RF Exposure Evaluation

FCC ID: 2BC7Y-BLS-GB1

1. Client Information

Applicant	:	Hefei Zhong Mei Intelligent Technology Co., Ltd.
Address	:	Room 601A, Building E, Hefei Binhu Financial Town, No. 8, Heilongjiang Road, Baohe, Hefei, China
Manufacturer	:	Hefei Zhong Mei Intelligent Technology Co., Ltd.
Address	:	Room 601A, Building E, Hefei Binhu Financial Town, No. 8, Heilongjiang Road, Baohe, Hefei, China

2. General Description of EUT

EUT Name	:	Hanging Neck Anion Oxygen Bar	
Model(s) No.	:	BLS-GB1, BLS-GB2, BLS-GB3, BLS-GB4, BLS-GB5, BLS-GB6, BLS-GB7, BLS-GB8, BLS-GB9	
Model Difference	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is that colors.	
Product Description	:	Operation Frequency:	Bluetooth V5.3: 2402MHz~2480MHz Bluetooth 5.3(BLE): 2402MHz~2480MHz
		Number of Channel:	Bluetooth 5.3: 79 channels Bluetooth 5.3(BLE):40 channels
		Antenna Gain:	1.9dBi PCB Antenna
		Modulation Type:	GFSK, Pi/4-DQPSK, 8-DPSK Bluetooth LE:1Mbps&2Mbps
		Bit Rate of Transmitter:	1/2/3Mbps
Power Supply	:	Input: DC 5V/2A	
Li-ion Polymer Battery	:	3.7V by 1600mAh Rechargeable Li-ion battery*2	
Software Version	:	20220902	
Hardware Version	:	20220902	
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	-1.437	-1±1	0	1.000	0.310	**3.0**
2.441	-0.822	-1±1	0	1.000	0.312	**3.0**
2.480	-0.68	-1±1	0	1.000	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	-0.619	-1±1	0	1.000	0.310	**3.0**
2.441	-0.033	0±1	1	1.259	0.393	**3.0**
2.480	0.125	0±1	1	1.259	0.397	**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	-0.011	0±1	1	1.259	0.390	**3.0**
2.441	0.537	1±1	2	1.585	0.495	**3.0**
2.480	0.708	1±1	2	1.585	0.499	**3.0**
Bluetooth LE Mode(1Mbps)						
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	-3.208	-3±1	-2	0.631	0.196	**3.0**
2.440	-3.245	-3±1	-2	0.631	0.197	**3.0**
2.480	-2.493	-2±1	-1	0.794	0.250	**3.0**
Bluetooth LE Mode(2Mbps)						
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	-4.553	-5±1	-4	0.398	0.123	**3.0**
2.440	-4.166	-4±1	-3	0.501	0.157	**3.0**
2.480	-2.095	-2±1	-1	0.794	0.250	**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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