Calculation: RF-Exposure for 2.4 GHz BLE transmitter

Type identification: **FMR43**

In accordance with the **CFR Part 47, §1.1310** and **RSS-102 Issue 6**

S: Limit for power density according to
- CFR Part 47, §1.1310: 1.0 mW/cm^2 10 W/m^2
- RSS-102 Issue 6, Table 7: 10 W/m^2

EIRP: 7.2 dBm = 0.00525 W (AV value, refer clause 5.6.3 of test report F230975E5)
D: Duty cycle: 100% (maximum)
R: Distance in what the limit of S has to be reached: 0.2 m.

$$S = \frac{EIRP \cdot D}{4 \cdot \pi \cdot R^2} \Rightarrow \underline{S} = \frac{0.00525\ W \cdot 100\%}{4 \cdot \pi \cdot (0.2\ m)^2} = \underline{0.0104 \frac{W}{m^2}}$$

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 6, Table 7 "General Public (uncontrolled environment)".
Base of the above calculations is the highest output power of the EUT.