

# 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 <sup>2</sup> )		transmitter operating variables:		must be blank if dB values are entered	
$P =$	power input to the antenna ----->>	=	17.51	(dBm) - or -	(mW)
$G =$	gain of the antenna - worst case ----->>	=	2.1	(dBi) - or -	(numeric gain)
$R =$	distance to the center of the radiation of the antenna -->>	=	20		(cm)

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

$$\left( \frac{56.36376558}{(mw)} \cdot \frac{1.62181}{(gain)} \right) / \left( 4 * \frac{20}{(cm)}^2 * \pi \right) = S \quad (mW/cm^2)$$

$$(91.41132415) / (4 * 400 * \pi) = S \quad (mW/cm^2)$$

$$(91.41132415) / (5026.548246) = 0.018186 \quad (mW/cm^2)$$

WiFi Portion

Note: The Transmitters for the EUT cannot transmit at the same time