

Uncontrolled Exposure RF Exposure Requirements – 1.1307(b)(2); 1.1310

Specification: **Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's Guidelines.**

EUT meets the requirements of these sections.

MPE CALCULATION

MPE Limit Calculation: EUT's lowest frequency channel @ 1850.6 MHz; therefore, for the PCS band's uplink,
Limit for Uncontrolled exposure: 1.0 mW/cm² or 10 W/m²

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

$$S = PG / 4\pi R^2 = 15.6 \text{ mW} * 3.98 / 4 * 3.14 * (20 \text{ cm})^2 = 61.9 \text{ mW} / 5.03 * 10^3 \text{ cm}^2 = 0.0123 \text{ mW/cm}^2$$

where, S = Power Density (mW/cm²)

P = Power Input to antenna (15.6 milli-Watts)

G = Maximum Antenna Gain (6 dBi)

R = distance to the center of radiation of the antenna (20 cm or 0.2 m for the minimum distance)

The power density @ 20 cm = 0.0123 mW/cm², therefore EUT meets the Uncontrolled exposure limit.

Uncontrolled Exposure RF Exposure Requirements – 1.1307(b)(2); 1.1310

Specification: **Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's Guidelines.**

EUT meets the requirements of these sections.

MPE CALCULATION

MPE Limit Calculation: EUT's operating over the frequency band of 824.6-848.4 MHz; therefore, for the Cellular band's uplink,

Limit for Uncontrolled exposure: 0.55 mW/cm² or 5.5 W/m²

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

$$S = PG / 4\pi R^2 = 17.6 \text{ mW} * 3.98 / 4 * 3.14 * (20 \text{ cm})^2 = 70.1 \text{ mW} / 5.03 * 10^3 \text{ cm}^2 = 0.0139 \text{ mW/cm}^2$$

where, S = Power Density (mW/cm²)

P = Power Input to antenna (17.6 milli-Watts)

G = Maximum Antenna Gain (6 dBi)

R = distance to the center of radiation of the antenna (20 cm or 0.2 m for the minimum distance)

The power density @ 20 cm = 0.0139 mW/cm² , therefore EUT meets the Uncontrolled exposure limit.

Uncontrolled Exposure RF Exposure Requirements – 1.1307(b)(2); 1.1310

Specification: **Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's Guidelines.**

EUT meets the requirements of these sections.

MPE CALCULATION

MPE Limit Calculation: EUT's lowest frequency channel @ 1930.6 MHz; therefore, for the PCS band's downlink,
Limit for Uncontrolled exposure: 1.0 mW/cm² or 10 W/m²

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

$$S = PG / 4\pi R^2 = 10.23 \text{ mW} * 5.01 / 4 * 3.14 * (20 \text{ cm})^2 = 51.3 \text{ mW} / 5.03 * 10^3 \text{ cm}^2 = 0.01 \text{ mW/cm}^2$$

where, S = Power Density (mW/cm²)

P = Power Input to antenna (10.23 milli-Watts)

G = Maximum Antenna Gain (7 dBi)

R = distance to the center of radiation of the antenna (20 cm or 0.2 m for the minimum distance)

The power density @ 20 cm = 0.01 mW/cm², therefore EUT meets the Uncontrolled exposure limit.

Uncontrolled Exposure RF Exposure Requirements – 1.1307(b)(2); 1.1310

Specification: Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's Guidelines.

EUT meets the requirements of these sections.

MPE CALCULATION

MPE Limit Calculation: EUT's operating over the frequency band of 869.6-893.4 MHz; therefore, for the Cellular band's downlink, the

Limit for Uncontrolled exposure: 0.58 mW/cm^2 or $5.8 * 10^{-4} \text{ W/m}^2$

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

$$S = PG / 4\pi R^2 = 13.6 \text{ mW} * 5.01 / 4 * 3.14 * (20 \text{ cm})^2 = 68.14 \text{ mW} / 5.03 * 10^3 \text{ cm}^2 = 0.0136 \text{ mW/cm}^2$$

where, S = Power Density (mW/cm^2)

P = Power Input to antenna (13.6 milli-Watts)

G = Maximum Antenna Gain (7 dBi)

R = distance to the center of radiation of the antenna (20 cm or 0.2 m for the minimum distance)

The power density @ 20 cm = 0.0136 mW/cm^2 , therefore EUT meets the Uncontrolled exposure limit.