Maximum Permissible Exposure Evaluation

FCC ID: 2A4QD-SM-D30

1. Client Information

Applicant	:	Shenzhen Skymee Technology Co., Ltd
Address	:	Room 1119, 11/F,Department Store East Building, Shennan East Road No.123, Dongmen Street, Luohu District, Shenzhen City China
Manufacturer	:	Chengdu Weizheng Digital Technology Co., Ltd.
Address	:	69 Chuangye Road, Xindu Industrial East Area, Chengdu City, Sichuan Province China

2. General Description of EUT

EUT Name	:	Petalk AI II	
Models No.	:	SM-D30, AI-D20, AI-D30, AI-D40, AI-D50, SM-D20, AI-D60, AI-D70, AI-D80, AI-D90, AI-D100, AI-D110, AI-D120, AI-D130, AI-D140, AI-D150, AI-D160, AI-D170, AI-D180, AI-D190, AI-D200, Petalk AI, Petalk AI Ⅱ, Petalk AI Ⅲ, Petalk AI Ⅳ, Petalk AI Ⅴ, Petalk AI Ⅵ, Petalk AI Ⅶ, Petalk AI Ⅷ, Petalk AI Ⅸ	
Model Different	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is model name.	
Brand Name	:	Skymee	
Product Description	:	Operation Frequency:	802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz
		Number of Channel:	802.11b/g/n(HT20):11 channels 802.11n(HT40): 7 channels
		RF Output Power:	17.85dBm (Max)
		Antenna Gain:	3.0dBi PCB Antenna
Power Rating	:	Adapter(BI12T-050200-IU) Input: 100-240V 50/60Hz 0.5A Output: 5V2A 10.0W	
Software Version	:	40.3.12.011	
Hardware Version	:	ai-d30_ak3918ev3_main_v2	
Connecting I/O Port(S)	:	Please refer to the User's Manual	
Remark	:	the MPE report used the EUT-2(RW-C-202202-0042-5-2#).	

MPE Calculations for Bluetooth

1. **Antenna Gain:**
   PCB Antenna: 3.0dBi.

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:**

2.4G WiFi MPE Result								
Mode	N_{TX}	Freq. (MHz)	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/cm^2) [S]
802.11b	1	2412	16.27	16±1	17	3.0	20	0.0198
		2437	16.97	16±1	17	3.0	20	0.0198
		2462	16.31	16±1	17	3.0	20	0.0198
802.11g	1	2412	17.39	17±1	18	3.0	20	0.0250
		2437	16.80	16±1	17	3.0	20	0.0198
		2462	16.48	16±1	17	3.0	20	0.0198
802.11n20	1	2412	17.51	17±1	18	3.0	20	0.0250
		2437	16.77	16±1	17	3.0	20	0.0198
		2462	16.19	16±1	17	3.0	20	0.0198
802.11n40	1	2422	17.85	17±1	18	3.0	20	0.0250
	1	2437	17.46	17±1	18	3.0	20	0.0250
	1	2452	17.13	17±1	18	3.0	20	0.0250

Note:
N_{TX}= Number of Transmit Antennas
RF Output power specifies that Maximum Conducted Peak Output Power.

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 2.4 WIFI:2412~2462MHz

MPE limit S: 1mW/ cm^2

The MPE is calculated as ***0.0250mW / 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.

6. Conclusion:

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

-----END OF REPORT-----