

## Calculation: RF-Exposure for 915 MHz transmitter

Type identification: **ZONESCAN 820 Solar Alpha**

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<sup>2</sup>  
 - RSS-102 Issue 5, Table 4: 2.74 W/m<sup>2</sup>
- P: 49.0 mW (peak value, refer clause 5.5 of test report F161597E1)
- G: 12.0 dBi = 15.8
- D: Duty cycle: 100 % = 1
- R: Distance in what the limit of S has to be reached: 0.2 m (refer also to the manufacturers installation / user manual)

$$S = \frac{P \cdot G \cdot D}{4 \cdot \pi \cdot R^2} \quad \text{or} \quad S = \frac{0.049 \text{ W} \cdot 15.8 \cdot 1}{4 \cdot \pi \cdot (0.2 \text{ m})^2} = \underline{\underline{1.540 \frac{\text{W}}{\text{m}^2}}}$$

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.