INTERTEK TESTING SERVICES

Analysis Report

The equipment under test (EUT) is a transmitter for a RC Car operating at 27.145 MHz which is controlled by a crystal. The EUT is powered by two 1.5V AA batteries. For more detail information pls. refer to the user manual.
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Antenna Type: dedicated antenna
Antenna Gain: 0dBi

The nominal conducted output power specified: -44.0dBm (+/- 3dB)

The nominal radiated output power (e.r.p) specified: -46.15dBm (+/- 3dB)

Modulation Type: Pulse modulation

According to the KDB 447498:

> The worst-case peak radiated emission for the EUT is 51.0dBuV/m at 3m in the frequency 27.145MHz
> The EIRP = [(FS*D) ^2 / 30] mW= -44.23dBm
> The ERP = EIRP – 2.15 = -46.38 dBm
> which is within the production variation.

> The maximun conducted output power specified is -41dBm =0.00008mW
> The source- based time-averaging conducted output power
> = 0.00008* Duty Cycle mW < 0.00008mW (Duty Cycle<100%)

> The SAR Exclusion Threshold Level for 27.145MHz when the minimum test separation distance is < 50mm:
> = 474 * [1 + log(100/f(MHz)]/2
> = 371.2 mW

> Since the source-based time-averaging conducted output power is well below the SAR low threshold level, so the EUT is considered to comply with SAR requirement without testing.

Transmitter Duty Cycle Calculation
> The duration of one cycle = 16.1739ms
> Effective period of the cycle = 1.3333ms x 4 + 405.8μs x 10 =9.3912ms
> DC =9.3912ms / 16.1739ms =0.5806 or 58.06%

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