



RF Exposure Evaluation

FCC ID: 2A7QY-S100

1. Client Information

Applicant	:	Shenzhen Arington Technology Co., Ltd
Address	:	501,Bldg D, Huawan Industrial Park, No.4159 Baoan Avenue, Baoan District, Shenzhen, China
Manufacturer	:	Shenzhen Arington Technology Co., Ltd
Address	:	501,Bldg D, Huawan Industrial Park, No.4159 Baoan Avenue, Baoan District, Shenzhen, China

2. General Description of EUT

EUT Name	:	Open Bluetooth headphone	
Model(s) No.	:	S100, S100M, S300, GD16, GD19	
Model Difference	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is appearance and model name.	
Product Description	:	Operation Frequency:	Bluetooth 5.2(BR+EDR): 2402MHz~2480MHz
	:	Number of Channel:	79 channels
	:	Antenna Gain:	4.3dBi Patch Antenna
	:	Modulation Type:	GFSK(1Mbps) π /4-DQPSK(2Mbps) 8-DPSK(3Mbps)
Power Supply	:	USB Input: DC 5V DC 3.7V 220mAh Rechargeable Li-ion battery	
Software Version	:	FW5000.upd	
Hardware Version	:	V1.5	
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:

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

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



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	6.079	6±1	7	5.012	1.554	3.0
2.441	5.062	5±1	6	3.981	1.244	3.0
2.480	4.247	4±1	5	3.162	0.996	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	6.552	6±1	7	5.012	1.554	3.0
2.441	5.571	5±1	6	3.981	1.244	3.0
2.480	4.685	4±1	5	3.162	0.996	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	Threshold Value
2.402	6.802	6±1	7	5.012	1.554	3.0
2.441	5.874	5±1	6	3.981	1.244	3.0
2.480	5.113	5±1	6	3.981	1.254	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-----

