

TEST REPORT ADDENDUM – RADIATED SPURIOUS EMISSIONS RADIO 0

FROM



Test of: Hewlett Packard Enterprise APIN0334, APIN0335

To: FCC CFR 47 Part 15 Subpart E 15.407

Test Report Serial No.: HPEN111-U8_Radiated_SE_Radio 0_SE Non-DFS
Rev A

Issue Date: 22nd August 2017

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

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

This Test Report is Issued Under the Authority of:

MiCOM Labs, Inc.
575 Boulder Court
Pleasanton California 94566
USA
Phone: +1 (925) 462-0304
Fax: +1 (925) 462-0306
www.micomlabs.com



MiCOM Labs is an ISO 17025 Accredited Testing Laboratory



Table of Contents

1. MEASUREMENT AND PRESENTATION OF TEST DATA	3
2. TEST RESULTS	4
2.1. Emissions	4
2.1.1. Radiated Emissions	4
2.1.1.1. TX Spurious & Restricted Band Emissions	7
Antenna: AP-ANT-13B.....	7
Antenna: AP-ANT-19.....	13
Antenna: AP-ANT-1W.....	19
Antenna: AP-ANT-20W.....	25
Antenna: AP-ANT-40.....	31
Antenna: AP-ANT-45.....	37
Antenna: AP-ANT-48.....	43
Antenna: Metal Sheet	49
A. APPENDIX - GRAPHICAL IMAGES	55
A.1. Emissions	56
A.1.1. Radiated Emissions.....	56
A.1.1.1. TX Spurious & Restricted Band Emissions.....	56
Antenna: AP-ANT-13B.....	56
Antenna: AP-ANT-19.....	62
Antenna: AP-ANT-1W.....	68
Antenna: AP-ANT-20W.....	74
Antenna: AP-ANT-40.....	80
Antenna: AP-ANT-45.....	86
Antenna: AP-ANT-48.....	92
Antenna: Metal Sheet	98

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 3 of 104

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 4 of 104

2. TEST RESULTS

2.1. Emissions

2.1.1. Radiated Emissions

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

Test Procedure for Radiated Spurious and Band-Edge Emissions

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

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

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

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

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

Limits for Restricted Bands (15.205, 15.209)

Peak emission: 74 dBuV/m

Average emission: 54 dBuV/m

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.



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);

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

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:

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

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

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 6 of 104

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 7 of 104

2.1.1.1. TX Spurious & Restricted Band Emissions

Antenna: AP-ANT-13B

5150 - 5250 MHz

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-13B	Variant:	802.11a
Antenna Gain (dBi):	4.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5180.00	Data Rate:	6.00 MBit/s
Power Setting:	79	Tested By:	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	5175.01	74.95	3.70	-11.52	67.13	Fundamental	Horizontal	100	0	--	--	
Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH36 a mode.												

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 8 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-13B	Variant:	802.11a
Antenna Gain (dBi):	4.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5200.00	Data Rate:	6.00 MBit/s
Power Setting:	100	Tested By:	JMH

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	PoI	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
#1	5202.67	77.32	3.65	-11.45	69.52	Fundamental	Horizontal	100	0	--	--	
#2	15600.98	54.77	6.03	-0.23	60.57	Max Peak	Vertical	155	93	68.2	-7.7	Pass
#3	15600.98	41.69	6.03	-0.23	47.49	Max Avg	Vertical	155	93	54.0	-6.5	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH40 a mode.

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 9 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-13B	Variant:	802.11a
Antenna Gain (dBi):	4.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5240.00	Data Rate:	6.00 MBit/s
Power Setting:	100	Tested By:	JMH

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
#1	5237.18	83.25	3.63	-11.37	75.51	Fundamental	Horizontal	100	0	--	--	
#2	10481.03	45.11	5.41	-4.44	46.08	Peak (NRB)	Vertical	200	36	--	--	Pass
#3	15713.86	56.93	5.99	0.17	63.09	Max Peak	Vertical	196	87	68.2	-5.1	Pass
#4	15713.86	42.61	5.99	0.17	48.77	Max Avg	Vertical	196	87	54.0	-5.2	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH48 a mode.

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 10 of 104

5725 - 5850 MHz

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-13B	Variant:	802.11a
Antenna Gain (dBi):	4.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5745.00	Data Rate:	6.00 MBit/s
Power Setting:	81	Tested By:	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	PoI	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5739.71	70.04	3.83	-10.67	63.20	Fundamental	Horizontal	200	0	--	--	
#2	11484.12	52.10	5.46	-4.86	52.70	Max Peak	Horizontal	195	273	68.2	-15.5	Pass
#3	11484.12	39.22	5.46	-4.86	39.82	Max Avg	Horizontal	195	273	54.0	-14.2	Pass
#4	17236.38	60.72	6.47	0.35	67.54	Max Peak	Horizontal	196	335	68.2	-0.7	Pass

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

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 11 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-13B	Variant:	802.11a
Antenna Gain (dBi):	4.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5785.00	Data Rate:	6.00 MBit/s
Power Setting:	86	Tested By:	JMH

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	PoI	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
#1	5787.67	67.57	3.79	-10.43	60.93	Fundamental	Horizontal	100	0	--	--	
#2	11562.55	53.80	5.60	-4.67	54.73	Max Peak	Vertical	196	347	68.2	-13.5	Pass
#3	11562.55	40.28	5.60	-4.67	41.21	Max Avg	Vertical	196	347	54.0	-12.8	Pass
#4	17356.35	61.37	6.27	-0.02	67.62	Max Peak	Horizontal	192	357	68.2	-0.6	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH157 a mode.

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 12 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-13B	Variant:	802.11a
Antenna Gain (dBi):	4.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5825.00	Data Rate:	6.00 MBit/s
Power Setting:	90	Tested By:	JMH

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	5821.20	67.26	3.83	-10.26	60.83	Fundamental	Horizontal	100	0	--	--	
#2	6073.93	54.57	3.87	-9.59	48.85	Peak (NRB)	Horizontal	151	0	--	--	Pass
#3	11655.67	55.35	5.55	-4.46	56.44	Max Peak	Vertical	195	34	68.2	-11.8	Pass
#4	11655.67	40.34	5.55	-4.46	41.43	Max Avg	Vertical	195	34	54.0	-12.6	Pass
#5	17483.63	60.57	6.41	-0.62	66.36	Max Peak	Horizontal	197	27	68.2	-1.9	Pass

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

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 13 of 104

Antenna: AP-ANT-19

5150 - 5250 MHz

Equipment Configuration for TX Spurious & Restricted Band Emissions

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

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5178.30	77.01	3.69	-11.51	69.19	Fundamental	Vertical	150	0	--	--	

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

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 14 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-19	Variant:	802.11a
Antenna Gain (dBi):	6.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5200.00	Data Rate:	6.00 MBit/s
Power Setting:	100	Tested By:	JMH

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
#1	5202.67	85.84	3.65	-11.45	78.04	Fundamental	Vertical	151	0	--	--	
#2	15602.90	57.06	6.03	-0.22	62.87	Max Peak	Vertical	162	321	68.2	-5.4	Pass
#3	15602.90	43.29	6.03	-0.22	49.10	Max Avg	Vertical	162	321	54.0	-4.9	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH40 a mode.

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 15 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-19	Variant:	802.11a
Antenna Gain (dBi):	6.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5240.00	Data Rate:	6.00 MBit/s
Power Setting:	100	Tested By:	JMH

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5239.60	87.48	3.63	-11.37	79.74	Fundamental	Vertical	151	0	--	--	
#2	10481.80	46.04	5.41	-4.44	47.01	Peak (NRB)	Vertical	151	0	--	--	Pass
#3	15722.24	58.70	6.12	0.17	64.99	Max Peak	Vertical	159	323	68.2	-3.2	Pass
#4	15722.24	47.15	6.12	0.17	53.44	Max Avg	Vertical	159	323	54.0	-0.6	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH48 a mode.

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 16 of 104

5725 - 5850 MHz

Equipment Configuration for TX Spurious & Restricted Band Emissions			
Antenna:	Aruba AP-ANT-19	Variant:	802.11a
Antenna Gain (dBi):	6.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5745.00	Data Rate:	6.00 MBit/s
Power Setting:	80	Tested By:	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5737.40	65.12	3.82	-10.67	58.27	Fundamental	Vertical	151	0	--	--	
#2	17236.06	59.85	6.47	0.35	66.67	Max Peak	Vertical	159	325	68.2	-1.6	Pass

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

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 17 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-19	Variant:	802.11a
Antenna Gain (dBi):	6.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5785.00	Data Rate:	6.00 MBit/s
Power Setting:	82	Tested By:	JMH

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5777.54	64.45	3.80	-10.48	57.77	Fundamental	Vertical	151	0	--	--	
#2	17361.80	60.23	6.30	-0.05	66.48	Max Peak	Vertical	156	14	68.2	-1.8	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH157 a mode.

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 18 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-19	Variant:	802.11a
Antenna Gain (dBi):	6.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5825.00	Data Rate:	6.00 MBit/s
Power Setting:	88	Tested By:	JMH

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
#1	5827.70	64.18	3.84	-10.24	57.78	Fundamental	Vertical	151	0	--	--	
#2	6058.02	59.62	3.88	-9.64	53.86	Max Peak	Vertical	138	52	68.2	-14.4	Pass
#3	17482.34	60.94	6.39	-0.62	66.71	Max Peak	Vertical	158	0	68.2	-1.5	Pass

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

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 19 of 104

Antenna: AP-ANT-1W

5150 - 5250 MHz

Equipment Configuration for TX Spurious & Restricted Band Emissions

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

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB	Level dBμV/m	Measurement Type	PoI	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	5172.90	76.98	3.70	-11.52	69.16	Fundamental	Horizontal	102	64	--	--	

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

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 20 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-1W	Variant:	802.11a
Antenna Gain (dBi):	5.80	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5200.00	Data Rate:	6.00 MBit/s
Power Setting:	100	Tested By:	OC

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	5199.69	81.66	3.66	-11.46	73.86	Fundamental	Horizontal	100	57	--	--	
#2	15610.77	57.09	6.00	-0.17	62.92	Max Peak	Horizontal	148	268	68.2	-5.3	Pass
#3	15610.77	43.36	6.00	-0.17	49.19	Max Avg	Horizontal	148	268	54.0	-4.8	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH40 a mode.

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 21 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-1W	Variant:	802.11a
Antenna Gain (dBi):	5.80	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5240.00	Data Rate:	6.00 MBit/s
Power Setting:	100	Tested By:	OC

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
#1	5237.73	89.98	3.63	-11.37	82.24	Fundamental	Horizontal	100	77	--	--	
#2	10482.99	50.61	5.40	-4.44	51.57	Max Peak	Horizontal	101	77	68.2	-16.7	Pass
#3	15728.18	54.04	6.08	0.17	60.29	Max Peak	Horizontal	116	288	68.2	-7.9	Pass
#4	15728.18	40.62	6.08	0.17	46.87	Max Avg	Horizontal	116	288	54.0	-7.1	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH48 a mode.

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 22 of 104

5725 - 5850 MHz

Equipment Configuration for TX Spurious & Restricted Band Emissions

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

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Poi	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5747.65	65.18	3.85	-10.63	58.40	Fundamental	Horizontal	100	0	--	--	
#2	17237.77	60.65	6.47	0.34	67.46	Max Peak	Vertical	98	316	68.2	-0.8	Pass

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

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 23 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-1W	Variant:	802.11a
Antenna Gain (dBi):	5.80	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5785.00	Data Rate:	6.00 MBit/s
Power Setting:	84	Tested By:	OC

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	PoI	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
#1	5790.03	63.12	3.79	-10.42	56.49	Fundamental	Horizontal	100	81	--	--	
#2	17362.03	60.34	6.32	-0.05	66.61	Max Peak	Vertical	152	305	68.2	-1.6	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH157 a mode.

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 24 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-1W	Variant:	802.11a
Antenna Gain (dBi):	5.80	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5825.00	Data Rate:	6.00 MBit/s
Power Setting:	83	Tested By:	OC

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	PoI	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
#1	5829.02	66.47	3.84	-10.23	60.08	Fundamental	Horizontal	100	74	--	--	
#2	17478.12	62.43	6.33	-0.60	68.16	Max Peak	Vertical	158	69	68.2	-0.1	Pass

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

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 25 of 104

Antenna: AP-ANT-20W

5150 - 5250 MHz

Equipment Configuration for TX Spurious & Restricted Band Emissions

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

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB	Level dBμV/m	Measurement Type	PoI	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	5175.66	78.20	3.69	-11.51	70.38	Fundamental	Horizontal	100	30	--	--	

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

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 26 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-20W	Variant:	802.11a
Antenna Gain (dBi):	2.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5200.00	Data Rate:	6.00 MBit/s
Power Setting:	100	Tested By:	OC

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	PoI	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
#1	5205.10	81.31	3.65	-11.45	73.51	Fundamental	Horizontal	100	0	--	--	
#2	15617.77	51.43	6.00	-0.12	57.31	Max Peak	Vertical	150	35	68.2	-10.9	Pass
#3	15617.77	36.90	6.00	-0.12	42.78	Max Avg	Vertical	150	35	54.0	-11.2	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH40 a mode.

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 27 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-20W	Variant:	802.11a
Antenna Gain (dBi):	2.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5240.00	Data Rate:	6.00 MBit/s
Power Setting:	100	Tested By:	OC

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5234.42	86.10	3.63	-11.38	78.35	Fundamental	Horizontal	100	0	--	--	
#2	10483.13	50.61	5.41	-4.44	51.58	Max Peak	Horizontal	112	151	68.2	-16.7	Pass
#3	15724.22	55.17	6.11	0.17	61.45	Max Peak	Horizontal	121	291	68.2	-6.8	Pass
#4	15724.22	42.87	6.11	0.17	49.15	Max Avg	Horizontal	121	291	54.0	-4.9	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH48 a mode.

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 28 of 104

5725 - 5850 MHz

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-20W	Variant:	802.11a
Antenna Gain (dBi):	2.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5745.00	Data Rate:	6.00 MBit/s
Power Setting:	86	Tested By:	OC

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5739.60	63.97	3.83	-10.67	57.13	Fundamental	Horizontal	100	0	--	--	
#2	17236.12	60.24	6.47	0.35	67.06	Max Peak	Horizontal	150	3	68.2	-1.2	Pass

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

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 29 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-20W	Variant:	802.11a
Antenna Gain (dBi):	2.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5785.00	Data Rate:	6.00 MBit/s
Power Setting:	82	Tested By:	OC

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	PoI	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
#1	5778.99	54.76	3.80	-10.48	48.08	Fundamental	Horizontal	100	0	--	--	
#2	17360.49	60.23	6.28	-0.04	66.47	Max Peak	Vertical	147	302	68.2	-1.8	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH157 a mode.

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 30 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-20W	Variant:	802.11a
Antenna Gain (dBi):	2.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5825.00	Data Rate:	6.00 MBit/s
Power Setting:	74	Tested By:	OC

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	PoI	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
#1	5831.23	59.74	3.84	-10.22	53.36	Fundamental	Horizontal	100	0	--	--	
#2	17478.13	60.79	6.33	-0.60	66.52	Max Peak	Horizontal	137	330	68.2	-1.7	Pass

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

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 31 of 104

Antenna: AP-ANT-40

5150 - 5250 MHz

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-40	Variant:	802.11a
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5180.00	Data Rate:	6.00 MBit/s
Power Setting:	63	Tested By:	JMH

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB	Level dBμV/m	Measurement Type	PoI	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	5175.66	70.06	3.69	-11.51	62.24	Fundamental	Horizontal	100	0	--	--	

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

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 32 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-40	Variant:	802.11a
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5200.00	Data Rate:	6.00 MBit/s
Power Setting:	100	Tested By:	JMH

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5207.41	77.12	3.65	-11.44	69.33	Fundamental	Horizontal	100	0	--	--	
#2	15610.12	57.59	6.00	-0.17	63.42	Max Peak	Horizontal	192	278	68.2	-4.8	Pass
#3	15610.12	43.13	6.00	-0.17	48.96	Max Avg	Horizontal	192	278	54.0	-5.0	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH40 a mode.

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 33 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-40	Variant:	802.11a
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5240.00	Data Rate:	6.00 MBit/s
Power Setting:	93	Tested By:	JMH

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5236.08	78.18	3.63	-11.37	70.44	Fundamental	Horizontal	100	0	--	--	
#2	10480.03	45.51	5.41	-4.45	46.47	Peak (NRB)	Horizontal	100	89	--	--	Pass
#3	15720.89	59.29	6.09	0.17	65.55	Max Peak	Vertical	158	319	68.2	-1.2	Pass
#4	15720.89	46.28	6.09	0.17	52.54	Max Avg	Vertical	158	319	54.0	-1.5	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH48 a mode.

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 34 of 104

5725 - 5850 MHz

Equipment Configuration for TX Spurious & Restricted Band Emissions

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

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	PoI	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5741.59	60.70	3.83	-10.66	53.87	Fundamental	Horizontal	100	22	--	--	
#2	17238.00	61.05	6.47	0.34	67.86	Max Peak	Vertical	152	326	68.2	-0.4	Pass

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

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 35 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-40	Variant:	802.11a
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5785.00	Data Rate:	6.00 MBit/s
Power Setting:	90	Tested By:	JMH

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	PoI	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
#1	5782.10	59.81	3.80	-10.46	53.15	Fundamental	Horizontal	100	30	--	--	
#2	17359.65	61.90	6.28	-0.04	67.14	Max Peak	Vertical	153	0	68.2	-1.1	Pass

Test Notes: EEUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH157 a mode.

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 36 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-40	Variant:	802.11a
Antenna Gain (dBi):	5.00	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5825.00	Data Rate:	6.00 MBit/s
Power Setting:	83	Tested By:	JMH

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
#1	5826.27	61.84	3.84	-10.24	55.44	Fundamental	Horizontal	151	41	--	--	
#2	17479.84	61.65	6.34	-0.60	67.39	Max Peak	Vertical	161	358	68.2	-0.8	Pass

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

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 37 of 104

Antenna: AP-ANT-45

5150 - 5250 MHz

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-45	Variant:	802.11a
Antenna Gain (dBi):	5.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5180.00	Data Rate:	6.00 MBit/s
Power Setting:	60	Tested By:	JMH

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5183.27	74.15	3.68	-11.50	66.33	Fundamental	Vertical	100	0	--	--	

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

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 38 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-45	Variant:	802.11a
Antenna Gain (dBi):	5.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5200.00	Data Rate:	6.00 MBit/s
Power Setting:	100	Tested By:	JMH

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5205.21	87.72	3.65	-11.45	79.92	Fundamental	Vertical	100	0	--	--	
#2	15602.97	59.33	6.03	-0.22	65.14	Max Peak	Vertical	187	323	68.2	-3.1	Pass
#3	15602.97	45.45	6.03	-0.22	51.26	Max Avg	Vertical	187	323	54.0	-2.7	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH40 a mode.

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 39 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-45	Variant:	802.11a
Antenna Gain (dBi):	5.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5240.00	Data Rate:	6.00 MBit/s
Power Setting:	100	Tested By:	JMH

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
#1	5245.12	89.35	3.63	-11.35	81.63	Fundamental	Vertical	100	0	--	--	
#2	10482.68	48.81	5.40	-4.44	49.77	Peak (NRB)	Horizontal	151	133	--	--	Pass
#3	15723.10	60.24	6.11	0.17	66.52	Max Peak	Vertical	160	324	68.2	-1.7	Pass
#4	15723.10	46.57	6.11	0.17	52.85	Max Avg	Vertical	160	324	54.0	-1.2	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH48 a mode.

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 40 of 104

5725 - 5850 MHz

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-45	Variant:	802.11a
Antenna Gain (dBi):	5.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5745.00	Data Rate:	6.00 MBit/s
Power Setting:	85	Tested By:	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5737.40	84.52	3.82	-10.67	77.67	Fundamental	Horizontal	200	0	--	--	
#2	17237.94	60.10	6.47	0.34	66.91	Max Peak	Horizontal	197	288	68.2	-1.3	Pass

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

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 41 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-45	Variant:	802.11a
Antenna Gain (dBi):	5.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5785.00	Data Rate:	6.00 MBit/s
Power Setting:	86	Tested By:	JMH

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB	Level dBμV/m	Measurement Type	PoI	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	5789.87	79.90	3.79	-10.42	73.27	Fundamental	Horizontal	200	0	--	--	
#2	17363.08	60.50	6.35	-0.06	66.79	Max Peak	Vertical	157	322	68.2	-1.5	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH157 a mode.

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 42 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-45	Variant:	802.11a
Antenna Gain (dBi):	5.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5825.00	Data Rate:	6.00 MBit/s
Power Setting:	87	Tested By:	JMH

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	PoI	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
#1	5819.64	80.64	3.83	-10.26	74.21	Fundamental	Horizontal	194	0	--	--	
#2	6074.55	54.11	3.87	-9.59	48.39	Peak (NRB)	Horizontal	150	50	--	--	Pass
#3	17478.16	61.10	6.33	-0.60	66.83	Max Peak	Vertical	151	59	68.2	-1.4	Pass

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

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 43 of 104

Antenna: AP-ANT-48

5150 - 5250 MHz

Equipment Configuration for TX Spurious & Restricted Band Emissions

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

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5172.47	75.09	3.70	-11.53	67.26	Fundamental	Vertical	100	0	--	--	

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

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 44 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-48	Variant:	802.11a
Antenna Gain (dBi):	8.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5200.00	Data Rate:	6.00 MBit/s
Power Setting:	100	Tested By:	JMH

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	5204.99	85.36	3.65	-11.45	77.56	Fundamental	Vertical	100	0	--	--	
#2	10407.60	46.90	5.47	-4.98	47.39	Peak (NRB)	Vertical	151	0	--	--	Pass
#3	15593.54	56.56	6.00	-0.27	62.29	Max Peak	Horizontal	197	287	68.2	-5.9	Pass
#4	15593.54	42.42	6.00	-0.27	48.15	Max Avg	Horizontal	197	287	54.0	-5.9	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH40 a mode.

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 45 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-48	Variant:	802.11a
Antenna Gain (dBi):	8.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5240.00	Data Rate:	6.00 MBit/s
Power Setting:	100	Tested By:	JMH

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dBμV	Cable Loss dB	AF dB	Level dBμV/m	Measurement Type	PoI	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
#1	5232.33	89.63	3.63	-11.39	81.87	Fundamental	Vertical	100	0	--	--	
#2	10476.29	50.08	5.44	-4.48	51.04	Peak (NRB)	Horizontal	100	0	--	--	Pass
#3	15713.87	58.06	5.99	0.17	64.22	Max Peak	Horizontal	196	289	68.2	-4.0	Pass
#4	15713.87	43.77	5.99	0.17	49.93	Max Avg	Horizontal	196	289	54.0	-4.1	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH48 a mode.

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 46 of 104

5725 - 5850 MHz

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-48	Variant:	802.11a
Antenna Gain (dBi):	8.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5745.00	Data Rate:	6.00 MBit/s
Power Setting:	88	Tested By:	JMH

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5739.49	69.67	3.82	-10.67	62.82	Fundamental	Horizontal	100	0	--	--	
#2	17235.35	60.78	6.46	0.35	67.59	Max Peak	Vertical	196	298	68.2	-0.6	Pass

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

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 47 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-48	Variant:	802.11a
Antenna Gain (dBi):	8.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5785.00	Data Rate:	6.00 MBit/s
Power Setting:	85	Tested By:	JMH

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	PoI	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
#1	5784.69	61.53	3.80	-10.44	54.89	Fundamental	Horizontal	100	0	--	--	
#2	6018.11	53.43	3.86	-9.70	47.59	Peak (NRB)	Vertical	151	0	--	--	Pass
#3	17362.87	60.82	6.32	-0.05	67.09	Max Peak	Vertical	148	315	68.2	-1.1	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH157 a mode.

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 48 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba AP-ANT-48	Variant:	802.11a
Antenna Gain (dBi):	8.50	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5825.00	Data Rate:	6.00 MBit/s
Power Setting:	84	Tested By:	JMH

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	PoI	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
#1	5819.54	64.24	3.83	-10.26	57.81	Fundamental	Vertical	100	0	--	--	
#2	6060.10	56.62	3.88	-9.63	50.87	Peak (NRB)	Horizontal	100	0	--	--	Pass
#3	17483.00	60.84	6.39	-0.62	66.61	Max Peak	Vertical	147	315	68.2	-1.6	Pass

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

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 49 of 104

Antenna: Metal Sheet

5150 - 5250 MHz

Equipment Configuration for TX Spurious & Restricted Band Emissions

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

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5181.88	73.10	3.69	-11.50	65.29	Fundamental	Vertical	100	0	--	--	

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

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 50 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba Metal Sheet	Variant:	802.11a
Antenna Gain (dBi):	2.70	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5200.00	Data Rate:	6.00 MBit/s
Power Setting:	100	Tested By:	OC

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5202.56	81.10	3.65	-11.45	73.30	Fundamental	Vertical	100	0	--	--	
#2	15609.88	54.95	6.00	-0.18	60.77	Max Peak	Vertical	156	207	68.2	-7.5	Pass
#3	15609.88	40.76	6.00	-0.18	46.58	Max Avg	Vertical	156	207	54.0	-7.4	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH40 a mode.

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 51 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba Metal Sheet	Variant:	802.11a
Antenna Gain (dBi):	2.70	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5240.00	Data Rate:	6.00 MBit/s
Power Setting:	100	Tested By:	OC

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
#1	5242.58	84.01	3.63	-11.36	76.28	Fundamental	Vertical	100	0	--	--	
#2	15729.51	51.83	6.07	0.17	58.07	Max Peak	Vertical	157	183	68.2	-10.2	Pass
#3	15729.51	38.55	6.07	0.17	44.79	Max Avg	Vertical	157	183	54.0	-9.2	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH48 a mode.

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 52 of 104

5725 - 5850 MHz

Equipment Configuration for TX Spurious & Restricted Band Emissions

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

Test Measurement Results

1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5741.70	61.48	3.83	-10.66	54.65	Fundamental	Horizontal	100	360	--	--	
#2	17237.84	56.58	6.47	0.34	63.39	Max Peak	Vertical	175	355	68.2	-4.8	Pass

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

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 53 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

Antenna:	Aruba Metal Sheet	Variant:	802.11a
Antenna Gain (dBi):	2.70	Modulation:	OFDM
Beam Forming Gain (Y):	Not Applicable	Duty Cycle (%):	99
Channel Frequency (MHz):	5785.00	Data Rate:	6.00 MBit/s
Power Setting:	100	Tested By:	JMH

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
#1	5784.70	57.63	3.80	-10.44	50.99	Fundamental	Vertical	200	20	--	--	
#2	11575.13	50.57	5.42	-4.62	51.37	Max Peak	Horizontal	168	143	68.2	-16.9	Pass
#3	11575.13	36.12	5.42	-4.62	36.92	Max Avg	Horizontal	168	143	54.0	-17.1	Pass
#4	17355.86	58.42	6.27	-0.02	64.67	Max Peak	Horizontal	171	357	68.2	-3.6	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH157 a mode.

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 54 of 104

Equipment Configuration for TX Spurious & Restricted Band Emissions

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

Test Measurement Results

1000.00 - 18000.00 MHz

Num	Frequency MHz	Raw dB μ V	Cable Loss dB	AF dB	Level dB μ V/m	Measurement Type	PoI	Hgt cm	Azt Deg	Limit dB μ V/m	Margin dB	Pass /Fail
#1	5831.78	63.45	3.84	-10.22	57.07	Fundamental	Vertical	151	20	--	--	
#2	17478.29	59.24	6.33	-0.60	64.97	Max Peak	Horizontal	197	357	68.2	-3.3	Pass

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

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 55 of 104

A. APPENDIX - GRAPHICAL IMAGES

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.



A.1. Emissions

A.1.1. Radiated Emissions

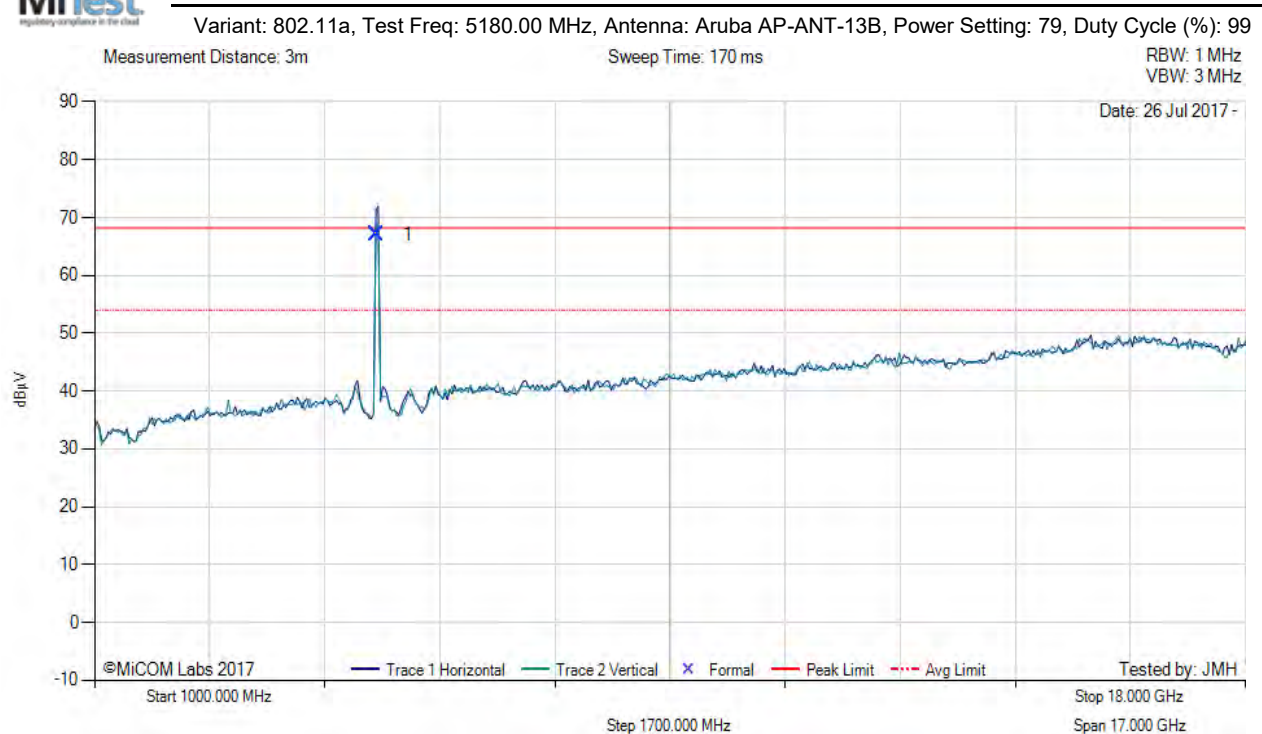
A.1.1.1. TX Spurious & Restricted Band Emissions

Antenna: AP-ANT-13B

5150 - 5250 MHz



TX SPURIOUS & RESTRICTED BAND EMISSIONS



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5175.01	74.95	3.70	-11.52	67.13	Fundamental	Horizontal	100	0	--	--	

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

[back to matrix](#)

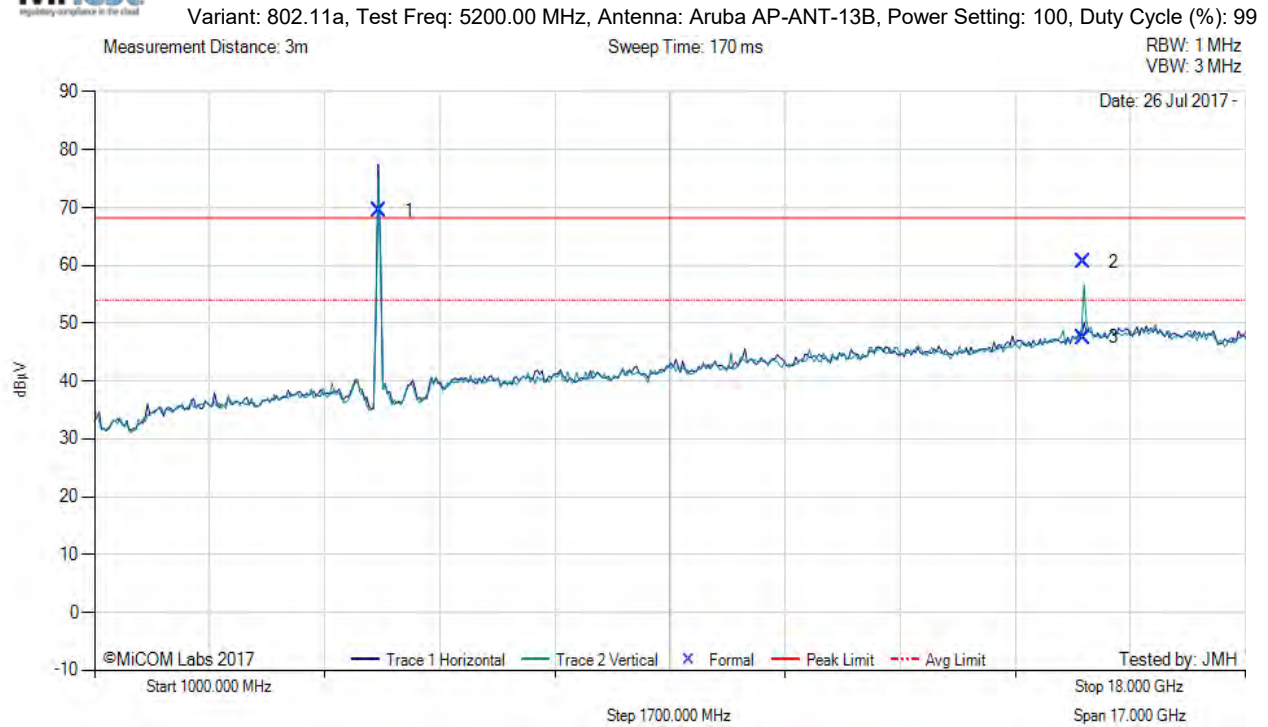
This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 57 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5202.67	77.32	3.65	-11.45	69.52	Fundamental	Horizontal	100	0	--	--	
2	15600.98	54.77	6.03	-0.23	60.57	Max Peak	Vertical	155	93	68.2	-7.7	Pass
3	15600.98	41.69	6.03	-0.23	47.49	Max Avg	Vertical	155	93	54.0	-6.5	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH40 a mode.

[back to matrix](#)

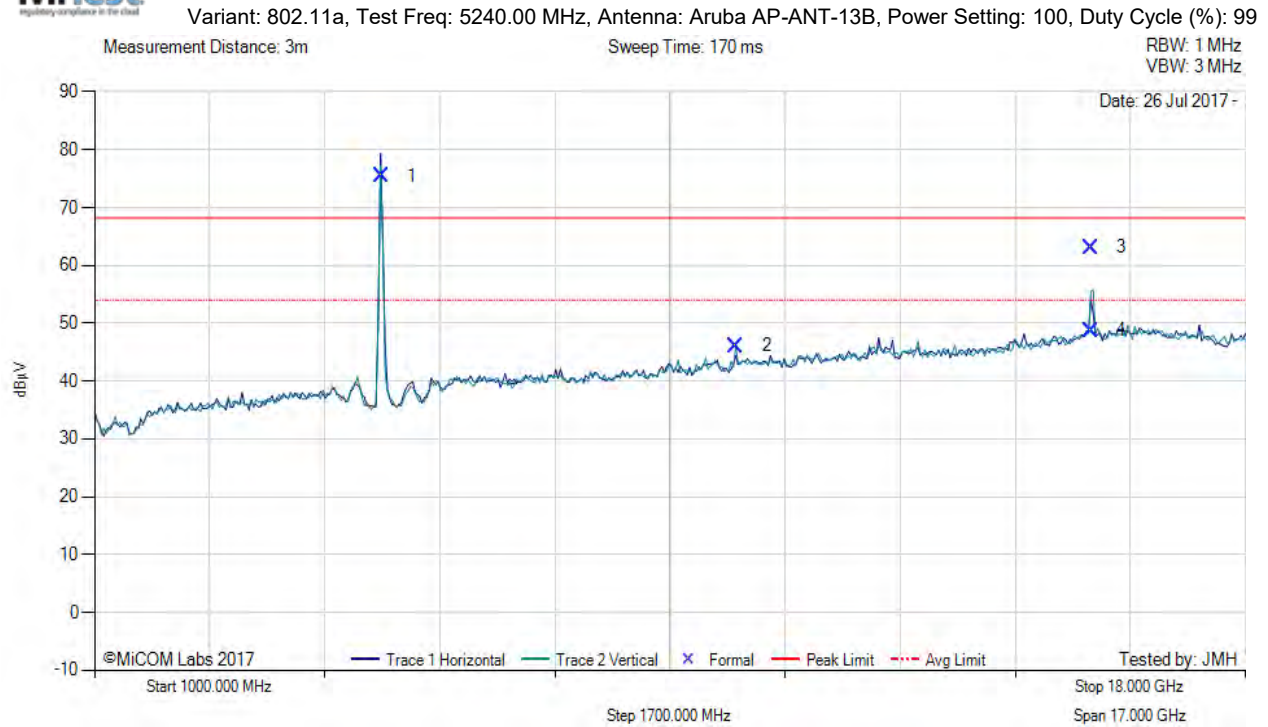
This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 58 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5237.18	83.25	3.63	-11.37	75.51	Fundamental	Horizontal	100	0	--	--	
2	10481.03	45.11	5.41	-4.44	46.08	Peak (NRB)	Vertical	200	36	--	--	Pass
3	15713.86	56.93	5.99	0.17	63.09	Max Peak	Vertical	196	87	68.2	-5.1	Pass
4	15713.86	42.61	5.99	0.17	48.77	Max Avg	Vertical	196	87	54.0	-5.2	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH48 a mode.

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 59 of 104

5725 - 5850 MHz

TX SPURIOUS & RESTRICTED BAND EMISSIONS



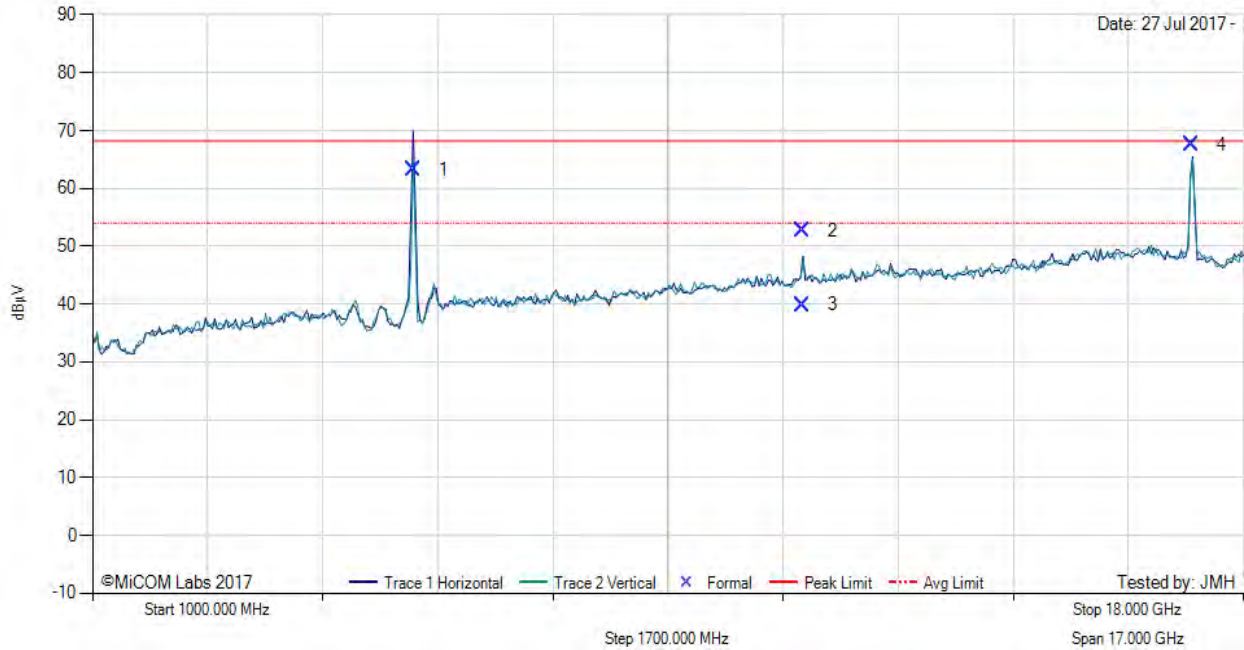
Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: Aruba AP-ANT-13B, Power Setting: 81, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz
VBW: 3 MHz

Date: 27 Jul 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5739.71	70.04	3.83	-10.67	63.20	Fundamental	Horizontal	200	0	--	--	
2	11484.12	52.10	5.46	-4.86	52.70	Max Peak	Horizontal	195	273	68.2	-15.5	Pass
3	11484.12	39.22	5.46	-4.86	39.82	Max Avg	Horizontal	195	273	54.0	-14.2	Pass
4	17236.38	60.72	6.47	0.35	67.54	Max Peak	Horizontal	196	335	68.2	-0.7	Pass

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

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 60 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS

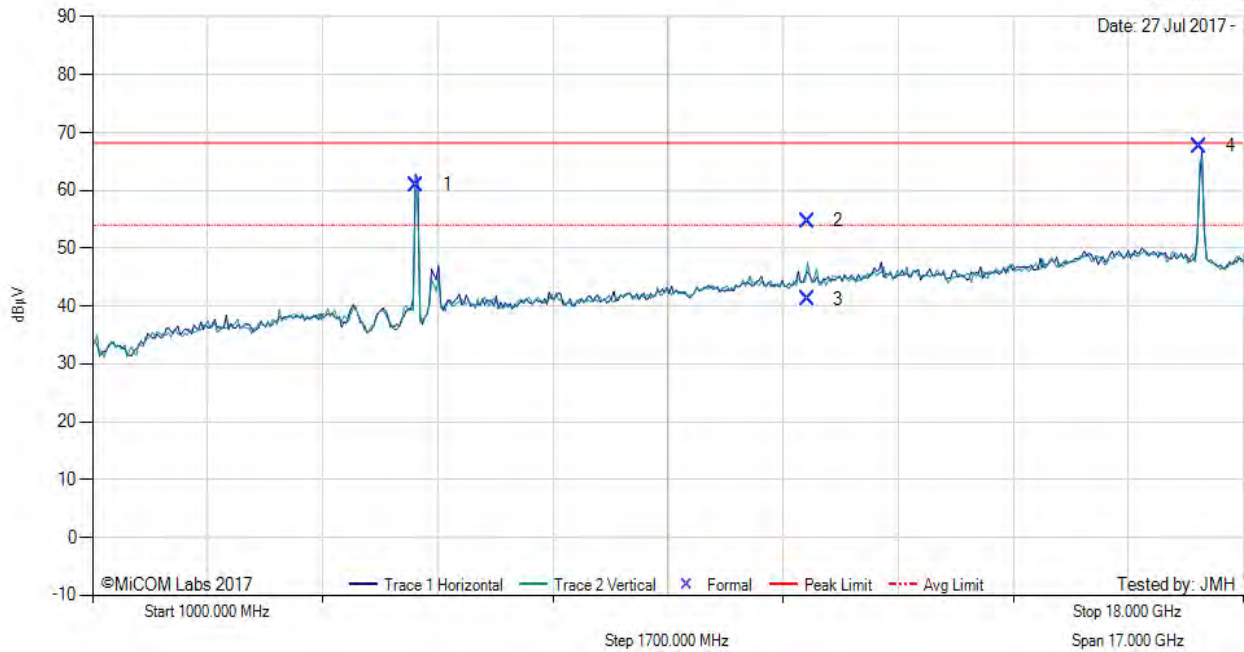
Variant: 802.11a, Test Freq: 5785.00 MHz, Antenna: Aruba AP-ANT-13B, Power Setting: 86, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz
VBW: 3 MHz

Date: 27 Jul 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5787.67	67.57	3.79	-10.43	60.93	Fundamental	Horizontal	100	0	--	--	
2	11562.55	53.80	5.60	-4.67	54.73	Max Peak	Vertical	196	347	68.2	-13.5	Pass
3	11562.55	40.28	5.60	-4.67	41.21	Max Avg	Vertical	196	347	54.0	-12.8	Pass
4	17356.35	61.37	6.27	-0.02	67.62	Max Peak	Horizontal	192	357	68.2	-0.6	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH157 a mode.

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 61 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS

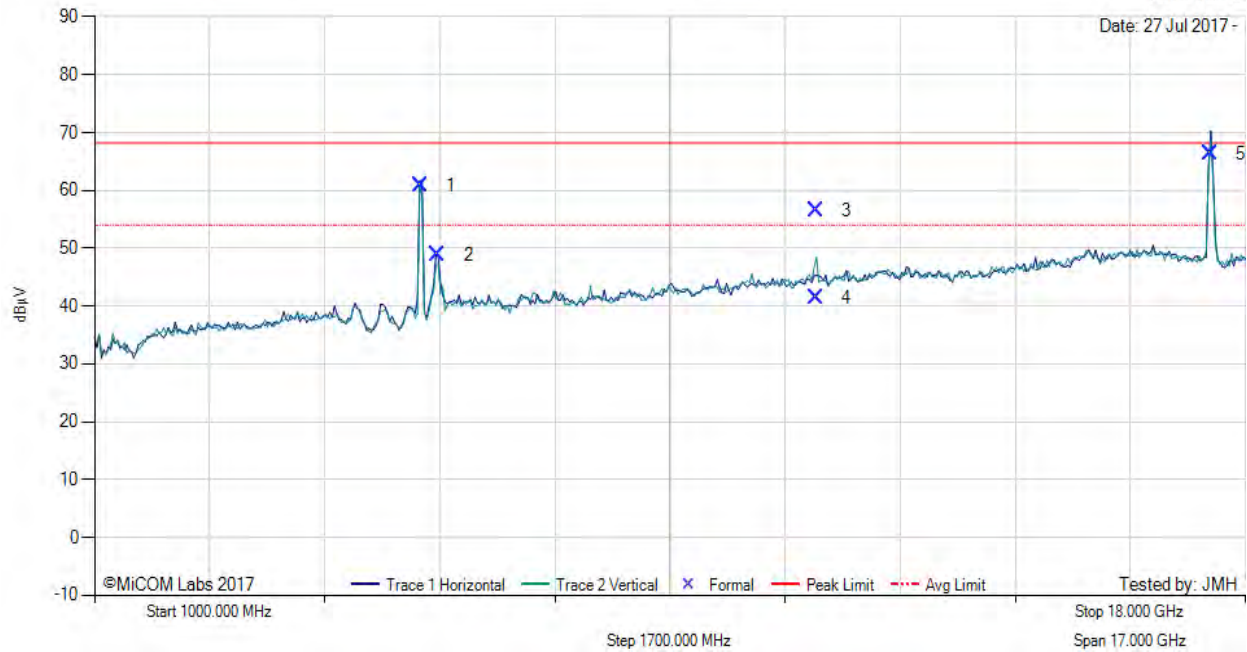
Variant: 802.11a, Test Freq: 5825.00 MHz, Antenna: Aruba AP-ANT-13B, Power Setting: 90, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz
VBW: 3 MHz

Date: 27 Jul 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5821.20	67.26	3.83	-10.26	60.83	Fundamental	Horizontal	100	0	--	--	
2	6073.93	54.57	3.87	-9.59	48.85	Peak (NRB)	Horizontal	151	0	--	--	Pass
3	11655.67	55.35	5.55	-4.46	56.44	Max Peak	Vertical	195	34	68.2	-11.8	Pass
4	11655.67	40.34	5.55	-4.46	41.43	Max Avg	Vertical	195	34	54.0	-12.6	Pass
5	17483.63	60.57	6.41	-0.62	66.36	Max Peak	Horizontal	197	27	68.2	-1.9	Pass

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

[back to matrix](#)

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.



Antenna: AP-ANT-19

5150 - 5250 MHz

TX SPURIOUS & RESTRICTED BAND EMISSIONS



Variant: 802.11a, Test Freq: 5180.00 MHz, Antenna: Aruba AP-ANT-19, Power Setting: 67, Duty Cycle (%): 99

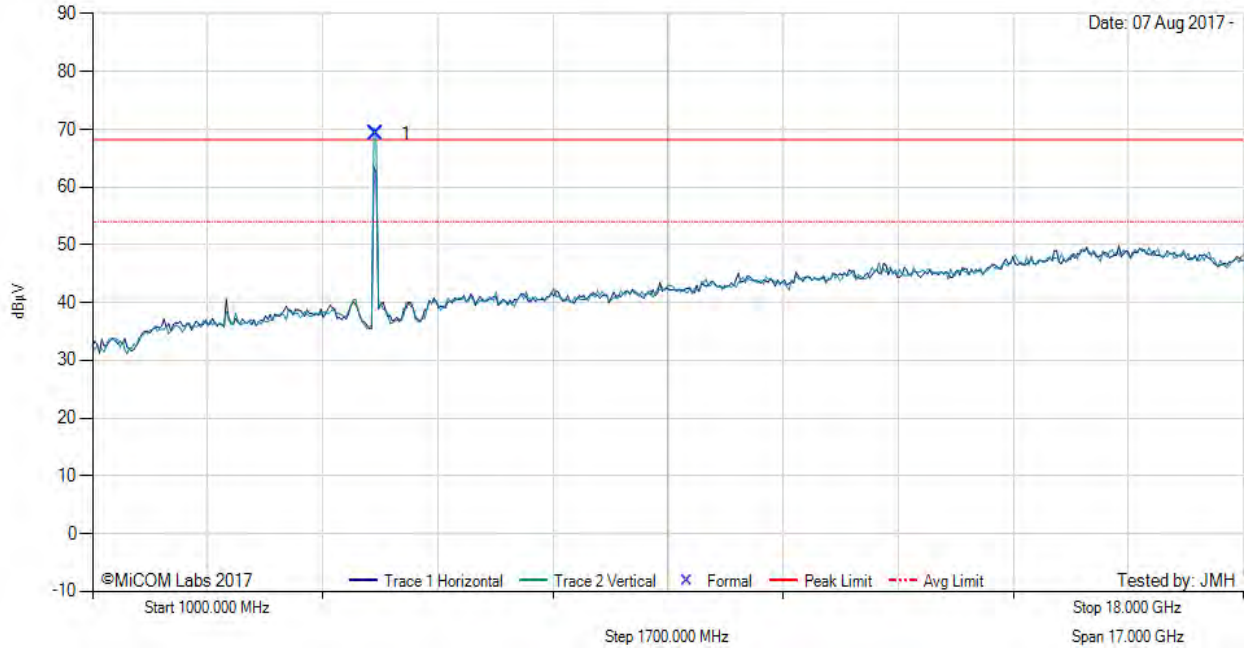
Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz

VBW: 3 MHz

Date: 07 Aug 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5178.30	77.01	3.69	-11.51	69.19	Fundamental	Vertical	150	0	--	--	

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

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 63 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS

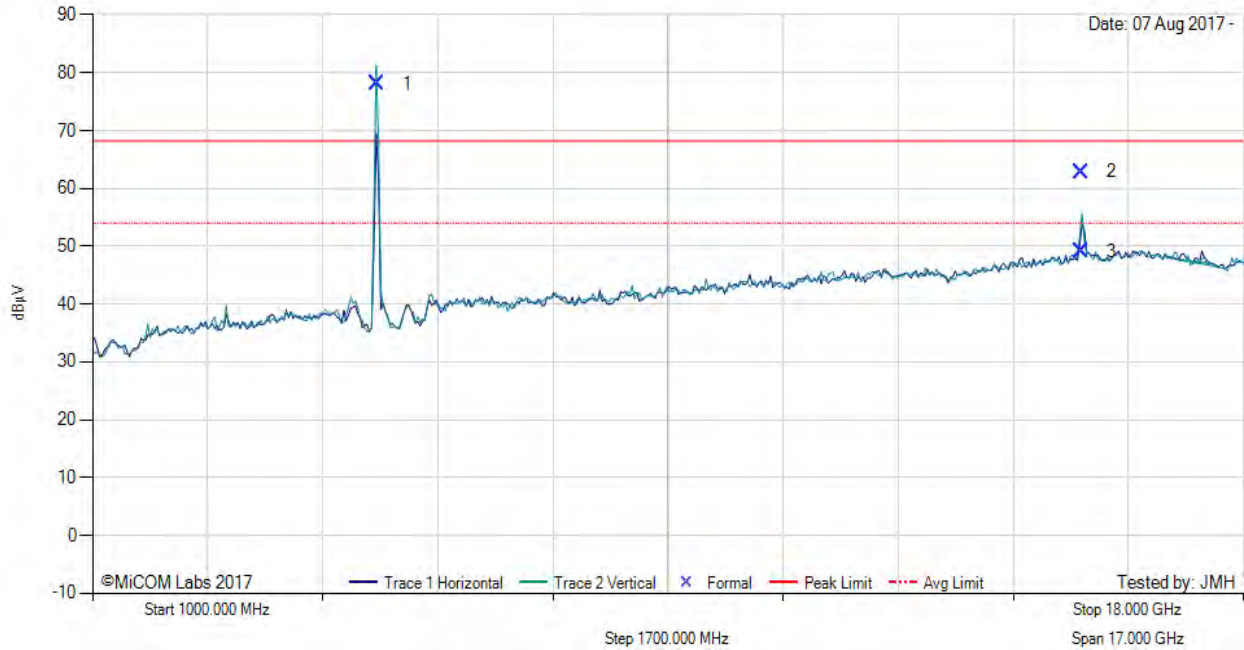
Variant: 802.11a, Test Freq: 5200.00 MHz, Antenna: Aruba AP-ANT-19, Power Setting: 100, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz
VBW: 3 MHz

Date: 07 Aug 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5202.67	85.84	3.65	-11.45	78.04	Fundamental	Vertical	151	0	--	--	
2	15602.90	57.06	6.03	-0.22	62.87	Max Peak	Vertical	162	321	68.2	-5.4	Pass
3	15602.90	43.29	6.03	-0.22	49.10	Max Avg	Vertical	162	321	54.0	-4.9	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH40 a mode.

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 64 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS

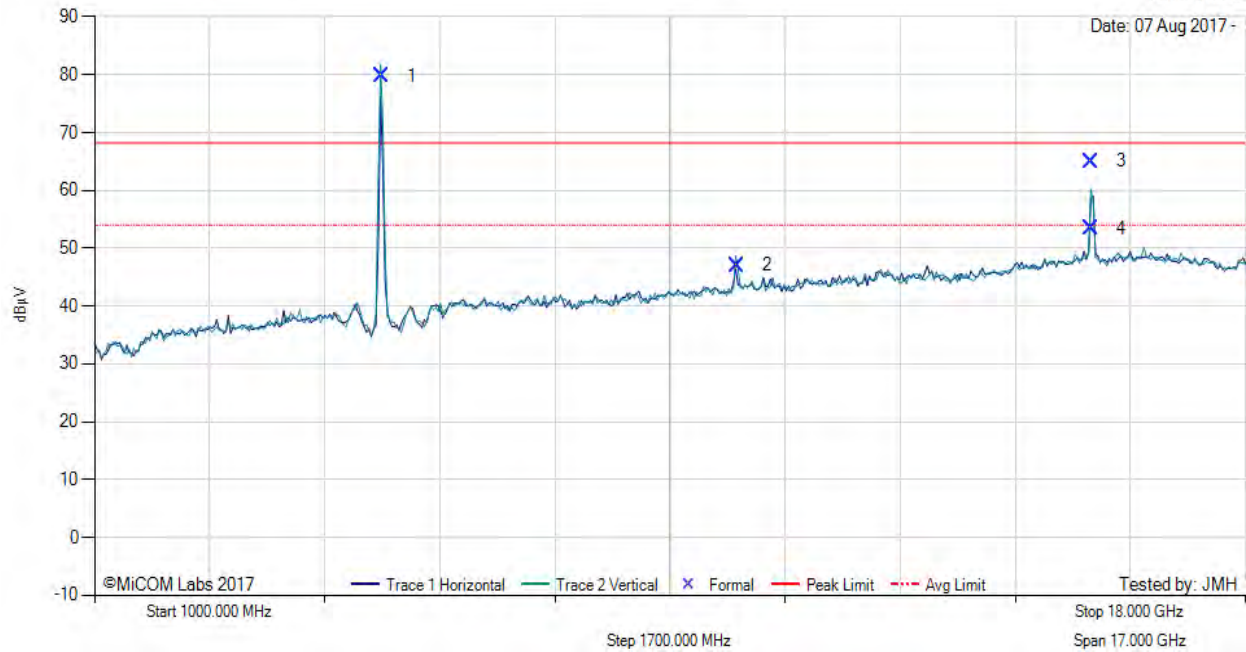
Variant: 802.11a, Test Freq: 5240.00 MHz, Antenna: Aruba AP-ANT-19, Power Setting: 100, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz
VBW: 3 MHz

Date: 07 Aug 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5239.60	87.48	3.63	-11.37	79.74	Fundamental	Vertical	151	0	--	--	
2	10481.80	46.04	5.41	-4.44	47.01	Peak (NRB)	Vertical	151	0	--	--	Pass
3	15722.24	58.70	6.12	0.17	64.99	Max Peak	Vertical	159	323	68.2	-3.2	Pass
4	15722.24	47.15	6.12	0.17	53.44	Max Avg	Vertical	159	323	54.0	-0.6	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH48 a mode.

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 65 of 104

5725 - 5850 MHz

TX SPURIOUS & RESTRICTED BAND EMISSIONS



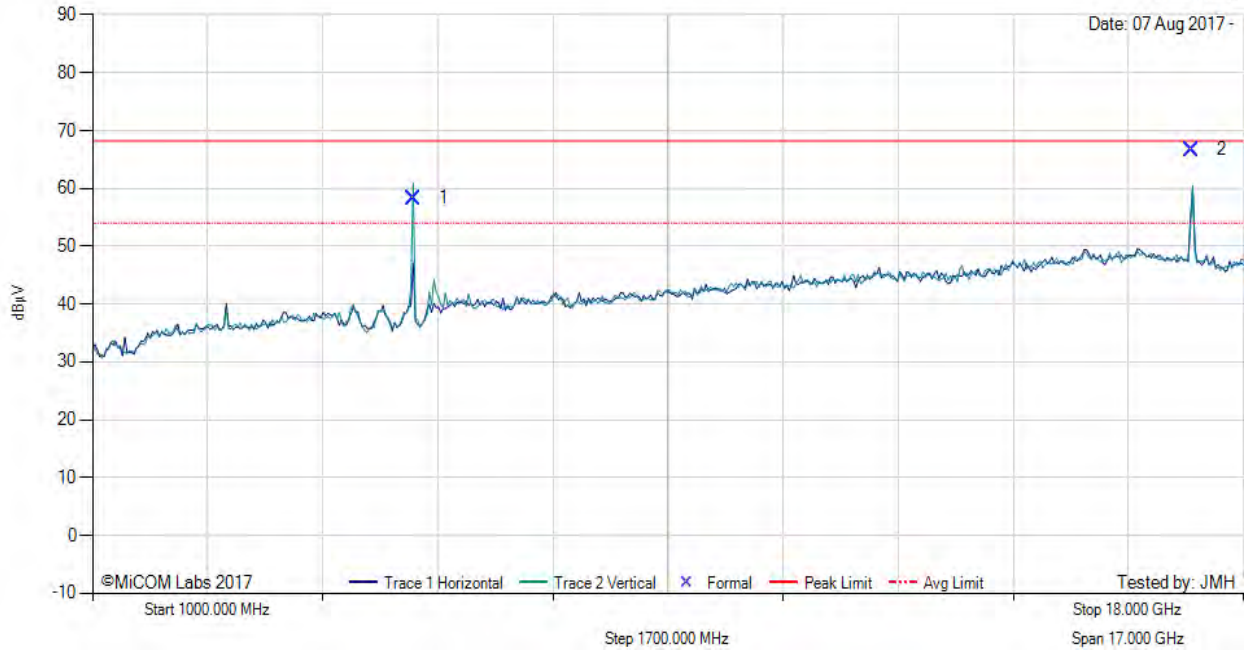
Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: Aruba AP-ANT-19, Power Setting: 80, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz
VBW: 3 MHz

Date: 07 Aug 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5737.40	65.12	3.82	-10.67	58.27	Fundamental	Vertical	151	0	--	--	
2	17236.06	59.85	6.47	0.35	66.67	Max Peak	Vertical	159	325	68.2	-1.6	Pass

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

[back to matrix](#)

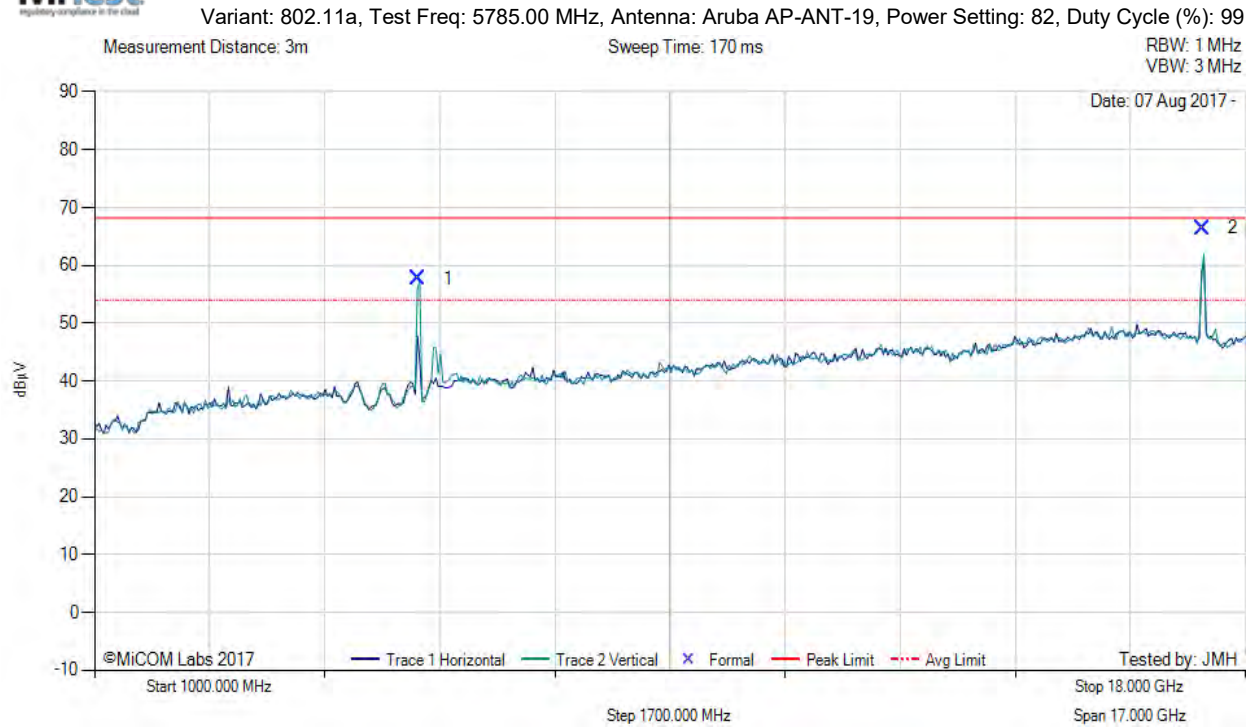
This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 66 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5777.54	64.45	3.80	-10.48	57.77	Fundamental	Vertical	151	0	--	--	
2	17361.80	60.23	6.30	-0.05	66.48	Max Peak	Vertical	156	14	68.2	-1.8	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH157 a mode.

[back to matrix](#)

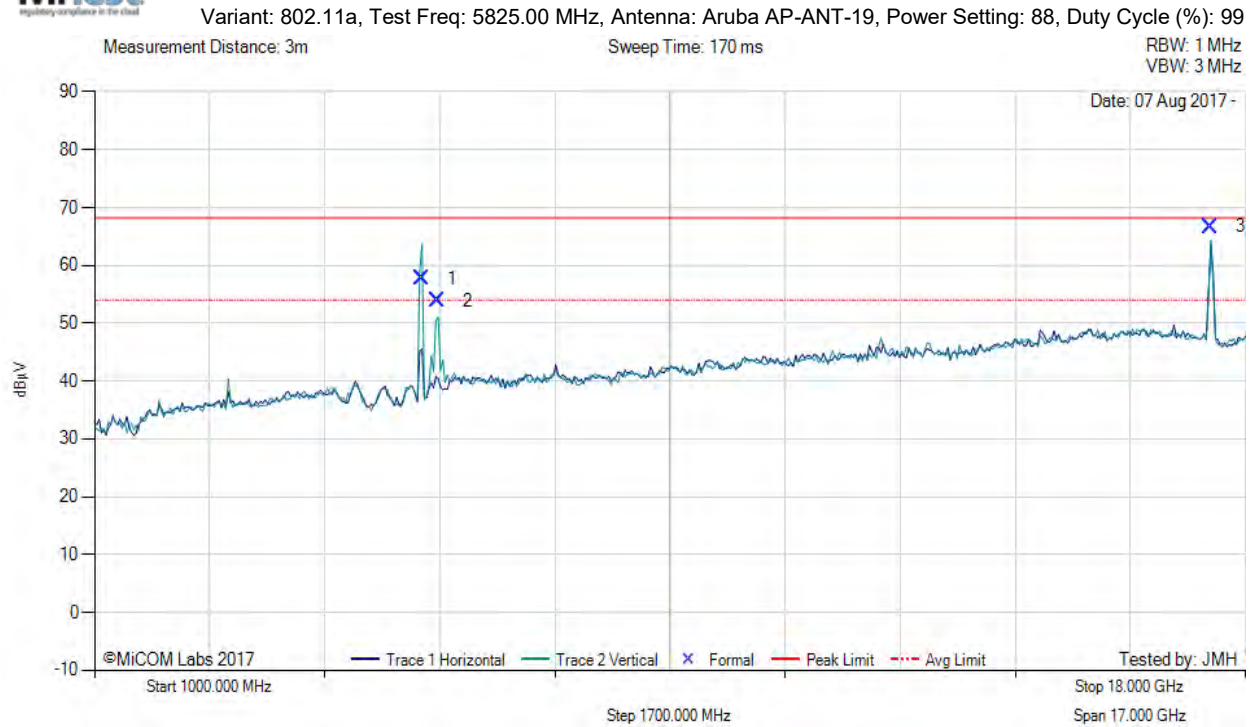
This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 67 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5827.70	64.18	3.84	-10.24	57.78	Fundamental	Vertical	151	0	--	--	
2	6058.02	59.62	3.88	-9.64	53.86	Max Peak	Vertical	138	52	68.2	-14.4	Pass
3	17482.34	60.94	6.39	-0.62	66.71	Max Peak	Vertical	158	0	68.2	-1.5	Pass

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

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 68 of 104

Antenna: AP-ANT-1W

5150 - 5250 MHz

TX SPURIOUS & RESTRICTED BAND EMISSIONS



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

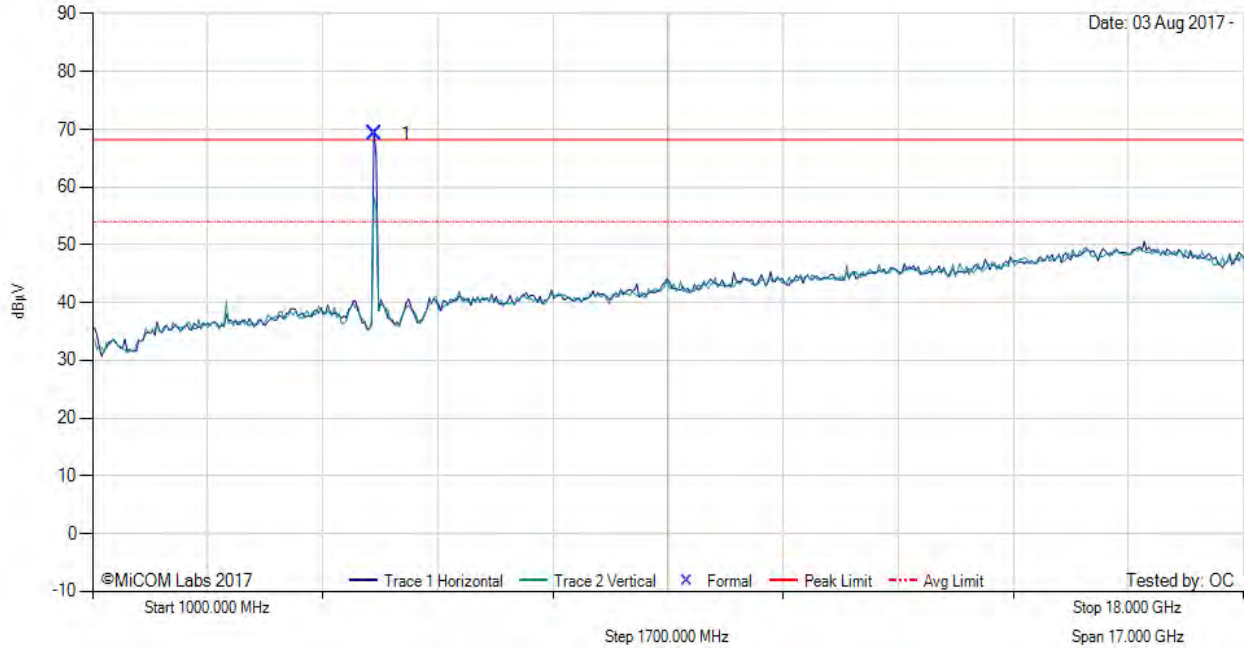
Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz

VBW: 3 MHz

Date: 03 Aug 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5172.90	76.98	3.70	-11.52	69.16	Fundamental	Horizontal	102	64	--	--	

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

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 69 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS

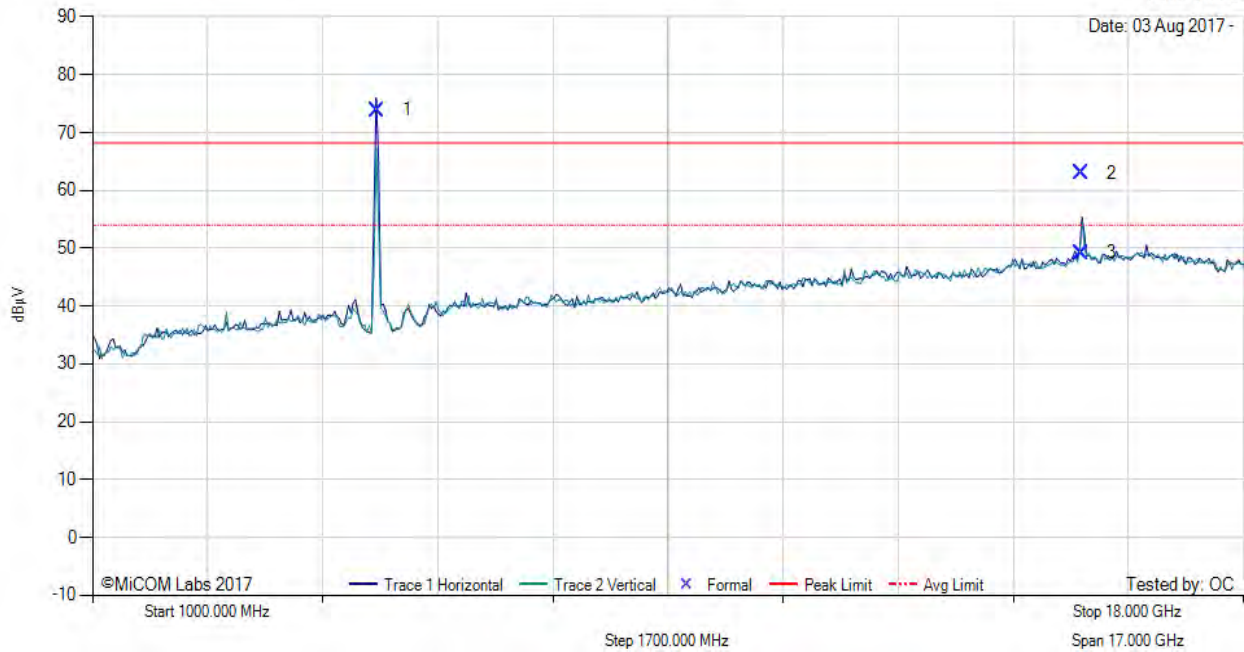
Variant: 802.11a, Test Freq: 5200.00 MHz, Antenna: Aruba AP-ANT-1W, Power Setting: 100, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz
VBW: 3 MHz

Date: 03 Aug 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5199.69	81.66	3.66	-11.46	73.86	Fundamental	Horizontal	100	57	--	--	
2	15610.77	57.09	6.00	-0.17	62.92	Max Peak	Horizontal	148	268	68.2	-5.3	Pass
3	15610.77	43.36	6.00	-0.17	49.19	Max Avg	Horizontal	148	268	54.0	-4.8	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH40 a mode.

[back to matrix](#)

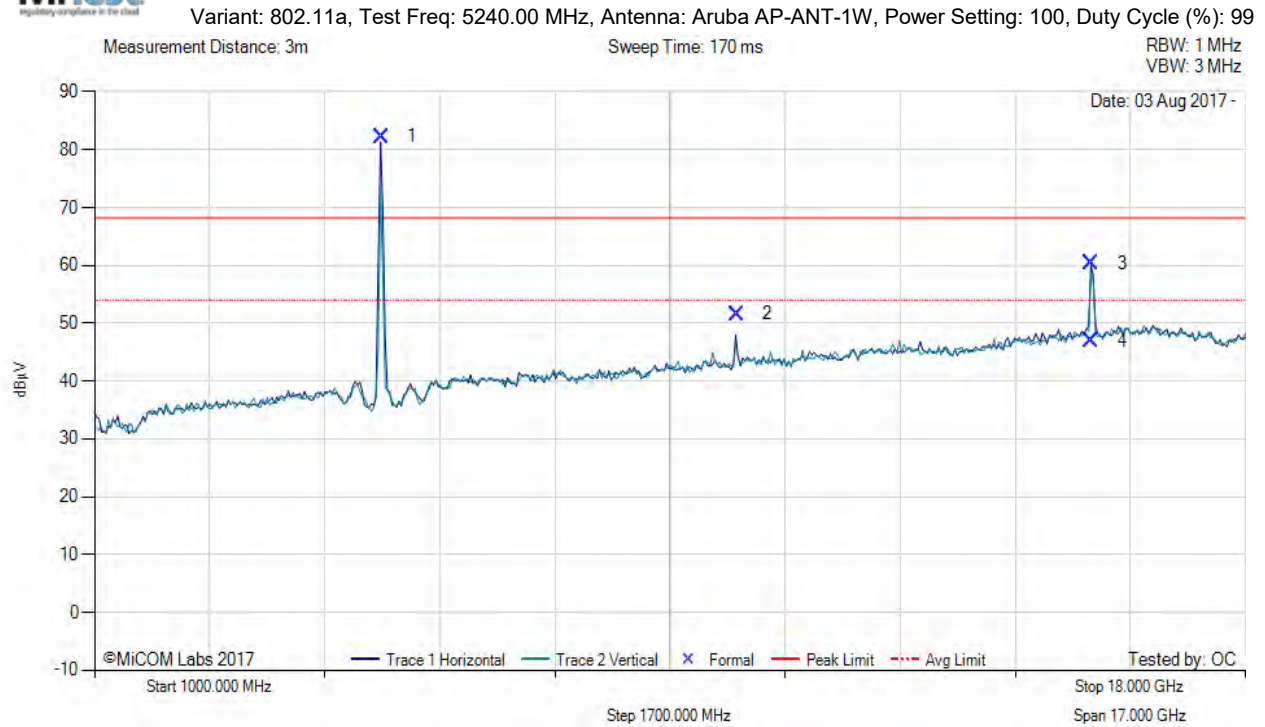
This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 70 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5237.73	89.98	3.63	-11.37	82.24	Fundamental	Horizontal	100	77	--	--	
2	10482.99	50.61	5.40	-4.44	51.57	Max Peak	Horizontal	101	77	68.2	-16.7	Pass
3	15728.18	54.04	6.08	0.17	60.29	Max Peak	Horizontal	116	288	68.2	-7.9	Pass
4	15728.18	40.62	6.08	0.17	46.87	Max Avg	Horizontal	116	288	54.0	-7.1	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH48 a mode.

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 71 of 104

5725 - 5850 MHz

TX SPURIOUS & RESTRICTED BAND EMISSIONS



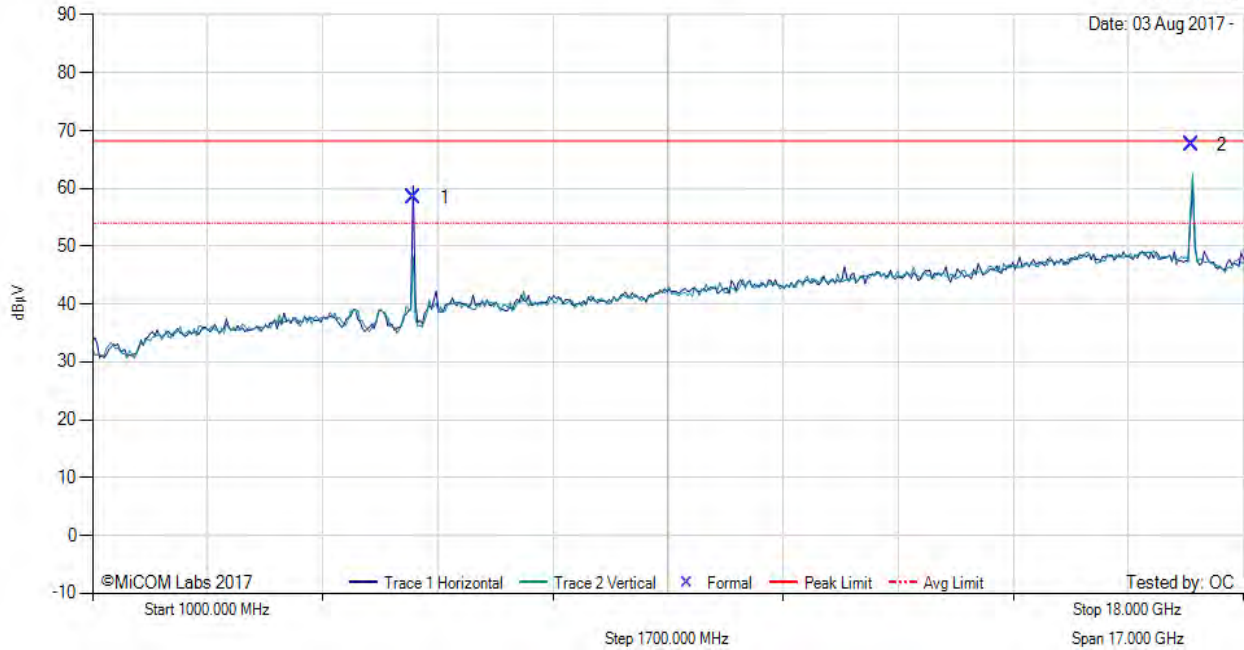
Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: Aruba AP-ANT-1W, Power Setting: 91, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz
VBW: 3 MHz

Date: 03 Aug 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5747.65	65.18	3.85	-10.63	58.40	Fundamental	Horizontal	100	0	--	--	
2	17237.77	60.65	6.47	0.34	67.46	Max Peak	Vertical	98	316	68.2	-0.8	Pass

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

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 72 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS

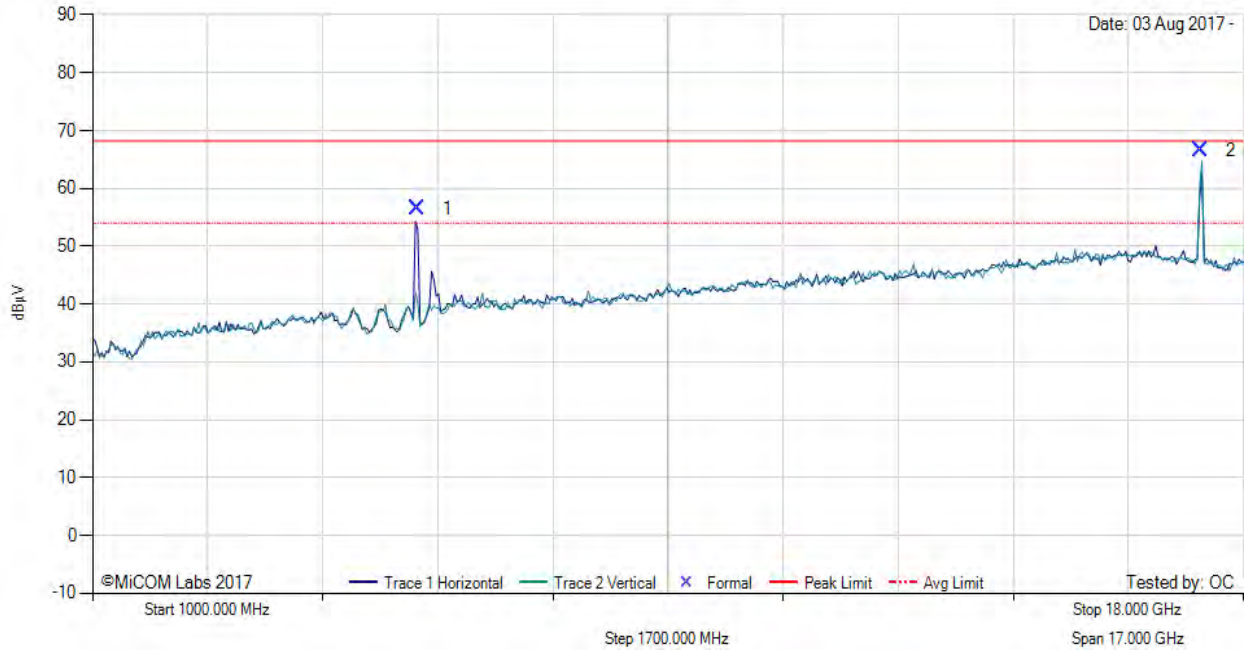
Variation: 802.11a, Test Freq: 5785.00 MHz, Antenna: Aruba AP-ANT-1W, Power Setting: 84, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz
VBW: 3 MHz

Date: 03 Aug 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5790.03	63.12	3.79	-10.42	56.49	Fundamental	Horizontal	100	81	--	--	
2	17362.03	60.34	6.32	-0.05	66.61	Max Peak	Vertical	152	305	68.2	-1.6	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH157 a mode.

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 73 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5829.02	66.47	3.84	-10.23	60.08	Fundamental	Horizontal	100	74	--	--	
2	17478.12	62.43	6.33	-0.60	68.16	Max Peak	Vertical	158	69	68.2	-0.1	Pass

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

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 74 of 104

Antenna: AP-ANT-20W

5150 - 5250 MHz

TX SPURIOUS & RESTRICTED BAND EMISSIONS



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

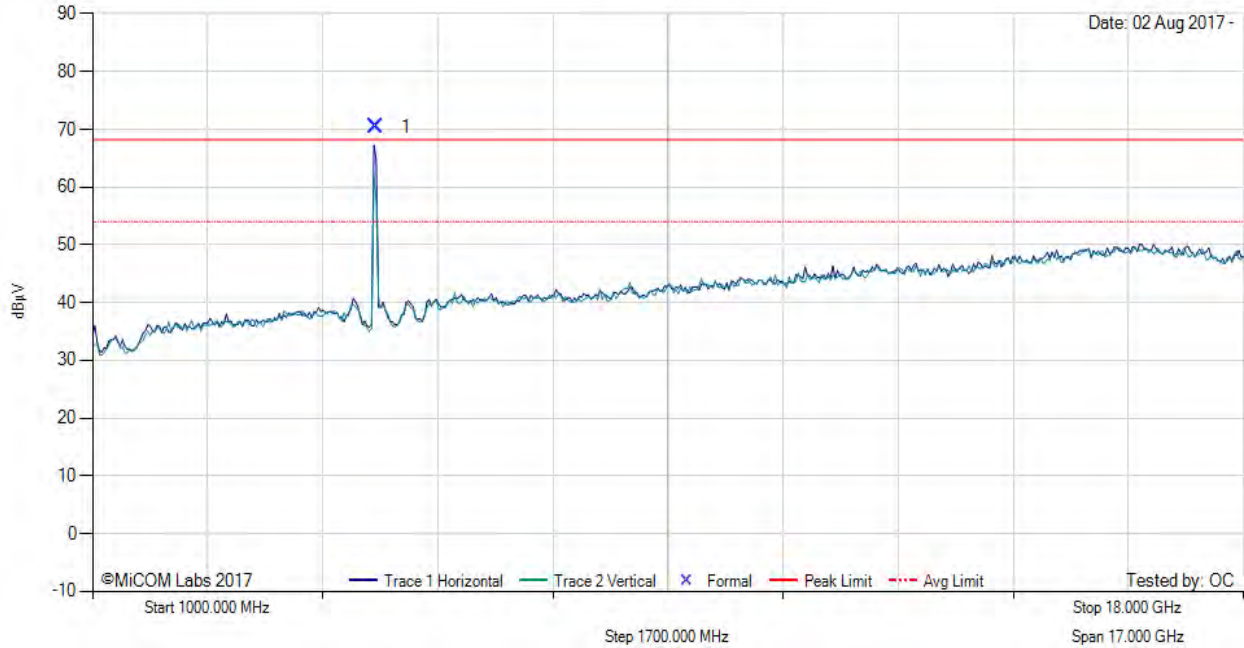
Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz

VBW: 3 MHz

Date: 02 Aug 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5175.66	78.20	3.69	-11.51	70.38	Fundamental	Horizontal	100	30	--	--	

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

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 75 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS

Variant: 802.11a, Test Freq: 5200.00 MHz, Antenna: Aruba AP-ANT-20W, Power Setting: 100, Duty Cycle (%): 99

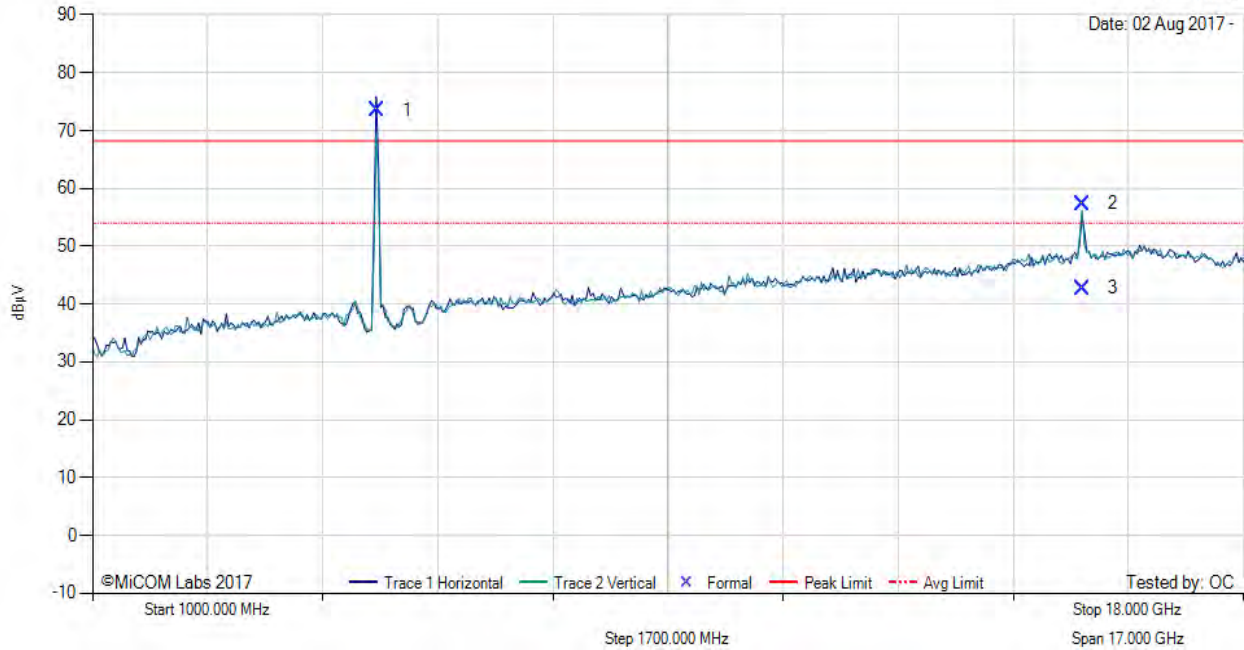
Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz

VBW: 3 MHz

Date: 02 Aug 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5205.10	81.31	3.65	-11.45	73.51	Fundamental	Horizontal	100	0	--	--	
2	15617.77	51.43	6.00	-0.12	57.31	Max Peak	Vertical	150	35	68.2	-10.9	Pass
3	15617.77	36.90	6.00	-0.12	42.78	Max Avg	Vertical	150	35	54.0	-11.2	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH40 a mode.

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 76 of 104

5725 - 5850 MHz

TX SPURIOUS & RESTRICTED BAND EMISSIONS



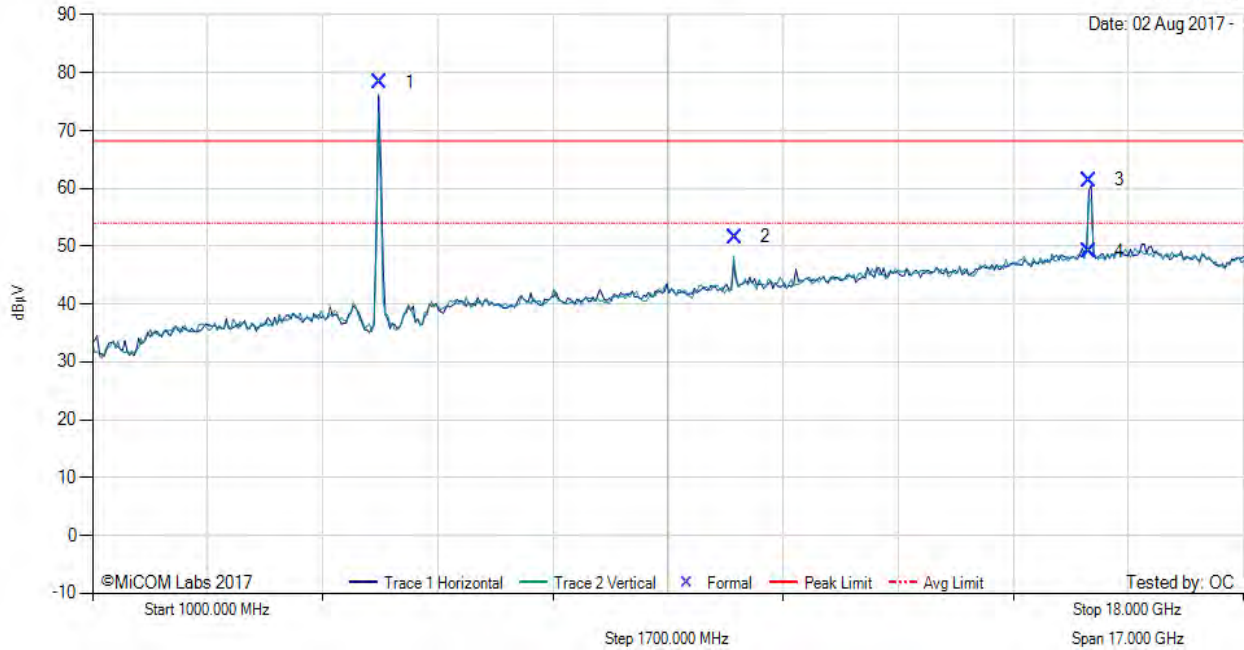
Variant: 802.11a, Test Freq: 5240.00 MHz, Antenna: Aruba AP-ANT-20W, Power Setting: 100, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz
VBW: 3 MHz

Date: 02 Aug 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5234.42	86.10	3.63	-11.38	78.35	Fundamental	Horizontal	100	0	--	--	
2	10483.13	50.61	5.41	-4.44	51.58	Max Peak	Horizontal	112	151	68.2	-16.7	Pass
3	15724.22	55.17	6.11	0.17	61.45	Max Peak	Horizontal	121	291	68.2	-6.8	Pass
4	15724.22	42.87	6.11	0.17	49.15	Max Avg	Horizontal	121	291	54.0	-4.9	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH48 a mode.

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 77 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS

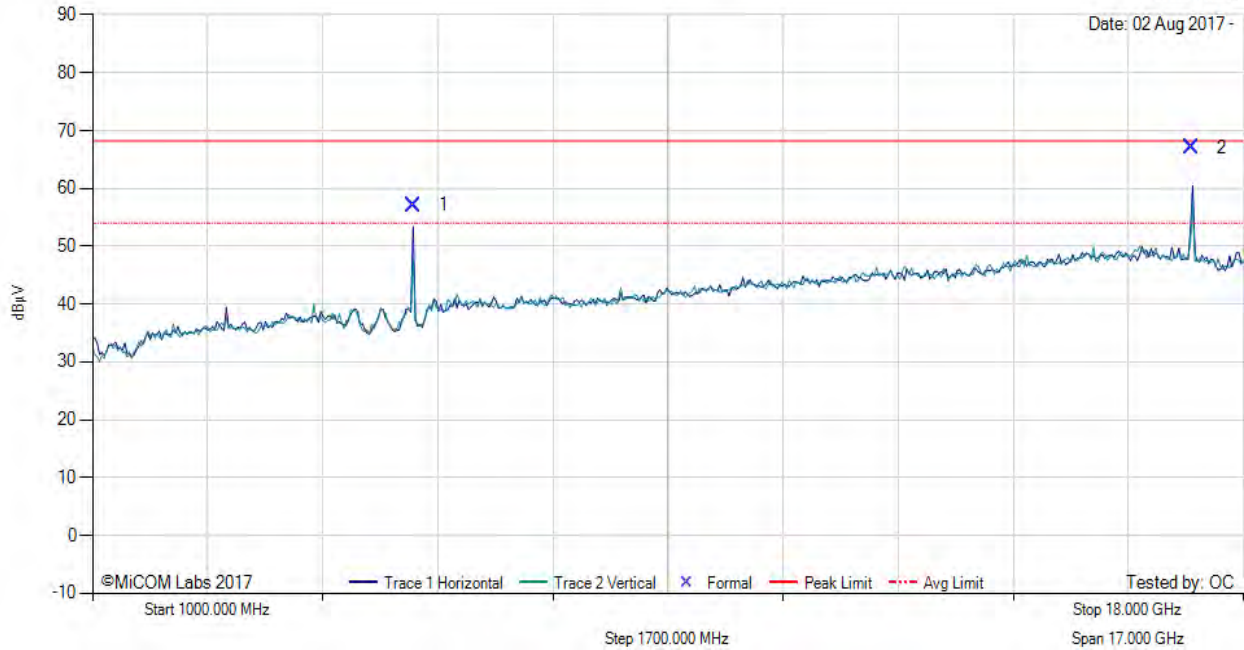
Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: Aruba AP-ANT-20W, Power Setting: 86, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz
VBW: 3 MHz

Date: 02 Aug 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5739.60	63.97	3.83	-10.67	57.13	Fundamental	Horizontal	100	0	--	--	
2	17236.12	60.24	6.47	0.35	67.06	Max Peak	Horizontal	150	3	68.2	-1.2	Pass

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

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 78 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS

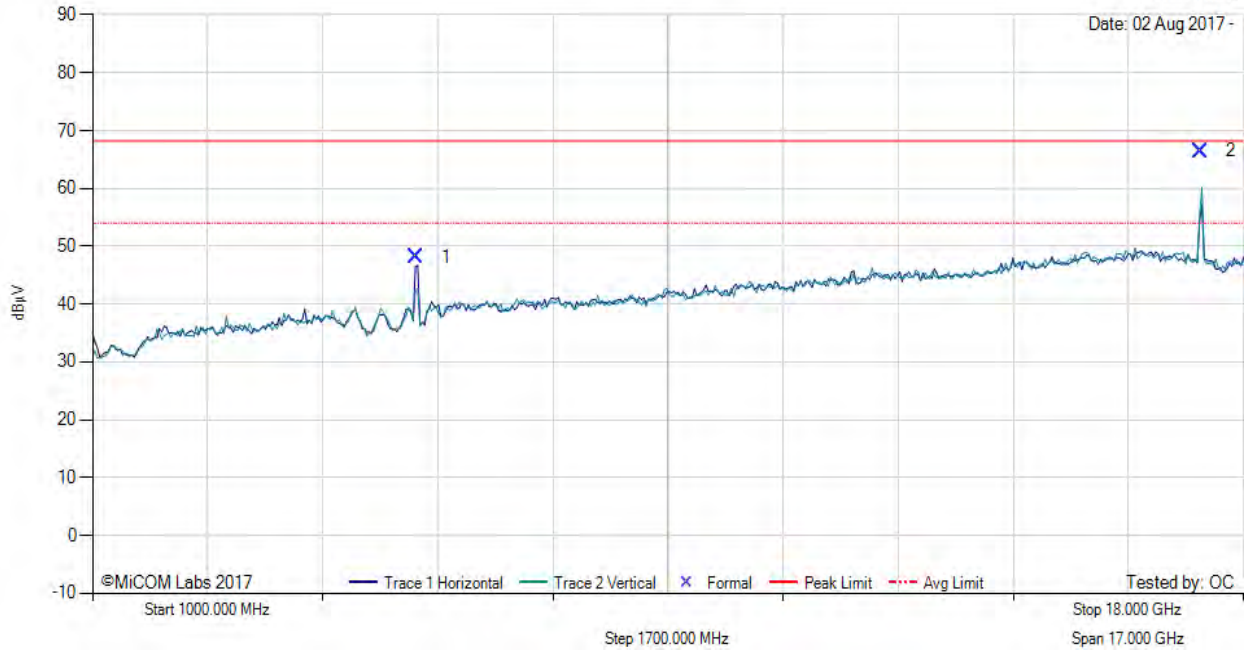
Variant: 802.11a, Test Freq: 5785.00 MHz, Antenna: Aruba AP-ANT-20W, Power Setting: 82, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz
VBW: 3 MHz

Date: 02 Aug 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5778.99	54.76	3.80	-10.48	48.08	Fundamental	Horizontal	100	0	--	--	
2	17360.49	60.23	6.28	-0.04	66.47	Max Peak	Vertical	147	302	68.2	-1.8	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH157 a mode.

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 79 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS

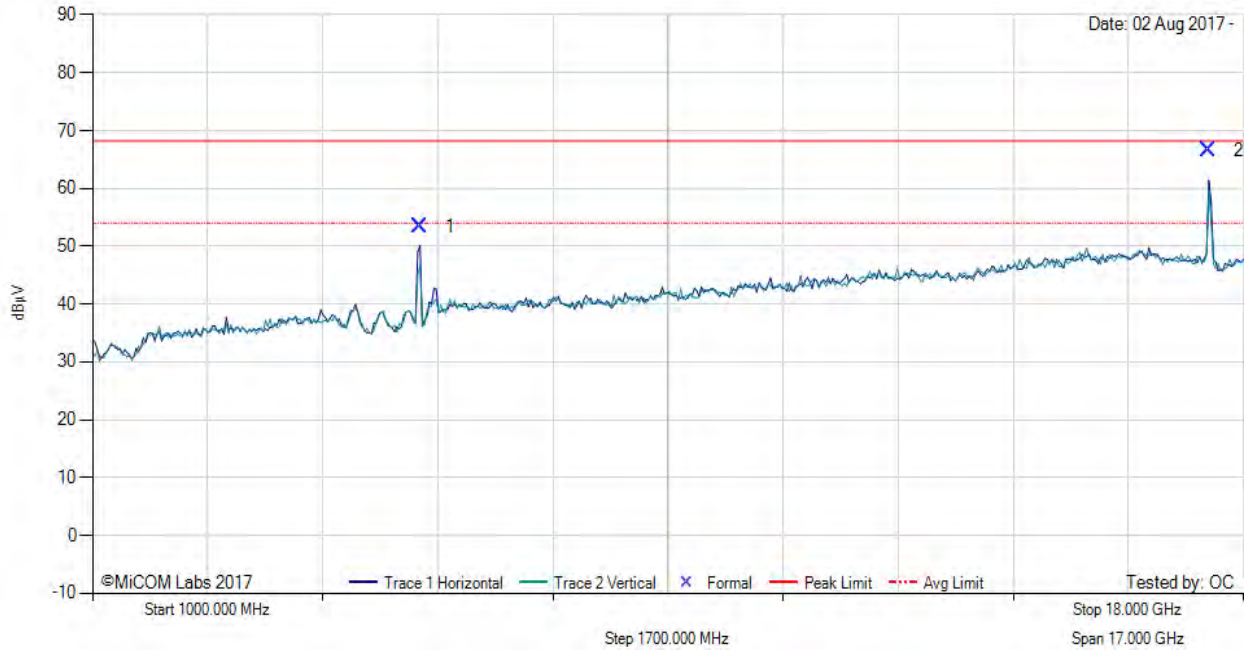
Variant: 802.11a, Test Freq: 5825.00 MHz, Antenna: Aruba AP-ANT-20W, Power Setting: 74, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz
VBW: 3 MHz

Date: 02 Aug 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5831.23	59.74	3.84	-10.22	53.36	Fundamental	Horizontal	100	0	--	--	
2	17478.13	60.79	6.33	-0.60	66.52	Max Peak	Horizontal	137	330	68.2	-1.7	Pass

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

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 80 of 104

Antenna: AP-ANT-40

5150 - 5250 MHz

TX SPURIOUS & RESTRICTED BAND EMISSIONS



Variant: 802.11a, Test Freq: 5180.00 MHz, Antenna: Aruba AP-ANT-40, Power Setting: 63, Duty Cycle (%): 99

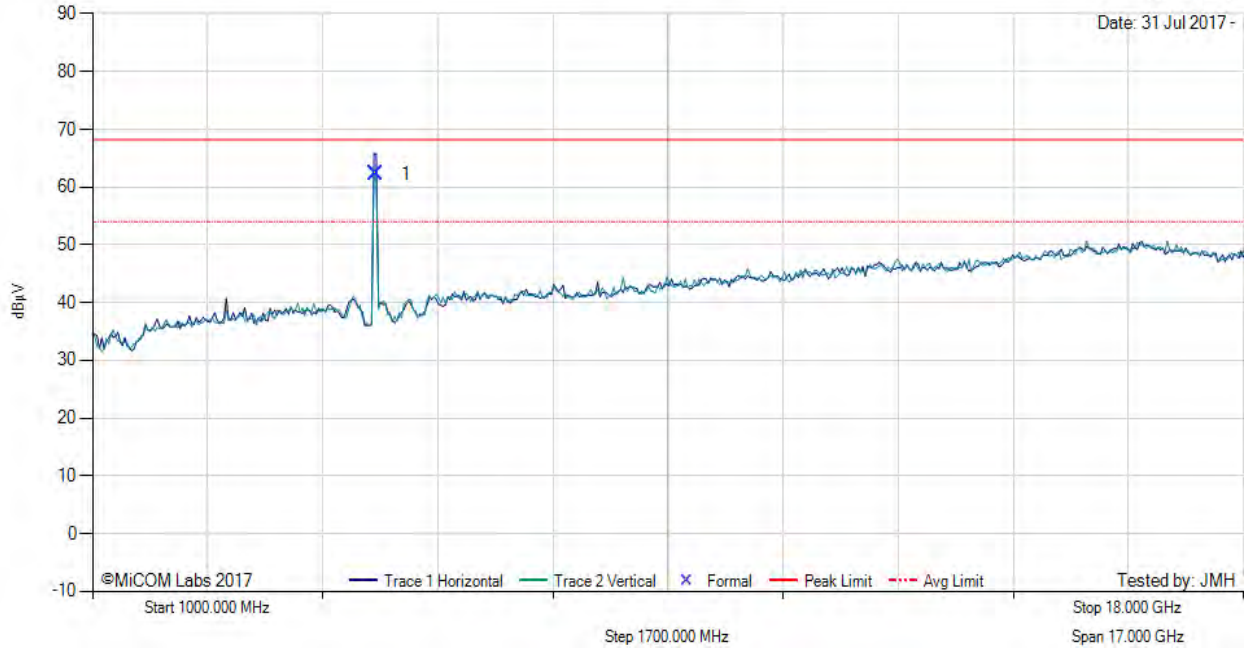
Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz

VBW: 3 MHz

Date: 31 Jul 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5175.66	70.06	3.69	-11.51	62.24	Fundamental	Horizontal	100	0	--	--	

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

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 81 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS

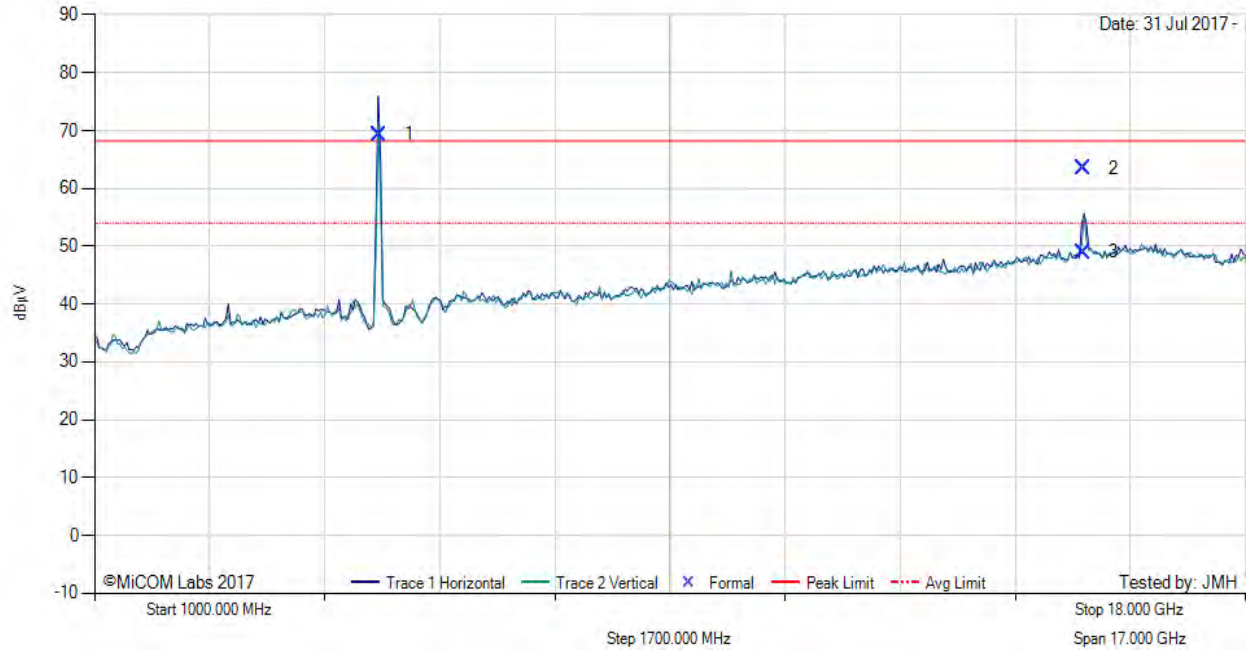
Variant: 802.11a, Test Freq: 5200.00 MHz, Antenna: Aruba AP-ANT-40, Power Setting: 100, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz
VBW: 3 MHz

Date: 31 Jul 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5207.41	77.12	3.65	-11.44	69.33	Fundamental	Horizontal	100	0	--	--	
2	15610.12	57.59	6.00	-0.17	63.42	Max Peak	Horizontal	192	278	68.2	-4.8	Pass
3	15610.12	43.13	6.00	-0.17	48.96	Max Avg	Horizontal	192	278	54.0	-5.0	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH40 a mode.

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 82 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS

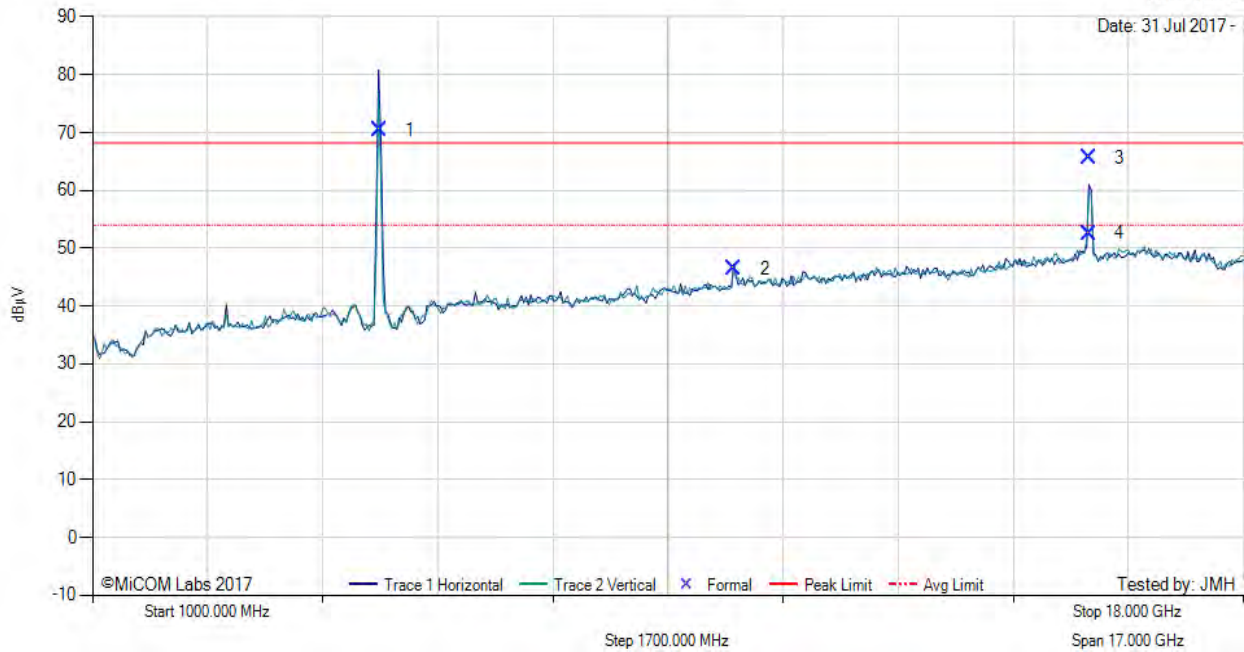
Variation: 802.11a, Test Freq: 5240.00 MHz, Antenna: Aruba AP-ANT-40, Power Setting: 93, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz
VBW: 3 MHz

Date: 31 Jul 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5236.08	78.18	3.63	-11.37	70.44	Fundamental	Horizontal	100	0	--	--	
2	10480.03	45.51	5.41	-4.45	46.47	Peak (NRB)	Horizontal	100	89	--	--	Pass
3	15720.89	59.29	6.09	0.17	65.55	Max Peak	Vertical	158	319	68.2	-1.2	Pass
4	15720.89	46.28	6.09	0.17	52.54	Max Avg	Vertical	158	319	54.0	-1.5	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH48 a mode.

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 83 of 104

5725 - 5850 MHz

TX SPURIOUS & RESTRICTED BAND EMISSIONS



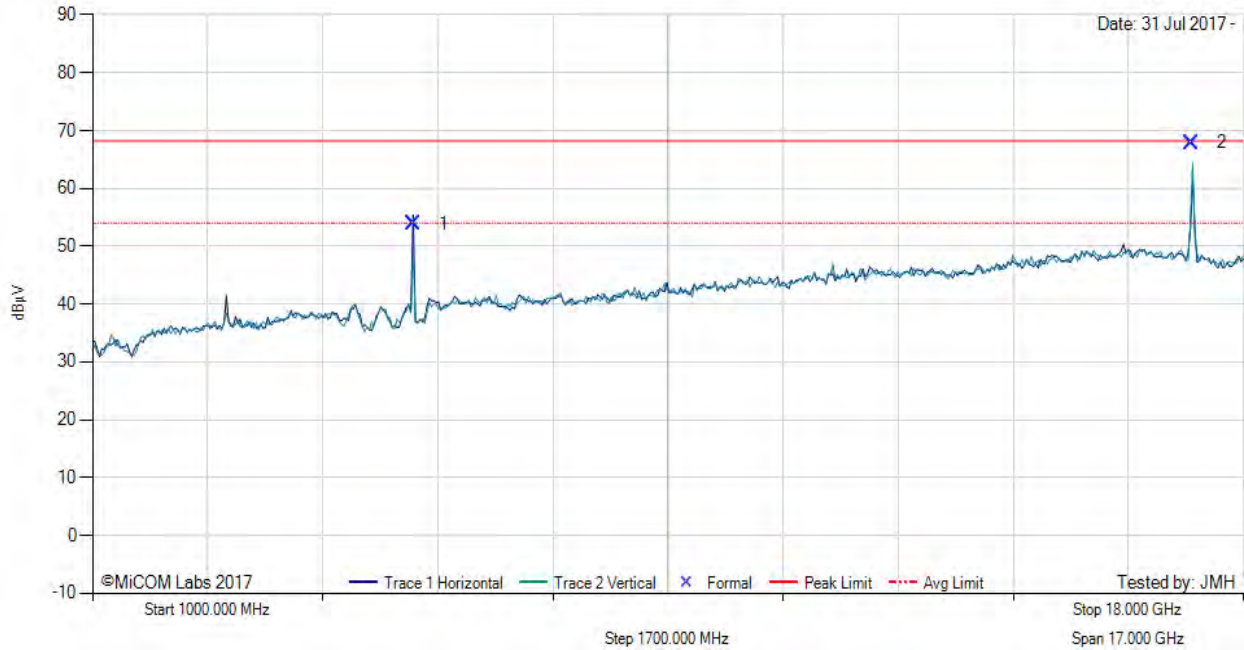
Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: Aruba AP-ANT-40, Power Setting: 91, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz
VBW: 3 MHz

Date: 31 Jul 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5741.59	60.70	3.83	-10.66	53.87	Fundamental	Horizontal	100	22	--	--	
2	17238.00	61.05	6.47	0.34	67.86	Max Peak	Vertical	152	326	68.2	-0.4	Pass

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

[back to matrix](#)

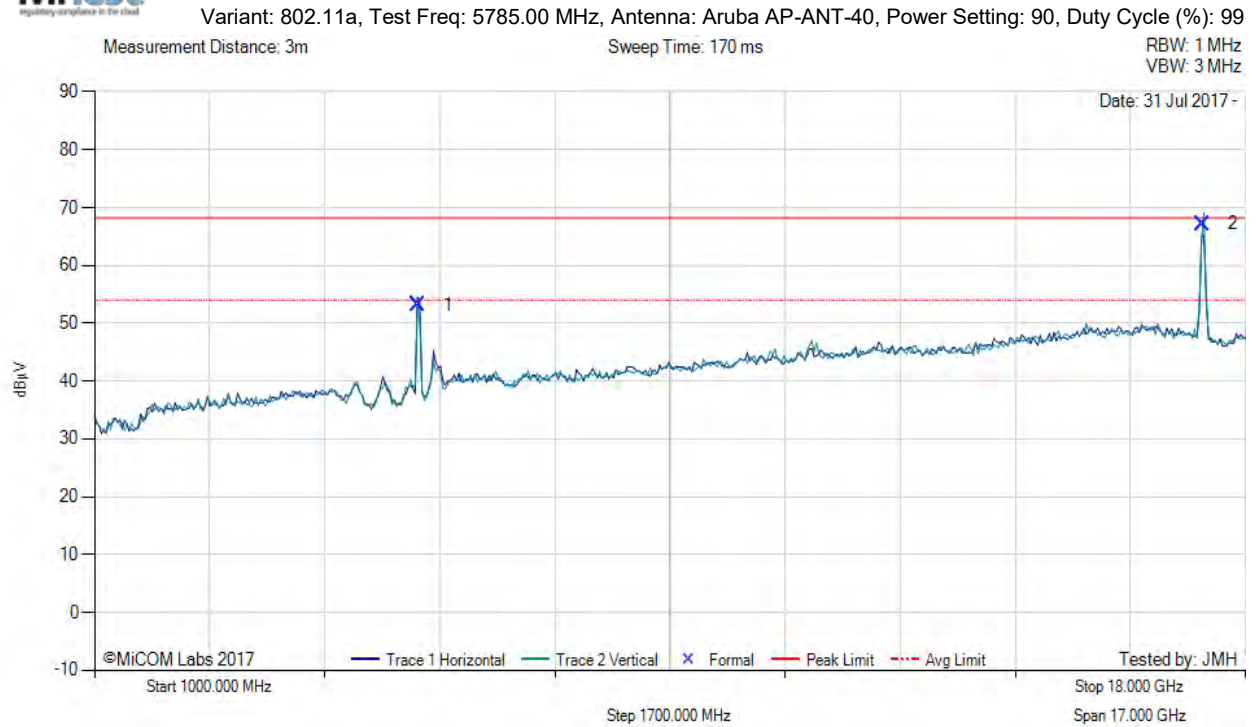
This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 84 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5782.10	59.81	3.80	-10.46	53.15	Fundamental	Horizontal	100	30	--	--	
2	17359.65	61.90	6.28	-0.04	67.14	Max Peak	Vertical	153	0	68.2	-1.1	Pass

Test Notes: EEUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH157 a mode.

[back to matrix](#)

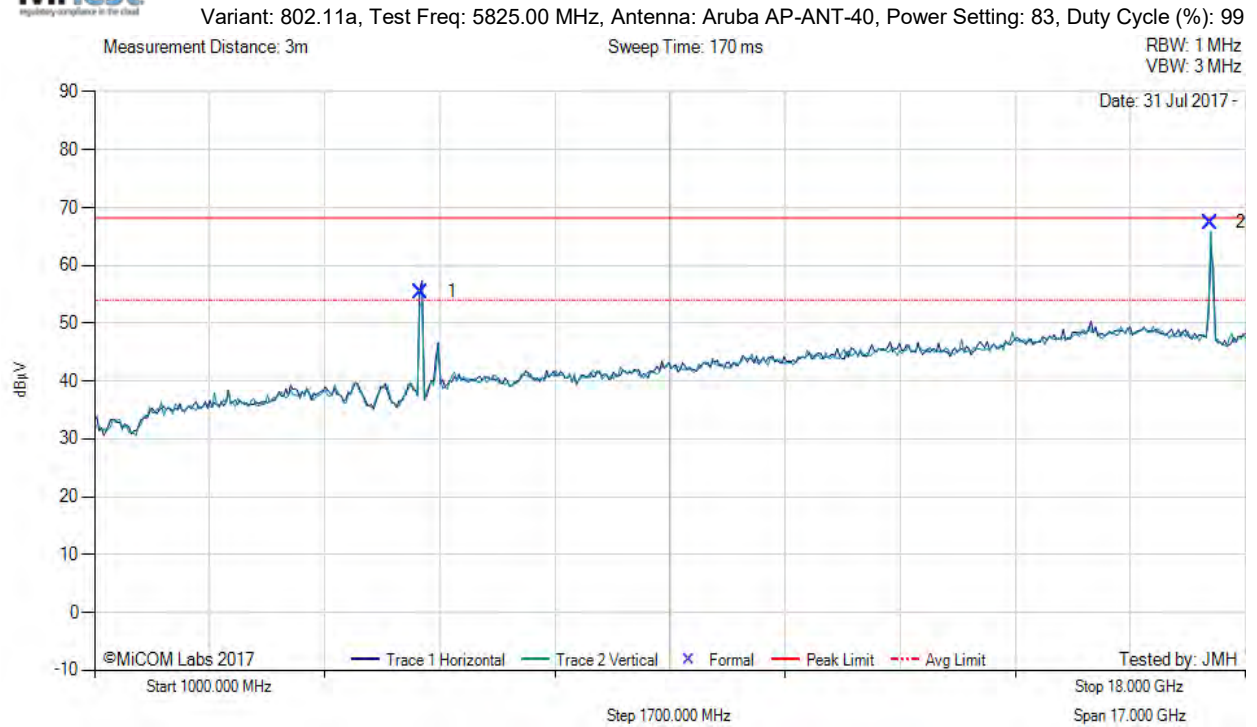
This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 85 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5826.27	61.84	3.84	-10.24	55.44	Fundamental	Horizontal	151	41	--	--	
2	17479.84	61.65	6.34	-0.60	67.39	Max Peak	Vertical	161	358	68.2	-0.8	Pass

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

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 86 of 104

Antenna: AP-ANT-45

5150 - 5250 MHz

TX SPURIOUS & RESTRICTED BAND EMISSIONS



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

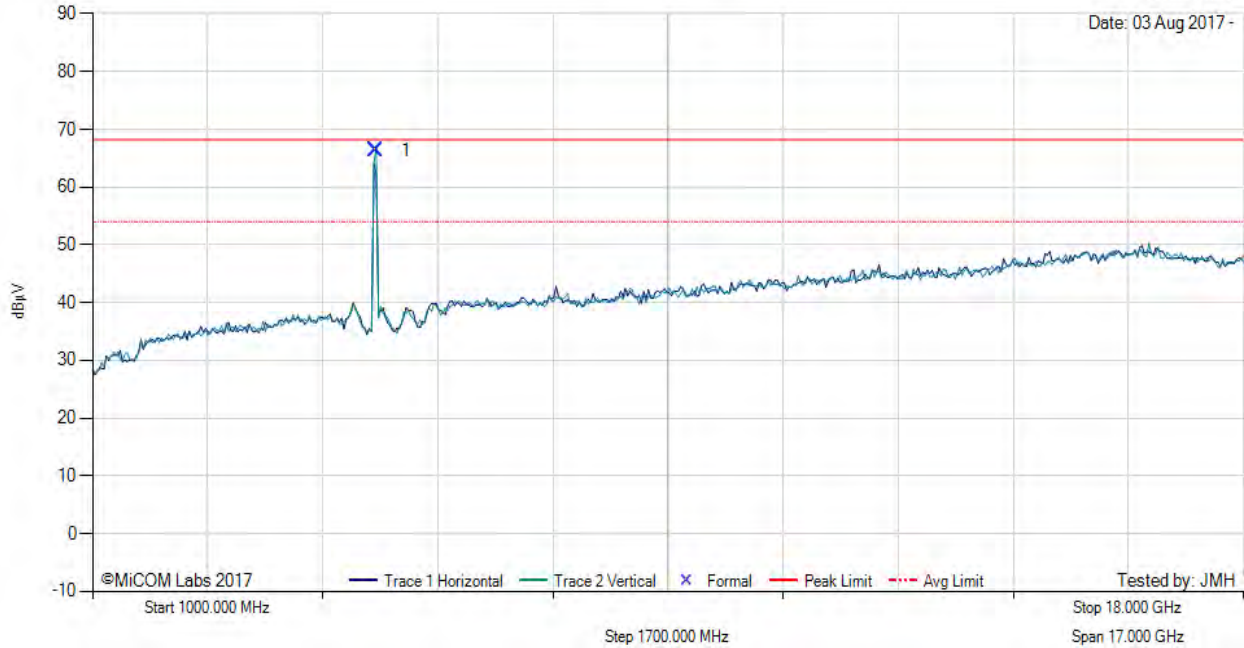
Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz

VBW: 3 MHz

Date: 03 Aug 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5183.27	74.15	3.68	-11.50	66.33	Fundamental	Vertical	100	0	--	--	

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

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 87 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS

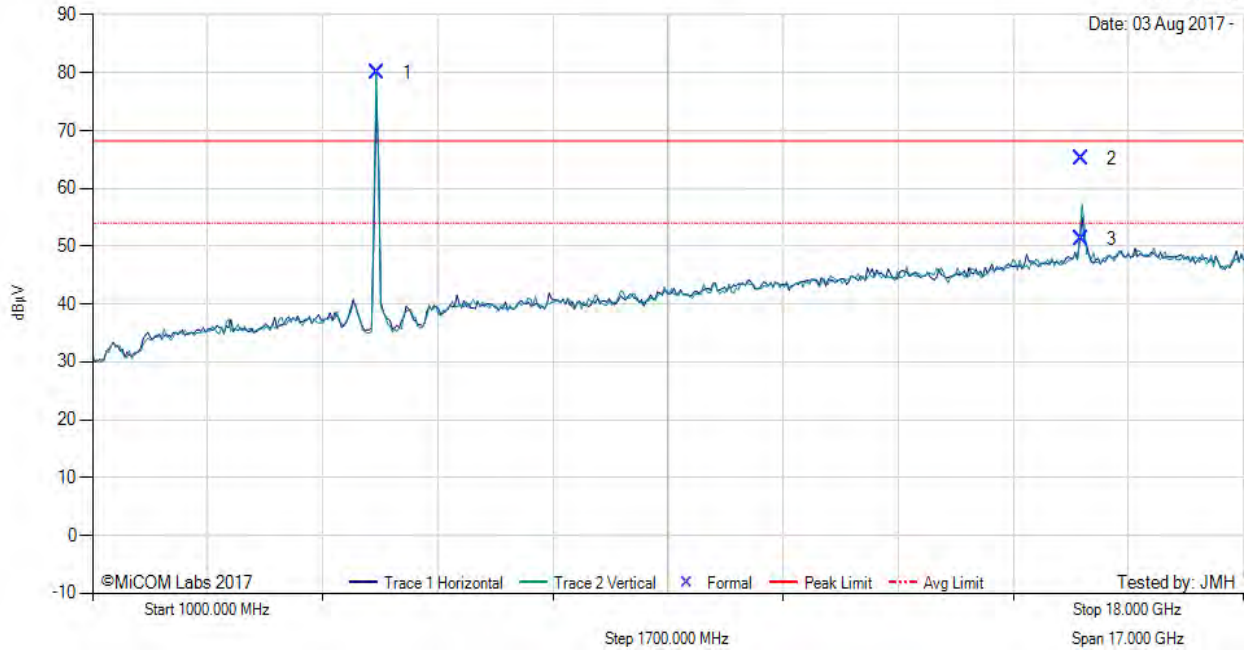
Variant: 802.11a, Test Freq: 5200.00 MHz, Antenna: Aruba AP-ANT-45, Power Setting: 100, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz
VBW: 3 MHz

Date: 03 Aug 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5205.21	87.72	3.65	-11.45	79.92	Fundamental	Vertical	100	0	--	--	
2	15602.97	59.33	6.03	-0.22	65.14	Max Peak	Vertical	187	323	68.2	-3.1	Pass
3	15602.97	45.45	6.03	-0.22	51.26	Max Avg	Vertical	187	323	54.0	-2.7	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH40 a mode.

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 88 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS

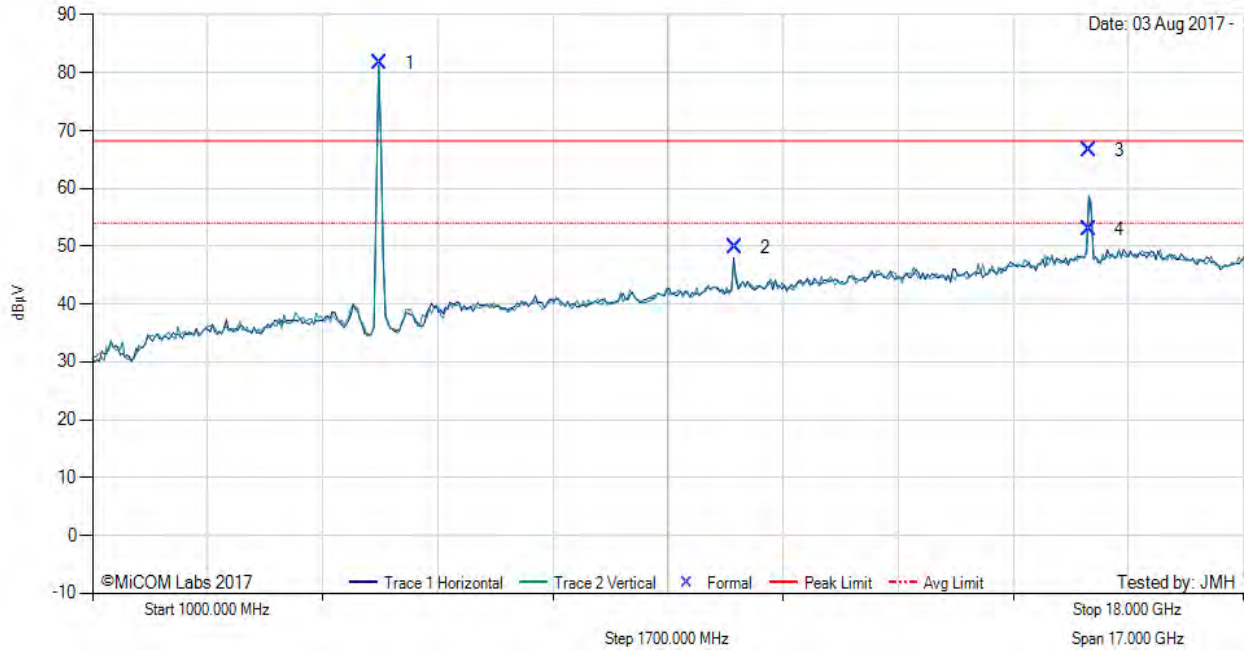
Variant: 802.11a, Test Freq: 5240.00 MHz, Antenna: Aruba AP-ANT-45, Power Setting: 100, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz
VBW: 3 MHz

Date: 03 Aug 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5245.12	89.35	3.63	-11.35	81.63	Fundamental	Vertical	100	0	--	--	
2	10482.68	48.81	5.40	-4.44	49.77	Peak (NRB)	Horizontal	151	133	--	--	Pass
3	15723.10	60.24	6.11	0.17	66.52	Max Peak	Vertical	160	324	68.2	-1.7	Pass
4	15723.10	46.57	6.11	0.17	52.85	Max Avg	Vertical	160	324	54.0	-1.2	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH48 a mode.

[back to matrix](#)

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.



5725 - 5850 MHz

TX SPURIOUS & RESTRICTED BAND EMISSIONS



Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: Aruba AP-ANT-45, Power Setting: 85, Duty Cycle (%): 99

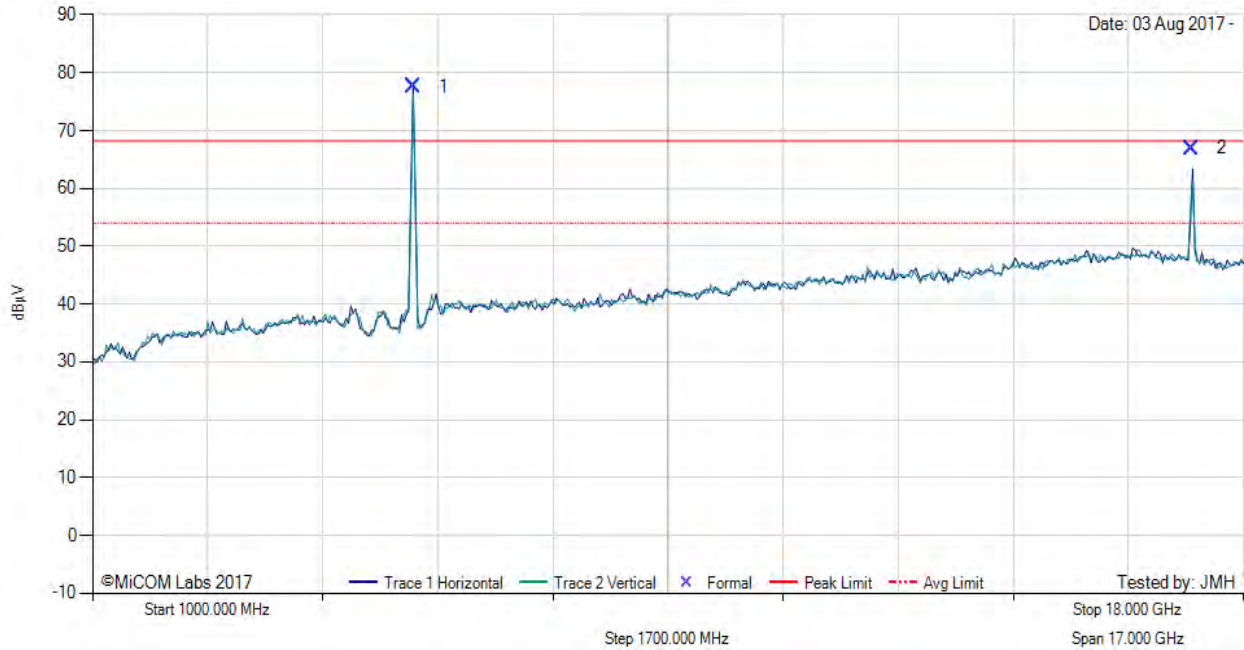
Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz

VBW: 3 MHz

Date: 03 Aug 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5737.40	84.52	3.82	-10.67	77.67	Fundamental	Horizontal	200	0	--	--	
2	17237.94	60.10	6.47	0.34	66.91	Max Peak	Horizontal	197	288	68.2	-1.3	Pass

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

[back to matrix](#)

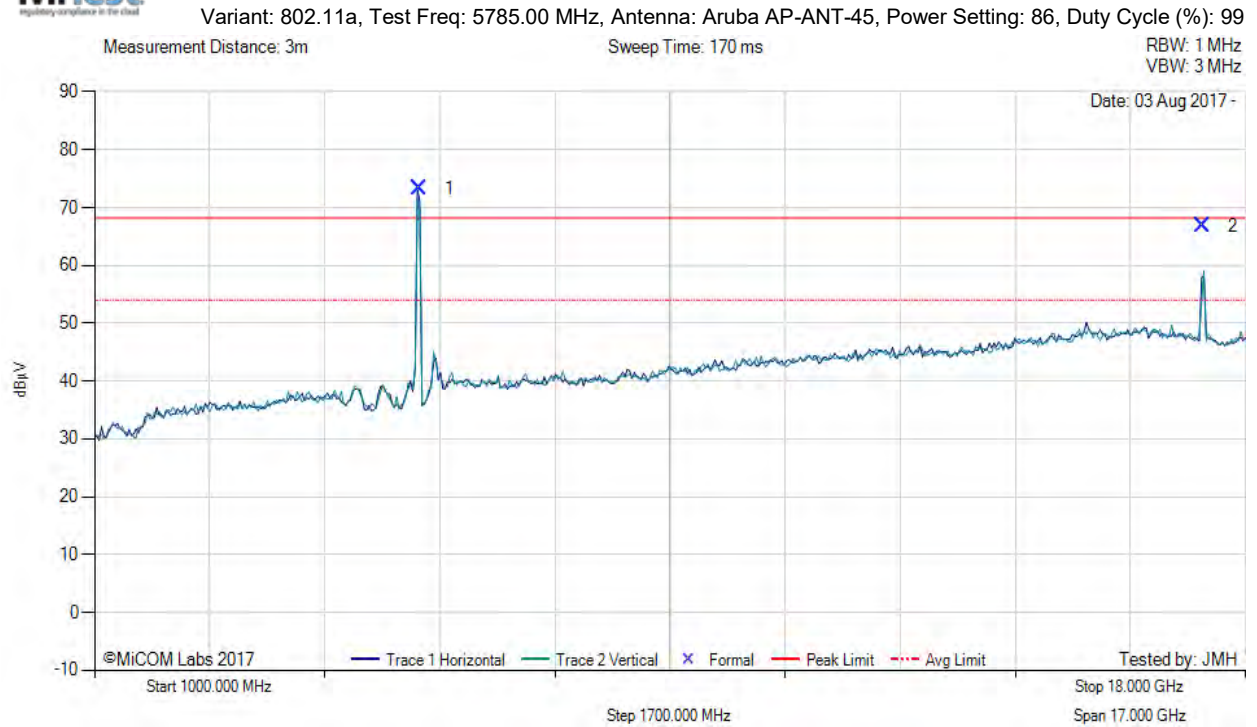
This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 90 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5789.87	79.90	3.79	-10.42	73.27	Fundamental	Horizontal	200	0	--	--	
2	17363.08	60.50	6.35	-0.06	66.79	Max Peak	Vertical	157	322	68.2	-1.5	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH157 a mode.

[back to matrix](#)

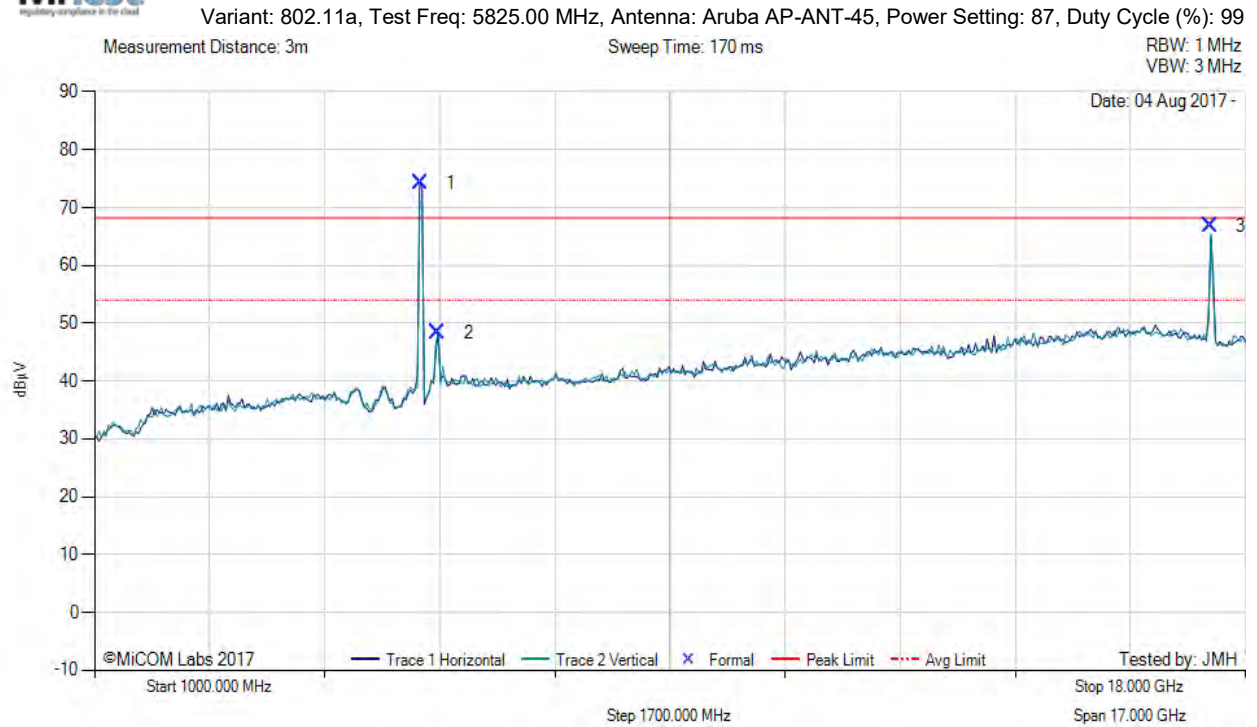
This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 91 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5819.64	80.64	3.83	-10.26	74.21	Fundamental	Horizontal	194	0	--	--	
2	6074.55	54.11	3.87	-9.59	48.39	Peak (NRB)	Horizontal	150	50	--	--	Pass
3	17478.16	61.10	6.33	-0.60	66.83	Max Peak	Vertical	151	59	68.2	-1.4	Pass

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

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 92 of 104

Antenna: AP-ANT-48

5150 - 5250 MHz

TX SPURIOUS & RESTRICTED BAND EMISSIONS



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

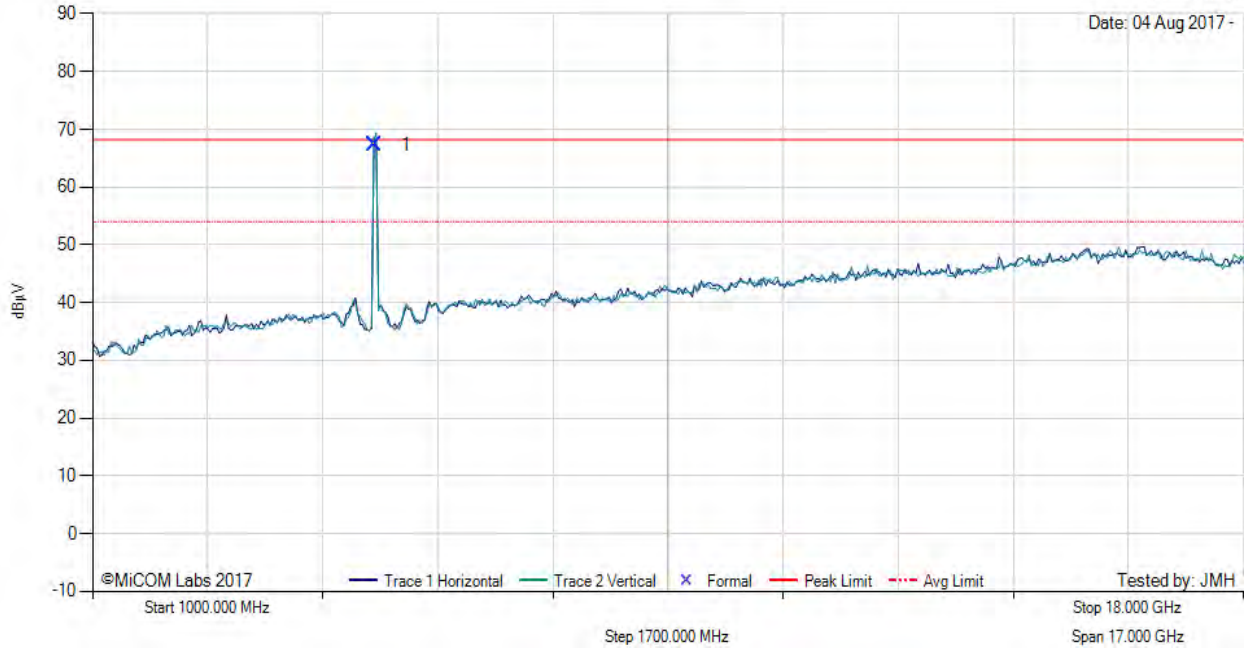
Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz

VBW: 3 MHz

Date: 04 Aug 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5172.47	75.09	3.70	-11.53	67.26	Fundamental	Vertical	100	0	--	--	

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

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 93 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS

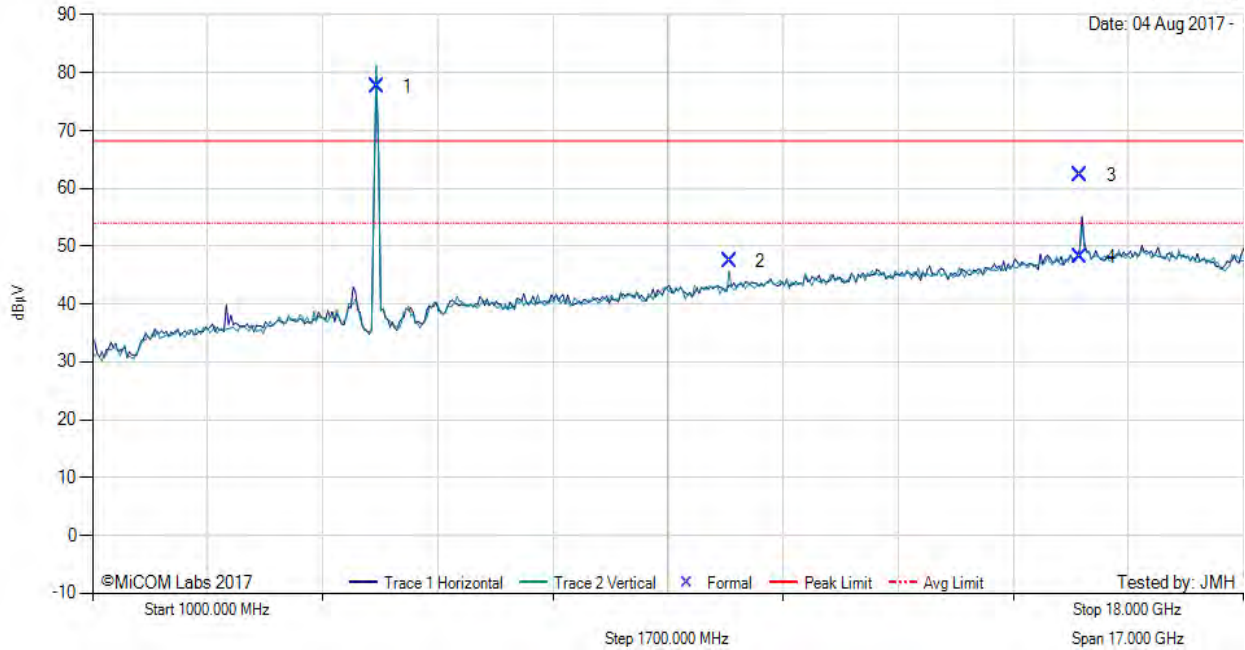
Variant: 802.11a, Test Freq: 5200.00 MHz, Antenna: Aruba AP-ANT-48, Power Setting: 100, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz
VBW: 3 MHz

Date: 04 Aug 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5204.99	85.36	3.65	-11.45	77.56	Fundamental	Vertical	100	0	--	--	
2	10407.60	46.90	5.47	-4.98	47.39	Peak (NRB)	Vertical	151	0	--	--	Pass
3	15593.54	56.56	6.00	-0.27	62.29	Max Peak	Horizontal	197	287	68.2	-5.9	Pass
4	15593.54	42.42	6.00	-0.27	48.15	Max Avg	Horizontal	197	287	54.0	-5.9	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH40 a mode.

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 94 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS

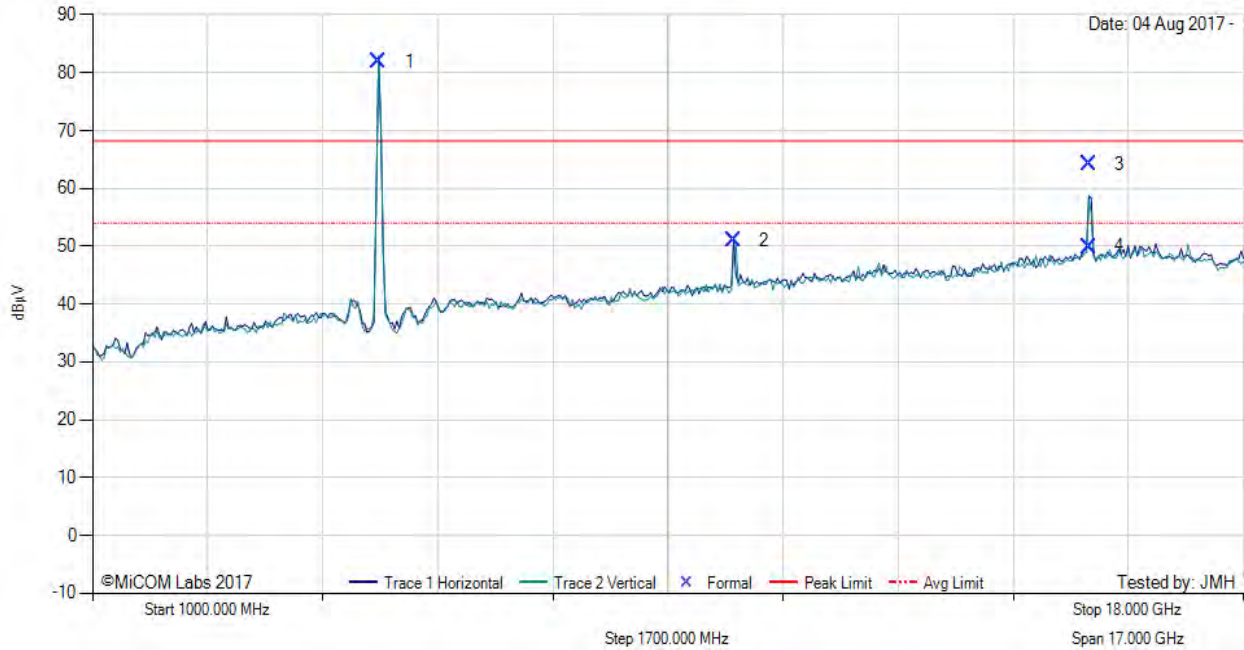
Variant: 802.11a, Test Freq: 5240.00 MHz, Antenna: Aruba AP-ANT-48, Power Setting: 100, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz
VBW: 3 MHz

Date: 04 Aug 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5232.33	89.63	3.63	-11.39	81.87	Fundamental	Vertical	100	0	--	--	
2	10476.29	50.08	5.44	-4.48	51.04	Peak (NRB)	Horizontal	100	0	--	--	Pass
3	15713.87	58.06	5.99	0.17	64.22	Max Peak	Horizontal	196	289	68.2	-4.0	Pass
4	15713.87	43.77	5.99	0.17	49.93	Max Avg	Horizontal	196	289	54.0	-4.1	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH48 a mode.

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 95 of 104

5725 - 5850 MHz

TX SPURIOUS & RESTRICTED BAND EMISSIONS



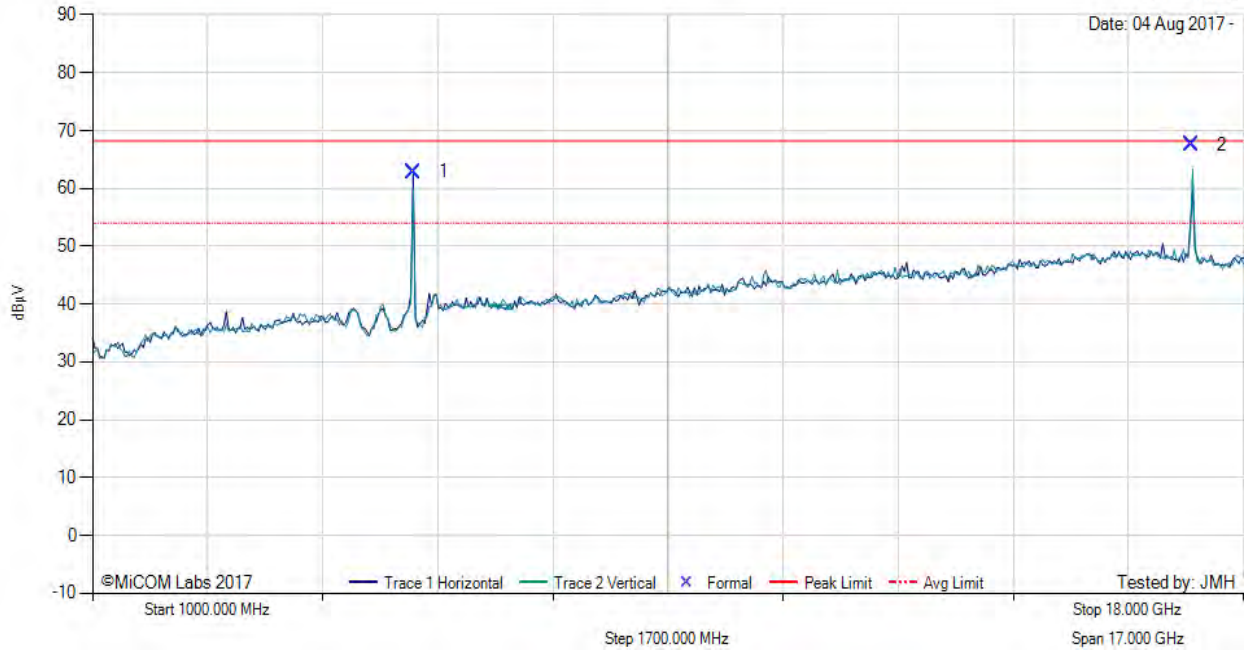
Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: Aruba AP-ANT-48, Power Setting: 88, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz
VBW: 3 MHz

Date: 04 Aug 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5739.49	69.67	3.82	-10.67	62.82	Fundamental	Horizontal	100	0	--	--	
2	17235.35	60.78	6.46	0.35	67.59	Max Peak	Vertical	196	298	68.2	-0.6	Pass

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

[back to matrix](#)

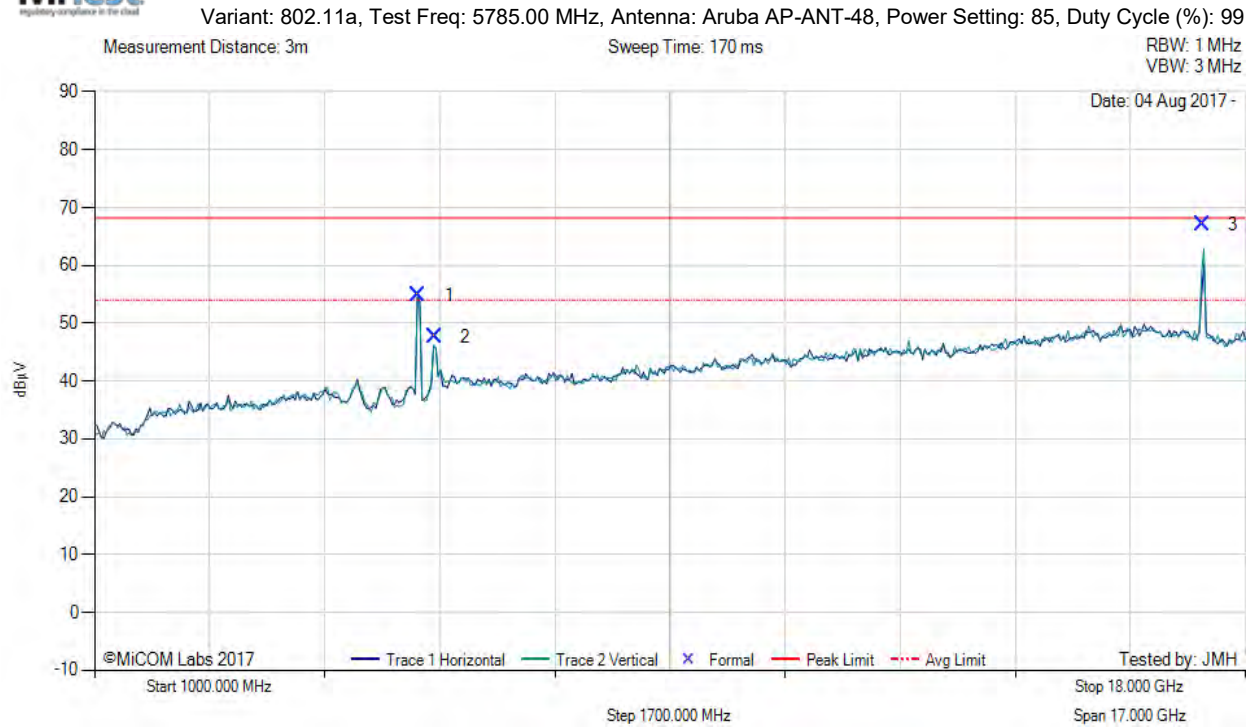
This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 96 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5784.69	61.53	3.80	-10.44	54.89	Fundamental	Horizontal	100	0	--	--	
2	6018.11	53.43	3.86	-9.70	47.59	Peak (NRB)	Vertical	151	0	--	--	Pass
3	17362.87	60.82	6.32	-0.05	67.09	Max Peak	Vertical	148	315	68.2	-1.1	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH157 a mode.

[back to matrix](#)

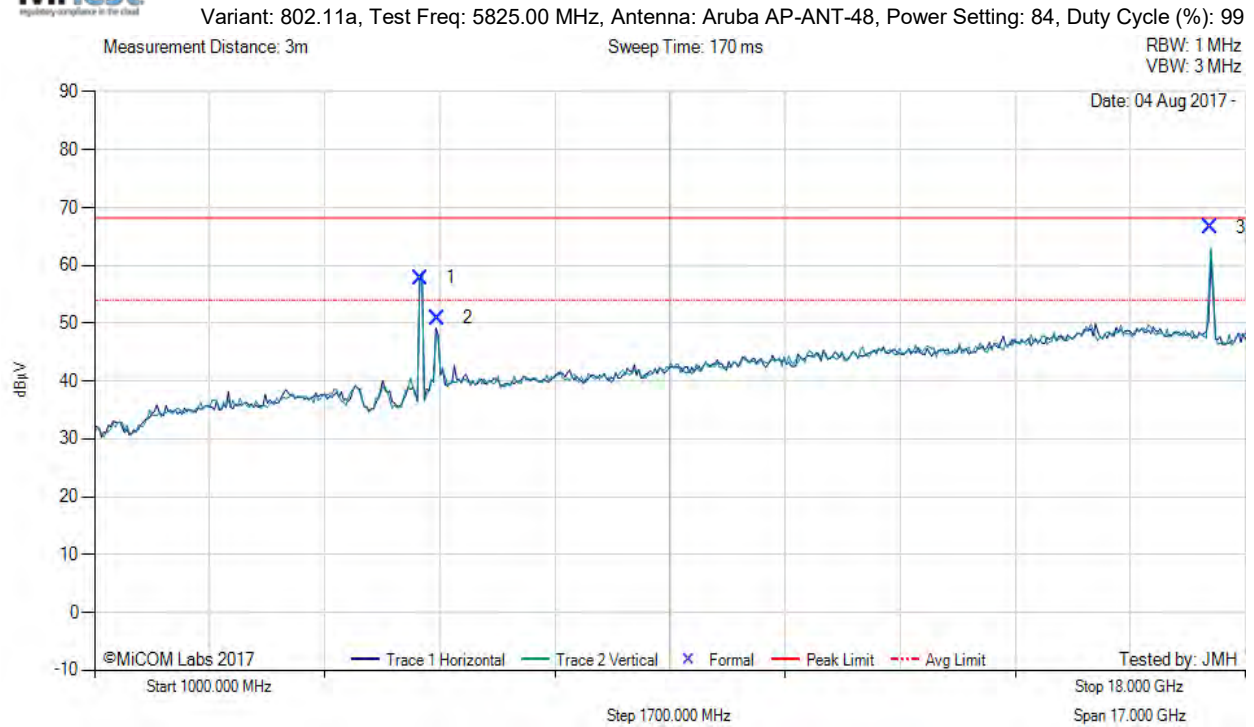
This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 97 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5819.54	64.24	3.83	-10.26	57.81	Fundamental	Vertical	100	0	--	--	
2	6060.10	56.62	3.88	-9.63	50.87	Peak (NRB)	Horizontal	100	0	--	--	Pass
3	17483.00	60.84	6.39	-0.62	66.61	Max Peak	Vertical	147	315	68.2	-1.6	Pass

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

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 98 of 104

Antenna: Metal Sheet

5150 - 5250 MHz

TX SPURIOUS & RESTRICTED BAND EMISSIONS



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

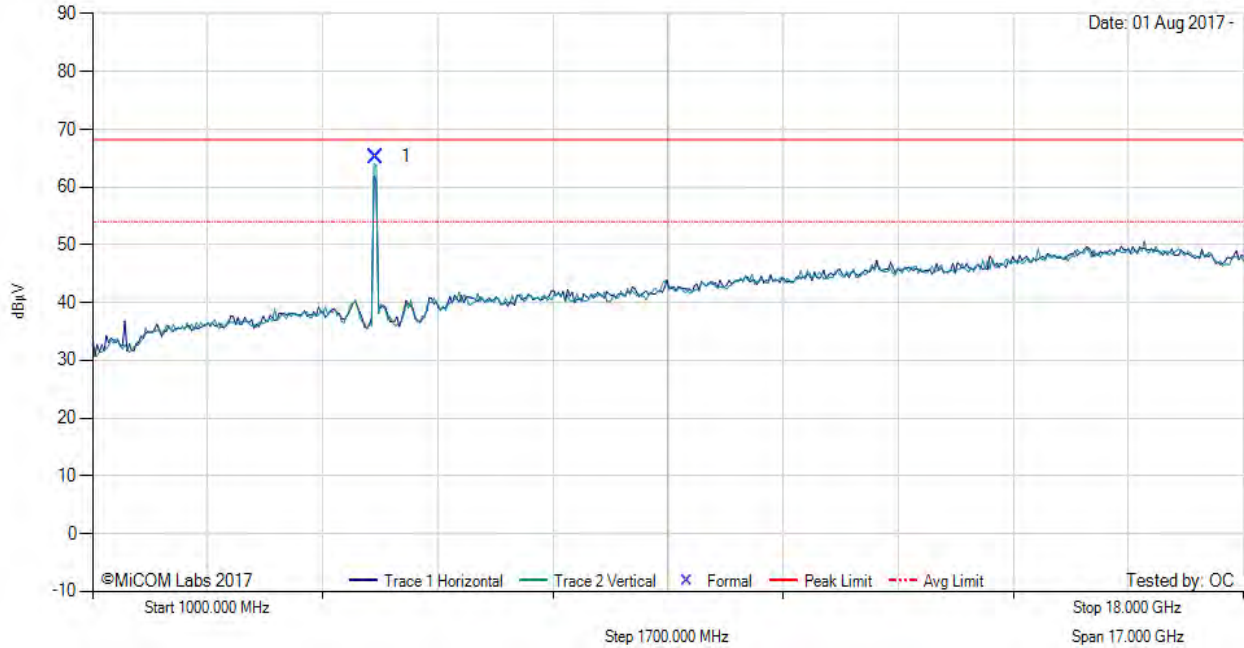
Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz

VBW: 3 MHz

Date: 01 Aug 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5181.88	73.10	3.69	-11.50	65.29	Fundamental	Vertical	100	0	--	--	

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

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 99 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS

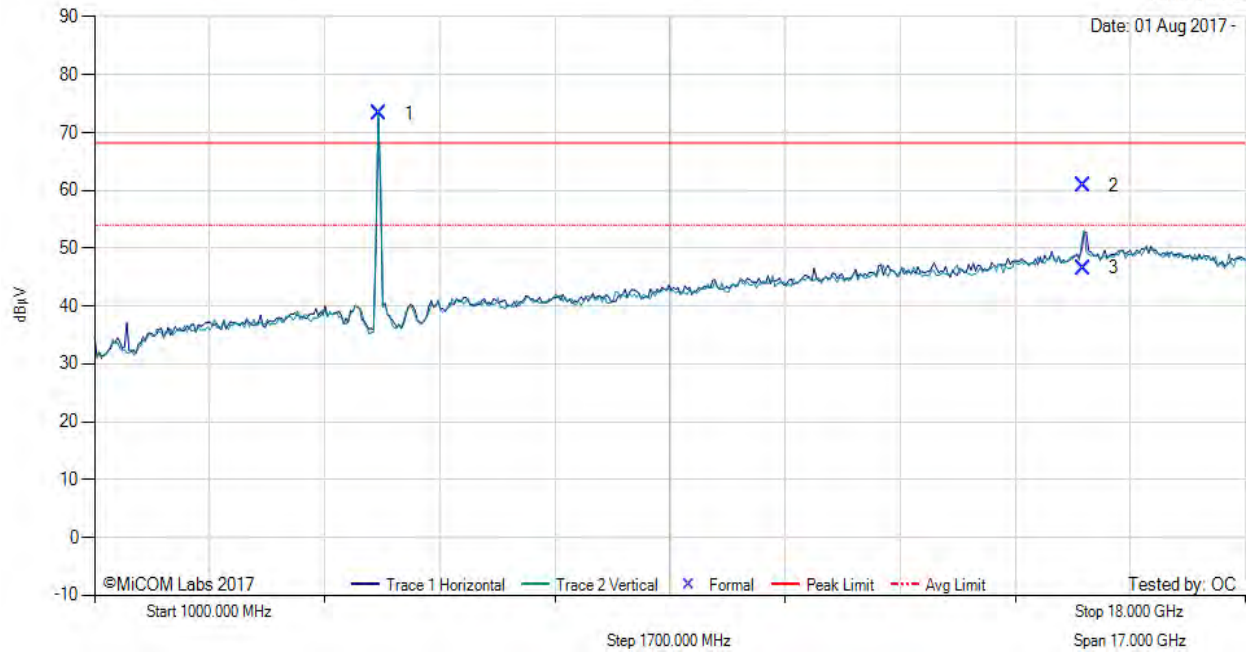
Variant: 802.11a, Test Freq: 5200.00 MHz, Antenna: Aruba Metal Sheet, Power Setting: 100, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz
VBW: 3 MHz

Date: 01 Aug 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5202.56	81.10	3.65	-11.45	73.30	Fundamental	Vertical	100	0	--	--	
2	15609.88	54.95	6.00	-0.18	60.77	Max Peak	Vertical	156	207	68.2	-7.5	Pass
3	15609.88	40.76	6.00	-0.18	46.58	Max Avg	Vertical	156	207	54.0	-7.4	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH40 a mode.

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 100 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS

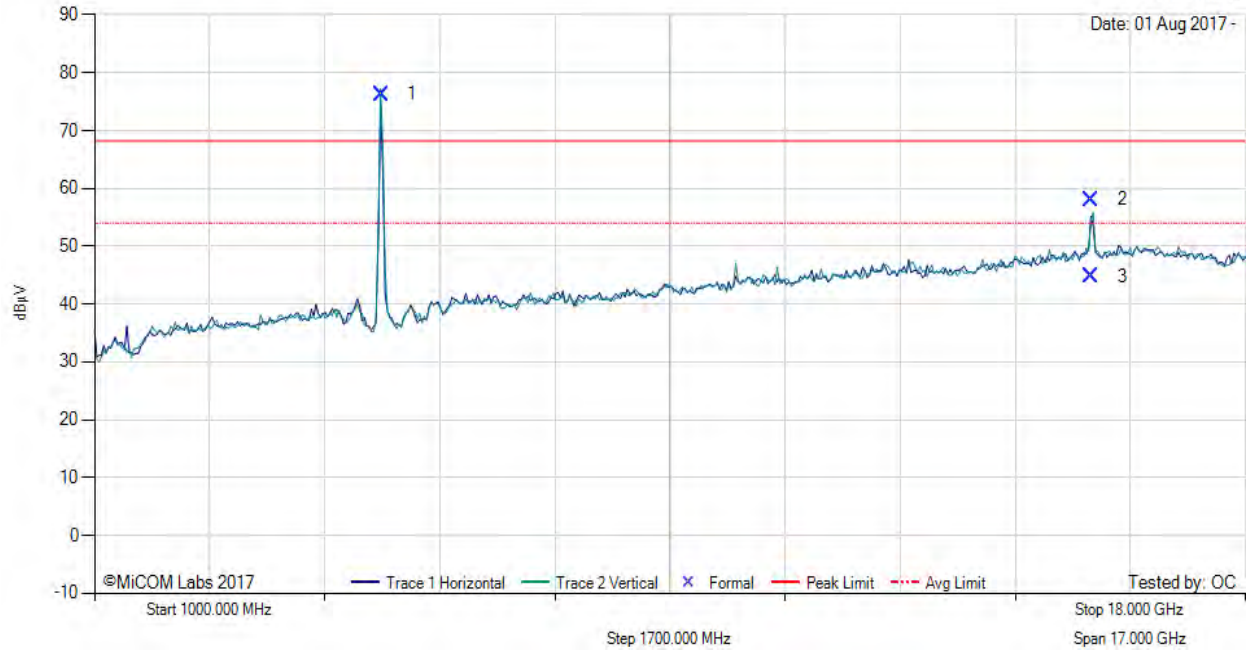
Variant: 802.11a, Test Freq: 5240.00 MHz, Antenna: Aruba Metal Sheet, Power Setting: 100, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz
VBW: 3 MHz

Date: 01 Aug 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5242.58	84.01	3.63	-11.36	76.28	Fundamental	Vertical	100	0	--	--	
2	15729.51	51.83	6.07	0.17	58.07	Max Peak	Vertical	157	183	68.2	-10.2	Pass
3	15729.51	38.55	6.07	0.17	44.79	Max Avg	Vertical	157	183	54.0	-9.2	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH48 a mode.

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 101 of 104

5725 - 5850 MHz

TX SPURIOUS & RESTRICTED BAND EMISSIONS



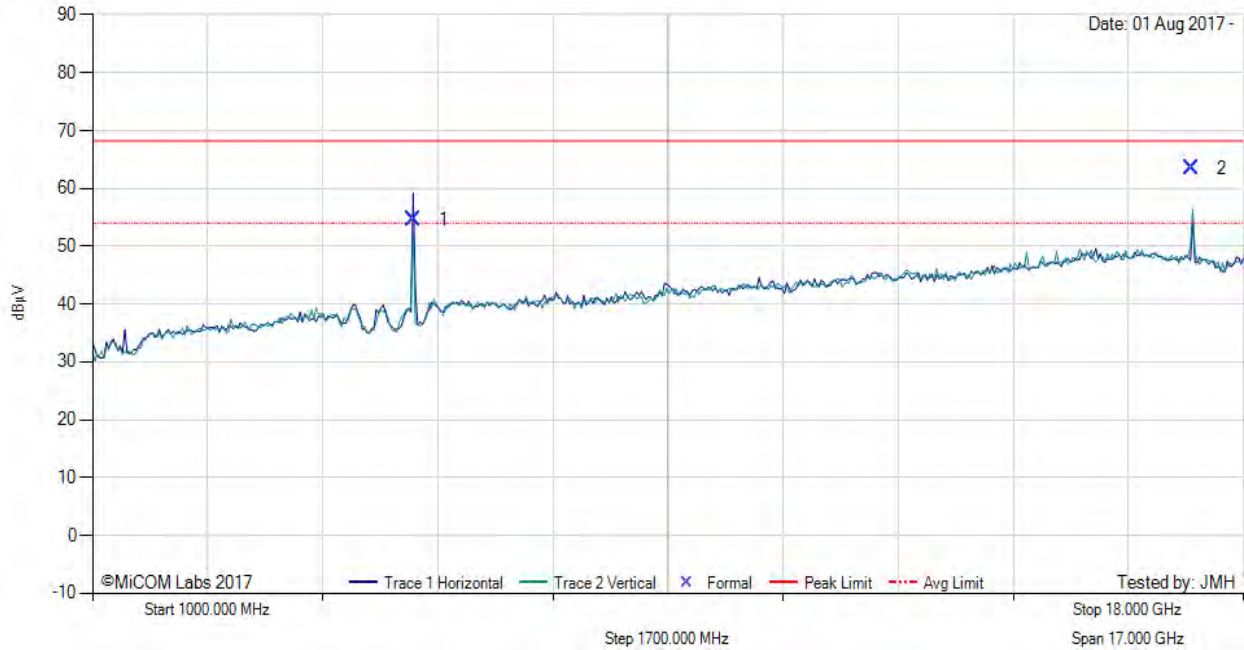
Variant: 802.11a, Test Freq: 5745.00 MHz, Antenna: Aruba Metal Sheet, Power Setting: 92, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz
VBW: 3 MHz

Date: 01 Aug 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5741.70	61.48	3.83	-10.66	54.65	Fundamental	Horizontal	100	360	--	--	
2	17237.84	56.58	6.47	0.34	63.39	Max Peak	Vertical	175	355	68.2	-4.8	Pass

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

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 102 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS

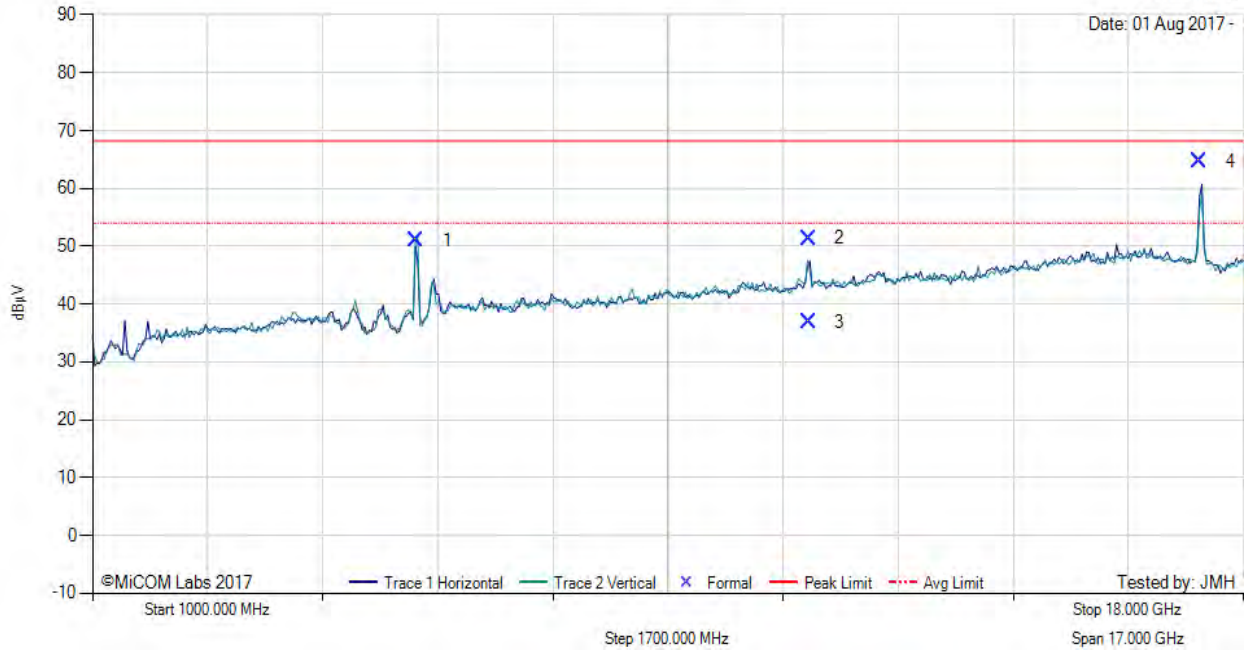
Variant: 802.11a, Test Freq: 5785.00 MHz, Antenna: Aruba Metal Sheet, Power Setting: 100, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz
VBW: 3 MHz

Date: 01 Aug 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5784.70	57.63	3.80	-10.44	50.99	Fundamental	Vertical	200	20	--	--	
2	11575.13	50.57	5.42	-4.62	51.37	Max Peak	Horizontal	168	143	68.2	-16.9	Pass
3	11575.13	36.12	5.42	-4.62	36.92	Max Avg	Horizontal	168	143	54.0	-17.1	Pass
4	17355.86	58.42	6.27	-0.02	64.67	Max Peak	Horizontal	171	357	68.2	-3.6	Pass

Test Notes: EUT powered by AC/DC PS. Connected to laptop outside chamber via telnet software. Annotation: 2.4F, 5GF Mode 1 Radio 0 CH157 a mode.

[back to matrix](#)

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.



Title: Hewlett Packard Enterprise APIN0344 & APIN0345
To: FCC CFR 47 Part 15 Subpart E 15.407
Serial #: HPEN111-U8_Radiated_SE Radio 0 Non-DFS Rev A
Issue Date: 22nd August 2017
Page: 103 of 104



TX SPURIOUS & RESTRICTED BAND EMISSIONS

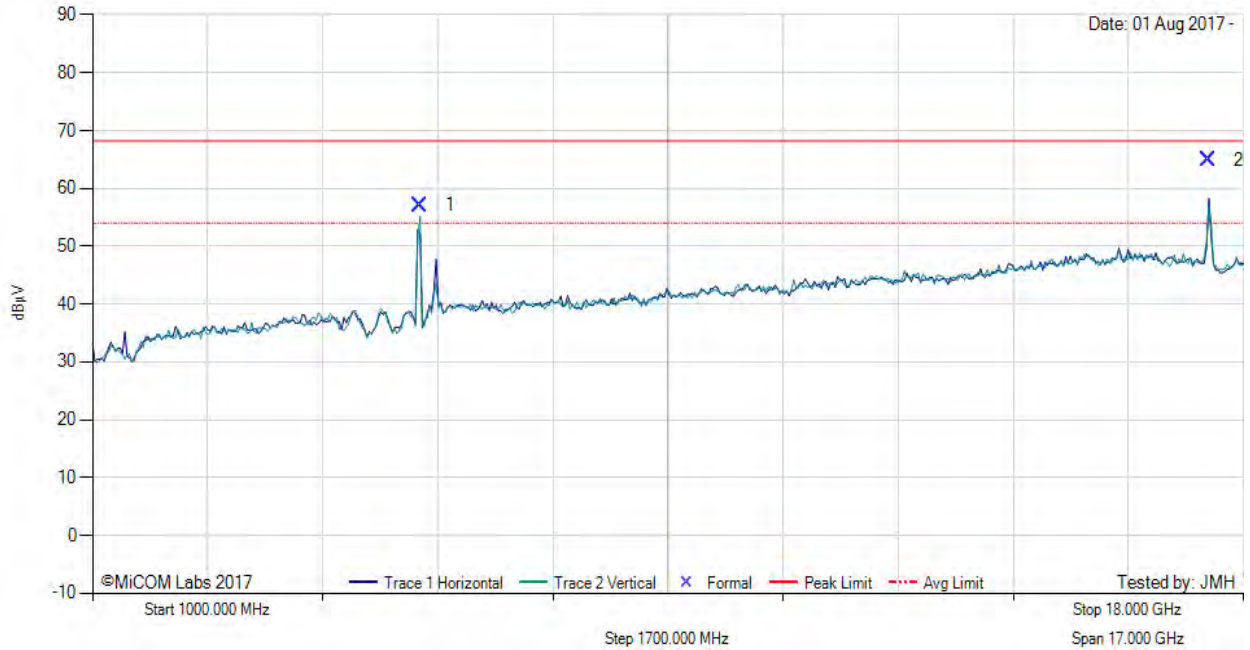
Variant: 802.11a, Test Freq: 5825.00 MHz, Antenna: Aruba Metal Sheet, Power Setting: 91, Duty Cycle (%): 99

Measurement Distance: 3m

Sweep Time: 170 ms

RBW: 1 MHz
VBW: 3 MHz

Date: 01 Aug 2017 -



1000.00 - 18000.00 MHz												
Num	Frequency MHz	Raw dBµV	Cable Loss dB	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
1	5831.78	63.45	3.84	-10.22	57.07	Fundamental	Vertical	151	20	--	--	
2	17478.29	59.24	6.33	-0.60	64.97	Max Peak	Horizontal	197	357	68.2	-3.3	Pass

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

[back to matrix](#)

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.



575 Boulder Court
Pleasanton, California 94566, USA
Tel: +1 (925) 462 0304
Fax: +1 (925) 462 0306
www.micomlabs.com