Prediction of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = \frac{PG}{4\pi R^2}$$

where:

S = power density
P = power input to the antenna
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna

Wall Sensor (915 MHz)				Maximum peak output power at the antenna terminal:	7.60	(dBm)
				Maximum peak output power at the antenna terminal:	5.754399373	(mW)
				Antenna gain(typical):	-2	(dBi)
				Maximum antenna gain:	0.630957344	(numeric)
				Prediction distance:	20	(cm)
				Prediction frequency:	904	(MHz)
			MPE limit for uncontrolled exposure at prediction frequency:		0.6	(mW/cm^2)
				Power density at prediction frequency:	0.000722	(mW/cm^2)
				Maximum allowable antenna gain:	27.19421106	(dBi)

Wall Sensor (2.4GHz)				Maximum peak output power at the antenna terminal:	-1.46	(dBm)
				Maximum peak output power at the antenna terminal:	0.714496326	(mW)
				Antenna gain(typical):	1.7	(dBi)
				Maximum antenna gain:	1.479108388	(numeric)
				Prediction distance:	20	(cm)
				Prediction frequency:	2402	(MHz)
			MPE limit for uncontrolled exposure at prediction frequency:		1	(mW/cm^2)
				Power density at prediction frequency:	0.000210	(mW/cm^2)
				Maximum allowable antenna gain:	38.47269855	(dBi)

	(power density)	(MPE limit)	(pwr density / MPE limit)
	mW/cm^2	mW/cm^2	numeric
915 MHz radio	0.000722	0.6000	0.001204
2.4GHz radio	0.000210	1.0000	0.000210

SUM (Power Density / Limit):	0.001414
OVERALL LIMIT (numeric):	1.0
RESULT:	**Pass**