

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

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### **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/cm<sup>2</sup> 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

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

which is << less than 1 mW/cm<sup>2</sup>

#### **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