

18.01.07

Prediction of MPE limit at a given distance

Mini-Repeater DEKO 2489 fccid: OIWCCSR24891W70

with 13 dBi Directional Antenna (UpLink)

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

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

where:

P = power input to the antenna

S = power density

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: 24.20 (dBm)

Maximum peak output power at antenna input terminal: 263.0267992 (mW)

Antenna gain(typical): 13 (dBi)

Maximum antenna gain: 19.95262315 (numeric)

Prediction distance: 30 (cm)

Prediction frequency: 815 (MHz)

MPE limit for uncontrolled exposure at prediction frequency:
0.543333333 (mW/cm²)

Power density at prediction frequency: 0.464032 (mW/cm²)

Maximum allowable antenna gain: 13.68518723 (dBi)

Margin of Compliance: 0.685187231 (dB)