

## Compliance with 47 CFR 15.247(i)

*“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 levels in excess of the Commission's guidelines. See § 1.1307(b)(1) of this chapter.”*

The EUT is a cordless, low power Bluetooth transceiver which is designed to be plugged into the Microsoft Xbox gaming controller to enable a two-way transmission with a Bluetooth compatible headset. It can be considered a mobile transmitter per 47 CFR 2.1093(b). The antenna is internal to the unit and has 2.29 dBi gain. The maximum peak conducted output power is 2.38 mW.

The maximum peak power is 4.03 mW (EIRP) for FCC ID: DZLA0363D. The frequency band utilized is 2400 to 2483.5MHz. Since the transmit frequency is greater than 1.5 GHz, and the output power is less than 3 W ERP, the EUT is categorically excluded from routine environmental evaluation per 47 CFR 2.1091(c).

The MPE estimates are as follows:

Table 1 in 47 CFR 1.1310 defines the maximum permissible exposure (MPE) for the general population as 1 mW/cm<sup>2</sup>. The exposure level at a 20 cm distance from the EUT's transmitting antenna is calculated using the general equation:

$$S = (PG)/4\pi R^2$$

Where: S = power density (mW/cm<sup>2</sup>)

P = power input to the antenna (mW)

G = numeric power gain relative to an isotropic radiator

R = distance to the center of the radiation of the antenna (20 cm = limit for MPE estimates)

PG = EIRP

Solving for S, the maximum power density 20 cm from the transmitting antenna is summarized in the following table:

### MPE Estimate

#### FCC ID: DZLA0363D

| Antenna Type              | Transmit Frequency<br>(MHz) | Max Peak Conducted Output Power<br>(mW) | Antenna Gain<br>(dBi) | Minimum Antenna Cable Loss<br>(dB) | Power Density @ 20 cm<br>(mW/cm <sup>2</sup> ) | General Population Exposure Limit from 1.1310<br>(mW/cm <sup>2</sup> ) |
|---------------------------|-----------------------------|-----------------------------------------|-----------------------|------------------------------------|------------------------------------------------|------------------------------------------------------------------------|
| Internal Inverted L Trace | 2400                        | 4.03                                    | 2.29                  | 0                                  | 0.001                                          | 1                                                                      |

The power density does not exceed 1 mW/cm<sup>2</sup> at 20 cm; therefore, the exposure condition is compliant with FCC rules.

The applicant's radio, FCC ID: DZLA0363D, is compliant with the requirements of 15.247(i).