

# INTERTEK TESTING SERVICES

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## RF Exposure

The equipment under test (EUT) is a Vacuum Cleaner with a transmitter function operating in 915-916MHz. The EUT is powered by 100-240V~ 50/60Hz. For more detail information pls. refer to the user manual.

### 915-916MHz:

Antenna Type: Integral antenna

Modulation Type: 2FSK

Antenna Gain: 1dBi Max

The nominal conducted output power specified: 0dBm (+/-2dB)

The nominal radiated output power (e.i.r.p) specified: 1dBm (+/-2dB)

The maximum peak radiated emission for the EUT is 96.2 dB $\mu$ V/m(1.0 dBm) in the frequency 915MHz which is within the production variation.

The minimum peak radiated emission for the EUT is 94.9 dB $\mu$ V/m(-0.3 dBm) in the frequency 915.5MHz which is within the production variation.

According to FCC Part 2.1091, this unlicensed transmitting devices is categorically excluded from routine environmental evaluation for RF exposure prior to equipment authorization or use, According to the KDB 447498 and OET 65, the simple calculation as below:

The source-based time peak maximum radiated power =3.0dBm = 1.995 mW

From above data, the exposed power density at a distance (R) of 20cm from the center of radiation of the antenna for 2.4GHz WIFI band can be calculated according to OET 65 as follow:

$$= 1.995 \text{ mW} / 4\pi R^2$$

$$= 0.0004 \text{ mW/cm}^2$$

The MPE limit is 0.61 mW/cm<sup>2</sup> for general population and uncontrolled exposure. As the measured power density at 20cm from the transmitter is lower than the MPE limit, the compliance to the MPE limit can be ensured by indicating the minimum 20cm separation between the transmitter's radiating structure and body of the user or nearby persons.

The following RF exposure statement or similar sentence is proposed to be included in the user manual:

**“FCC RF Radiation Exposure Statement Caution: This Transmitter must be installed to provide a separation distance of at least 20 cm from all person.”**