

US Tech Test Report
FCC ID:
IC:
Test Report Number:
Issue date:
Customer:
Model:

FCC Part 15 Certification
O7P-903
10147A-903
17-0162
October 3, 2017
Inventek Systems
ISM43903

Maximum Public Exposure to RF (MPE) CFR 15.247 (i), CFR 1.1310 (e)

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.

EUT with highest gain antenna:

Peak Power (dBm) = 20.95 dBm
Peak Power (Watts) = 0.124 W
Gain of Transmit Antenna = 3.2 dBi = 2.09, numeric
d = Distance = 20 cm = 0.2 m

$$\begin{aligned} S &= (PG/4\pi d^2) = \text{EIRP}/4A = 0.124(2.09)/4*\pi*0.2*0.2 \\ &= 0.2592/0.5030 = 0.3392 \text{ w/m}^2 \\ &= (0.5152 \text{ W/m}^2) (1\text{m}^2/\text{W}) (0.1 \text{ mW/cm}^2) \\ &= 0.05152 \text{ mW/cm}^2 \end{aligned}$$

which is << less than 1 mW/cm²

RSS-102, 2.5.2 Compliance for 2.4 GHz WiFi:

At or above 300 MHz and below 6 GHz the source based time averaged maximum e.i.r.p. of the device is equal to or less than $1.31 \times 10^{-2} f^{0.6834}$ in Watts (adjusted for tune-up tolerance where applicable), where f = frequency in MHz.

$$1.31 * 10^{-2} * 2440^{0.6834} = 2.7 \text{ W}$$

EUT max EIRP = 20.95 dBm (124.45mW) + 3.2 dBi (2.08 mW) = dBm = 126.53 mW << 2.7 Watts