

RF Exposure Evaluation

FCC ID: 2APZD-G2

1. Client Information

Applicant	:	Shenzhen Chengshixing Technology Co., Ltd.
Address	:	No.3, Dayangtian Rd., Baoan District, Shenzhen
Manufacturer	:	Shenzhen Chengshixing Technology Co., Ltd.
Address	:	No.3, Dayangtian Rd., Baoan District, Shenzhen

2. General Description of EUT

EUT Name	:	Helmet Bluetooth Headset	
Models No.	:	G2, G1, G5, R2	
Model Difference	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is appearance and the use of battery power is different.	
Product Description	Operation Frequency:	Bluetooth 4.0(BT): 2402MHz~2480MHz	
	RF Output Power:	BLE:1.499 dBm	
	Antenna Gain:	2dBi FPC Antenna	
Power Supply	:	DC Voltage Supply from USB. DC Voltage supplied by Li-ion battery.	
Power Rating	:	DC 5.0V 500mAh by USB. DC 3.7V by 100mAh Li-ion battery	
Software Version	:	N/A	
Hardware Version	:	N/A	
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:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f_{(\text{GHz})}}] \leq 3.0 \text{ for 1-g SAR}$$
$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f_{(\text{GHz})}}] \leq 7.5.0 \text{ for 10-g SAR}$$

2. Calculation:

Test separation: 5mm						
BLE 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	1.499	1±1	2	1.585	0.491	3.0
2.442	0.172	0±1	1	1.259	0.393	3.0
2.480	-0.788	0±1	1	1.259	0.397	3.0

Test separation: 5mm		
The worst RF Exposure Evaluation		
Worst Calculation Value	Calculation Value	Threshold Value
Bluetooth Mode		
0.491	0.491	3.0

The worst RF Exposure Evaluation is **0.491 / cm² < limit 3.0**, So standalone SAR measurements are not required.

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