

Maximum Permissible Exposure Calculations

Uplink

Date of Report: June 15, 2005

Calculations prepared for: Calculations prepared by:
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Model Number: 801106

Fundamental Operating Frequency: 824-849 Uplink
869-894 Downlink

Antenna Gain and Type: +13 dBi Yagi (highest gain)

Maximum Radiated Output Power: 45 dBm (EIRP)

Measured Output Power: 32 dBm

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

$$\begin{aligned}\text{MPE Limit} &= f / 1500 \text{ (mW/cm}^2\text{)} \\ &= 824 / 1500 \\ &= 0.54933 \sim 0.55 \text{ (mW/cm}^2\text{)}\end{aligned}$$

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

EIRP (mW)	Distance (cm)	Power Density (mW/cm ²)	Result
31604.95505	67.63	0.55	Pass

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

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 67.63 cm and at a output power of 31604.96 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 15, 2005

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

Fundamental Operating Frequency: 824-849 Uplink
869-894 Downlink

Antenna Gain and Type: +7 dBi Panel Antenna (highest gain)
Maximum Radiated Output Power: 39.20 dBm (EIRP)
Measured Output Power: 32.20 dBm

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

$$\begin{aligned}\text{MPE Limit} &= f / 1500 \text{ (mW/cm}^2\text{)} \\ &= 869 / 1500 \\ &= 0.57933 \sim 0.58 \text{ (mW/cm}^2\text{)}\end{aligned}$$

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

EIRP (mW)	Distance (cm)	Power Density (mW/cm ²)	Result
8314.70	33.78	0.58	Pass

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

As can be seen from the MPE results, this device passes the limits specified in 1.1310 at a distance of 33.78 cm and at a output power of 8314.70 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.