

Analysis Report

The Equipment Under Test (EUT) is a 2.4GHz Bluetooth 4.0 BLE for a RC Robot R2D2 which operating at 2402MHz to 2480MHz with 2MHz channel spacing. The EUT is powered by 4 X 1.5V AA batteries. After switched on the EUT and paired with smartphone, the EUT can be controlled to execute Stationary Hang-out mode, Mobile Hang-out mode and guard mode by the smartphone.

Antenna Type: Internal antenna

Antenna Gain: 0dBi

Nominal rated field strength: 97.0 dB μ V/m at 3m

Maximum allowed field strength of production tolerance: +/- 2dB

According to the KDB 447498:

Based on the Maximum allowed field strength of production tolerance was 99.0dB μ V/m at 3m in frequency 2.4GHz, thus;

The EIRP = $[(FS * D)^2 * 1000 / 30] = 2.38mW$

Conducted power = Radiated Power (EIRP) – Antenna Gain

So;

Conducted Power = 2.38mW.

The SAR Exclusion Threshold Level:

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

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

= 9.52 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.