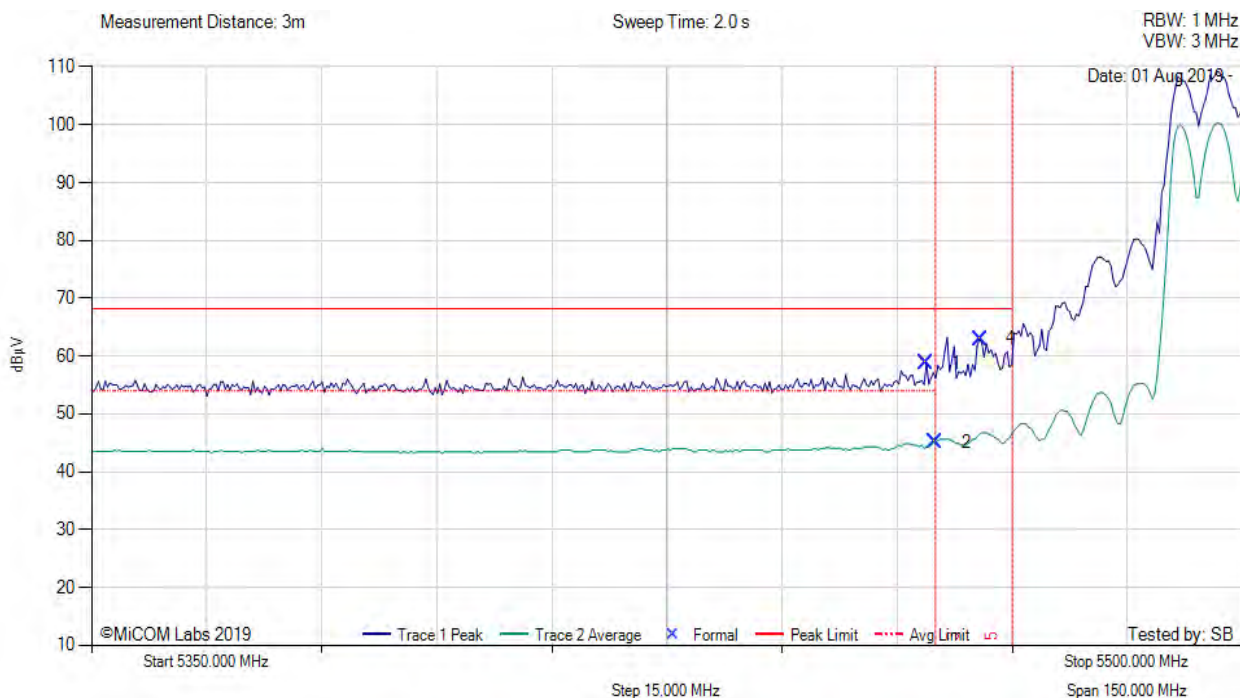
5350.00 - 5500.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	5435.65	34.96	-2.70	34.51	66.77	Max Peak	Vertical	156	1	68.2	-1.5	Pass
2	5455.79	19.58	-2.70	34.52	51.40	Max Avg	Vertical	156	1	54.0	-2.6	Pass
4	5467.90	34.37	-2.68	34.55	66.24	Max Avg	Vertical	156	1	68.2	-2.0	Pass
3	5460.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
5	5470.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

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RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 5500.00 MHz, Antenna: Aruba AB1, Power Setting: 12, Duty Cycle (%): 99



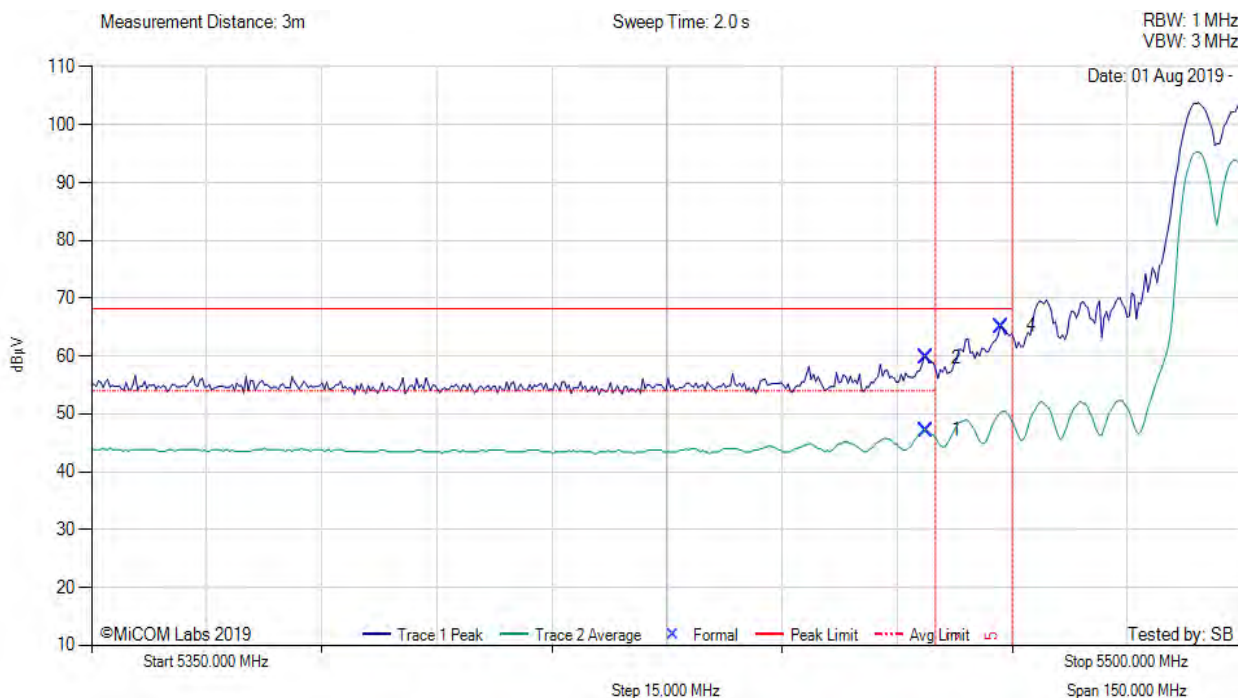
5350.00 - 5500.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	5458.80	27.02	-2.69	34.52	58.85	Max Peak	Vertical	156	1	68.2	-9.4	Pass
2	5460.00	13.30	-2.69	34.53	45.14	Max Avg	Vertical	156	1	54.0	-8.9	Pass
4	5465.79	31.08	-2.68	34.54	62.94	Max Avg	Vertical	156	1	68.2	-5.3	Pass
3	5460.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
5	5470.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

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RESTRICTED LOWER BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 5510.00 MHz, Antenna: Aruba AB1, Power Setting: 10, Duty Cycle (%): 99



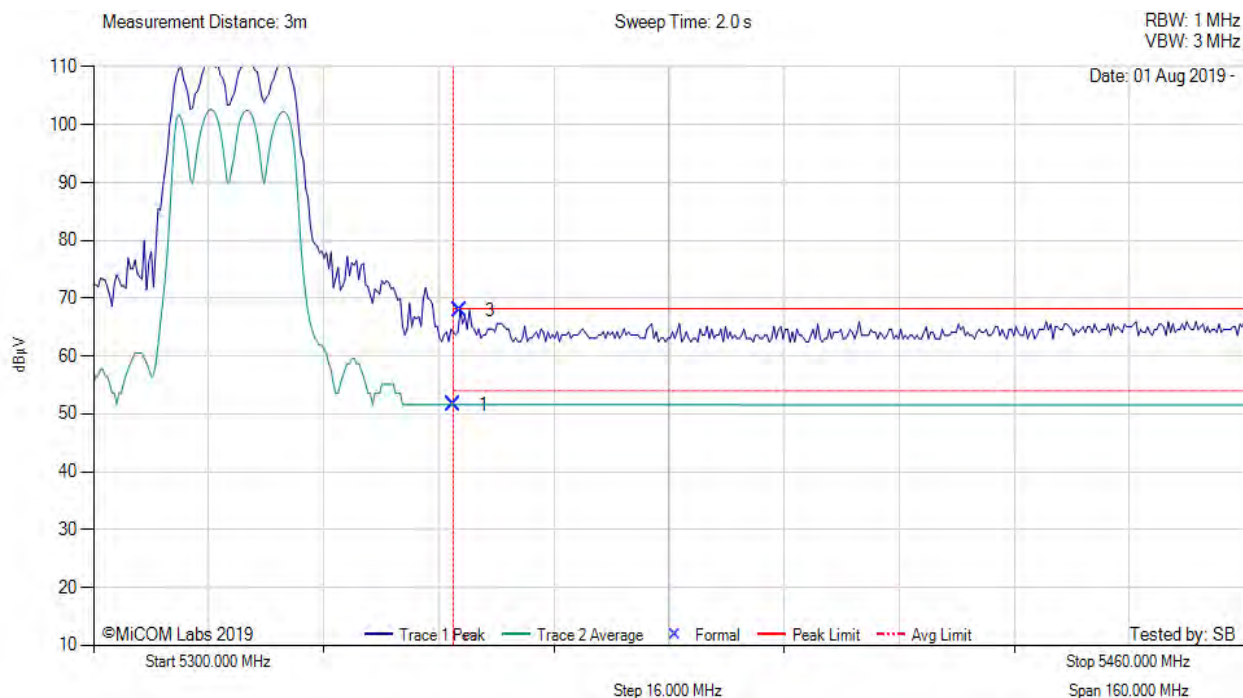
5350.00 - 5500.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	5458.80	15.34	-2.69	34.52	47.17	Max Avg	Vertical	156	1	54.0	-6.8	Pass
2	5458.80	27.97	-2.69	34.52	59.80	Max Peak	Vertical	156	1	68.2	-8.4	Pass
4	5468.50	33.22	-2.68	34.55	65.09	Max Avg	Vertical	156	1	68.2	-3.1	Pass
3	5460.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
5	5470.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

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RESTRICTED UPPER BAND-EDGE EMISSIONS

Variant: 802.11a, Test Freq: 5320.00 MHz, Antenna: Aruba AB1, Power Setting: 13, Duty Cycle (%): 99



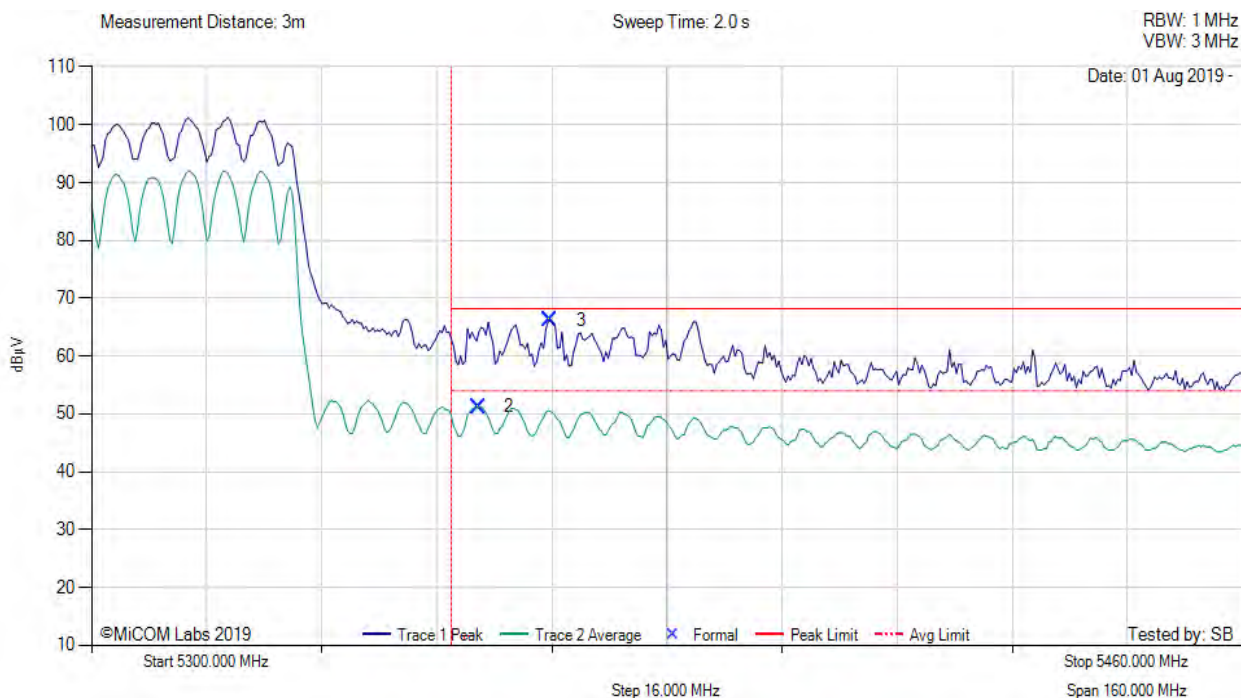
5300.00 - 5460.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	5350.00	19.87	-2.69	34.46	51.64	Max Avg	Vertical	160	1	54.0	-2.4	Pass
3	5350.96	33.43	0.00	34.46	67.89	Max Peak	Vertical	160	1	68.2	-0.3	Pass
2	5350.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

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RESTRICTED UPPER BAND-EDGE EMISSIONS

Variant: 802.11ac-80, Test Freq: 5290.00 MHz, Antenna: Aruba AB1, Power Setting: 9, Duty Cycle (%): 99



5300.00 - 5460.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
2	5353.85	19.46	-2.69	34.47	51.24	Max Avg	Vertical	160	1	54.0	-2.8	Pass
3	5363.79	34.45	-2.70	34.48	66.23	Max Peak	Vertical	160	1	68.2	-2.0	Pass
1	5350.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

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RESTRICTED UPPER BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 5320.00 MHz, Antenna: Aruba AB1, Power Setting: 12, Duty Cycle (%): 99

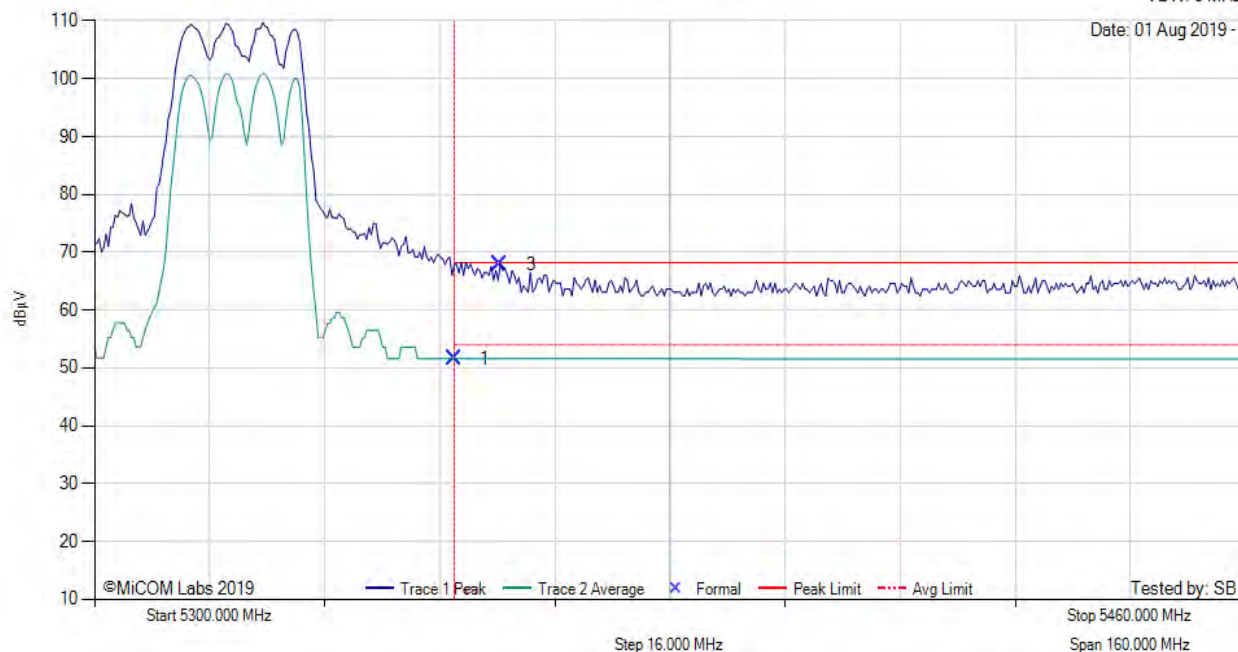
Measurement Distance: 3m

Sweep Time: 2.0 s

RBW: 1 MHz

VBW: 3 MHz

Date: 01 Aug 2019 -



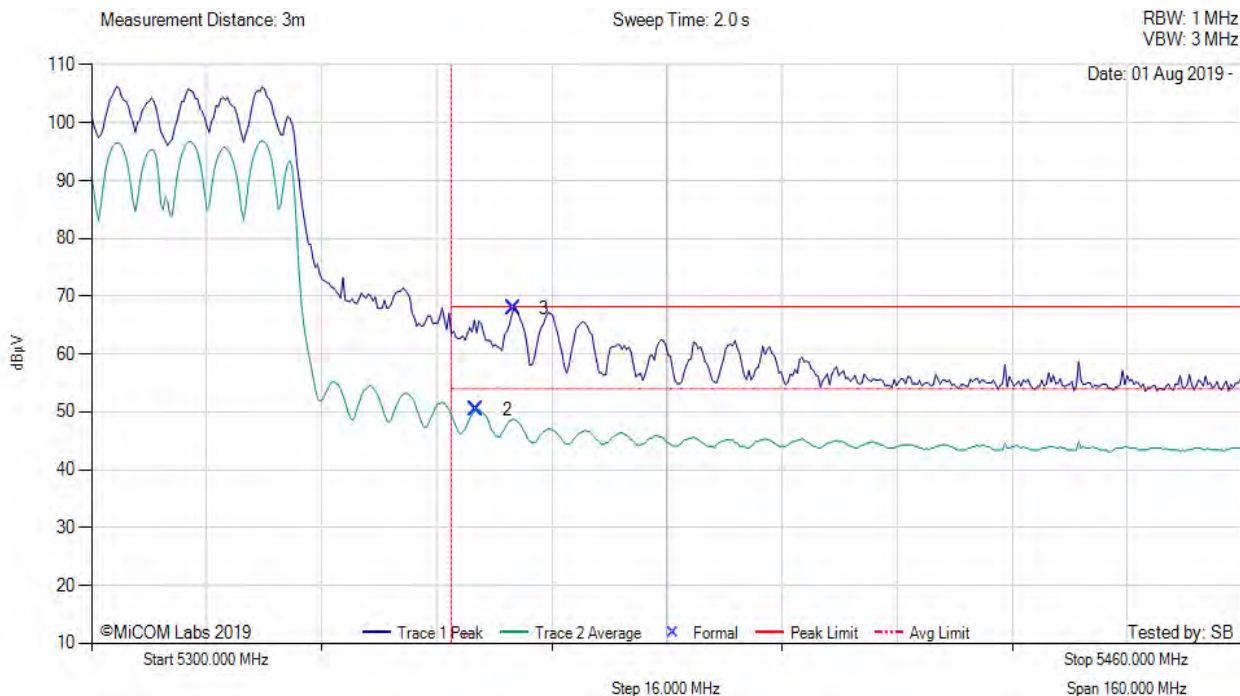
5300.00 - 5460.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB/m	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5350.00	19.87	-2.69	34.46	51.64	Max Avg	Vertical	160	1	54.0	-2.4	Pass
3	5356.41	36.11	-2.69	34.47	67.89	Max Peak	Vertical	160	1	68.2	-0.3	Pass
2	5350.00	--	--	--	--	Restricted- Band	--	--	--	--	--	--

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RESTRICTED UPPER BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 5310.00 MHz, Antenna: Aruba AB1, Power Setting: 11, Duty Cycle (%): 99



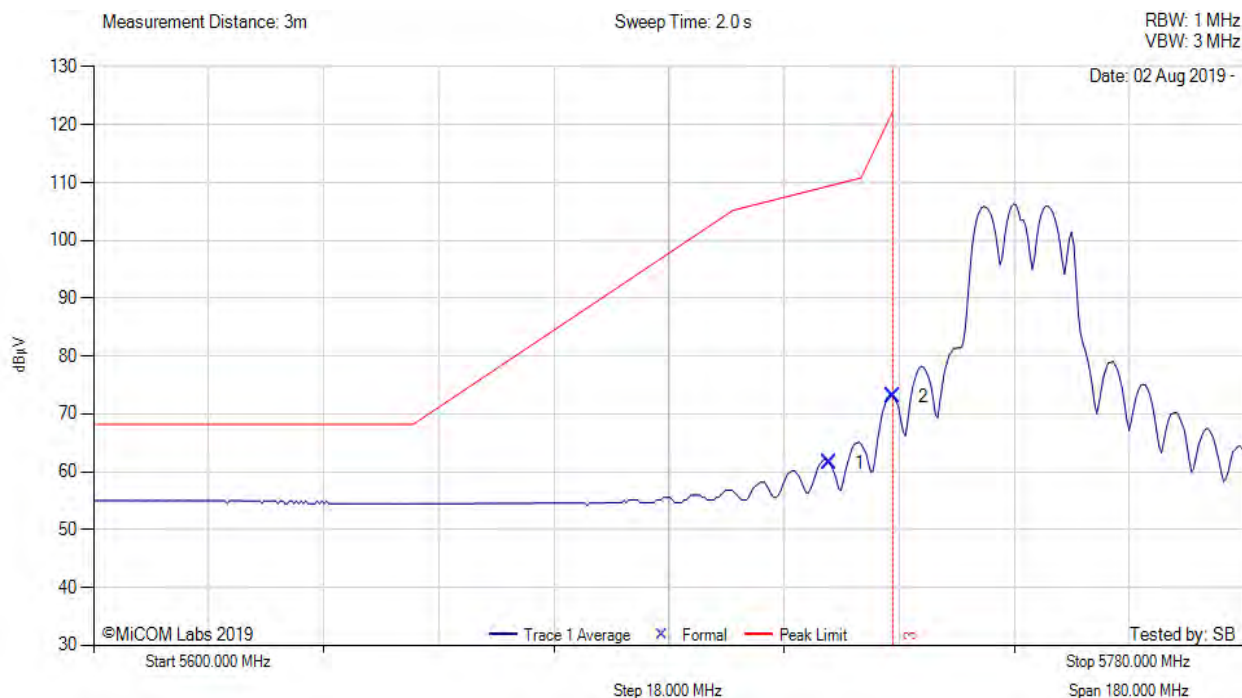
5300.00 - 5460.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
2	5353.53	18.66	-2.69	34.47	50.44	Max Avg	Vertical	160	1	54.0	-3.6	Pass
3	5358.66	36.08	-2.70	34.47	67.85	Max Peak	Vertical	160	1	68.2	-0.4	Pass
1	5350.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

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5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: Aruba AB1, Power Setting: 18, Duty Cycle (%): 99



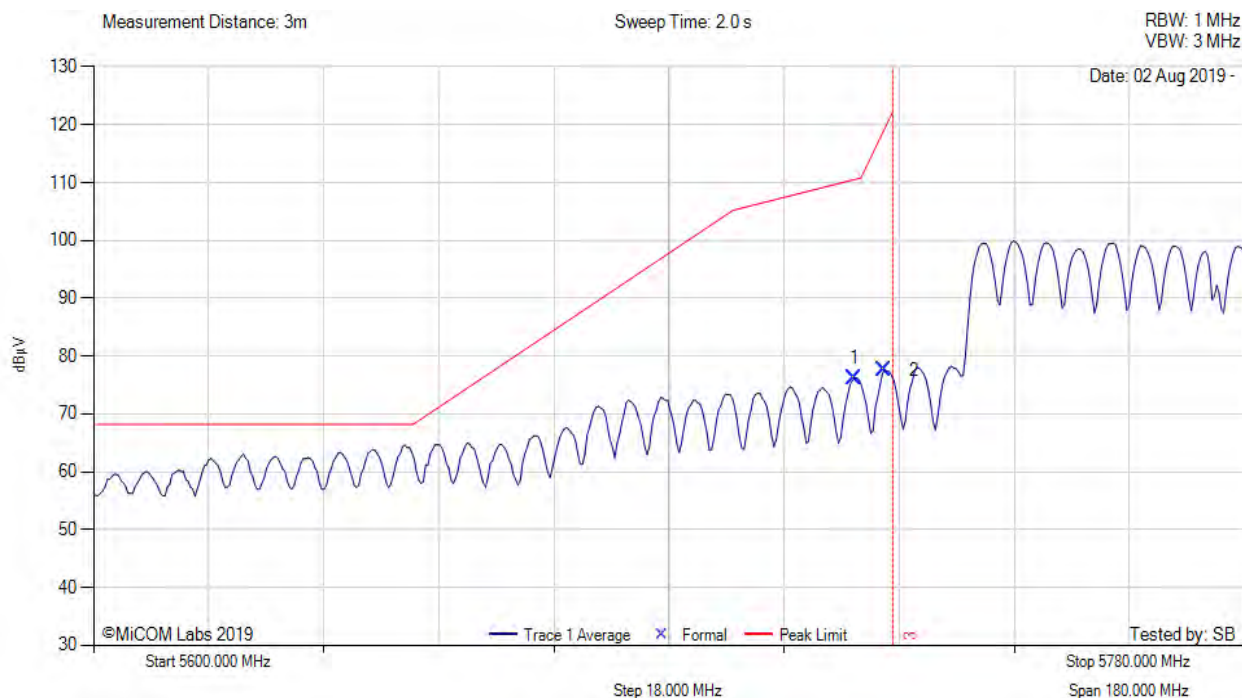
5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	5715.00	29.68	-2.78	34.71	61.61	Max Avg	Vertical	148	46	109.4	-47.8	Pass
2	5725.00	41.01	-2.74	34.72	72.99	Max Avg	Vertical	148	46	122.2	-49.2	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

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5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11ac-80, Test Freq: 5775.00 MHz, Antenna: Aruba AB1, Power Setting: 18, Duty Cycle (%): 99



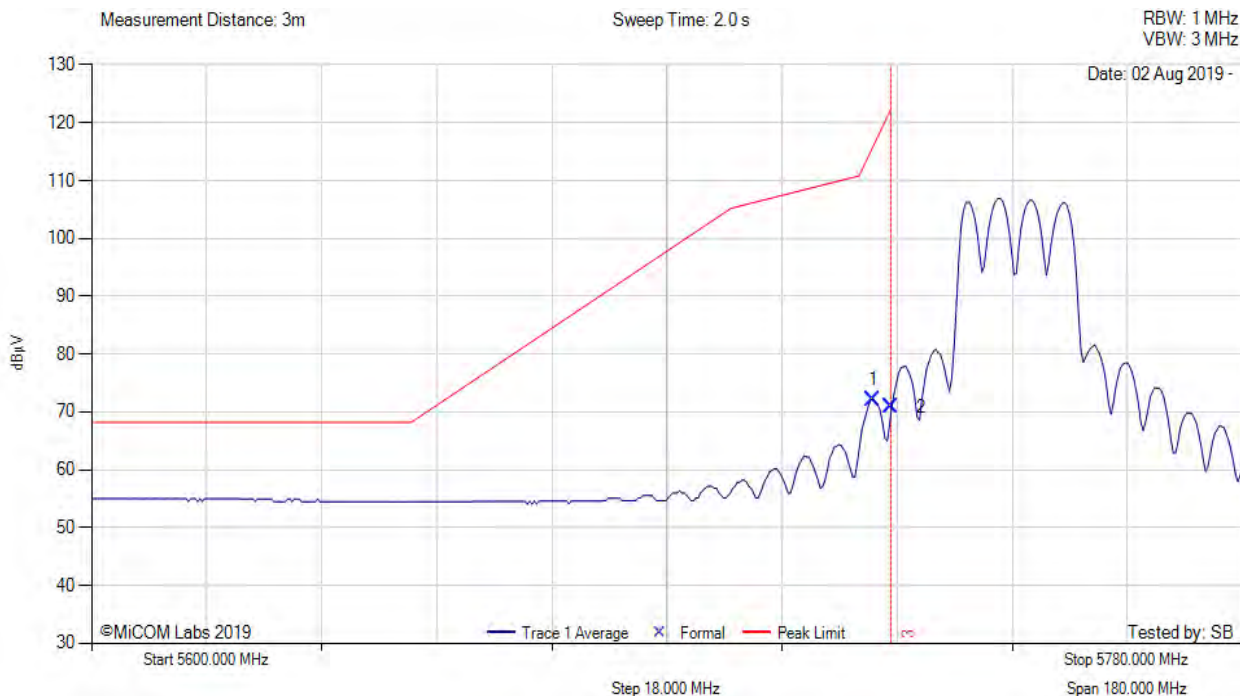
5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	5718.97	44.27	-2.76	34.71	76.22	Max Avg	Vertical	148	46	110.5	-34.3	Pass
2	5723.56	45.60	-2.74	34.72	77.58	Max Avg	Vertical	148	46	119.9	-42.3	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

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5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 5745.00 MHz, Antenna: Aruba AB1, Power Setting: 18, Duty Cycle (%): 99



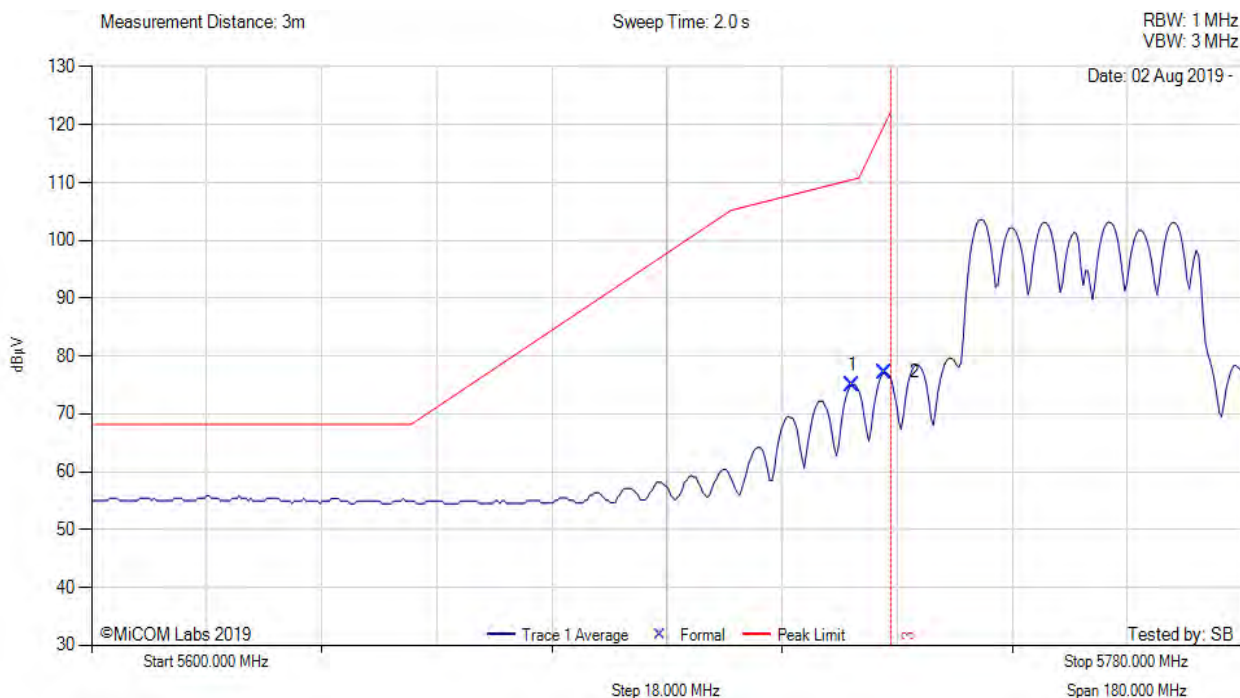
5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	5722.21	40.15	-2.75	34.72	72.12	Max Avg	Vertical	148	46	115.4	-43.2	Pass
2	5725.00	38.97	-2.74	34.72	70.95	Max Avg	Vertical	148	46	122.2	-51.3	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

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5725 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 5755.00 MHz, Antenna: Aruba AB1, Power Setting: 18, Duty Cycle (%): 99



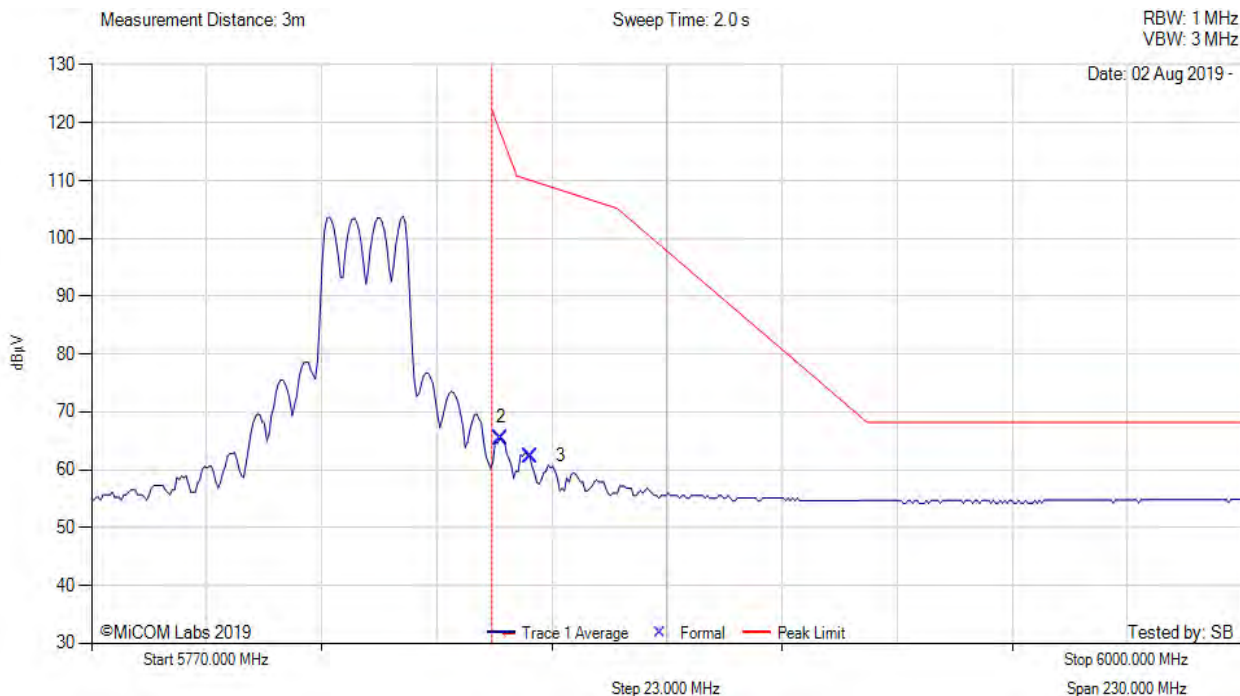
5600.00 - 5780.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	5718.97	43.06	-2.76	34.71	75.01	Max Avg	Vertical	148	46	110.5	-35.5	Pass
2	5723.92	45.24	-2.74	34.72	77.22	Max Avg	Vertical	148	46	119.9	-42.7	Pass
3	5725.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11a, Test Freq: 5825.00 MHz, Antenna: Aruba AB1, Power Setting: 18, Duty Cycle (%): 99



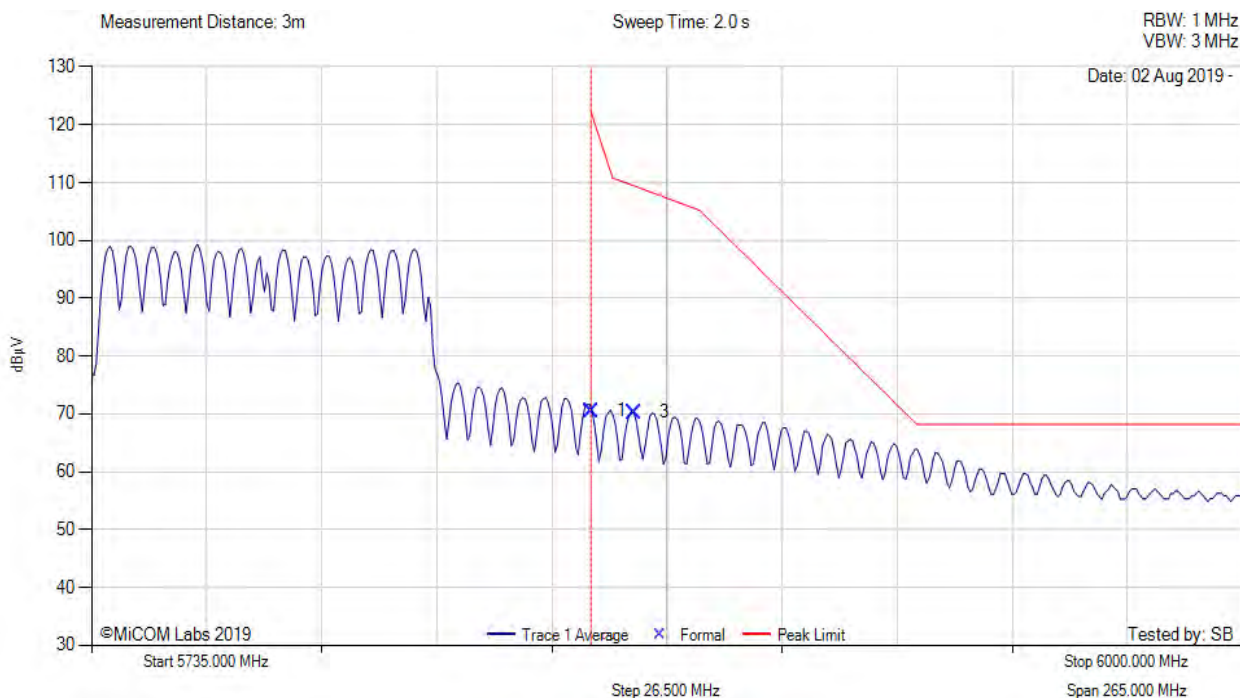
5770.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
2	5851.84	33.32	-2.80	34.96	65.48	Max Avg	Horizontal	153	54	117.6	-52.2	Pass
3	5857.70	30.19	-2.77	34.98	62.40	Max Avg	Horizontal	153	54	110.0	-47.6	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11ac-80, Test Freq: 5775.00 MHz, Antenna: Aruba AB1, Power Setting: 18, Duty Cycle (%): 99



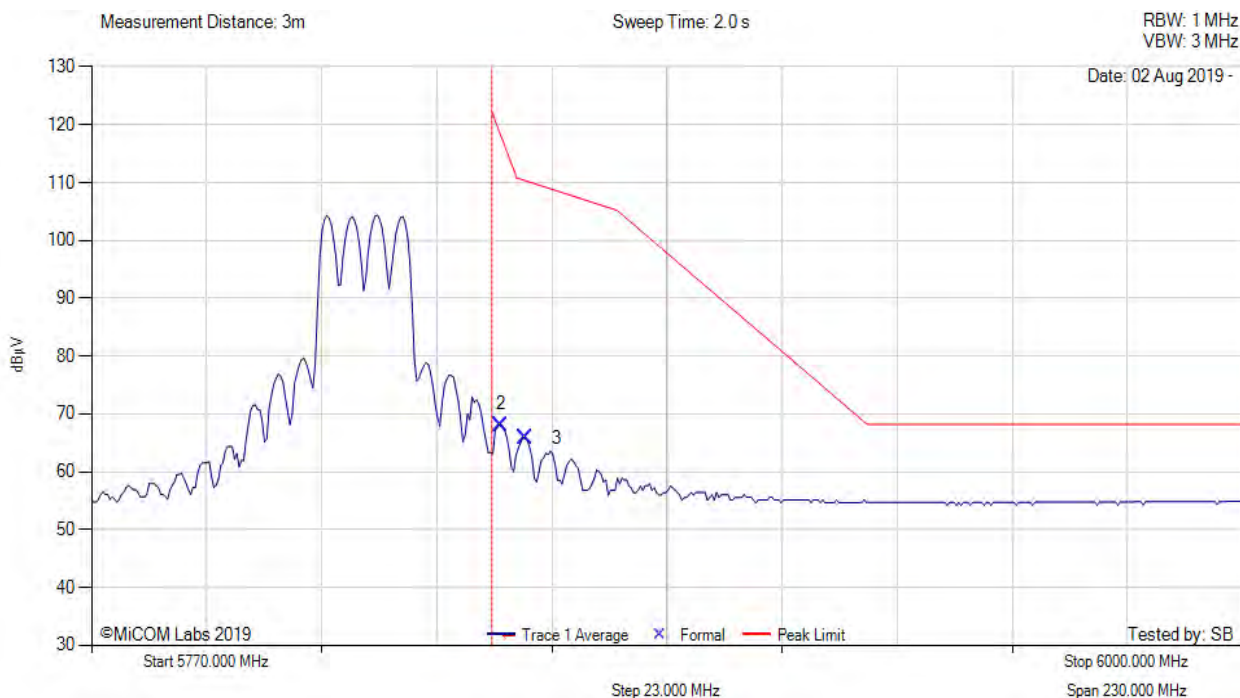
5735.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	5850.00	38.35	-2.81	34.96	70.50	Max Avg	Vertical	153	54	122.2	-51.7	Pass
3	5860.00	38.06	-2.77	34.99	70.28	Max Avg	Vertical	153	54	109.4	-39.1	Pass
2	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-20, Test Freq: 5825.00 MHz, Antenna: Aruba AB1, Power Setting: 18, Duty Cycle (%): 99



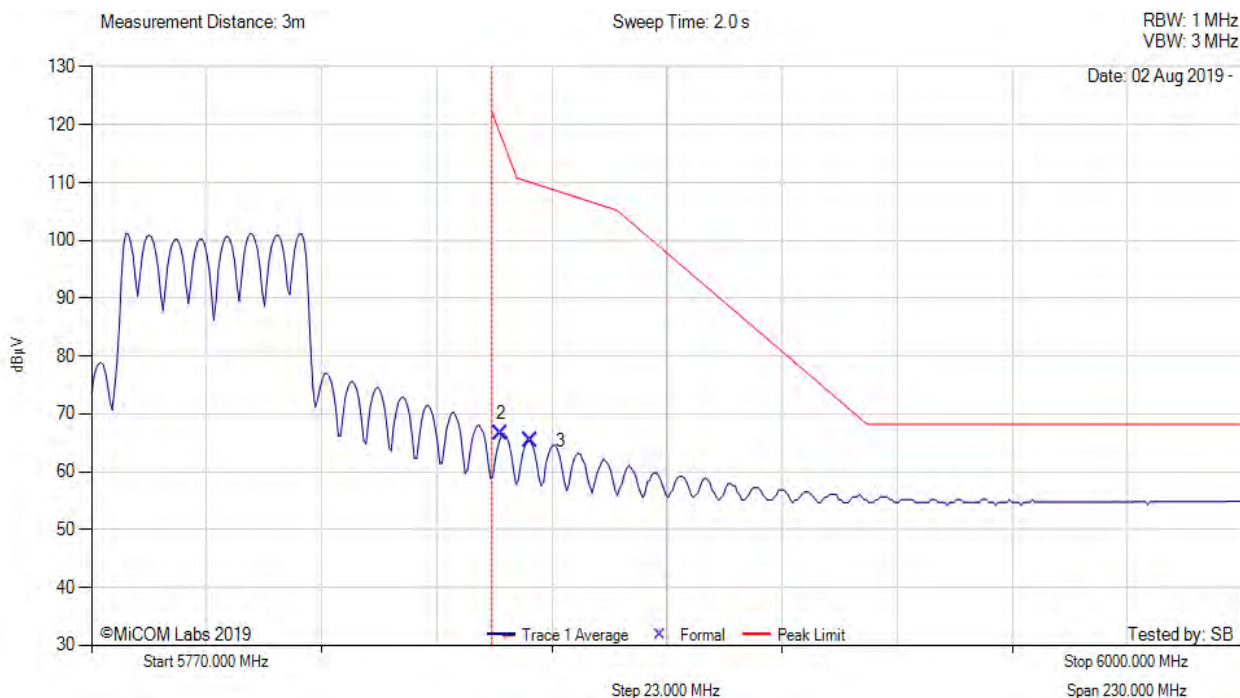
5770.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
2	5851.84	35.93	-2.80	34.96	68.09	Max Avg	Vertical	153	54	117.6	-49.6	Pass
3	5856.77	33.58	-2.78	34.98	65.78	Max Avg	Vertical	153	54	110.2	-44.5	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

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5850 MHz RADIATED BAND-EDGE EMISSIONS

Variant: 802.11n HT-40, Test Freq: 5795.00 MHz, Antenna: Aruba AB1, Power Setting: 18, Duty Cycle (%): 99

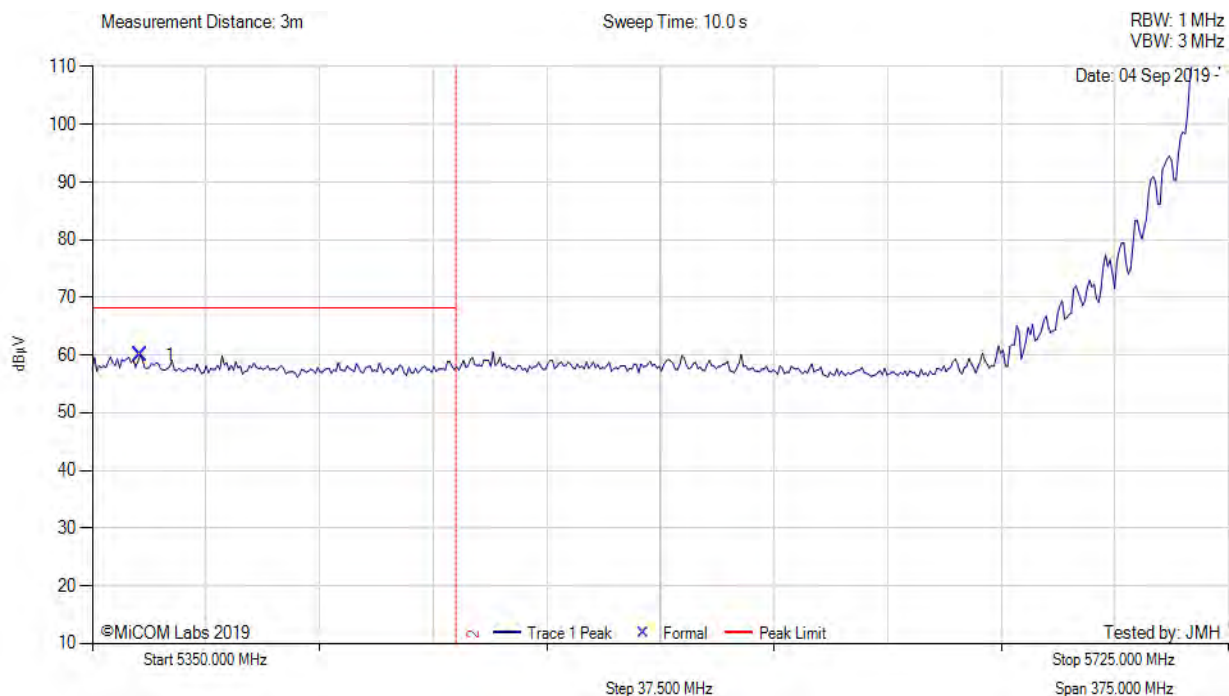


5770.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
2	5851.84	34.41	-2.80	34.96	66.57	Max Avg	Vertical	153	54	117.6	-51.1	Pass
3	5857.70	33.14	-2.77	34.98	65.35	Max Avg	Vertical	153	54	110.0	-44.6	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

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Variant: 802.11a, Test Freq: 5720.00 MHz, Power Setting: 18, Duty Cycle (%): 90.8

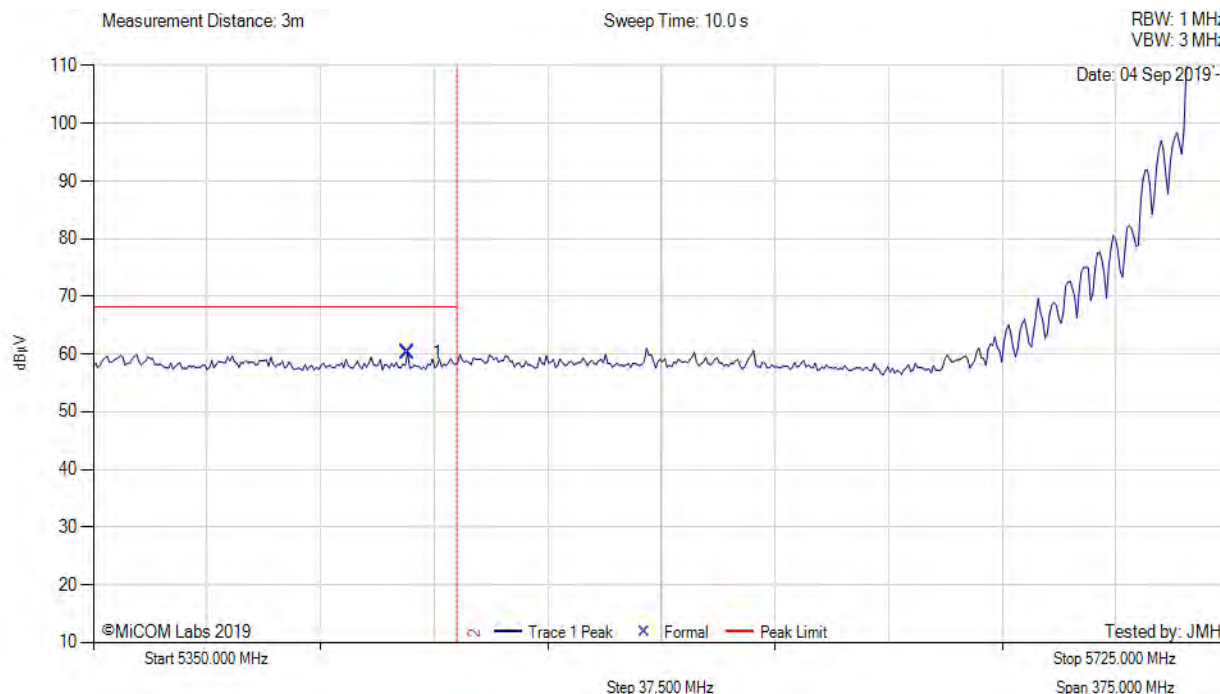


5350.00 - 5725.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	5365.78	28.14	-2.69	34.48	59.93	Max Peak	Vertical	155	355	68.2	-8.3	Pass
2	5470.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

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Variant: 802.11n HT-20, Test Freq: 5720.00 MHz, Antenna: Aruba AB1, Power Setting: 18, Duty Cycle (%): 99

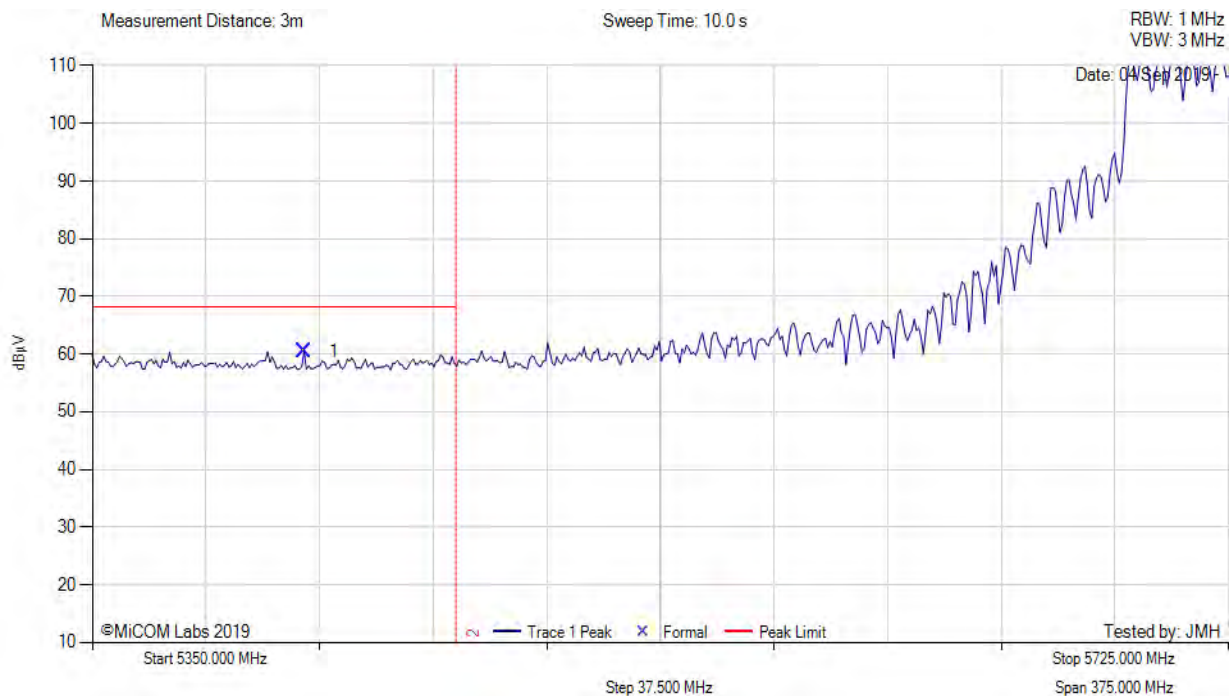


5350.00 - 5725.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
1	5453.71	28.45	-2.70	34.51	60.26	Max Peak	Vertical	155	355	68.2	-8.0	Pass
2	5470.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

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Variant: 802.11n HT-40, Test Freq: 5710.00 MHz, Antenna: Aruba AB1, Power Setting: 18, Duty Cycle (%): 99

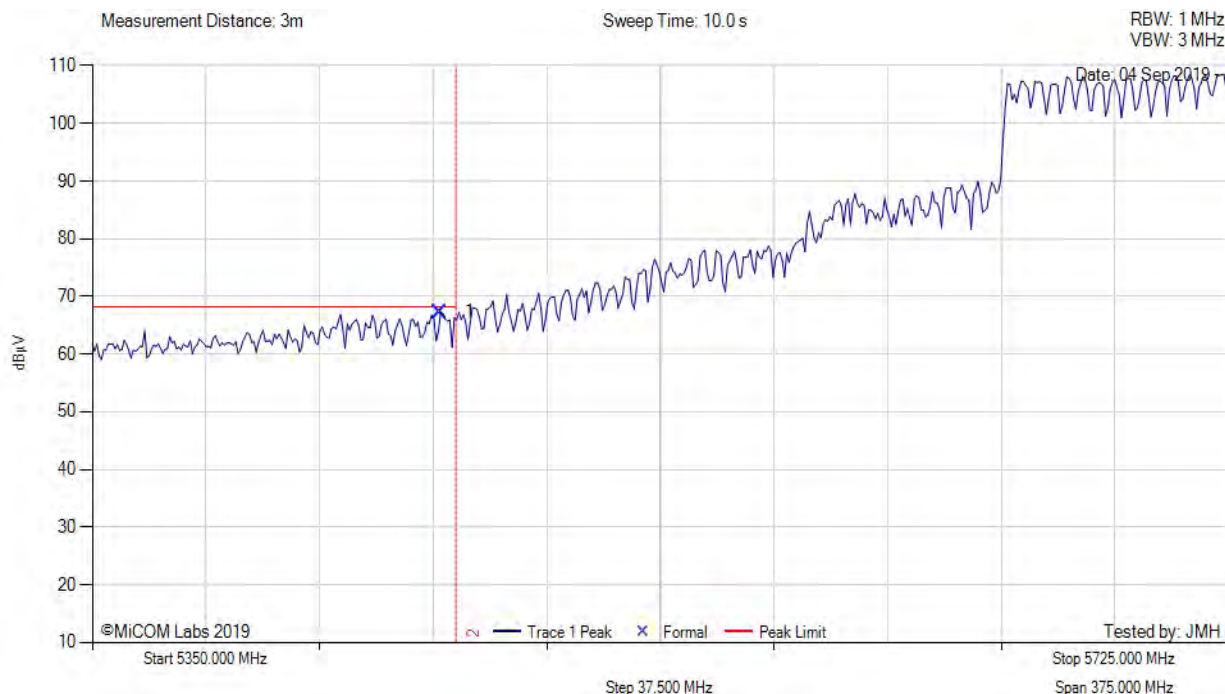


5350.00 - 5725.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass/Fail
1	5419.89	28.67	-2.67	34.52	60.52	Max Peak	Vertical	155	355	--	-7.7	Pass
2	5470.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--

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Variant: 802.11-ac80, Test Freq: 5690.00 MHz, Antenna: Aruba AB1, Power Setting: 17, Duty Cycle (%): 99

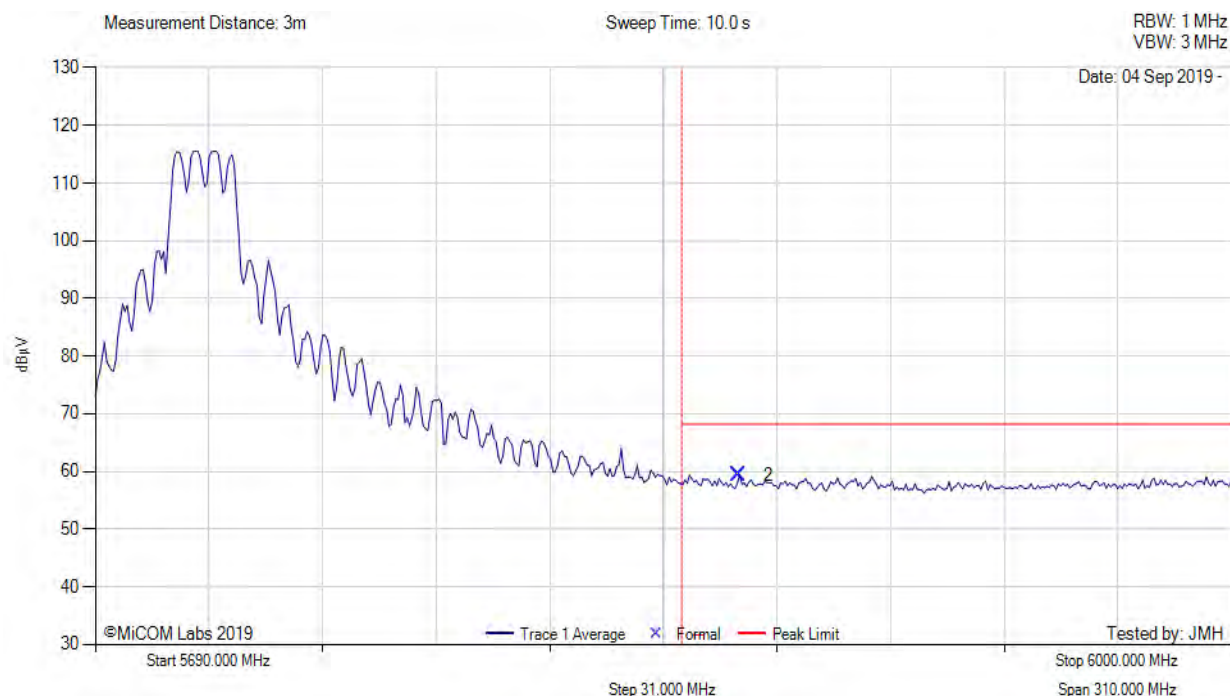


5350.00 - 5725.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass/Fail
1	5464.72	35.44	-2.68	34.54	67.30	Max Peak	Vertical	155	355	--	-0.9	Pass
2	5470.00	--	--	--	--	Restricted-Band	--	--	--	--	--	--
Test Notes: Power Reduced to meet Out of Band Limit												

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Variant: 802.11a, Test Freq: 5720.00 MHz, Power Setting: 18, Duty Cycle (%): 99

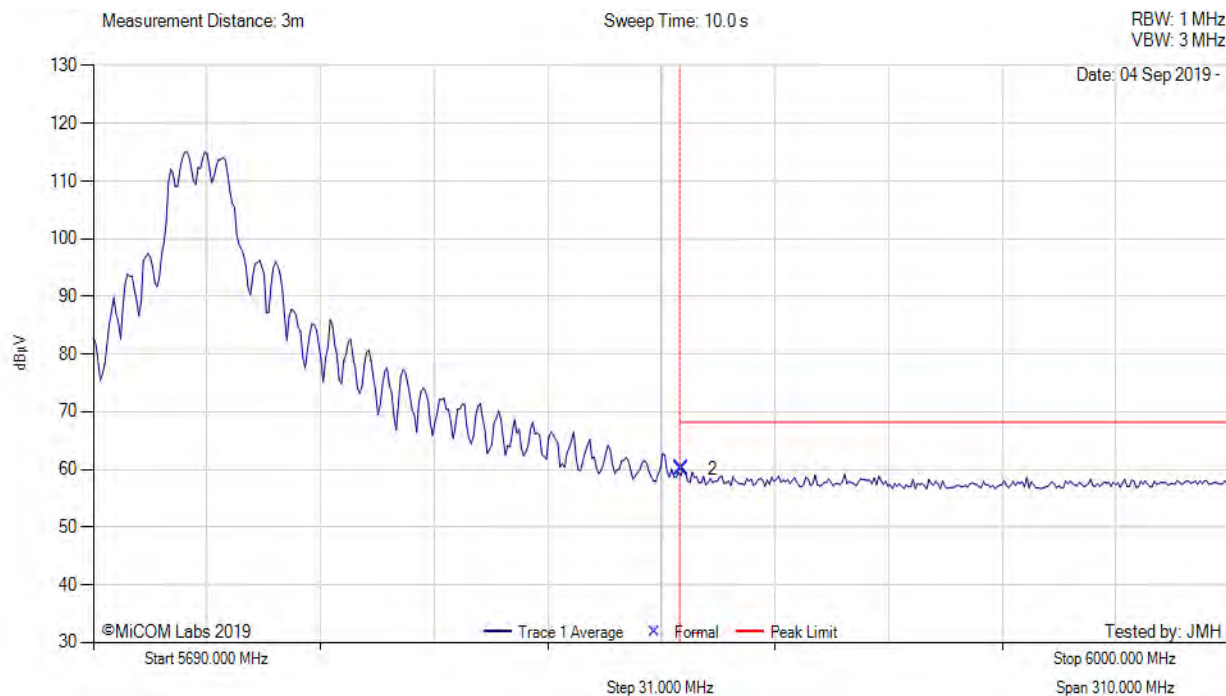


5690.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
2	5865.53	27.11	-2.76	35.00	59.35	Max Peak	Vertical	157	7	68.2	-8.9	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: 68.23 Limit												

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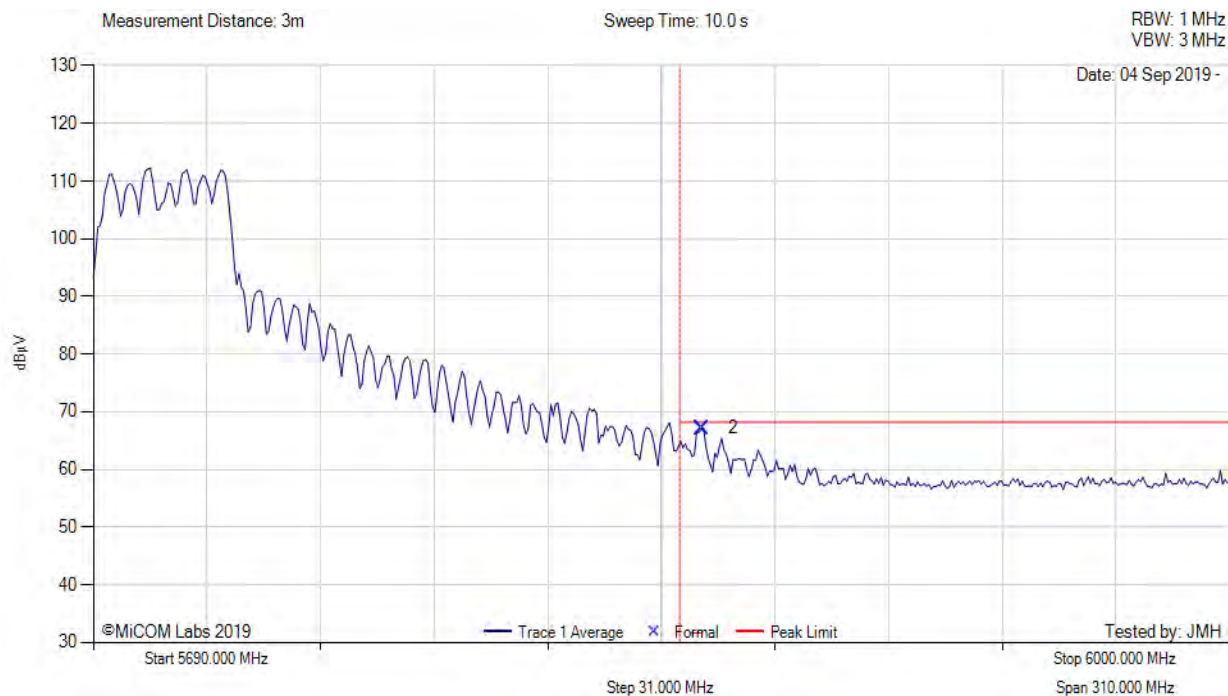
Variant: 802.11-HT20, Test Freq: 5720.00 MHz, Power Setting: 18, Duty Cycle (%): 99



5690.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
2	5850.62	28.00	-2.80	34.96	60.16	Max Peak	Vertical	157	7	68.2	-8.1	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: 68.23 Limit												

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Variant: 802.11-HT40, Test Freq: 5710.00 MHz, Power Setting: 17, Duty Cycle (%): 99

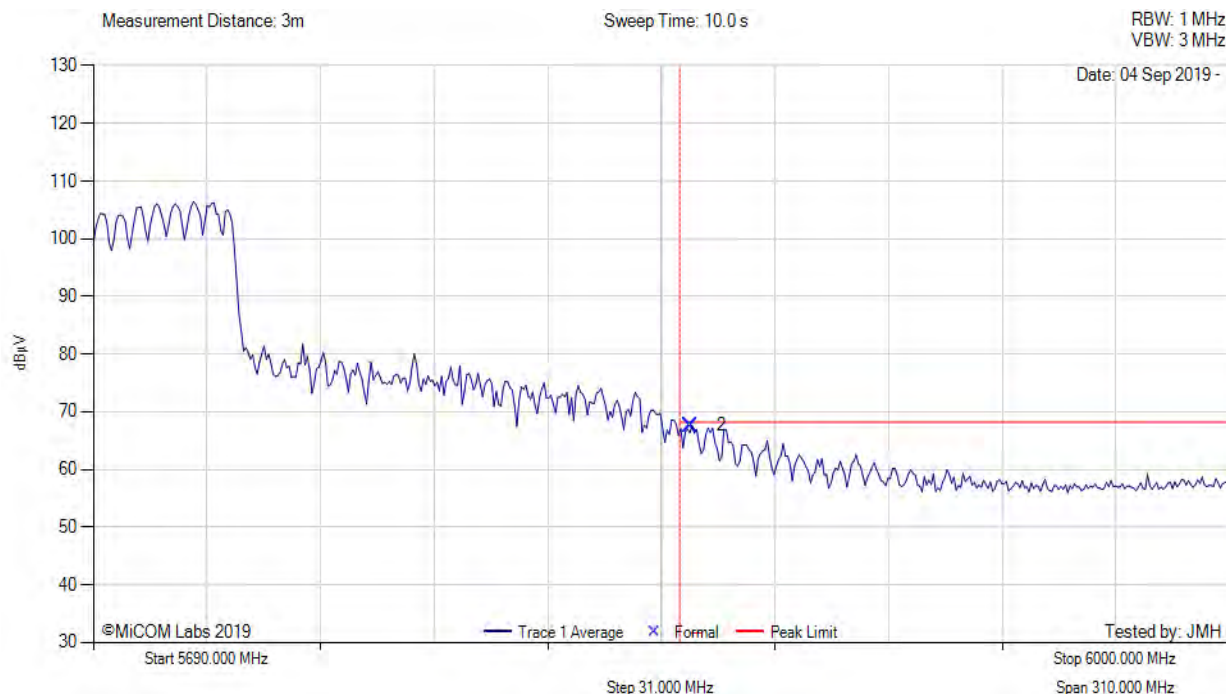


5690.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
2	5856.21	35.00	-2.78	34.97	67.19	Max Peak	Vertical	157	7	68.2	-1.0	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--
Test Notes: Power Reduced to meet Out of Band Limit												

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Variant: 802.11-ac80, Test Freq: 5690.00 MHz, Antenna: Aruba AB1, Power Setting: 14, Duty Cycle (%): 99



5690.00 - 6000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB/m	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
2	5853.11	35.45	-2.79	34.97	67.63	Max Peak	Vertical	157	7	68.2	-0.7	Pass
1	5850.00	--	--	--	--	Band-Edge	--	--	--	--	--	--

Test Notes: Power Reduced to meet Out of Band Limit

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