Part 22

# 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:	<u>11.74</u> (dBm)
Maximum peak output power at the antenna terminal:	14.9279441 (mW)
Antenna gain(typical):	<mark>0</mark> (dBi)
Maximum antenna gain:	<u>1</u> (numeric)
Prediction distance:	20 (cm)
Prediction frequency:	870.03 (MHz)
MPE limit for uncontrolled exposure at prediction frequency:	0.5800 (mW/cm^2)

Power density at prediction frequency: 0.002970 (mW/cm^2)

One-X

# 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:	17.90	(dBm)
Maximum peak output power at the antenna terminal:	61.65950019	(mW)
Antenna gain(typical):	0	(dBi)
Maximum antenna gain:	1	(numeric)
Prediction distance:	20	(cm)
Prediction frequency:	1988.75	(MHz)
MPE limit for uncontrolled exposure at prediction frequency:	1	(mW/cm^2)

Power density at prediction frequency: 0.012267 (mW/cm^2)

EVDO

## 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:	25.20	(dBm)
Maximum peak output power at the antenna terminal:	331.1311215	(mW)
Antenna gain(typical):	0	(dBi)
Maximum antenna gain:	1	(numeric)
Prediction distance:	20	(cm)
Prediction frequency:	1931.25	(MHz)
MPE limit for uncontrolled exposure at prediction frequency:	1	(mW/cm^2)

Power density at prediction frequency: 0.065876 (mW/cm^2)

# 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:	16.20	(dBm)
Maximum peak output power at the antenna terminal:	41.68693835	(mW)
Antenna gain(typical):	0	(dBi)
Maximum antenna gain:	1	(numeric)
Prediction distance:	20	(cm)
Prediction frequency:	1988.75	(MHz)
MPE limit for uncontrolled exposure at prediction frequency:	1	(mW/cm^2)

Power density at prediction frequency: 0.008293 (mW/cm^2)

Part 90

# 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:	12.74 (dBm)
Maximum peak output power at the antenna terminal:	18.79316817 (mW)
Antenna gain(typical):	<mark>0</mark> (dBi)
Maximum antenna gain:	1 (numeric)
Prediction distance:	20 (cm)
Prediction frequency:	862.9 (MHz)
MPE limit for uncontrolled exposure at prediction frequency:	0.5753 (mW/cm^2)
Prediction distance: Prediction frequency: MPE limit for uncontrolled exposure at prediction frequency:	20 (cm) 862.9 (MHz) 0.5753 (mW/cm^2)

Power density at prediction frequency: 0.003739 (mW/cm^2)

[Pd(1) / LPd(1)] + [Pd(2) / LPd(2)] + .... + [Pd(n) / LPd(n)] < 1,

then device complies with FCC's RF radiation exposure limit for general population for a mobile device.

Where;

Pd(n) = Power density of n<sup>th</sup> transmitter at 20cmLPd(n) = Power density limit for the n<sup>th</sup> transmitter

The highest gain values were used for antenna gain.

Radio Type	Power Density	Limit
	(mW/cm²)	(mW/cm²)
Part 22 (BC0)	0.002970	0.5800
Part 24 (one- x)	0.012267	1.00000000
Part 24 (EVDO)	0.065876	1.00000000
Part 24 (BC1)	0.008293	1.00000000
Part 90 (BC10)	0.003739	0.5753

FINAL COMBINED MPE 0.0981 <1

PASS