

**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>		must be blank if dB values are entered	
<b>P =</b>	power input to the antenna ----->>	=	<b>15.98</b>	(dBm)	- or -		(mW)
<b>G =</b>	gain of the antenna - worst case ----->>	=	<b>5</b>	(dBi)	- or -		(numeric gain)
<b>R =</b>	distance to the center of the radiation of the antenna -->>	=	<b>20</b>				(cm)

$(P \ G)$	$/$	$(4 * R^2 * \pi)$	$=$	<b>S</b>	(mW/cm <sup>2</sup> )
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$($	<b>39.62780343</b>	<b>3.16228</b>	$)$	$/$	$($	<b>4</b>	$*$	<b>20</b>	<sup>2</sup>	$*$	$\pi$	$)$	$=$	<b>S</b>	(mW/cm <sup>2</sup> )
	(mw)	(gain)						(cm)							

$($	<b>125.3141175</b>	$)$	$/$	$($	<b>4</b>	$*$	<b>400</b>	$*$	$\pi$	$)$	$=$	<b>S</b>	(mW/cm <sup>2</sup> )
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$($	<b>125.3141175</b>	$)$	$/$	$($	<b>5026.548246</b>	$)$	$=$	<b>0.024930</b>	(mW/cm <sup>2</sup> )
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