

RF EXPOSURE EVALUATION

Equipment under test: Microcontroller JN5169-001-M00 with connection ZIGBEE

Test report reference: RC-030-PTC-15-100225-2-A

MPE calculation

These equations are generally accurate in the far field of an antenna but will over predict power density in the near field, where they could be used for making a “worst case” prediction.

$$S = PG/4\pi R^2$$

Where: S = power density (in appropriate units, e.g. mW/cm²)
P = power input to the antenna (in appropriate units e.g. mW)
G = power gain of the antenna in the direction of interest relative to the isotropic radiator
R = distance to the centre of radiation of the antenna (appropriate units e.g. cm)

Or

$$S = EIRP/4\pi R^2$$

Where EIRP = equivalent isotropically radiated power

Calculation:

(Calculated for max. EIRP)

EIRP: 13.15 dBm (20.65 mW)

Calculated at distance of 20 cm:

Power density = 0.004108 mW/cm²

Limit:

1mW/cm² is the reference level for general public exposure according to the OET Bulletin 65.

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