

TEST REPORT

Product Name : Wireless Headphones
Brand Mark : TRUEEFREE
Model No. : T2
Extension model : T3/T4/T5/T6/T7/T8 /A2/A3/A4/A5
FCC ID : 2A5BOHQY002
Report Number : BLA-EMC-202212-A5203
Date of Sample Receipt : 2022/12/6
Date of Test : 2022/12/6 to 2023/1/4
Date of Issue : 2023/1/5
Test Standard : 47 CFR Part 15, Part1.1307
47 CFR Part 15, Part2.1093
KDB447498D04 General RF Exposure
Guidance v01
Test Result : Pass

Prepared for:

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Prepared by:

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REPORT REVISE RECORD

Version No.	Date	Description
00	2023/1/5	Original

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1 TEST SUMMARY

Test item	Test Requirement	Test Method	Class/Severity	Result
RF Exposure	47 CFR Part 1.1307, Part 2.1093, KDB 447498	CFR 47 Part 2.1093	CFR 47 Part 2.1093	PASS

2 GENERAL INFORMATION

Applicant	shenzhenshihanqiyuankejiyouxiangongsi
Address	1309, block B, Huihai Plaza, Chuangye Road, Longhua street, Longhua District, Shenzhen, Guangdong, China
Manufacturer	Shenzhen Soundsoul Information Technology Co.,Ltd
Address	Room 1308-1309, Building B,Huihai Square,Chuangye Road, Longhua District,Shenzhen,Guangdong,China
Factory	Shenzhen Soundsoul Information Technology Co.,Ltd
Address	Room 1308-1309, Building B,Huihai Square,Chuangye Road, Longhua District,Shenzhen,Guangdong,China
Product Name	Wireless Headphones
Test Model No.	T2
Extension model	T3/T4/T5/T6/T7/T8 /A2/A3/A4/A5

3 GENERAL DESCRIPTION OF E.U.T.

Hardware Version	N/A
Software Version	N/A
BR/EDR	
Operation Frequency:	2402MHz-2480MHz
Modulation Type:	GFSK, pi/4DQPSK, 8DPSK
Channel Spacing:	1MHz
Number of Channels:	79
Antenna Type:	Internal Antenna
Antenna Gain:	-0.3dBi(Provided by the customer)

4 LABORATORY LOCATION

All tests were performed at:

BlueAsia Technical Services (Shenzhen) Co.,Ltd.

No.41, South of Beihuan Road, Shangwu Community, Shiyan Subdistrict, Bao' an District, Shenzhen, Guangdong, China

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No tests were sub-contracted.

5 RF EXPOSURE COMPLIANCE REQUIREMENT

Standard Requirement

According to 447498 D04 Interim General RF Exposure Guidance v01

Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

Limits

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases} \quad (\text{B.2})$$

where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and f is in GHz, d is the separation distance (cm), and $ERP_{20 \text{ cm}}$ is per Formula (B.1).

Example values shown in Table B.2 are for illustration only.

Table B.2—Example Power Thresholds (mW)

Frequency (MHz)	Distance (mm)										
		5	10	15	20	25	30	35	40	45	50
	300	39	65	88	110	129	148	166	184	201	217
	450	22	44	67	89	112	135	158	180	203	226
	835	9	25	44	66	90	116	145	175	207	240
	1900	3	12	26	44	66	92	122	157	195	236
	2450	3	10	22	38	59	83	111	143	179	219
	3600	2	8	18	32	49	71	96	125	158	195
	5800	1	6	14	25	40	58	80	106	136	169

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B.1})$$

$$EIRP = p_t \times g_t = (EXd)^{2/30}$$

where:

p_t = transmitter output power in watts,

g_t = numeric gain of the transmitting antenna (unitless),

E = electric field strength in V/m, --- $10((dBuV/m)/20)/106$

d = measurement distance in meters (m)---3m

$$S_{opt} = (EXd)^{2/30} \times g_t$$

$$Ant\ gain = -0.3\ dBi$$

$$Max\ Output\ power = 2.398\ dBm\ @\ BR@ 2441\ MHz$$

$$ERP = 2.398\ dBm - 0.3\ dBi - 2.15 = -0.052\ dBm$$

So

worse case:

$$10^{0.2398} = 1.737\ mW < 2.75\ mW$$

Then SAR evaluation is not required

----END OF REPORT----

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