

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

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

<b>where:</b>	<b>S =</b>	maximum power density (mW/cm <sup>2</sup> )	<b>transmitter operating variables:</b>	<small>must be blank if dB values are entered</small>	
	<b>P =</b>	power input to the antenna ----->>	=	<b>12.658</b> (dBm) - or -	(mW)
	<b>G =</b>	gain of the antenna - worst case ----->>	=	<b>3</b> (dBi) - or -	(numeric gain)
	<b>R =</b>	distance to the center of the radiation of the antenna -->>	=	<b>20</b>	(cm)

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

$$\left( \frac{18.44165954}{(mw)} \quad \frac{1.99526}{(gain)} \right) / \left( 4 * \frac{20}{(cm)}^2 * \pi \right) = S \quad (mW/cm^2)$$

$$( 36.7959483 ) / ( 4 * 400 * \pi ) = S \quad (mW/cm^2)$$

$$( 36.7959483 ) / ( 5026.548246 ) = 0.007320 \quad (mW/cm^2)$$