

Analysis Report

The Equipment Under Test (EUT) is a Hot Wheels® Bluetooth toy racing set with Bluetooth 4.0 BLE only function. The Bluetooth module in the EUT is operating in the frequency range from 2402MHz to 2480MHz (39 channels with 2MHz channel spacing). The EUT can be connected with a Bluetooth Device for music playing. The EUT is powered by 120VAC power supply.

The direction of the track will be changed based on the phone apps operation. The apps also controls the racing start.

For electronic filing, the brief circuit description is saved with filename: descri.pdf.

Antenna Type: Internal antenna

Antenna Gain: 0dBi

Nominal rated field strength is 89.9 dBμV/m at 3m

Maximum allowed production tolerance: +/- 3dB

According to the KDB 447498:

Based on the Maximum allowed field strength of production tolerance was 92.9dBμV/m at 3m in frequency 2.480GHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30]$ = 0.59mW

Conducted power = Radiated Power (EIRP) – Antenna Gain
So;

Conducted Power = 0.59mW.

The SAR Exclusion Threshold Level:

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

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.