

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 3.6V by rechargeable battery. Once use the USB cable charging to the EUT, the wireless function will be disabled. 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: -29.0 dBm (± 3 dB)

The nominal radiated output power (e.i.r.p) specified: -29.0 dBm (± 3 dB)

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is 65.9 dB μ V/m at 3m in the frequency 2480MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -29.33dBm

which is within the production variation.

The Minimum peak radiated emission for the EUT is 64.9 dB μ V/m at 3m in the frequency 2441MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -30.33dBm

which is within the production variation.

The maximum conducted output power specified is -26.0dBm= 0.003mW

The SAR Exclusion Threshold Level:

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

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.