Calculation: RF-Exposure for 915 MHz transmitter

Type identification: **TN-UHF-Q300-NA Series, TN-UHF-Q180L300-NA Series**

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/m^2
- RSS-102 Issue 5, Table 4: 2.74 W/m^2

P: 1 W (max. peak value, declared by the applicant)

G: 6 dBi = 3.98 (max. antenna gain, declared by the applicant)

D: Duty cycle: 100 % = 1

R: Distance in what the limit of S has to be reached: 0.35 m (refer also to the manufacturers installation / user manual)

$$S = \frac{P \cdot G \cdot D}{4 \cdot \pi \cdot R^2} \Rightarrow \underline{S} = \frac{1.0\ W \cdot 3.98 \cdot 1}{4 \cdot \pi \cdot (0.35\ m)^2} = \underline{2.59 \frac{W}{m^2}}$$

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.