

Analysis Report

The Equipment Under Test (EUT) is a 2.4GHz Transceiver (Controller) for a Train Set. The EUT is powered by 3 x 1.5V AAA batteries. The 2.4GHz module is operating at the frequencies (2413; 2435; 2436; 2438; 2439; 2440; 2441; 2442; 2443; 2444; 2445; 2468; 2469; 2470; and 2471 MHz). After switching on the EUT and the corresponding Transceiver (Train), activating the control keys on the EUT can control the Train moving forward and backward.

The Model: 711960 is the same as the Model: 711802 in hardware aspect as declared by client. The models are different in model number and package only as declared by client.

Antenna Type: Internal, Integral

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Antenna Gain: 0dBi

Nominal rated field strength is 97.5 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 100.5dBμV/m at 3m in frequency 2.413GHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30] = 3.366\text{mW}$

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

Conducted Power = 3.366mW.

The SAR Exclusion Threshold Level:

$= 3.0 \cdot (\text{min. test separation distance, mm}) / \sqrt{\text{freq. in GHz}}$
 $= 3.0 \cdot 5 / \sqrt{2.471} \text{ mW}$
 $= 9.542 \text{ mW}$

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.