Analysis Report

The Equipment Under Test (EUT) is a 2.4GHz Transceiver (Train) for a Train Set. The EUT is powered by 6 x 1.5V C batteries. The 2.4GHz module is operating at the frequencies (2407; 2408; 2409; 2410; 2411; 2413; 2435; 2436; 2438; 2439; 2440; 2441; 2442; 2443; 2444; 2445; 2467; 2468; 2469; 2470; 2471; 2472; 2473; 2474; 2475; 2476 and 2477)MHz. After switching on the EUT, the corresponding Transceiver (Controller) can control the EUT (Train) moving forward and backward.

Antenna Type: Internal antenna
Antenna Gain: 0dBi
Nominal rated field strength: 96.4 dBμV/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 98.4dBμV/m at 3m in frequency 2.4GHz, thus;

The EIRP = [(FS*D) ^2*1000 / 30] = 2.08mW

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

Conducted Power =2.08mW.

The SAR Exclusion Threshold Level:
= 3.0 * (min. test separation distance, mm) / sqrt(freq. in GHz)
= 3.0 * 5 / sqrt (2.477) 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.