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

Maximum peak output power at the antenna terminal:	19.69	(dBm)
Maximum peak output power at the antenna terminal:	93.11078755	(mW)
Antenna gain(typical):	2	(dBi)
Maximum antenna gain:	1.584893192	(numeric)
Prediction distance:	20	(cm)
Prediction frequency:	2450	(MHz)
MPE limit for uncontrolled exposure at prediction frequency:	1	(mW/cm^2)
Power density at prediction frequency:	0.029358	(mW/cm^2)

The peak gain of the antenna is 0 dBi maximum. The antenna, which is approximating a quarterwave whip, does not achieve the full theoretical gain of 2 dBi due to a very small, non-ideal ground plane under the antenna and tall components in close proximity.
However for worst case representation 2dBi maximum theoretical gain is used in the MPE calculation.

Based on this calculation, the unit complies FCC's RF radiation exposure limits for general population as a mobile device.