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## RF Exposure Evaluation Declaration

**FCC ID:** Q9DAPINH203

**APPLICANT:** Hewlett Packard Enterprise Company

**Application Type:** Class II Permissible Change

**Product:** ACCESS POINT

**Model No.:** APINH203

**Trademark:**  a Hewlett Packard Enterprise company, 

**FCC Classification:** Digital Transmission System (DTS)

Unlicensed National Information Infrastructure (UNII)

Reviewed By : 

( Paddy Chen )

Approved By : 

( Chenz Ker )



The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standards through the calibration of the equipment and evaluated measurement uncertainty herein.

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## Revision History

Report No.	Version	Description	Issue Date	Note
1703TW0106-U8	Rev. 01	Initial report	06-02-2017	Invalid
1703TW0106-U8	Rev. 02	Add the working frequency	07-07-2017	Valid

## 1. PRODUCT INFORMATION

### 1.1. Equipment Description

Product Name:	ACCESS POINT
Model No.:	APINH203
Brand Name:	 a Hewlett Packard Enterprise company
Software Version:	9.10 RC178.40
Operating Temperature:	0 ~ 40 °C
Power Type:	POE input
Wi-Fi Specification:	802.11a/b/g/n/ac

Note: The applicant has provided one POE adapter (Manufacturer: MICROSEMI & Model: PD-9001GR/AT/AC & Output: 55VDC, 0.6A) for approval testing and it is not for sale.

### 1.2. Antenna Description

Antenna Type	Frequency Band (MHz)	TX Paths	Max Antenna Gain (dBi)	Directional Gain (dBi)
PCB Antenna	2412 ~ 2462	1 (Note 3)	4.3	N/A
		2	3.8	6.8
	5150 ~ 5850	1 (Note 3)	6.3	N/A
		2	4.0	7.0

Note 1: The EUT supports Cyclic Delay Diversity (CDD) technology for 802.11a/b/g/n/ac mode, and the transmitter output signal is correlated.

For CDD transmissions, directional gain =  $G_{ANT}$  + Array Gain, Array Gain = 3.0 dBi which is declared by the applicant. For power measurements on IEEE 802.11 devices, Array Gain = 0 dB for  $N_{ANT} \leq 4$ .

Note 2: The EUT also supports Beam Forming technology, and the Beam Forming only support 802.11n/ac mode. Directional gain =  $G_{ANT}$  + BF Gain, BF Gain = 3.0 dBi which is declared by the applicant.

Note 3: For SISO mode, only Ant 2 port can transmit 2.4GHz and Ant 1 port can transmit 5GHz.

## 2. RF Exposure Evaluation

### 2.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

#### LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	f/1500	6
1500-100,000	--	--	1	30

f= Frequency in MHz

Calculation Formula:  $Pd = (Pout * G) / (4 * \pi * r^2)$

Where

Pd = power density in mW/cm<sup>2</sup>

Pout = output power to antenna in mW

G = gain of antenna in linear scale

$\pi$  = 3.1416

r = distance between observation point and center of the radiator in cm

Pd is the limit of MPE, 1mW/cm<sup>2</sup>. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

## 2.2. Test Result of RF Exposure Evaluation

Product	ACCESS POINT
Test Item	RF Exposure Evaluation

Antenna Gain: Refer to clause 1.2.

Test Mode	Frequency Band (MHz)	Maximum Average Output Power (dBm)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
802.11b/g/n SISO	2412 ~ 2462	17.08	0.0273	1
802.11b/g/n MIMO	2412 ~ 2462	20.22	0.0502	1
802.11a/n/ac SISO	5180 ~ 5320 5500 ~ 5720 5745 ~ 5825	16.87	0.0413	1
802.11a/n/ac MIMO	5180 ~ 5320 5500 ~ 5720 5745 ~ 5825	19.98	0.0497	1

### CONCLUSION:

Both of the WLAN 2.4GHz Band and WLAN 5GHz Band can transmit simultaneously. Therefore, the Max Power Density at R (20 cm) = 0.0273mW/cm<sup>2</sup> + 0.0413mW/cm<sup>2</sup> = 0.0686mW/cm<sup>2</sup> < 1mW/cm<sup>2</sup>.

So the EUT complies with the requirement.

The End