

## Calculation: RF-Exposure for 77 GHz – 82 GHz transmitter

Type identification: **USR30 level probing radar**

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: 10 W/m<sup>2</sup>  
- RSS-102 Issue 5, Table 4: 10 W/m<sup>2</sup>
- P: 0.000933 W (average value, refer clause 5.3 of test report F230509)
- G: Not applicable, the above-mentioned power is an EIRP value
- D: Not applicable, the above-mentioned power is already averaged.
- R: Distance in what the limit of S has to be reached: 0.2 m.

$$S = \frac{P \cdot G \cdot D}{4 \cdot \pi \cdot R^2} \Rightarrow \underline{S} = \frac{0.000933 \text{ W}}{4 \cdot \pi \cdot (0.2 \text{ m})^2} = \underline{\underline{0.0019 \frac{\text{W}}{\text{m}^2}}}$$

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)”.  
Based on the above calculations is the average EIRP level of the EUT.