

Analysis Report

Report No.: 14011175HKG-001

The Equipment Under Test (EUT) is a 2.4GHz Bluetooth 4.0 transceiver (Robot) of a RC Car system, which is operating at 2402MHz to 2480MHz (40 channels with 2MHz channel spacing). The EUT is powered by 6VDC (4 X 1.5V “AAA” batteries). The EUT has a power ON/OFF switch, a pairing button and a LED. When the EUT is switched ON, the LED will flash. It is required to press the pairing button to pair with the corresponding controller before playing. After pairing, the LED will stay lit. After pairing, the EUT can be controlled to move forward, backward, left and right by the corresponding Bluetooth device.

Antenna Type: Internal integral antenna

Antenna Gain: 0dBi

Nominal rated field strength: 85.6dB μ V/m at 3m

Maximum allowed field strength of production tolerance: +3dB / - 3dB

According to the KDB 447498:

Based on the Maximum allowed field strength of production tolerance was 88.6dB μ V/m at 3m in frequency 2.4GHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30] = 0.217\text{mW}$

Conducted power = Radiated Power (EIRP) – Antenna Gain

So;

Conducted Power = 0.217mW

The SAR Exclusion Threshold Level:

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

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

= 9.53 mW

Since the above conducted output power is well below the SAR Exclusion threshold level, so the EUT is considered to comply with SAR requirement without testing.