

Company: Hewlett Packard Enterprise

Test of: APIN0344 & APIN0345

To: FCC CFR 47 Part 1.1310

Report No.: HPEN111-U14_MPE (non-DFS Bands) Rev A

MPE/RF EXPOSURE TEST REPORT



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Test of: Hewlett Packard Enterprise APIN0344 & APIN0345

To: FCC CFR 47 Part 1.1310

Test Report Serial No.: HPEN111-U14_MPE non-DFS Bands Rev A

This report supersedes: NONE

Applicant: Hewlett Packard Enterprise
1344 Crossman Ave
Sunnyvale, California 94089
USA

Product Function: Wireless Access Point with BLE

Issue Date: 23rd August 2017

This Test Report is Issued Under the Authority of:

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1. MAXIMUM PERMISSABLE EXPOSURE

Calculations for Maximum Permissible Exposure Levels

Power Density = P_d (mW/cm²) = $EIRP / (4 * \pi * d^2)$

$EIRP = P * G$

P = Peak output power (mW)

G = Antenna numeric gain (numeric)

d = Separation distance (cm)

Numeric Gain = $10^{(G \text{ (dBi)} / 10)}$

The calculations in the table below use the highest conducted power values together with the lowest antenna gain specified for the EUT. These calculations represent worst case in terms of the exposure levels.

Non-DFS Frequency Bands

Worst case for output power configuration non-DFS frequency bands

Freq. Band (MHz)	Ant Gain (dBi)	Numeric Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Calculated Power Density (mW/cm ²) @ 20cm	Power Density Limit (mW/cm ²)	Min Calculated safe distance for Limit (cm)	Calculated Power Density (mW/cm ²) @ Safe Distance
2400.0 - 2483.5 (BLE)	5.50	3.55	2.34	1.71	0.00	1.00	1.00	1.00
2400.0 - 2483.5 (WiFi)	4.00	2.51	27.47	558.31	0.28	1.00	11.00	1.00
5150.0 - 5250.0	2.00	1.58	27.57	571.66	0.18	1.00	9.00	1.00
5725.0 - 5850.0	2.00	1.58	26.66	463.80	0.15	1.00	8.00	1.00

For non-DFS operation the unit is limited to transmitting one of the following modes;		
Mode 0	Mode 1	Mode 2
a).. 2.4 GHz BLE	a).. 2.4 GHz BLE	a).. 2.4 GHz BLE
b).. UNII Band 1 WiFi	b).. 2.4 GHz WiFi	b).. 2.4 GHz WiFi
c).. UNII Band 3 WiFi	c).. UNII Band 1 WiFi	c).. UNII Band 3 WiFi



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Worst Case Simultaneous Operation

Assessment for simultaneous operation Mode 0:

Freq. Band (MHz)	Ant Gain (dBi)	Numeric Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Calculated Safe Distance @ 1mW/cm ²	Calculated Power Density @ 20cm	Minimum Separation Distance (cm)
2400.0 - 2483.5 (BLE)	5.50	3.55	2.34	1.71	1.00	0.00	1.00
5150.0 – 5250.0	2.00	1.58	27.57	571.66	9.00	0.18	9.00
5725.0 – 5850.0	2.00	1.58	26.66	463.80	8.00	0.15	8.00
EIRP TOTAL (mW/EIRP) : 1037.17					10.00	0.33	20.00

Assessment for simultaneous operation Mode 1:

Freq. Band (MHz)	Ant Gain (dBi)	Numeric Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Calculated Safe Distance @ 1mW/cm ²	Calculated Power Density @ 20cm	Minimum Separation Distance (cm)
2400.0 - 2483.5 (BLE)	5.50	3.55	2.34	1.71	1.00	0.00	1.00
2400.0 - 2483.5 (WiFi)	4.00	2.51	27.47	558.31	11.00	0.28	11.00
5150.0 – 5250.0	2.00	1.58	27.57	571.66	9.00	0.18	9.00
EIRP TOTAL (mW/EIRP) : 1131.68					10.00	0.46	20.00

Assessment for simultaneous operation Mode 2:

Freq. Band (MHz)	Ant Gain (dBi)	Numeric Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Calculated Safe Distance @ 1mW/cm ²	Calculated Power Density @ 20cm	Minimum Separation Distance (cm)
2400.0 - 2483.5 (BLE)	5.50	3.55	2.34	1.71	1.00	0.00	1.00
2400.0 - 2483.5 (WiFi)	4.00	2.51	27.47	558.31	11.00	0.28	11.00
5725.0 – 5850.0	2.00	1.58	26.66	463.80	8.00	0.15	8.00
EIRP TOTAL (mW/EIRP) : 1023.82					10.00	0.43	20.00

Note: for mobile or fixed location transmitters the minimum separation distance is 20cm, even if calculations indicate the MPE distance to be less.

Specification - Maximum Permissible Exposure Limits

The Limit is defined in Table 1 of FCC §1.1310.

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