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Report No.: 1409RSU02705
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RF Exposure Evaluation Declaration

FCC ID:	O9C-BJNGAFB0005
APPLICANT:	Hewlett Packard Company
Application Type:	Certification
Product:	Unified Wired-WLAN Walljack
Model No.:	BJNGA-FB0005, JH048A
Brand Name:	HP
FCC Classification:	Digital Transmission System (DTS) Unlicensed National Information Infrastructure (UNII)

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ACCREDITED
TESTING LABORATORY
CERTIFICATE #3628.01

Revision History

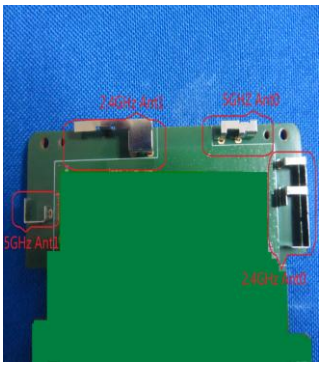
Report No.	Version	Description	Issue Date
1409RSU02705	Rev. 01	Initial report	09-25-2014

1. PRODUCT INFORMATION

1.1. Equipment Description

Product Name	Unified Wired-WLAN Walljack
Model No.	BJNGA-FB0005, JH048A
Power Type	48Vdc, 0.63A (or POE input)
Frequency Range	**For 2.4G Band:** 802.11b/g/n: 2412 ~ 2462 MHz **For 5.0G Band:** 802.11a/n/ac: 5150 ~ 5350MHz 5470 ~ 5725MHz 5725 ~ 5850MHz
Type of Modulation	802.11b: DSSS 802.11g/a/n/ac: OFDM
Maximum Average Output Power	802.11b: 23.35dBm 802.11g: 20.62dBm 802.11n-HT20: 20.15dBm 802.11n-HT40: 15.21dBm 802.11a: 20.86dBm 802.11n-HT20: 20.77dBm 802.11n-HT40: 20.65dBm 802.11ac-VHT20: 20.81dBm 802.11ac-VHT40: 20.58dBm 802.11ac-VHT80: 20.20dBm
Adapter	Brand Name: DVE M/N: DSA-42D-48 2 480063 P/N: JD055B Input: 100-240V ~ 50/60Hz 1.2A Output: +48V ~ 0.63A

1.2. Antenna Description

Antenna Type	Frequency Band (GHz)	Manufacturer	Model	Tx Paths	Max Peak Gain (dBi)	Directional Gain (dBi)	
						For Power	For PSD
	2.4	Lite-On Technology Corp.	WP388 -FN EVT2	2	Ant 0: 2.7 Ant 1: 3.3	6.02	6.02
	5.2			2	Ant 0: 4.6 Ant 1: 4.2	7.41	7.41
	5.5				Ant 0: 4.9 Ant 1: 4.4	7.66	7.66
	5.8				Ant 0: 5.0 Ant 1: 5.4	8.21	8.21

Note: The EUT supports Cyclic Delay Diversity (CDD) mode, and CDD signals are correlated.

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^2)	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*r2)

Where
Pd = power density in mW/cm2
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, $1mW/cm^2$. 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	Unified Wired-WLAN Walljack
Test Item	RF Exposure Evaluation

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 6.02dBi for 2.4GHz, 7.41dBi for 5.2GHz, 7.66dBi for 5.5GHz and 8.21dBi for 5.8GHz in logarithm scale.

For 2.4G ISM Band:

Test Mode	Frequency Band (MHz)	Maximum Average Output Power (dBm)	Power Density at R = 20 cm (mW/cm^2)	Limit (mW/cm^2)
802.11b	2412 ~ 2462	23.35	0.1721	1
802.11g	2412 ~ 2462	20.62	0.0918	1
802.11n-HT20	2412 ~ 2462	20.15	0.0824	1
802.11n-HT40	2422 ~ 2452	15.21	0.0264	1

For 5G UNII Band:

Test Mode	Frequency Band (MHz)	Maximum Average Output Power (dBm)	Power Density at R = 20 cm (mW/cm^2)	Limit (mW/cm^2)
802.11a	5180 ~ 5240	20.86	0.1336	1
	5260 ~ 5320	20.86	0.1336	1
	5500 ~ 5700	20.66	0.1351	1
	5745 ~ 5825	20.63	0.1523	1
802.11n-HT20	5180 ~ 5240	20.63	0.1267	1
	5260 ~ 5320	20.56	0.1247	1
	5500 ~ 5700	20.77	0.1386	1
	5745 ~ 5825	20.49	0.1475	1
802.11n-HT40	5190 ~ 5230	17.79	0.0659	1
	5270 ~ 5310	18.62	0.0797	1
	5510 ~ 5670	20.65	0.1348	1
	5755 ~ 5795	20.56	0.1499	1

802.11ac-VHT20	5180 ~ 5240	20.62	0.1264	1
	5260 ~ 5320	20.60	0.1258	1
	5500 ~ 5720	20.81	0.1399	1
	5745 ~ 5825	20.65	0.1530	1
802.11ac-VHT40	5190 ~ 5230	17.83	0.0665	1
	5270 ~ 5310	17.92	0.0679	1
	5510 ~ 5710	20.52	0.1308	1
	5755 ~ 5795	20.58	0.1506	1
802.11ac-VHT80	5210	13.80	0.0263	1
	5290	14.84	0.0334	1
	5530 ~ 5690	20.20	0.1215	1
	5775	19.84	0.1270	1

CONCULISON:

Both of the WLAN 2.4GHz Band and WLAN 5GHz Band can transmit simultaneously. Therefore, the Max Power Density at R (20 cm) = 0.1721mW/cm^2+ 0.1530mW/cm^2 = 0.3251mW/cm^2 < 1mW/cm^2. So the EUT complies with the requirement.

The End