

STATEMENT ON EXPOSURE TO ELECTROMAGNETIC FIELDS

EQUIPMENT

Type of equipment: Remote terminal unit with Wi-Fi connectivity

Brand name: Creowave

Type / Model: R7-001, R7-002

Manufacturer: Creowave Oy

By request of: Creowave Oy

STANDARD

47 CFR §2.1091, 47 CFR §1.1307, 47 CFR §1.1310 RSS-102 Issue 5

CALCULATIONS

Power density calculation is as follows:

$$S = \frac{EIRP}{4\pi \times r^2}$$

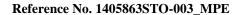
Manufacturer's installation guide states that minimum distance between antennas and user is 50 cm.

Highest Measured output power for ZigBee is 19.18 dBm.

Antenna Gain 5 dBi

 $S = (261.8 \text{ mW}) / (4\pi *50 \text{cm}^2) = 0.0083 \text{ mW} / \text{cm}^2$

For three ZigBee transmitter simultaneous operation $S = 0.025 \text{ mW} / \text{cm}^2$





Conducted output power for Wi-Fi is

2412 – 2462 MHz 19.27dBm 5180 – 5220 MHz 14.43dBm 5745 – 5825 MHz 18.07dBm

Antenna Gain 5 dBi @ 2.4 GHz 8 dBi @ 5.8 GHz

S (2437 MHz) = (267 mW) / $(4\pi*50\text{cm}^2)$ = 0.00825 mW / cm² S (5200 MHz) = (175 mW) / $(4\pi*50\text{cm}^2)$ = 0.00557 mW / cm² S (5745 MHz) = (406 mW) / $(4\pi*50\text{cm}^2)$ = 0.01292 mW / cm²

Highest combined power density value for EUT is (0.0129 + 0.025) mW / cm² = 0.037 mW / cm² = 0.37 W / m²

Limit for General Population/Uncontrolled Exposure according to \$1.1310 for power density between 1500-100~000~MHz is $1mW/cm^2$ and $f/1500~mW/cm^2$ between 300-1500~MHz.

The strictest requirement 1 mW / cm² is fulfilled without testing.

RSS-102 Table field strength limit for general public environment is $0.02619 f^{0.6834} \text{ W} / \text{m}^2$ between 300 -6000 MHz. = 5.366 W/m^2 at 2412 MHz and 9.047 W/m^2 at 5.18 GHz and 9.71 W/m^2 at 5.745 GHz.

Requirements are fulfilled without testing.

Intertek Semko AB, Radio& EMC

Date of issue: 2015-01-20

Issued by: Matti Virkki