

RF Exposure Considerations for the Fibar Group S.A. Door/Window Sensor

FCC ID: 2AA9MFGBHDW002

The FCC requires that the calculated MPE for mobile equipment to be equal to or less than a given limit dependent on frequency at a distance of 20 cm from a device to the body of a user.

The transmitter in the Fibar Group S.A., Door/Window Sensor covers the 2402-2480MHz frequency band using Bluetooth Low Energy technology.

The following FCC Rule Parts and procedures are applicable:

Part 1.1310 - Radiofrequency radiation exposure limits

Part 2.1091 - Radiofrequency radiation exposure evaluation: mobile devices

KDB447498 D01 v06 Mobile and Portable Devices RF Exposure Procedures and Equipment Authorisation Policies

MPE calculation

$S = EIRP/(4 \pi R^2)$

Where

S = Power density

 $EIRP = P \times G$

- P = Maximum transmitter power
- G = Antenna gain
- R = distance to the centre of radiation of the antenna

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For the 2.4GHz band (Bluetooth Low Energy):

Values $S = 1.0 \text{ mW/cm}^2$ for General population uncontrolled exposure
(FCC Part 1.1310, Table 1(B) Radiofrequency radiation exposure limits) $S = 1.0 \text{mW/cm}^2$ $P_{max} = 6.0 \text{dBm} (3.98 \text{mW})$ G = 3.5 dBi (x2.24)R = 20 cm

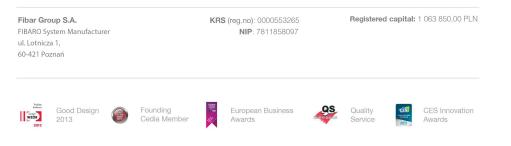
Calculation:

S = PG/4 π R² S = 3.98 x 2.24/(12.56 x (20)²) S = 8.92/5026

S = 0.0018 mW/cm²

Conclusion

This confirms compliance to the required FCC Part 1.1310 Radio frequency radiation exposure limit of 1.0mW/cm² at 20cm operation and, hence, meets the requirements of FCC rule part 2.1091(c) and KDB447498 D01 v06, section 7.1.



Strona $2 \ge 2$