

INTERTEK TESTING SERVICES

RF Exposure

The Equipment under Test (EUT) is a Car unit for Extreme Beast model: 81128(13085/81128) operating at 2.4GHz band. It is powered by DC 7.4V (1 x 7.4V rechargeable battery). For more detail information pls. refer to the user manual.

Antenna Type: Integral antenna.

Antenna Gain: 0dBi.

The normal radiated output power (e.i.r.p) is: 2.0dBm (tolerance: +/- 3dB).

The normal conducted output power is 2.0dBm (tolerance: +/- 3dB).

Modulation Type: GFSK.

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is 97.7dBμV/m at 3m in the frequency 2413MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = 2.47dBm
which is within the production variation.

The Minimum peak radiated emission for the EUT is 94.3dBμV/m at 3m in the frequency 2473MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -0.93dBm
which is within the production variation.

The maximum conducted output power specified is 5.0dBm = 3.2mW

The source- based time-averaging conducted output power
= 3.2 * Duty cycle mW = 0.207792 mW

The SAR Exclusion Threshold Level:

= $3.0 \cdot (\text{min. test separation distance, mm}) / \sqrt{\text{freq. in GHz}}$
= $3.0 \cdot 5 / \sqrt{2.473}$ mW
= 9.54 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.

The duty cycle is simply the on-time divided by the period:

The duration of one cycle = 4.928ms

Effective period of the cycle = 320us x 1 = 0.32ms

DC = 320us / 4.928ms = 0.064935 or 0.064935%