

Analysis Report

The Equipment Under Test is a Gaming Headset Dongle of 2.4GHz Wireless Headphone with Dongle. The EUT operates at frequency range of 2402MHz to 2480MHz. There are total 79 channels with 1MHz channel spacing. The EUT is powered by USB port (5VDC). After pairing, the dongle will communicate with headphone for transmitting the sounds and related commands.

Antenna Type: Internal, Integral antenna

Antenna Gain: 1.9dBi

Nominal rated field strength is 106.9dB μ V/m at 3m (Peak), 82.3dB μ V/m at 3m (Average)

Maximum allowed production tolerance: +/- 3dB

According to the KDB 447498:

Based on the maximum average field strength of production tolerance was 85.3dB μ V/m at 3m in frequency 2.480GHz.

Thus, it below calculated field strength according to minimum SAR exclusion threshold level as follows:

The worst case of SAR Exclusion Threshold Level:

$$= 3.0 * (\text{min. test separation distance, mm}) / \text{sqrt}(\text{freq. in GHz})$$

$$= 3.0 * 5 / \text{sqrt}(2.483.5) \text{ mW}$$

$$= 9.52 \text{ mW}$$

According to the KDB 412172 D01:

$$\text{EIRP} = [(\text{FS} * \text{D})^2 * 1000 / 30]$$

Calculated Field Strength for 9.52mW is 105dB μ V/m @3m

Since maximum average field strength plus production tolerance \leq 105dB μ V/m @3m and antenna gain is \geq 0.0dBi, it is concluded that maximum Conducted Power and Field Strength are well below the SAR Exclusion threshold level, so the EUT is considered to comply with SAR requirement without testing.