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FCC 1.1310(b), Maximum Permissible Exposure Calculations RSS133 Sun clause 8 Exposure of Humans to RF Field

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CAP Wireless, Inc
3235 Grande Vista Drive
Newbury Park, CA 91320

Calculations prepared by:

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Model Number: PS009900
FCC Identification: NA

Fundamental Operating Frequency: 896.5-898
Antenna Gain 10

Maximum Rated Output Power: 30 Watts
Measured Output Power: 30 Watts

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

$$\text{MPE Limit for 300-1500, } f/1500 = 897/1500 = 0.6 \text{ mW/cm}^2 \text{ (6 W/m}^2\text{)}$$

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Power Output (Watts)	Power Density Limit (mW/cm ²)	Minimum Distance (Meters)
30	0.6	6.3

$$\text{Power Density (W/m}^2\text{)} = \frac{30 \times P_t \times G}{d^2 \times Z_0}$$

P_t = Power Delivered to the Antenna
 d = Distance in meters

G = Antenna Gain = 10 dB (10 x)
 Z_0 = Impedance of Free Space

Under normal operation, the user's body is at least 6.3 meter away from the transmitting antenna. As can be seen from the MPE result, this device passes the limit specified in 1.1310 at a distance of 6.3 meter.

Calculation:

$$d = \sqrt{\frac{30 \times 30 \times 10}{0.6 \times 377}}$$

$$= 6.3\text{m}$$