

INTERTEK TESTING SERVICES

Analysis Report

The equipment under test (EUT) is a transmitter for a R/C Toy operating at 27.145 MHz which is controlled by a crystal. The EUT is powered by one 9.0V 6F22 battery. For more detail information pls. refer to the user manual.

Antenna Type: Integral antenna

Antenna Gain: 0dBi

The nominal conducted output power specified: -48.0dBm (+/- 3dB)

The nominal radiated output power (e.r.p) specified: -50.15dBm (+/- 3dB)

Modulation Type: Pulse modulation

According to the KDB 447498:

The worst-case peak radiated emission for the EUT is 46.8dB μ V/m at 3m in the frequency 27.145MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -48.43dBm

The ERP = EIRP - 2.15 = -50.58dBm

which is within the production variation.

The maximum conducted output power specified is -45dBm = 0.00003mW

The source-based time-averaging conducted output power
= 0.00003 * Duty Cycle mW < 0.0001mW (Duty Cycle < 100%)

The SAR Exclusion Threshold Level for 27.145MHz when the minimum test separation distance is < 50mm:

= $474 * [1 + \log(100/f(\text{MHz}))]/2$

= 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 = 19.8551ms

Effective period of the cycle = 1.6667ms x 4 + 507.2 μ s x 10 = 11.7388ms

DC = 11.7388ms / 19.8551ms = 0.5912 or 59.12%