RF Exposure Evaluation

FCC ID:2AS2T-XG-23

1. Client Information

Applicant	:	Shenzhen Xintu Century Technology Co.,Ltd
Address	:	5th Floor,Building A1,Anle Industrial Park,No.172, Hangcheng Avenue, Xixiang Street, Baoan District, Shenzhen, Guangdong, China
Manufacturer	:	Shenzhen Xintu Century Technology Co.,Ltd
Address	:	5th Floor, Building A1, Anle Industrial Park, No.172, Hangcheng Avenue, Xixiang Street, Baoan District, Shenzhen, Guangdong, China

2. General Description of EUT

EUT Name	:	TWS wireless earphone	
Models No.	:	XG-23,XG-21	
Model Difference	:	All these models are the same PCB, layout and electrical circuit, Only the outer color is different.	
Product Description	:	Operation Frequency:	Bluetooth V5.0: 2402~2480 MHz
		Number of Channel:	Bluetooth: 79 Channels See Note 2
		RF Output Power:	Bluetooth: 1.690dBm(8-DPSK)
		Antenna Gain:	0.8dBi Chip 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 50mAh Li-ion battery of The headset. DC 3.7V by 400mAh Li-ion battery of Charging dock.	
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	0.797	0±1	1	1.258925412	0.3902263	3.0
2.441	0.591	0±1	1	1.258925412	0.3933815	3.0
2.480	-0.259	0±1	1	1.258925412	0.3965115	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	1.279	1±1	2	1.584893192	0.4912658	3.0
2.441	1.258	1±1	2	1.584893192	0.4952379	3.0
2.480	0.128	1±1	2	1.584893192	0.4991785	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	1.690	1±1	2	1.584893192	0.4912658	**3.0**
2.442	1.569	1±1	2	1.584893192	0.4952379	**3.0**
2.480	0.441	1±1	2	1.584893192	0.4991785	**3.0**

Test separation: 5mm	
The worst RF Exposure Evaluation	
Worst Calculation Value	Threshold Value
0.499	3.0

The worst RF Exposure Evaluation is *0.499 / cm2 < limit 3.0*, So standalone SAR measurements are not required.

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