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 antenna input terminal:	26.97	(dBm)
Maximum peak output power at antenna input terminal:	497.74	(mW)
Antenna gain(typical):	2.5	(dBi)
Maximum antenna gain:	1.78	(numeric)
Prediction distance:	20	(cm)
Prediction frequency:	2475	(MHz)
MPE limit for uncontrolled exposure at prediction frequency:	1.00	(mW/cm^2)
Power density at prediction frequency:	0.18	(mW/cm^2)
Maximum allowable antenna gain:	10.04	(dBi)
Margin of Compliance:	7.54	

The user of this system is prevented from exposure of the above emission by the structual design of the system. The user would place or remove objects to be inventoried or stored into a drawer within the system. The drawer would be pushed back into place and the metallized door of the cabinet or refridgerator closed. Only by closing the cabinet or refridgerator door would, by engagement of a switch-relay, would the program allow the RF to turn on.
The RF exposure time is limited to 9 seconds maximum by the programming.
Therefore the user is protected from the RF emission.