RF Exposure Evaluation

FCC ID: 2A7IT-W01

1. Client Information

Applicant	:	Dongguan Yuhuawei Environmental Optoelectronics Co., LTD
Address	:	Rm 828, No. 1 Shigang Road, Guxia Village, Shipai Dongguan, China 523331
Manufacturer	:	Dongguan Yuhuawei Environmental Optoelectronics Co., LTD
Address	:	Rm 828, No. 1 Shigang Road, Guxia Village, Shipai Dongguan, China 523331

2. General Description of EUT

EUT Name	:	Open Ear Wireless Headphone	
Model(s) No.	:	W01, MC-BT1468	
Model Difference	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is that appearance color.	
Product Description	:	Operation Frequency:	Bluetooth 5.3: 2402MHz~2480MHz
		Number of Channel:	Bluetooth 5.3: 79 channels
		Antenna Gain:	2.7dBi Internal Antenna
		Modulation Type:	GFSK, Pi/4-DQPSK, 8-DPSK
		Bit Rate of Transmitter:	1/2/3Mbps
Power Rating (Charging Box)	:	Input: DC 5V/500mA DC 3.7V Rechargeable Li-ion battery	
Power Rating (Earphone)	:	DC 3.7V by 40mAh Rechargeable Li-ion battery	
Software Version	:	V8	
Hardware Version	:	V1	
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.

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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**	**Threshold Value**
2.402	-4.85	-5±1	-4	0.398	0.123	**3.0**
2.441	-3.388	-3±1	-2	0.631	0.197	**3.0**
2.480	-2.25	-2±1	-1	0.794	0.250	**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	-4.491	-4±1	-3	0.501	0.155	**3.0**
2.441	-2.18	-2±1	-1	0.794	0.248	**3.0**
2.480	-4.043	-4±1	-3	0.501	0.158	**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	-4.055	-4±1	-3	0.501	0.155	**3.0**
2.441	-5.089	-5±1	-4	0.398	0.124	**3.0**
2.480	-3.749	-4±1	-3	0.501	0.158	**3.0**

Conclusion:

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.

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