

STATEMENT ON EXPOSURE TO ELECTROMAGNETIC FIELDS

EQUIPMENT

Type of equipment:	Automat for the return of Wristbands
Brand name:	GANTNER
Type / Model:	GRT7.2300
Identical types:	GRT7.2300 EE, GRT7.2310
Manufacturer:	GANTNER Electronic GmbH
By request of:	GANTNER Electronic GmbH

STANDARD REFERENCES:

US:

FCC 47 CFR §1.1307 Actions that may have a significant environmental effect, for which Environmental Assessments (EAs) must be prepared

FCC 47 CFR §2.1091 Radiofrequency radiation exposure evaluation: mobile devices

FCC 47 CFR §1.1310 Radiofrequency radiation exposure limits

FCC KDB 447498 D01 v06 What are the RF exposure requirements and procedures for mobile and portable devices?

Canada:

RSS-102, Issue 6 Radio Frequency (RF) Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands)

Source of power value

☐ 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 transmitter is 500 mW (according to form 731). Magnetic coil antenna gain has maximum 0 dBi gain.

☐ Maximum output power of the transmitter with antenna gain is less than mW (dBm taken from radio test report 22 KAU-00)

Calculation

A worst case **MPE (maximum permissible exposure)** calculation is as follows:

$$S = \frac{EIRP}{4 * \pi * r^2} \quad \text{with EIRP} = 500 \text{ mW}; r = 20 \text{ cm}$$

$$S = 0.1 \text{ mW} / \text{cm}^2$$

Limit and result

FCC:

Per 47 CFR §1.1310 Radiofrequency radiation exposure limits (e) (1) the power density limit for a transmitter in the 13.56 MHz range is **1 mW / cm²**.

Verdict:

As the calculated MPE **S = 0.1 mW / cm²** is less than **1 mW / cm²**, the limit is kept.

RSS-102, Issue 6:

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**.

Verdict:

As the power value **500 mW** is less than **1 W**, the limit is kept.

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