

RF Exposure report

The equipment under test (EUT) is a Baby Monitor - Baby Unit with 2.4GHz wireless control functions. The EUT is powered by DC5V via micro USB port which can be connected to adapter with 100-240VAC. For more detail information pls. refer to the user manual.

2.4GHz wireless control function operates in 2414-2468MHz. There are total 19 channels.

Modulation Type: GFSK

Antenna Type: Integral antenna

Antenna Gain: 0dBi

The nominal radiated output power (e.i.r.p) specified: 9dBm (Tolerance: +/-2dB)

The nominal conducted output power specified: 9dBm (Tolerance: +/-2dB)

The maximum radiated emission for the EUT is 106.2dB μ V/m at 3m in the frequency 2.414GHz = $[(FS \cdot D)^2 / 30]$ mW
= 10.97dBm which is within the production variation

The minimum radiated emission for the EUT is 103.4dB μ V/m for at 3m in the frequency 2.468GHz = $[(FS \cdot D)^2 / 30]$ mW
= 8.17dBm which is within the production variation

According to FCC Part 2.1091, this unlicensed transmitting devices is categorically excluded from routine environmental evaluation for RF exposure prior to equipment authorization or use.

For Maximum Permissible Exposure (MPE) evaluation of the product, the maximum power density at 20 cm from this transmitter shall be less than the General Population / Uncontrolled MPE limit in FCC Part 1.1310.

The maximum EIRP= 11.0Bm=12.6mW

From above data, the exposed power density at a distance (R) of 20cm from the center of radiation of the antenna can be calculated according to OET 65 as follow:

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

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

$$= 12.6mW/ 4\pi R^2$$

$$= 0.0025 mW/cm^2$$

The MPE limit is 1.0 mW/cm² for general population and uncontrolled exposure in the 2.4GHz frequency range according to FCC Part 1.1310. As the measured power density at 20cm from the transmitter is lower than the MPE limit, the compliance to the MPE limit can be ensured by indicating the minimum 20cm separation between the transmitter's radiating structure and body of the user or nearby persons.

The following RF exposure statement or similar sentence is proposed to be included in the user manual:

“FCC RF Radiation Exposure Statement Caution: This Transmitter must be installed to provide a separation distance of at least 20 cm from all persons.”