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:	20.81	(dBm)
Maximum peak output power at antenna input terminal:	120.503594	(mW)
Antenna gain(typical):	5.5	(dBi)
Maximum antenna gain:	3.548133892	(numeric)
Prediction distance:	30	(cm)
Prediction frequency:	1850.2	(MHz)
MPE limit for uncontrolled exposure at prediction frequency:	1	(mW/cm^2)
Power density at prediction frequency:	0.037805	(mW/cm^2)
Maximum allowable antenna gain:	19.72452373	(dBi)
Margin of Compliance:	14.22452373	

Peak Power = 26.83dBm

Product is a Class 10 GPRS, therefore worst case time source averaging = 1:4   (2 UP + 3down)

Average power = $26.83 - 10\log(4/1) = 20.81$dBm

Maximum ERP = $20.81 + 5.5 - 2.15 = 24.16$dBm = 0.261Watts