RF Exposure Evaluation

FCC ID: 2BCIW-D68F

1. Client Information

Applicant	:	Shenzhen Punk Wolf Technology Co., Ltd
Address	:	1103, No. 2055 Bixin Road (Longgang Section), Nanlian Community, Longgang Street, Longgang District, Shenzhen, China
Manufacturer	:	Huizhou shenkexinfei Technology Co., Limited
Address	:	Building C, Xia Chang Jing industrial, XinXu Town, Huiyang District, Huizhou, China

2. General Description of EUT

EUT Name	:	Bluetooth Speaker	
Model(s) No.	:	D68F	
Model Difference	:	----	
Product Description	:	Operation Frequency:	Bluetooth V5.0: 2402MHz~2480MHz
		Number of Channel:	Bluetooth 5.0: 79 channels
		Antenna Gain:	-0.58dBi PCB Antenna
		Modulation Type:	GFSK, Pi/4-DQPSK, 8-DPSK
		Bit Rate of Transmitter:	1/2/3Mbps
Power Supply	:	Input: DC 5V/1A	
Li-ion Polymer Battery	:	DC 3.7V by 1200mAh Rechargeable Li-ion battery	
Software Version	:	(D68F)_65E_F8A1(WC1)+D68F_C987 _20230802(ufw)	
Hardware Version	:	D68F-M_V2.0	
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	0.64	1±1	2	1.585	0.491	**3.0**
2.441	0.902	1±1	2	1.585	0.495	**3.0**
2.480	0.765	1±1	2	1.585	0.499	**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	1.329	1±1	2	1.585	0.491	**3.0**
2.441	1.595	2±1	3	1.995	0.623	**3.0**
2.480	1.501	2±1	3	1.995	0.628	**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	1.752	2±1	3	1.995	0.618	**3.0**
2.441	2.026	2±1	3	1.995	0.623	**3.0**
2.480	1.927	2±1	3	1.995	0.628	**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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