

# FCC ID: 2ALVKHA-A6T

## Portable device

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

According to KDB447498 D01 General RF Exposure Guidance V06

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances  $\leq 50$  mm are determined by:

$$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})]^* [\sqrt{f(\text{GHz})}] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR, where}$$

f(GHz) is the RF channel transmit frequency in GHz;

Power and distance are rounded to the nearest mW and mm before calculation;

The result is rounded to one decimal place for comparison;

The test exclusions are applicable only when the minimum test separation distance is  $\leq 50$  mm and for transmission frequencies between 100 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.

We use 5mm as separation distance to calculate.

$$P_{\text{max}} \leq (3.0 * D_{\text{min}}) / f$$

| Characteristics     | Description   |
|---------------------|---|
| <b>Product</b>      | WIRELESS HEADPHONES   |
| <b>Model Number</b> | HA-A6T, HA-Z66T, HA-EC25T<br>(Note: all models are different for model name, radium carving, antenna body, matching circuit and charging box, the others are the same.) |

|                                      |  |
|--------------------------------------|--|
| <b>Device Type</b>                   | Bluetooth V5.3   |
| <b>Data Rate</b>                     | 1Mbps for BT V4.2 GFSK modulation<br>2Mbps for BT V4.2 pi/4-DQPSK modulation<br>3Mbps for BT V4.2 8DPSK modulation |
| <b>Modulation:</b>                   | GFSK, pi/4-DQPSK, 8DPSK  |
| <b>Operating Frequency Range(s):</b> | 2402-2480MHz   |
| <b>Number of Channels:</b>           | 79 channels  |

|                    |                                 |
|--------------------|---------------------------------|
| <b>Device Type</b> | Bluetooth with BLE mode         |
| <b>Data Rate</b>   | 1Mbps/2Mbps for GFSK modulation |

|                                  |                               |
|----------------------------------|-------------------------------|
| <b>Modulation</b>                | GFSK                          |
| <b>Operating Frequency Range</b> | 2402-2480MHz                  |
| <b>Number of Channels</b>        | 40 Channels for Bluetooth DTS |

Maximum measured transmitter power:

| Mode             | Mode       | Channel Freq. (MHz) | Max Transmit Power (dBm) | Max tune-up power (dBm) | Result calculation | 1-g SAR |
|------------------|------------|---------------------|--------------------------|-------------------------|--------------------|---------|
| Bluetooth DSS    | GFSK       | 2402                | 4.51                     | 5                       | 0.980              | 3.0     |
|                  |            | 2441                | 4.49                     | 5                       | 0.980              | 3.0     |
|                  |            | 2480                | 4.41                     | 5                       | 0.980              | 3.0     |
|                  | pi/4-DQPSK | 2402                | 5.14                     | 6                       | 1.550              | 3.0     |
|                  |            | 2441                | 5.11                     | 6                       | 1.550              | 3.0     |
|                  |            | 2480                | 5.11                     | 6                       | 1.550              | 3.0     |
|                  | 8DPSK      | 2402                | 5.21                     | 6                       | 1.550              | 3.0     |
|                  |            | 2441                | 5.45                     | 6                       | 1.550              | 3.0     |
|                  |            | 2480                | 5.36                     | 6                       | 1.550              | 3.0     |
| Bluetooth DTS_1M | GFSK       | 2402                | 2.18                     | 3                       | 0.618              | 3.0     |
|                  |            | 2440                | 2.3                      | 3                       | 0.618              | 3.0     |
|                  |            | 2480                | 2.23                     | 3                       | 0.618              | 3.0     |
| Bluetooth DTS_2M | GFSK       | 2402                | 2.33                     | 3                       | 0.618              | 3.0     |
|                  |            | 2440                | 2.44                     | 3                       | 0.618              | 3.0     |
|                  |            | 2480                | 2.39                     | 3                       | 0.618              | 3.0     |

**Conclusion:**

For the max result :  $0.315 \leq 3.0$  for 1-g SAR extremity SAR, no SAR is required.