

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

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

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 ----->>	=	25.14	(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	(mW/cm^2)
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$(\frac{326.5878322}{(mw)} \quad \frac{1.77828}{(gain)})$	$/$	$(4 * \frac{20}{(cm)}^2 * \pi)$	$=$	S	(mW/cm^2)
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(580.7644175)	$/$	$(4 * 400 * \pi)$	$=$	S	(mW/cm^2)
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(580.7644175)	$/$	(5026.548246)	$=$	0.115539	(mW/cm^2)
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**POWER DENSITY ESTIMATIONS BASED ON POWER OUTPUT, ANTENNA GAIN, AND
DISTANCE FROM ANTENNA - 900 MHz DTS FROM THE EUT**

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

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 ----->>	=	22.67	(dBm) - or -		(mW)
	G =	gain of the antenna - worst case ----->>	=	6	(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	(mW/cm^2)
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$(184.9268619 \quad 3.98107)$	$/$	$(4 * 20^2 * \pi)$	$=$	S	(mW/cm^2)
(mw)	(gain)	(cm)			

736.2070975	$/$	$(4 * 400 * \pi)$	$=$	S	(mW/cm^2)

736.2070975	$/$	5026.548246	$=$	0.146464	(mW/cm^2)

MPE Ratio of simultaneous operation based on highest power density compared to the **FCC** limits

Device FCC ID 2AC46-LCG300
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Prepared By Kyle F.

e.i.r.p

27.54 0.21 Ratio 1 WCDMA Module

28.67 0.242 Ratio 2 900 MHz DTS

0.452 Total Ratio Must be <=1

0.548 Remaining

Simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneously transmitting antennas incorporated in a host device is ≤ 1.0 , according to calculated/estimated, numerically modeled, or measured field strengths or power density.

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