

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

FCC Part 15 Certification/ RSS 210  
O7P-341  
10147A-341  
15-0108  
November 13, 2015  
Inventek Systems  
ISM4334X-M4G-L44

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### **Maximum Public Exposure to RF (MPE) CFR 15.247 (i)**

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.

Therefore, for:

2.4 GHz WIFI:

#### **Highest Gain Chip Antenna= 1.4 dBi**

Peak Power (Watts) = 0.063 (from UST Test Report 15.108.9A)  
Gain of Transmit Antenna = 1.4 dBi = 1.38, numeric (from UST Test Report 15.108.9A)  
d = Distance = 20 cm = 0.2 m

$$\begin{aligned} S &= (PG/4\pi d^2) = \text{EIRP}/4A = 0.063(1.380)/4*\pi*0.2*0.2 \\ &= 0.08694/0.503 = 0.1730 \text{ W/m}^2 \\ &= (\text{W/m}^2) (1\text{m}^2/\text{W}) (0.1 \text{ mW/cm}^2) \\ &= 0.01730 \text{ mW/cm}^2 \end{aligned}$$

which is << less than 1.0 mW/cm<sup>2</sup>

#### **Highest Gain Dipole Antenna= 2.6 dBi**

Peak Power (Watts) = 0.063 (from UST Test Report 15.108.9A)  
Gain of Transmit Antenna = 2.6 dBi = 1.82, numeric (from UST Test Report 15.108.9A)  
d = Distance = 20 cm = 0.2 m

$$\begin{aligned} S &= (PG/4\pi d^2) = \text{EIRP}/4A = 0.063(1.820)/4*\pi*0.2*0.2 \\ &= 0.1147/0.503 = 0.2279 \text{ W/m}^2 \\ &= (\text{W/m}^2) (1\text{m}^2/\text{W}) (0.1 \text{ mW/cm}^2) \\ &= 0.02279 \text{ mW/cm}^2 \end{aligned}$$

which is << less than 1.0 mW/cm<sup>2</sup>

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## 5 GHz WIFI:

### Highest Gain Chip Antenna= 2.3 dBi

Peak Power (Watts) = 0.067 (from UST Test Report 15-0108.9B)  
Gain of Transmit Antenna = 2.3 dBi = 1.70, numeric (from UST Test Report 15.0108.9B)  
d = Distance = 20 cm = 0.2 m

$$\begin{aligned} S &= (PG/4\pi d^2) = \text{EIRP}/4A = 0.067(1.70)/4*\pi*0.2*0.2 \\ &= 0.1139/0.503 = 0.2264 \text{ W/m}^2 \\ &= (\text{W/m}^2) (1\text{m}^2/\text{W}) (0.1 \text{ mW/cm}^2) \\ &= 0.02264 \text{ mW/cm}^2 \end{aligned}$$

which is << less than 1.0 mW/cm<sup>2</sup>

### Highest Gain Dipole Antenna= 3.3 dBi

Peak Power (Watts) = 0.067 (from UST Test Report 15-0108.9B)  
Gain of Transmit Antenna = 3.3 dBi = 2.14, numeric (from UST Test Report 15-0108.9B)  
d = Distance = 20 cm = 0.2 m

$$\begin{aligned} S &= (PG/4\pi d^2) = \text{EIRP}/4A = 0.067(2.14)/4*\pi*0.2*0.2 \\ &= 0.1434/0.503 = 0.2850 \text{ W/m}^2 \\ &= (\text{W/m}^2) (1\text{m}^2/\text{W}) (0.1 \text{ mW/cm}^2) \\ &= 0.02850 \text{ mW/cm}^2 \end{aligned}$$

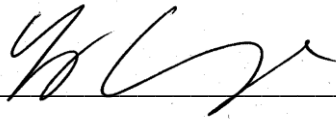
which is << less than 1.0 mW/cm<sup>2</sup>

All calculations performed by:

George Yang

Date: 11/23/2015

Signature: \_\_\_\_\_



Note validation of output power levels and antenna gain information please see the referenced test reports for this submittal.