

POWER DENSITY ESTIMATIONS BASED ON POWER OUTPUT, ANTENNA GAIN, AND DISTANCE FROM ANTENNA

$$(P G) / (4 R ^ 2 \pi) = S$$

| | | | | | |
|---------------|------------|-------------------------------------------------------------|-----------------------------------------|-----------------------------------------------|----------------|
| where: | S = | maximum power density (mW/cm ²) | transmitter operating variables: | must be blank if dB values are entered | |
| | P = | power input to the antenna ----->> | = | 20.08 (dBm) - or - | (mW) |
| | G = | gain of the antenna - worst case ----->> | = | 2.5 (dBi) - or - | (numeric gain) |
| | R = | distance to the center of the radiation of the antenna -->> | = | 20 | (cm) |

$$(P \quad G) / (4 * R ^ 2 * \pi) = S \quad (mW/cm^2)$$

$$\left(\frac{101.8591388}{(mw)} \quad \frac{1.77828}{(gain)} \right) / \left(4 * \frac{20}{(cm)}^2 * \pi \right) = S \quad (mW/cm^2)$$

$$(181.134093) / (4 * 400 * \pi) = S \quad (mW/cm^2)$$

$$(181.134093) / (5026.548246) = 0.036035 \quad (mW/cm^2)$$