Maximum Permissible Exposure Evaluation

FCC ID: 2AU8W-W200

1. Client Information

Applicant	:	Jiangsu puhui Huida communication equipment Co.,Ltd.
Address	:	Room304,Buiding 29,No,369.Lushan Road，hitech Zone，Suzhou City,Jiangsu Province, China
Manufacturer	:	Jiangsu puhui Huida communication equipment Co.,Ltd.
Address	:	Room304,Buiding 29,No,369.Lushan Road，hitech Zone，Suzhou City,Jiangsu Province, China

2. General Description of EUT

EUT Name	:	Ceiling Mount AP	
Models No.	:	PH W200,PH W210,PH W210E,PH W210H,PH W220,PH W220E, PH W230,PH W230E,PH W250,PH W250E	
Model Different	:	All these models are in the same PCB, layout and electrical circuit, only the outer color is different.	
Product Description	:	Operation Frequency:	802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n (HT40): 2422MHz~2452MHz
		RF Output Power:	802.11b: 18.18 dBm 802.11g: 17.96 dBm 802.11n (HT20): 17.426 dBm 802.11n (HT40): 17.433 dBm
		Antenna Gain:	5dBi PIFA Antenna
		Modulation Type:	802.11b: DSSS(CCK, DQPSK, DBPSK) 802.11g/n: OFDM(BPSK,QPSK,16QAM, 64QAM)
Power Supply	:	POE Power Supply: Model:POE202-24W-48V Input:AC100-2400 50/60Hz Output:DC48V 0.5A	
Software Version	:	FIT-9508Q-AP-V5.3-Build2019194328	
Hardware Version	:	XD9500S6100V6.5	
Connecting I/O Port(S)	:	Please refer to the User's Manual	

MPE Calculations for WIFI

1. **Antenna Gain:**
   PIFA Antenna: 5dBi.

2. **EUT Operation Condition:**
   Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

3. **Exposure Evaluation:**
   Equation from page 18 of OET Bulletin 65, Edition 97-01
   $$S=(PG)/4\pi R^2$$
   Where
   S: power density
   P: power input to the antenna
   G: power gain of the antenna in the direction of interest relative to an isotropic radiator.
   R: distance to the center of radiation of the antenna

4. Test Result:

Worst Maximum MPE Result														
Mode	N_{TX}	Freq. (MHz)	Conducted Power(max) (dBm) [P]		Tune up Power (dB)	Max tune up power (dBm) [P]		ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/cm^2) [S]			Power Density Limit (mW/cm^2)	Result
			Ant a	Ant b		Ant a	Ant b			Ant 1	Ant 2	Sum		
802.11b	1	2412	18.13	18.07	±1	19.13	19.07	5	20	0.051	0.051	---	1.000	PASS
		2437	18.18	18.06	±1	19.18	19.06	5	20	0.052	0.051	---		
		2462	18.15	18.04	±1	19.15	19.04	5	20	0.052	0.050	---		
802.11g	1	2412	17.89	17.68	±1	18.89	18.68	5	20	0.049	0.046	---		
		2437	17.96	17.74	±1	18.96	18.74	5	20	0.050	0.047	---		
		2462	17.78	17.68	±1	18.78	18.68	5	20	0.048	0.046	---		
802.11n (HT20)	2	2412	14.58	14.23	±1	15.58	15.23	5	20	0.023	0.021	0.044		
		2437	14.63	14.19	±1	15.63	15.19	5	20	0.023	0.021	0.044		
		2462	14.57	14.22	±1	15.57	15.22	5	20	0.023	0.021	0.044		
802.11n (HT40)	2	2422	14.68	14.15	±1	15.68	15.15	5	20	0.023	0.021	0.044		
		2437	14.55	14.24	±1	15.55	15.24	5	20	0.023	0.021	0.044		
		2452	14.68	14.12	±1	15.68	15.12	5	20	0.023	0.020	0.044		

Note:
(1) N_{TX}= Number of Transmit Antennas
(2) RF Output power specifies that Maximum Conducted Peak Output Power.
(3) Ant a= Main Ant. , Ant b= Aux Ant.

5. Conclusion:

As specified in Table 1B of 47 CFR 1.1310- Limits for Maximum Permissible Exposure (MPE),

Limits for General Population/ Uncontrolled Exposure

Frequency Range (MHz)	Power density (mW/cm^2)
300-1,500	F/1500
1,500-100,000	1.0

For 802.11b/g/n(HT20):2412~2462 MHz
802.11n(HT40):2412~2462 MHz
MPE limit S: $1mW/cm^2$
The MPE is calculated as ***$0.052\ mW/cm^2 < limit\ 1mW/cm^2$***. So, RF exposure limit warning or SAR test are not required.

The EUT will only be used with a separation of 20cm or greater between the antenna and nearby persons and can therefore be considered a mobile transmitter per 47 CFR2.1091 (b).

The RF Exposure Information page from the manual is included here for reference.

Note

For a more detailed features description, please refer to the RF Test Report.

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