

MPE Estimates and RF Exposure Information

Wireless Manufacturing, Inc.

FCC ID: OIA-BR1200

Wireless LAN Bridge Radio

PATCH and PARABOLIC are the designations used for the different antennas.

- The parabolic antenna has a power density, at 20cm, slightly over the limit. Calculations show that the power density would be acceptable at 21cm.
- The patch antenna, at 20cm, has an acceptable power density of 0.340 mw/cm².

Increasing the MPE distance to a minimum of 25cm for both antennas creates no unnecessary restrictions and allows for uniform instructions for all installations. The installation manual will require the BR1200 to have a MINIMUM SEPARATION DISTANCE OF 25cm, regardless of type of antenna.

	PATCH ANTENNA	PARABOLIC ANTENNA
Power Density		
25cm	0.21796 mw/cm ²	0.68925 mw/cm ²
20cm	0.340 mw/cm ²	1.076 mw/cm ²
E.I.R.P		
	5413.37mwatts	1711.86mwatts
Antenna Gain		
Isotropic	16dBi	21dBi
Numeric	39.8	125.89

A) $EIRP = P \times G$
 $EIRP = 43\text{mwatts} \times 39.8 \text{ numeric gain}$ $EIRP = 43\text{mwatts} \times 125.9 \text{ gain}$
 $EIRP = 1711.86\text{mwatts}$ $EIRP = 5413.37\text{mwatts}$

B) $\text{Power Density} = S = \frac{EIRP}{4\pi R^2}$
 $4\pi R^2 = 7853.98$
 $S = 1711.86/7853.98$ $S = 5413.37/7853.98$
 $S = 0.21796 \text{ mw/cm}^2$ $S = 0.68925 \text{ mw/cm}^2$

C) $\text{Numeric Gain} = G = \text{inv. log [dBi/10]}$
 $G = \text{inv. log (1.6)}$ $G = \text{inv. log (2.1)}$
 $G = 39.8$ $G = 125.89$