

STATEMENT ON EXPOSURE TO ELECTROMAGNETIC FIELDS

EQUIPMENT

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| Type of equipment: | Battery Powered RFID Lock with Bluetooth |
| Brand name: | GANTNER |
| Type / Model: | GAT ECO.Lock 7101 NW F/ISO |
| Identical type: | GAT ECO.Lock 7151 NW F/ISO |
| Manufacturer: | GANTNER Electronic GmbH |
| By request of: | GANTNER Electronic GmbH |

STANDARD

47 CFR §2.1091, 47 CFR §1.1307, 47 CFR §1.1310, KDB 447498 D01 v06
RSS-102 Issue 5

Evaluation

- Maximum input power to the transmitter is ... mW. We can assume that the transmitter is ideal and all ... mW are sent to the antenna. Magnetic coil antenna gain has maximum 0 dBi gain.
- Maximum output power of the RFID transmitter is 500 mW (according to form 731). Magnetic coil antenna gain has maximum 0 dBi gain.
- Maximum output power of the Bluetooth transmitter is 6 mW (≈ 7.8 dBm) according to the FCC Grant: NC4-GEA2200192A. PCB antenna gain has maximum 3 dBi (if it functions as a dipole).

$$7.8 \text{ dBm} + 3 \text{ dBi} = 10.8 \text{ dBm} \approx 12 \text{ mW}$$

A worst case MPE calculation is as follows:

$$S = \frac{EIRP}{\pi * r^2}$$

EIRP = 512 mW

r = 20 cm


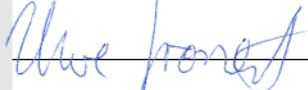
S = 0,407 mW / cm²


Limits

Per 47 CFR §1.1310 MPE limit for 13.56 MHz transmitter is 0,98 mW / cm², and 1 mW / cm² in the 2.4 GHz range.

RSS-102 clause 2.5.2 Routine rf exposure evaluation exemption limit for transmitters operating at 20 MHz or lower frequencies is 1 W eirp, and 2.74 W eirp at 2480 MHz.

Transmitter complies with these limits without testing.

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|---------------|---|--------------|--|
| Completed by: | R. Dressler | Reviewed by: | U. Gronert |
| Title: | Technical Manager EMC/ Radio | Title: | Senior Project Engineer |
| Signature: |  | Signature: |  |
| Date: | 2022-07-08 | Date: | 2022-07-08 |



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