

## RF Exposure evaluation

Product Name : Wireless Headphones  
 FCC ID : 2AONGDD008  
 Test Standard : KDB447498D04 General RF Exposure Guidance v01

According to 447498 D04 Interim General RF Exposure Guidance v01

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

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

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). The example values shown in Table B.2 are for illustration only.

Table B.2—Example Power Thresholds (mW)

|      | 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 |

L:

Ant gain = 2.7 dBi

Max Output power = 1.528 dBm @ 3-DH1 @ 2480 MHz

ERP = 1.528 dBm + 2.7 dBi - 2.15 = 2.078 dBm

So

worse case:

$10^{0.2078} = 1.6136 \text{ mW} < 2.72 \text{ mW}$

R:

Ant gain = 2.7 dBi

Max Output power = 1.347 dBm @ 3-DH1 @ 2402 MHz

ERP = 1.347 dBm + 2.7 dBi - 2.15 = 1.897 dBm

So

worse case:

$10^{0.1897} = 1.5477 \text{ mW} < 2.79 \text{ mW}$

Comply with RF exposure exemption limit.