

# INTERTEK TESTING SERVICES

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## RF Exposure

The equipment under test (EUT) is an IRON MAN MK50 ROBOT BY UBTECH with BT 4.0 BLE function operating in 2402-2480MHz. The EUT is powered by DC 7.4V (2\* lithium battery) which can be charged by DC 5V/2.0A. For more detail information pls. refer to the user manual.

Modulation Type: GFSK.

Bluetooth Version: BT 4.0 BLE(single mode)

Antenna Type: Integral antenna.

Antenna Gain: 3.1dBi.

The nominal conducted output power specified: -8.1dBm (+/-4dB).

The nominal radiated output power (e.i.r.p) specified: -5dBm (+/- 4dB).

According to the KDB 447498:

The maximum peak radiated emission for the EUT is 88.0dBμV/m at 3m in the frequency 2480MHz

The EIRP =  $[(FS \cdot D)^2 / 30]$  mW = -7.23dBm  
which is within the production variation.

The minimum peak radiated emission for the EUT is 86.3dBμV/m at 3m in the frequency 2442MHz

The EIRP =  $[(FS \cdot D)^2 / 30]$  mW = -8.93dBm  
which is within the production variation.

The maximum conducted output power specified is -4.1dBm = 0.4mW

The source- based time-averaging conducted output power  
=  $0.4 \cdot \text{Duty factor mW}$  (where Duty Factor  $\leq 1$ )  
= 0.4 mW

The SAR Exclusion Threshold Level:

=  $3.0 \cdot (\text{min. test separation distance, mm}) / \text{sqrt}(\text{freq. in GHz})$   
=  $3.0 \cdot 5 / \text{sqrt}(2.480)$  mW  
= 9.53 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.