

# INTERTEK TESTING SERVICES

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## RF Exposure

The equipment under test (EUT) is a Cyklone Awt operating at 2.4G Band. The EUT can be powered by DC 3.2V (1 x 3.2V 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

Antenna Gain: 0dBi

The nominal conducted output power specified: -5.0 dBm ( $\pm 3$ dB)

The nominal radiated output power (e.i.r.p) specified: -5.0 dBm ( $\pm 3$ dB)

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is 89.8 dB $\mu$ V/m at 3m in the frequency 2472MHz

The EIRP =  $[(FS \cdot D)^2 / 30]$  mW = -5.43dBm  
which is within the production variation.

The Minimum peak radiated emission for the EUT is 89.6 dB $\mu$ V/m at 3m in the frequency 2440MHz

The EIRP =  $[(FS \cdot D)^2 / 30]$  mW = -5.63dBm  
which is within the production variation.

The maximum conducted output power specified is -2.0dBm= 0.631mW

The source- based time-averaging conducted output power =  $0.631 \cdot \text{Duty cycle}$  mW < 0.631 mW (Duty cycle < 100%)

The SAR Exclusion Threshold Level:

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

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.

The duty cycle is simply the on-time divided by the period:

The duration of one cycle = 20.0000ms

Effective period of the cycle = 1.0145ms

DC =  $1.0145\text{ms} / 20.0000\text{ms} = 0.0507$  or 5.07%