

Analysis Report

The Equipment under Test (EUT) is a transceiver unit for the REACH ROBOTICS MEKAMON BERSERKER model: 101-PA-000101 with Bluetooth (4.0 single mode) function. It is powered by DC 11.1V (1 x 11.1V rechargeable battery), but it can't use Bluetooth function while charging. For more detail information pls. refer to the user manual.

Modulation Type: GFSK

Bluetooth Version: 4.0 (Single Mode)

Antenna Type: Integral antenna

Antenna Gain: 0dBi

The nominal radiated output power (e.i.r.p) specified: -24.0dBm (tolerance: +/- 3 dB)

The nominal conducted output power specified: -24.0dBm (tolerance: +/- 3dB)

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is 71.4dBμV/m at 3m in the frequency 2402MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -23.83dBm

which is within the production variation.

The Minimum peak radiated emission for the EUT is 69.3dBμV/m at 3m in the frequency 2480MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -25.93dBm

which is within the production variation.

The maximum conducted output power specified is -21 dBm = 0.008mW

The source- based time-averaging conducted output power

= $0.008 \cdot \text{Duty cycle}$ mW = 0.008 mW

The SAR Exclusion Threshold Level:

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

= $3.0 \cdot 5 / \sqrt{2.480}$ mW

= 9.5 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.

Transmitter Duty Cycle Calculation

The test signal of the EUT is Continuous emission, so the Duty Cycle is 100%.