

Analysis Report

Report No.: 14060242HKG-001

The equipment under test (EUT) is a 13.56MHz RFID transmitter for a game console unit (RFID toy reader) operating at 13.560MHz which is controlled by a crystal. The EUT is powered by 4 x AA size batteries. This product consists of a controller, a portal (RFID tag reader) and six figures of Power Rangers (passive tags). The EUT has an ON/OFF switch and a RFID tag reader on the portal. It can also connect to the TV monitor for game playing. After switched on the EUT, the TV monitor can show the game mode while the Figure (passive tags) was placed on the portal.

Antenna Type: Internal antenna

Antenna Gain: 0dBi

Nominal field strength: 71.1dB μ V/m at 3m

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

According to the KDB 447498:

Based on the Maximum allowed field strength of production tolerance was 74.1 dB μ V/m at 3m in frequency 13.56MHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30] = 0.0077\text{mW}$

Conducted power = Radiated Power (EIRP) – Antenna Gain

So;

Conducted Power = 0.0077mW.

The SAR Exclusion Threshold Level for 13.56MHz when the minimum test separation distance is < 50mm:

= $[474 \cdot (1 + \log_{10}(f(\text{MHz}))) / 2]$

= 442.7mW

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.