

INTERTEK TESTING SERVICES

RF Exposure

The equipment under test (EUT) is a Electronic drumsticks with ESB function operating in 2428-2472MHz. The EUT is powered by DC 3.7V by rechargeable battery or charged by DC 5V through adapter. For more detail information pls. refer to the user manual.

Antenna Type: Integral antenna

Modulation Type: GFSK

Antenna Gain: 0dBi

The nominal conducted output power specified: -4.5 dBm (± 5 dB)

The nominal radiated output power (e.i.r.p) specified: -4.5 dBm (± 5 dB)

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is 94.1 dB μ V/m at 3m in the frequency 2428MHz

The EIRP = $[(FS^*D)^2 / 30]$ mW = -1.13dBm
which is within the production variation.

The Minimum peak radiated emission for the EUT is 85.9 dB μ V/m at 3m in the frequency 2472MHz

The EIRP = $[(FS^*D)^2 / 30]$ mW = -9.33dBm
which is within the production variation.

The maximum conducted output power specified is 0.5dBm= 1.122mW

The SAR Exclusion Threshold Level:

$$P_{th}(\text{mW}) = \text{ERP}_{20\text{cm}} * (d/20\text{cm})^x \quad (X = -\log_{10} \left(\frac{60}{\text{ERP}_{20\text{cm}} \sqrt{f}} \right))$$
$$= 3060 * (0.5/20)^{1.9} \text{ mW}$$
$$= 2.72 \text{ mW}$$

Since max. conducted output power and effective radiated power (ERP) is well below the SAR low threshold level, so the EUT is considered to comply with SAR requirement without testing.

Note: EIRP is higher than ERP, thus EIRP is compared with the Exclusion Threshold.