

Analysis Report

The equipment under test (EUT) is a transmitter for remote holiday lighting set. The transmitter is operating at 315MHz and it is powered by a 4.5VDC (3 x 1.5V AA batteries). Blowing into the sensor located on the candle once, the candle light and the holiday lighting will turn on. The transmitter will cease transmission within 5 seconds after activation.

Antenna Type: Internal antenna

Antenna Gain: 0dBi

Nominal rated field strength: 59.4 dB 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 62.4dB μ V/m at 3m in frequency 2.4GHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30] = 0.001\text{mW}$

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

Conducted Power = 0.001mW.

The SAR Exclusion Threshold Level:

$$\begin{aligned} &= 3.0 * (\text{min. test separation distance, mm}) / \text{sqrt}(\text{freq. in GHz}) \\ &= 3.0 * 5 / \text{sqrt}(0.315) \text{ mW} \\ &= 26.7 \text{ mW} \end{aligned}$$

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.