

# INTERTEK TESTING SERVICES

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## RF Exposure

The equipment under test (EUT) is a G-BOOM4, Bluetooth Wireless Boombox with Bluetooth V5.3 EDR function operating in 2402-2480MHz. The EUT is powered by AC 100-240V, 50/60Hz or DC7.4V Rechargeable battery. For more detail information pls. refer to the user manual.

Antenna Type: Integral antenna

Modulation Type: GFSK,  $\pi/4$ -DQPSK and 8-DPSK

Antenna Gain: -0.58dBi Max

Bluetooth Version: 5.3 (Single Mode EDR)

The nominal conducted output power specified: 1.0 dBm ( $\pm 1.5$ dB)

The nominal radiated output power (e.i.r.p) specified: 0.42 dBm ( $\pm 1.5$ dB)

According to the KDB 447498 V07:

The Maximum peak radiated emission for the EUT is 95.5 dB $\mu$ V/m at 3m in the frequency 2480MHz

The EIRP =  $[(FS^*D)^2 / 30]$  mW = 0.27dBm  
which is within the production variation.

The Minimum peak radiated emission for the EUT is 95.2 dB $\mu$ V/m at 3m in the frequency 2402MHz

The EIRP =  $[(FS^*D)^2 / 30]$  mW = -0.03dBm  
which is within the production variation.

The maximum conducted output power specified is 2.5dBm= 1.778mW

The maximum radiated output power specified is 1.92dBm= 1.556mW

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.