

# MPE CALCULATION

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

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

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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.

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