RF Exposure Evaluation

FCC ID: 2BBW8-IKFR1

1. Client Information

Applicant	:	Dongguan Oumu Technology Co., Ltd.
Address	:	Room 318, Building 4, No. 86, Hongtu Road, Nancheng Street, Dongguan City, Guangdong Province, China
Manufacturer	:	Dongguan Oumu Technology Co., Ltd.
Address	:	Room 318, Building 4, No. 86, Hongtu Road, Nancheng Street, Dongguan City, Guangdong Province, China

2. General Description of EUT

EUT Name	:	Wireless Headphone	
Model(s) No.	:	iKF R1, iKF R1 Pro, iKF R2, iKF R3	
Model Difference	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is appearance.	
Product Description	:	Operation Frequency:	Bluetooth V5.3(BR+EDR): 2402MHz~2480MHz Bluetooth 5.3(BLE): 2402MHz~2480MHz
		Number of Channel:	Bluetooth V5.3: 79 channels Bluetooth 5.3(BLE): 40 channels
		Antenna Gain:	-0.68dBi 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	
Li-ion Polymer Battery	:	DC 3.7V by 400mAh Rechargeable Li-ion battery	
Software Version	:	V1.0.8	
Hardware Version	:	IKF_R1_V1.1	
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	3.905	4±1	5	3.162	0.980	**3.0**
2.441	4.137	4±1	5	3.162	0.988	**3.0**
2.480	3.853	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	4.401	4±1	5	3.162	0.980	**3.0**
2.441	4.596	5±1	6	3.981	1.244	**3.0**
2.480	4.343	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	4.703	5±1	6	3.981	1.234	**3.0**
2.441	4.892	5±1	6	3.981	1.244	**3.0**
2.480	4.652	5±1	6	3.981	1.254	**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	-3.666	-4±1	-3	0.501	0.155	**3.0**
2.440	-3.923	-4±1	-3	0.501	0.157	**3.0**
2.480	-4.717	-5±1	-4	0.398	0.125	**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	-3.467	-3±1	-2	0.631	0.196	**3.0**
2.440	-3.6	-4±1	-3	0.501	0.157	**3.0**
2.480	-4.489	-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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