

INTERTEK TESTING SERVICES

RF Exposure

The equipment under test (EUT) is a WSW23 PYM Tech Ant Man with Bluetooth 5.0 (Single Mode EDR) function operating in 2402-2480MHz. The EUT is powered by DC 9.0V(6 x 1.5V AA batteries). 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: 0dBi Max

Bluetooth Version: 5.0 (Single Mode EDR)

The nominal conducted output power specified: -18.0 dBm (± 3 dB)

The nominal radiated output power (e.i.r.p) specified: -18.0 dBm (± 3 dB)

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is 77.0 dB μ V/m at 3m in the frequency 2480MHz

The EIRP = $[(FS^*D)^2 / 30]$ mW = -18.23dBm
which is within the production variation.

The Minimum peak radiated emission for the EUT is 74.9 dB μ V/m at 3m in the frequency 2441MHz

The EIRP = $[(FS^*D)^2 / 30]$ mW = -20.33dBm
which is within the production variation.

The maximum conducted output power specified is -15.0dBm= 0.032mW

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. power of the source-based time-averaging 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.