RF Exposure Evaluation

FCC ID: 2AJWO-REACTORS

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	:	TOKK Reactors Wireless Stereo Speakers	
Models No.	:	TOKK Reactors, TOKK Reactors XL	
Model Difference	:	All models are in the same PCB layout interior structure and electrical circuits, The only difference is model name.	
Product Description	:	Operation Frequency:	Bluetooth 4.1(BT): 2402MHz~2480MHz
		RF Output Power:	GFSK: -2.997dBm π/4-DQPSK: -1.945dBm
		Antenna Gain:	0.5dBi PCB Antenna
Power Supply	:	DC Voltage Supply from USB Port. DC Voltage supplied by Li-ion battery.	
Power Rating	:	DC 5.0V by USB cable DC 3.7V by 500mAh Li-ion battery	
Software Version	:	V2.0	
Hardware Version	:	V2.0	
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.

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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:
   [(max. power of channel, including tune-up tolerance, mW)/(min. test separation, mm)]*[$\sqrt{f_{(GHz)}}$] ≤3.0 for 1-g SAR
   [(max. power of channel, including tune-up tolerance, mW)/(min. test separation, mm)]*[$\sqrt{f_{(GHz)}}$] ≤7.5.0 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	-3.276	-3±1	-2	0.631	0.196	**3.0**
2.441	-2.997	-3±1	-2	0.631	0.197	**3.0**
2.480	-3.434	-3±1	-2	0.631	0.199	**3.0**
Bluetooth Mode (π/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	-2.218	-2±1	-1	0.794	0.246	**3.0**
2.441	-1.945	-2±1	-1	0.794	0.248	**3.0**
2.480	-2.326	-2±1	-1	0.794	0.250	**3.0**

Test separation: 5mm	
The worst RF Exposure Evaluation	
Worst Calculation Value	Threshold Value
0.250	**3.0**

The worst RF Exposure Evaluation is *0.250 / cm2 < limit 3.0*, So standalone SAR measurements are not required.

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