



RF Exposure Evaluation

FCC ID: 2ATQ9-GSW3

1. Client Information

Applicant	:	Dongguan Gorsun Electronics Co., Ltd
Address	:	No.140 Chashi Road, Tangjiao village, Chashan Town, Dongguan, China
Manufacturer	:	Dongguan Gorsun Electronics Co., Ltd
Address	:	No.140 Chashi Road, Tangjiao village, Chashan Town, Dongguan, China

2. General Description of EUT

EUT Name	:	wireless headphone	
Model(s) No.	:	XL-GSW4-AC7003-V1.0	
Model Difference	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is appearance color.	
Product Description	:	Operation Frequency:	Bluetooth V5.4: 2402MHz~2480MHz
	:	Antenna Gain:	-0.68dBi PCB Antenna
Power Supply	:	USB INPUT: DC 5V DC 3.7V 180mAh 0.666Wh Rechargeable Li-ion battery	
Software Version	:	----	
Hardware Version	:	----	
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.

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:

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

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



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	0.133	0±1	1	1.259	0.390	3.0
2.441	-0.662	0±1	1	1.259	0.393	3.0
2.480	-1.25	-1±1	0	1	0.315	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	Threshold Value
2.402	1.001	1±1	2	1.585	0.491	3.0
2.441	0.152	0±1	1	1.259	0.393	3.0
2.480	-0.464	0±1	1	1.259	0.397	3.0

Test separation: 5mm						
Bluetooth LE 1M						
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	-1.498	-1±1	0	1	0.310	3.0
2.440	-2.331	-2±1	-1	0.794	0.248	3.0
2.480	-2.954	-2±1	-1	0.794	0.250	3.0

Test separation: 5mm						
Bluetooth LE 2M						
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	-1.293	-1±1	0	1	0.310	3.0
2.440	-2.227	-2±1	-1	0.794	0.248	3.0
2.480	-2.834	-2±1	-1	0.794	0.250	3.0

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.

-----END OF THE REPORT-----

