

INTERTEK TESTING SERVICES

Analysis Report

The equipment under test (EUT) is a Wireless Subwoofer Kit. The EUT was powered by AC/DC adapter (Input: AC 120V, 60Hz, 7W, Output: DC 9.0V, 200mA). For more detail information pls. refer to the user manual.

Modulation Type: GFSK

Antenna Type: Integral antenna

Antenna Gain: 1.7dBi

The nominal radiated output power (e.i.r.p) specified: 0dBm (Tolerance: +/- 3dB)

The nominal conducted output power specified: -1.7dBm (Tolerance: +/- 3dB)

According to the KDB 447498:

The maximum radiated emission for the EUT is 96.0dBμV/m at 3m in the frequency 2.472GHz

$$= [(FS \cdot D)^2 / 30] \text{ mW}$$

= 0.8dBm which is within the production variation.

The minimum radiated emission for the EUT is 92.7dBμV/m at 3m in the frequency 2.406GHz

$$= [(FS \cdot D)^2 / 30] \text{ mW}$$

= -2.5dBm which is within the production variation.

The maximum conducted output power specified is 1.3dBm = 1.35mW

The source-based time-averaging conducted output power

$$= 1.35 \cdot \text{Duty cycle mW} = 0.63 \text{ mW}$$

The SAR Exclusion Threshold Level:

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

$$= 3.0 \cdot 5 / \sqrt{2.472} \text{ mW}$$

$$= 9.5 \text{ mW}$$

Since the source-based time-averaging conducted output power is well below the SAR low threshold level, so the EUT is considered to comply with SAR requirement without testing.

Transmitter Duty Cycle Calculation

The duration of one cycle = 58.0ms

Effective period of the cycle = $3.8 \cdot 3 + 7.8 \cdot 2 = 27.0\text{ms}$

$$\text{DC} = 27.0\text{ms} / 58.0\text{ms} = 0.4655 \text{ or } 46.55\%$$