

US Tech Test Report:

FCC Part 15 Certification

IC RSS210-Certification

FCC ID:

O7P-362

IC:

10147A-362

Test Report Number:

16-0291

Issue Date:

December 14, 2016

Customer:

Inventek Systems

Model:

ISM43362-M3G-L44-E and ISM43362-M3G-L44-U

Maximum Public Exposure to RF (MPE)

The maximum exposure level to the public from the RF power of the EUT shall not exceed a power density, **S**, of 1 mW/cm² at a distance, **d**, of 20 cm from the EUT.

Therefore, for:

Measured maximum output power: 19.8 dBm
Highest Gain Antenna (Dipole antenna) = 5 dBi

Peak Power (Watts) = .0977 (Manufacture's highest output power)
Gain of Transmit Antenna = 5 dBi = 3.16, numeric (from Table 4 of Test Report)
d = Distance = 20 cm = 0.2 m

$$\begin{aligned} S &= (PG / 4\pi d^2) = \text{EIRP} / 4A = (.0977 * 3.16) / 4 * \pi * 0.2 * 0.2 \\ &= .3087 / .5027 = .6141 \text{ W/m}^2 \\ &= (\text{W/m}^2) (1\text{m}^2/\text{W}) (0.1 \text{ mW/cm}^2) \\ &= .06141 \text{ mW/cm}^2 \end{aligned}$$

which is < less than 1.0 mW/cm²

RSS-102 (2.5.2)

The maximum exposure level to the public from the RF power of the EUT shall not exceed a source-based, time-averaged maximum EIRP based on the calculation below at a distance of 20 cm from the EUT:

Measured maximum output power of EUT: 19.8 dBm
Highest Gain Antenna (Dipole antenna) = 5 dBi

EIRP = 19.8 + 5 = 24.8 dBm = 301.9 mW (worst case)

The RF Exposure Limit per RSS-102 (2.5.2) is calculated below:

$$(1.31 * 10^{-2}) \times ((2440 \text{ MHz})^{0.6834}) = 2.7 \text{ W at } > 20 \text{ cm}$$

The measured EIRP is less than the RF Exposure limit.

301.9 mW << 2.7 W

Test Date: December 14, 2016

Calculation By

Signature: 

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