

Calculation: RF-Exposure for 915 MHz transmitter

Type identification: **TN902-Q120L130H1147**

In accordance to the **CFR Part 47, §1.1310** and **RSS-102 Issue 5**

- S: Limit for power density according to
- CFR Part 47, §1.1310: 6.02 W/m²
- RSS-102 Issue 5, Table 4: 2.74 W/m²
- P: 683.9 mW (peak value, refer clause 5.5 of test report F153142E1, 2nd version)
- G: 3.0 dBi = 2
- D: Duty cycle: 100 % = 1
- R: Distance in what the limit of S has to be reached: 0.3 m (refer also to the manufacturers installation / user manual)

$$S = \frac{P \cdot G \cdot D}{4 \cdot \pi \cdot R^2} \Rightarrow S = \frac{0.6839W \cdot 2.0 \cdot 1}{4 \cdot \pi \cdot (0.3m)^2} = \underline{\underline{1.21 \frac{W}{m^2}}}$$

The value of the power density is below the limit of CFR Part 47, §1.1310 for the “General population / Uncontrolled Exposure” and below the limit of RSS-102 Issue 5, Table 4 “General Public (uncontrolled environment)”.
Base of the above calculations is the lowest possible frequency in combination with the highest output power of the EUT.