

RF Exposure Information – SAR test exemption

Device under test :

Brand : 3D Sound Labs

Description : 3D Audio headphones with BLE-based motion sensors

Model : 3DSLH01

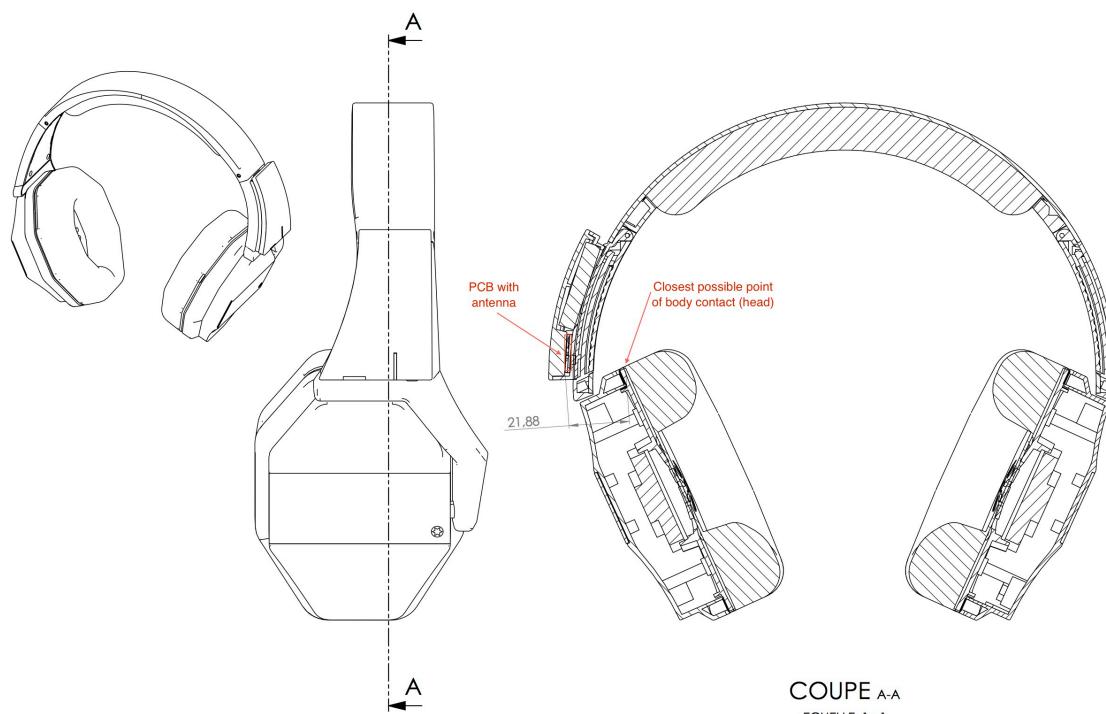
FCC ID : 2AEBV-3DSLH01

Operating frequency : 2 402 to 2 480 MHz

Maximum conducted output power plus tune up tolerance = (3.6dBm +/- 0.4dBm)

FCC KDB447498 D01 Section 4.3.1 (1) specifies 1-g head SAR test exclusion threshold conditions for general exposure population condition, for frequencies from 100 MHz to 6 GHz, at test separation distances \leq 50 mm.

Separation distance:



Minimum separation distance = 21.88 mm



Limit :

1-g SAR test exclusion threshold condition is:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ where:

- $f(\text{GHz})$ 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
- 3.0 is referred to as the numeric thresholds

Results:

In our case:

$P = \text{Max power including tune-up tolerance : 4 dBm, or 2.51 mW, rounded to 3 mW}$

$D = \text{Min separation distance: We consider the thickness of the equipment from Antenna on PCB to equipment surface toward head as the minimum separation distance = 21 mm}$

$F = \text{Operating frequency : 2 402 to 2 480 MHz so } f(\text{GHz}) = 2.48$

We have: $(P / D) \times \sqrt{F} = (3 / 21) \times \sqrt{2.48} = 0.23 \leq 3.0$

Therefore, the SAR test exclusion condition for this equipment is met.

