

FCC RF EXPOSURE REPORT

Guangzhou Havit Technology Co.,LTD

Bluetooth earphones

Model Number: TW969 LITE

FCC ID: 2AI6I-TW969LITE

Applicant:	Guangzhou Havit Technology Co.,LTD			
Address:	ROOM 1307,13F,PHASE 2 B,C BUILDING OF POLY WORLD,			
	TRADE CENTER,NO.1000,XINGANG EAST ROAD,HAIZHU,			
	GUANGDONG, China			
Prepared By:	EST Technology Co., Ltd.			
	Chilingxiang, Qishantou, Santun, Houjie, Dongguan, Guangdong, China			
Tel: 86-769-83081888-808				

Report Number:	ESTE-R2311025			
Date of Test:	Oct. 23~Nov. 03, 2023			
Date of Report:	Nov. 06, 2023			

1. Applicable Standards

FCC Part 2(Section 2.1093)

FCC KDB 447498 D04 Interim General RF Exposure Guidance v01

2. Exposure Evaluation of Portable or Mobile Devices

Human exposure to RF emissions from portable devices (47 CFR §2.1093), as defined by the FCC, must be evaluated with respect to the FCC-adopted limits for SAR. Evaluation of mobile devices, as defined by the FCC, may also be performed with respect to SAR limits, but in such cases it is usually simpler and more cost-effective to evaluate compliance with respect to field strength or power density limits. For certain devices that are designed to be used in both mobile and portable configurations similar to those described in 47 CFR §2.1091(d)(4), such as certain desktop phones and wireless modem modules, compliance for mobile configurations is also satisfied when the same device is evaluated for SAR compliance in portable configurations.

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

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

where

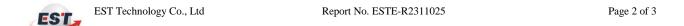
$$x = -\log_{10}\left(\frac{60}{ERP_{20\,\mathrm{cm}}\sqrt{f}}\right)$$

and f is in GHz, d is the separation distance (cm), and ERP_{20cm} is per Formula (B.1). The example values shown in Table B.2 are for illustration only.

Distance (mm) Frequency (MHz)

Table B.2—Example Power Thresholds (mW)

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 300 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.



3. Evaluation Results

Left Earbuds

Mode	Frequency (MHz)	Peak output Power (dBm)	Antenna Gain (dBi)	effective radiated power (dBm)	Target power (dBm)	Max. Target power (mW)	SAR Test Exemption Limit (mW)
GFSK	2402	1.17	-2.06	-3.04	1 ±1	1.585	2.72
	2441	0.85	-2.06	-3.36	0±1	1.259	2.72
	2480	1.03	-2.06	-3.18	1 ±1	1.585	2.72
π/4- DQPSK	2402	1.68	-2.06	-2.53	1 ±1	1.585	2.72
	2441	1.36	-2.06	-2.85	1 ±1	1.585	2.72
	2480	1.51	-2.06	-2.7	1 ±1	1.585	2.72
8-DPSK	2402	2.1	-2.06	-2.11	2±1	1.995	2.72
	2441	1.86	-2.06	-2.35	1 ±1	1.585	2.72
	2480	2.04	-2.06	-2.17	2±1	1.995	2.72

Right Earbuds

Mode	Frequency (MHz)	Peak output Power (dBm)	Antenna Gain (dBi)	effective radiated power (dBm)	Target power (dBm)	Max. Target power (mW)	SAR Test Exemption Limit (mW)
GFSK	2402	0.9	-2.06	-3.31	0±1	1.259	2.72
	2441	0.53	-2.06	-3.68	0±1	1.259	2.72
	2480	0.53	-2.06	-3.68	0±1	1.259	2.72
π/4- DQPSK	2402	1.6	-2.06	-2.61	1 ±1	1.585	2.72
	2441	1.13	-2.06	-3.08	1 ±1	1.585	2.72
	2480	1.2	-2.06	-3.01	1 ±1	1.585	2.72
8-DPSK	2402	2.01	-2.06	-2.2	2±1	1.995	2.72
	2441	1.59	-2.06	-2.62	1 ±1	1.585	2.72
	2480	1.68	-2.06	-2.53	1 ±1	1.585	2.72

Note:

- 1. We choose f=2.48GHz (Highest frequency operate at bluetooth) to calculate MPE limit as higher frequency will have lower MPE limits.
- 2. SAR Test Exclusion Thresholds is 2.72mW for separation distance 5mm. Therefore, SAR test is not required.

End of Test Report