

Maximum Permissible Exposure Calculations

Uplink

Date of Report: June 13, 2005

Calculations prepared for: Calculations prepared by:
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Model Number: 804006

Fundamental Operating Frequency: 806-821 Uplink
851-866 Downlink

Antenna Gain and Type: +13 dBi Yagi
Maximum Radiated Output Power: 42.5 dBm (EIRP)
Measured Output Power: 29.5 dBm

MPE Limit in accordance with 1.1310(b): Limits for general population/uncontrolled exposure

$$\begin{aligned} \text{MPE Limit} &= f / 1500 \text{ (mW/cm}^2\text{)} \\ &= 806 / 1500 \\ &= 0.53733 \sim 0.54 \text{ (mW/cm}^2\text{)} \end{aligned}$$

Note: Limit is calculated from the lower edge of the operating band

EIRP (mW)	Distance (cm)	Power Density (mW/cm ²)	Result
17782.79	51.19	0.54	Pass

$$\text{Power Density (mW/cm}^2\text{)} = \frac{\text{EIRP}}{4\pi d^2} \quad \text{Given: EIRP in mW and d in cm}$$

As can be seen from the MPE results, this device passes the limits specified in 1.1310 at a distance of 51.19 cm and at an output power of 17782.79 mW. Antenna used for uplink frequencies must be mounted on outdoor permanent structures. End-users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

Maximum Permissible Exposure Calculations

Downlink

Date of Report: June 13, 2005

Calculations prepared for: Calculations prepared by:
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Model Number: 804006

Fundamental Operating Frequency: 806-821 Uplink
851-866 Downlink

Antenna Gain and Type: +7 dBi Panel Antenna (highest gain)
Maximum Radiated Output Power: 36.0 dBm (EIRP)
Measured Output Power: 29.0 dBm

MPE Limit in accordance with 1.1310(b): Limits for general population/uncontrolled exposure

$$\begin{aligned} \text{MPE Limit} &= f / 1500 \text{ (mW/cm}^2\text{)} \\ &= 851 / 1500 \\ &= 0.56733 \sim 0.57 \text{ (mW/cm}^2\text{)} \end{aligned}$$

Note: Limit is calculated from the lower edge of the operating band

EIRP (mW)	Distance (cm)	Power Density (mW/cm ²)	Result
3981.0717	23.57	0.57	Pass

$$\text{Power Density (mW/cm}^2\text{)} = \frac{\text{EIRP}}{4\pi d^2} \quad \text{Given: EIRP in } mW \text{ and } d \text{ in } cm$$

As can be seen from the MPE results, this device passes the limits specified in 1.1310 at a distance of 51.19 cm and at a output power of 3981.07 mW. Antenna used for downlink frequencies will be mounted on the walls or ceilings some 7' off the floor. End-users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.