RF Exposure Evaluation

FCC ID: 2A54D-FS2016BT1D

1. Client Information

Applicant	:	SHENZHEN RDING TECH CO.,LIMITED
Address	:	4/F, Building C (South), Zhongliantongtai industrial area, No.271 Liangbai road, Liangantian, Pinghu town, Longgang district Shenzhen, Guangdong province, China
Manufacturer	:	SHENZHEN RDING TECH CO.,LIMITED
Address	:	4/F, Building C (South), Zhongliantongtai industrial area, No.271 Liangbai road, Liangantian, Pinghu town, Longgang district Shenzhen, Guangdong province, China

2. General Description of EUT

EUT Name	:	Bluetooth Foot Switch	
Model(s)	:	FS2016BT1_D, FS2016BT1_A, FS2016BT2_A, FS2016BT2_D, FS2016BT1A_D, FS2016BT2A_D	
Model Difference	:	All these models are identical in the same PCB, layout and electrical circuit, The only difference is model name, number of keys and shell.	
Product Description	:	Operation Frequency:	Bluetooth 4.2(BLE): 2402MHz~2480MHz
		Number of Channel:	40 channels
		RF Output Power:	-0.6dBm (Max)
		Antenna Gain:	0dBi PCB Antenna
		Modulation Type:	GFSK(1Mbps)
Power Supply	:	Input USB: DC 5V	
Software Version	:	FS2016BT1_D_V2.8	
Hardware Version	:	FS2016BT_A_P4	
Connecting I/O Port(S)	:	Please refer to the User's Manual	
Remark: The antenna gain provided by the applicant, the adapter and verified for the RF conduction test and adapter provided by TOBY test lab.			

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						
GFSK Mode (1Mbps)						
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	-0.6	0±1	1	1.259	0.390	**3.0**
2.440	-0.714	0±1	1	1.259	0.393	**3.0**
2.480	-1.104	-1±1	0	1.0	0.315	**3.0**

Conclusion:

The measurement results comply with the FCC Limit per 47 CFR 2.1093 for the uncontrolled RF Exposure and SAR Exclusion Threshold per KDB 447498 v06.

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