

STATEMENT ON EXPOSURE TO ELECTROMAGNETIC FIELDS

EQUIPMENT

Type of equipment:	RFID locker lock with RFID Reader (13.56 MHz) and with Bluetooth
Brand name:	GANTNER
Type / Model:	GL7P.3500
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

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 RF conducted output power of the Bluetooth transmitter is 3.05 dBm and its antenna gain is 2.21 dBi from FCC ID: QWO-QS9322PLCS test report (worst case).

$$3.05 \text{ dBm} + 2.21 \text{ dBi} = 5.26 \text{ dBm} \approx 3.36 \text{ mW}$$

A worst case MPE calculation is as follows:

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

EIRP = 503.36 mW

r = 20 cm

S = 0,401 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.

Intertek Deutschland GmbH

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