RF Exposure Evaluation

FCC ID: 2ATDQ-S1

1. Client Information

Applicant	:	Shenzhen Kai Jingda Technology Co. LTD
Address	:	Floor 6,Building NO.6,Lane 29,MaKan Road(South),NanShan Dsitrict,ShenZhen,GuangDong,China
Manufacturer	:	Shenzhen Kai Jingda Technology Co. LTD
Address	:	Floor 6,Building NO.6,Lane 29,MaKan Road(South),NanShan Dsitrict,ShenZhen,GuangDong,China

2. General Description of EUT

EUT Name	:	Wireless Earphones	
Models No.	:	S1,S1P	
Model Difference	:	All these models are the same PCB, layout and electrical circuit, the only different is model and Appearance texture.	
Product Description	:	Operation Frequency:	Bluetooth 5.0: 2402~2480 MHz
		Number of Channel:	Bluetooth: 79 Channels See Note 2
		RF Output Power:	Bluetooth: 2.625 (Pi/4-DQPSK)
		Antenna Gain:	2 dBi Ceramic Antenna
	:	Modulation Type:	GFSK (1 Mbps) Pi/4-DQPSK (2 Mbps) 8-DPSK (3 Mbps)
Power Supply	:	DC Voltage supplied by USB Cable DC Voltage supplied by Li-ion batter	
Power Rating	:	DC5V 0.5A by AC/DC Adapter DC 3.7V by rechargeable Li-ion Battery (125mAh)	
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	Thres hold Value
2.402	-0.089	0±1	1	1.259	0.390	3.0
2.441	0.467	0±1	1	1.259	0.393	3.0
2.480	-0.081	0±1	1	1.259	0.397	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	Thres hold Value
2.402	2.279	2±1	3	1.995	0.618	3.0
2.441	2.625	2±1	3	1.995	0.623	3.0
2.480	2.031	2±1	3	1.995	0.628	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	Thres hold Value
2.402	2.305	2±1	3	1.995	0.618	**3.0**
2.442	2.585	2±1	3	1.995	0.623	**3.0**
2.480	1.918	2±1	3	1.995	0.628	**3.0**

Test separation: 5mm	
The worst RF Exposure Evaluation	
Worst Calculation Value	Threshold Value
0.628	3.0

The worst RF Exposure Evaluation is *0.628 / cm2 < limit 3.0*, So standalone SAR measurements are not required.

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