

Calculation: RF-Exposure for 2.4 GHz ZigBee transmitter

Type identification: TI RF Module

In accordance to the **CFR Part 47, §1.1310**

S: Limit for power density according to CFR Part 47, §1.1310:

$$10 \text{ W/m}^2$$

P: 5.5 mW (averaged over 30 min)

G: 0 dBi = 1

D: Duty cycle: 100 % = 1

R: Distance in what the limit of S has to be reached: 0.2 m

$$S = \frac{P \cdot G \cdot D}{4 \cdot \pi \cdot R^2} \Rightarrow \underline{\underline{S}} = \frac{0.0055 \text{ W} \cdot 1 \cdot 1}{4 \cdot \pi \cdot (0.2 \text{ m})^2} = \underline{\underline{0.011 \frac{\text{W}}{\text{m}^2}}}$$

The value for the “General population / Uncontrolled Exposure” of the power density is below the limit of CFR Part 47, §1.1310.