

# MPE CALCULATION

**For Ingegneria dei Sistemi S.p.A.– IBIS Sensor Unit**

<b>RF Exposure Requirements:</b>	47 CFR §1.1307(b)
<b>RF Radiation Exposure Limits:</b>	47 CFR §1.1310
<b>RF Radiation Exposure Guidelines:</b>	FCC OST/OET Bulletin Number 65
<b>EUT Frequency Band:</b>	171000MHz ~173000MHz
<b>Limits for General Population/Uncontrolled Exposure in the band of:</b>	1500MHz – 100000MHz
<b>Power Density Limit:</b>	1 mW/ cm <sup>2</sup> ;

**Equation:**  $S = PG / 4\pi R^2$  or  $R = \sqrt{PG / 4\pi S}$

Where, S = Power Density

P = Power Input to Antenna

G = Antenna Gain

R = distance to the center of radiated antenna

---

Power = 13.67dBm, Typical Antenna Gain = 15dBi, MPE limit= 1mW/cm<sup>2</sup>

By using equation  $R = \sqrt{PG / 4\pi S}$

Power density = **0.146491384 mW/cm<sup>2</sup>**

## Result

The Above Result had shown that the minimum separation distance in order to meet MPE requirement is 20cm.

Completed By: David

Date: June 21, 2010