Analysis Report

The Equipment Under Test (EUT) is a 2.4GHz transceiver (i.e. Train) for a RC Train. The EUT is powered by DC3.0V (2X1.5V AAA batteries). The operating frequencies are 2425MHz, 2445MHz, and 2465MHz. After pairing with controller, the train can be controlled to run forward and backward. There are also a light and a speaker on the EUT, which can be controlled by the controller's light and sound buttons.

Antenna Type: Internal antenna
Antenna Gain: 0dBi
Nominal rated field strength: 81.3 dBμV/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 84.3 dBμV/m at 3m in frequency 2.4GHz, thus;

The EIRP = [(FS*D) ^2*1000 / 30] = 0.081mW

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

Conducted Power =0.081mW.

The SAR Exclusion Threshold Level:
= 3.0 * (min. test separation distance, mm) / sqrt(freq. in GHz)
= 3.0 * 5 / sqrt (2.465) mW
= 9.55 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.