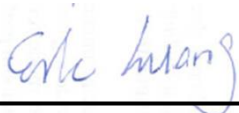


RF Exposure Evaluation Report

APPLICANT : Hewlett Packard Enterprise Company
EQUIPMENT : Wireless Access Point
BRAND NAME : aruba
MODEL NAME : APIN0207
FCC ID : Q9DAPIN0207
STANDARD : 47 CFR Part 2.1091

We, SPORTON INTERNATIONAL INC., would like to declare that the device has been evaluated in accordance with 47 CFR Part 2.1091, and pass the limit. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.



Reviewed by: Eric Huang / Deputy Manager



Approved by: Jones Tsai / Manager



SPORTON INTERNATIONAL INC.

No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Taoyuan City, Taiwan (R.O.C.)



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**Revision History**

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA671301	Rev. 01	Initial issue of report	Sep. 07, 2016



1. Administration Data

1.1. Testing Laboratory

Testing Laboratory	
Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978

Applicant	
Company Name	Hewlett Packard Enterprise Company
Address	3000 Hanover Street, Palo Alto, CA 94304

Manufacturer	
Company Name	Hewlett Packard Enterprise Company
Address	3000 Hanover Street, Palo Alto, CA 94304

2. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	Wireless Access Point
Brand Name	aruba
Model Name	APIN0207
FCC ID	Q9DAPIN0207
S/N	DX0000039
Wireless Technology and Frequency Range	WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz
Mode	· 802.11a/b/g/n/ac HT20/HT40/VHT20/VHT40/VHT80 · Bluetooth LE
SW Version	6.5.1.0 build 55812
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.



3. Maximum RF average output power among production units

Bluetooth

Mode / Band	Average Power (dBm)
	LE
2.4 GHz Bluetooth	8

WLAN

Band / Frequency (MHz)		IEEE 802.11 Average Power (dBm)			
		11b	11g	HT20	HT40
2.4GHz Band Ant 1+2	2412	21.5	20.5	18.5	
	2422				17.5
	2437	21.5	21.0	21.5	20.0
	2452				17.5
	2462	21.5	20.5	18.5	

Band / Frequency (MHz)		IEEE 802.11 Average Power (dBm)					
		11a	HT20	HT40	VHT20	VHT40	VHT80
5.2GHz Band Ant 1+2	5180	20.0	20.0		20.0		
	5190			18.0		18.0	
	5210						17.5
	5220	21.5	21.5		21.5		
	5230			21.5		21.5	
	5240	21.5	21.5		21.5		

Band / Frequency (MHz)		IEEE 802.11 Average Power (dBm)					
		11a	HT20	HT40	VHT20	VHT40	VHT80
5.8GHz Band Ant 1+2	5745	21.5	21.5		21.5		
	5755			21.5		21.5	
	5775						21.5
	5785	21.5	21.5		21.5		
	5795			21.5		21.5	
	5825	21.5	21.5		21.5		

Note:

1. MIMO Ant. 1+2 average power is a combined result from sum of the power MIMO Ant. 1 and MIMO Ant. 2.



4. RF Exposure Limit Introduction

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f ²)	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$S = \frac{PG}{4\pi R^2}$$

Where:

S = Power Density

P = Output Power at Antenna Terminals

G = Gain of Transmit Antenna (linear gain)

R = Distance from Transmitting Antenna



5. Radio Frequency Radiation Exposure Evaluation

5.1. Standalone Power Density Calculation

Band	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	Maximum EIRP (W)	Average EIRP (mW)	Power Density at 20cm (mW/cm ²)	Limit (mW/cm ²)	Power Density / Limit
Bluetooth	2.20	8.00	10.200	0.010	10.471	0.002	1.000	0.002
2.4GHz WLAN	2.20	21.50	23.700	0.234	234.423	0.047	1.000	0.047
5GHz WLAN	4.50	21.50	26.000	0.398	398.107	0.079	1.000	0.079

Note:

1. In the above table have assessed Bluetooth, WLAN2.4GHz and WLAN 5GHz by referring to their maximum antenna gain and maximum power.

<For Beamforming mode>

Band	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	Maximum EIRP (W)	Average EIRP (mW)	Power Density at 20cm (mW/cm ²)	Limit (mW/cm ²)	Power Density / Limit
2.4GHz WLAN	5.21	21.50	26.710	0.469	468.813	0.093	1.000	0.093
5GHz WLAN	7.51	21.50	29.010	0.796	796.159	0.158	1.000	0.158

Note:

1. This device support Beamforming for WLAN2.4GHz HT20/HT40 and WLAN5GHz HT20/HT40/VHT20/VHT40/VHT80,
(a) For WLAN 2.4GHz Beamforming mode, the maximum direction Gain is 5.21 dBi.
(b) For WLAN 5GHz Beamforming mode, the maximum direction Gain is 7.51 dBi.
2. In the above table have assessed WLAN2.4GHz and WLAN 5GHz by referring to their maximum direction Gain and maximum power.

**5.2. Collocated Power Density Calculation**

WLAN Power Density / Limit	Bluetooth Power Density / Limit	Σ (Power Density / Limit) of WLAN+Bluetooth
0.158	0.002	0.160

Note:

1. Σ (Power Density / Limit): This is a summation of [(power density for each transmitter/antenna included in the simultaneous transmission)/ (corresponding MPE limit)], for WLAN + Bluetooth.
2. Considering the all antennas collocation of the EIRP performance listed in the table above, the aggregated (power density /limit) is smaller than 1, and MPE of 2 collocated transmitters is compliant

Conclusion:

According to 47 CFR §2.1091, the RF exposure analysis concludes that the RF Exposure is FCC compliant.