



Product Service

RF exposure Estimation for SHB4000/28 and SHB4000WT/28

1. Introduction

SHB4000/28 and SHB4000WT/28 are Bluetooth Headsets, which contain Bluetooth function inside.

The difference between all models only lie in the colour of enclosure, SHB4000/28 is black, SHB4000WT/28 is white, so estimation of exposure of human to electromagnetic fields was only applied on SHB4000/28, the other model is deemed to fulfill relevant requirement without further estimation.

2. Limit and Guidelines on Exposure to Electromagnetic Fields

According to §15.247(e)(i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

According to KDB 447498 D01 Mobile Portable RF Exposure v03r03, no SAR required if power is lower than the flowing threshold:

When routine evaluation is required for SAR and the output power is $\leq 60/f(\text{GHz})$ mW, the test reduction and test exclusion procedures given herein, or in KDB 616217 or KDB 648474, are applicable.

A device may be used in portable exposure conditions with no restrictions on host platforms when either the source-based time-averaged output power is $\leq 60/f(\text{GHz})$ mW or all measured 1-g SAR are $< 0.4 \text{ W/kg}$. When SAR evaluation is required, the most conservative exposure conditions for all expected operating configurations must be tested.

3. Calculation method

Max Peak output power: GFSK mode 2480 MHz: $3.84\text{dBm} = 2.42\text{mW}$

$60/f\text{GHz} = 60/2.480 = 24.19\text{mW}$

Max Peak output power $< 60/f\text{GHz}$

This is a portable device and the Max Peak output power of EUT is less than 24.19mW, so SAR evaluation is not necessary.

Jiangsu TUV Product Service Ltd. Shenzhen Branch

Reviewed by:

Phoebe Hu/EMC Project Manager

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Prepared By:

Felix Li/ EMC Project Engineer

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