

RF Exposure Evaluation

FCC ID: 2AJWO-P4001

1. Client Information

Applicant : Pred Technologies USA, Inc.
Address : 7855 Fay Avenue, suite 310 La Jolla, California 92037 USA
Manufacturer : Sunstar Digi (H.K.) Co.,Ltd.
Address : 2-3 Floor F Building, Guanlong 1st Industrial Zone, Xili Town, Nanshan District, Shenzhen, Guangdong, China

2. General Description of EUT

EUT Name	:	PRED Smart Earbuds	
Models No.	:	P4001	
Model Difference	:	N/A	
Product Description	:	Operation Frequency:	Bluetooth 4.0: 2402~2480 MHz
	:	Number of Channel:	Bluetooth: 79 Channels <small>See Note 2</small>
	:	Max Peak Output Power:	Bluetooth: 1.150 dBm(GFSK)
	:	Antenna Gain:	1.3 dBi PCB Antenna
	:	Modulation Type:	GFSK (1 Mbps) π /4-DQPSK (2 Mbps) 8-DPSK (2 Mbps)
Power Supply	:	DC Voltage supplied by USB. DC Voltage supplied by Li-ion battery.	
Power Rating	:	DC 5V by USB Cable. DC 3.7V by 55mAh Li-ion battery.	
Connecting I/O Port(S)	:	Please refer to the User's Manual	

Note: More test information about the EUT please refer the RF Test Report.

SAR Test Exclusion Calculations

1. FCC: According to KDB 447498 D01 Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies v06.

(1) Clause 4.3: General SAR test reduction and exclusion guidance

Sub clause 4.31: Standalone SAR test exclusion considerations

1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6GHz at test separation distance ≤ 5 mm are determined by:

$$\frac{[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f_{(\text{GHz})}}]}{\leq 3.0 \text{ for 1-g SAR}}$$

$$\frac{[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f_{(\text{GHz})}}]}{\leq 7.5.0 \text{ for 10-g SAR}}$$

2.
Calculation:

Test separation: 5mm						
Bluetooth Mode (GFSK)						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	0.904	0±1.5	1.5	1.413	0.438	3.0
2.441	1.150	0±1.5	1.5	1.413	0.441	3.0
2.480	0.207	0±1.5	1.5	1.413	0.445	3.0
Bluetooth Mode ($\pi/4$ -DQPSK)						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	0.428	0±1.5	1.5	1.413	0.438	3.0
2.441	-0.285	0±1.5	1.5	1.413	0.441	3.0
2.480	-1.173	0±1.5	1.5	1.413	0.445	3.0
Bluetooth Mode (8-DPSK)						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	-0.435	0±1.5	1.5	1.413	0.438	3.0
2.441	-0.247	0±1.5	1.5	1.413	0.441	3.0
2.480	-1.112	0±1.5	1.5	1.413	0.445	3.0

So standalone SAR measurements are not required.

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