# INTERTEK TESTING SERVICES

## RF Exposure

The Equipment Under Test (EUT) is a Air Purifier with Wi-Fi function operating at 2412-2462MHz for 802.11b/g/n-HT20, 11 channels with 5MHz channel spacing. The EUT is powered by AC 120V, 60Hz. For more detailed features description, please refer to the user's manual.

Antenna Type: Integral Antenna
Antenna Gain: 3.33dBi
Modulation Type: BPSK, QPSK, 16QAM, 64QAM for OFDM; CCK, DQPSK, DBPSK for DSSS.

For 802.11b and 802.11n-HT20:
The normal radiated output power (e.i.r.p) is: 23.33dBm (tolerance: +/-3dB).
The normal conducted output power is 20.0dBm (tolerance: +/-3dB).

The maximum conducted output power for the EUT is 22.54dBm in the frequency 2.462GHz 802.11g mode which is within the production variation.

The minimum conducted output power for the EUT is 18.02dBm in the frequency 2.412GHz 802.11b mode 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 V07 and OET 65, the simple calculation as below:

The source-based time averaged maximum radiated power = 23.33dBm+3dB= 23dBm = 429.54mW

At the distance (R) of 20cm to 40cm and in 0.3 GHz to 6 GHz, MPE Exclusion Threshold Level:

$$P_{th} \, (mW) = ERP_{20 \, cm} \, (mW) = \begin{cases} 2040f & 0.3 \, \text{GHz} \leq f < 1.5 \, \text{GHz} \\ 3060 & 1.5 \, \text{GHz} \leq f \leq 6 \, \text{GHz} \end{cases}$$

The MPE limit is 3060mW for general population and uncontrolled exposure in the 2.4GHz frequency range according to FCC Part 1.1307. 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.

Note: EIRP is higher than ERP, thus EIRP is compared with the Exclusion Threshold.

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