

## PCTEL Heavy-Duty Omnidirectional Base Station Platform



The BOA omnidirectional base station antenna design utilizes a linear array, encapsulated in a heavy-duty fiberglass radome with a thick-walled mounting base for reliable, long term use. This rugged design withstands harsh environments, making the antennas ideal for Industrial Wireless and Military applications. The antennas in this series are DC grounded for ESD protection of radio components.

### Features

- UV-stable, black fiberglass radome (0.625" diameter)
- Black chrome plated mounting base
- DC grounded design
- Fully sealed IP67 design
- Type N Male or Female connector options
- Wind rated 125 mph
- Temperature -40°C to +85°C

### STANDARD CONFIGURATION

| Model          | Connector | Mount                                                              |
|----------------|-----------|--------------------------------------------------------------------|
| BOA24004NF     | N Female  | BAM1009 or BAM1011-HCA mast mounts<br>sold separately (all models) |
| BOA24006NF     | N Female  |                                                                    |
| BOA24006NM     | N Male    |                                                                    |
| BOA24008NF     | N Female  |                                                                    |
| BOA24008NM     | N Male    |                                                                    |
| BOA24008DT12NF | N Female  |                                                                    |
| BOA24008DT12NM | N Male    |                                                                    |
| BOA24008DT7NF  | N Female  |                                                                    |
| BOA24008DT7NM  | N Male    |                                                                    |
| BOA24010NF     | N Female  |                                                                    |
| BOA51004NF     | N Female  |                                                                    |
| BOA51004NM     | N Male    |                                                                    |
| BOA58006NF     | N Female  |                                                                    |
| BOA58006NM     | N Male    |                                                                    |
| BOA58010NF     | N Female  |                                                                    |
| BOA58010NM     | N Male    |                                                                    |



BOA24004NF

### ELECTRICAL SPECIFICATIONS - RF ANTENNA

| Model          | Frequency Range | Nominal Gain | VSWR    | Elevation Half Power Beamwidth | Maximum Power | Nominal Impedance |
|----------------|-----------------|--------------|---------|--------------------------------|---------------|-------------------|
| BOA24004NF     | 2.4-2.5 GHz     | 4 dBi        | < 1.5:1 | 42°                            | 40 watts      | 50 ohms           |
| BOA24006NF     | 2.4-2.5 GHz     | 6 dBi        | < 1.5:1 | 28°                            | 40 watts      | 50 ohms           |
| BOA24006NM     | 2.4-2.5 GHz     | 6 dBi        | < 1.5:1 | 28°                            | 40 watts      | 50 ohms           |
| BOA24008NF     | 2.4-2.5 GHz     | 8 dBi        | < 1.5:1 | 15°                            | 40 watts      | 50 ohms           |
| BOA24008NM     | 2.4-2.5 GHz     | 8 dBi        | < 1.5:1 | 15°                            | 40 watts      | 50 ohms           |
| BOA24008DT12NF | 2.4-2.5 GHz     | 8 dBi        | < 1.5:1 | 15°                            | 40 watts      | 50 ohms           |
| BOA24008DT12NM | 2.4-2.5 GHz     | 8 dBi        | < 1.5:1 | 15°                            | 40 watts      | 50 ohms           |
| BOA24008DT7NF  | 2.4-2.5 GHz     | 8 dBi        | < 1.5:1 | 15°                            | 40 watts      | 50 ohms           |
| BOA24008DT7NM  | 2.4-2.5 GHz     | 8 dBi        | < 1.5:1 | 15°                            | 40 watts      | 50 ohms           |
| BOA24010NF     | 2.4-2.5 GHz     | 10 dBi       | < 1.5:1 | 9°                             | 40 watts      | 50 ohms           |
| BOA51004NF     | 5.1-5.9 GHz     | 4 dBi        | < 1.5:1 | 42°                            | 20 watts      | 50 ohms           |
| BOA51004NM     | 5.1-5.9 GHz     | 4 dBi        | < 1.5:1 | 42°                            | 20 watts      | 50 ohms           |
| BOA58006NF     | 5.7-5.8 GHz     | 6 dBi        | < 1.5:1 | 28°                            | 20 watts      | 50 ohms           |
| BOA58006NM     | 5.7-5.8 GHz     | 6 dBi        | < 1.5:1 | 28°                            | 20 watts      | 50 ohms           |
| BOA58010NF     | 5.7-5.8 GHz     | 10 dBi       | < 1.5:1 | 10°                            | 20 watts      | 50 ohms           |
| BOA58010NM     | 5.7-5.8 GHz     | 10 dBi       | < 1.5:1 | 10°                            | 20 watts      | 50 ohms           |

## PCTEL Heavy-Duty Omnidirectional Base Station Platform



### MECHANICAL & ENVIRONMENTAL SPECIFICATIONS

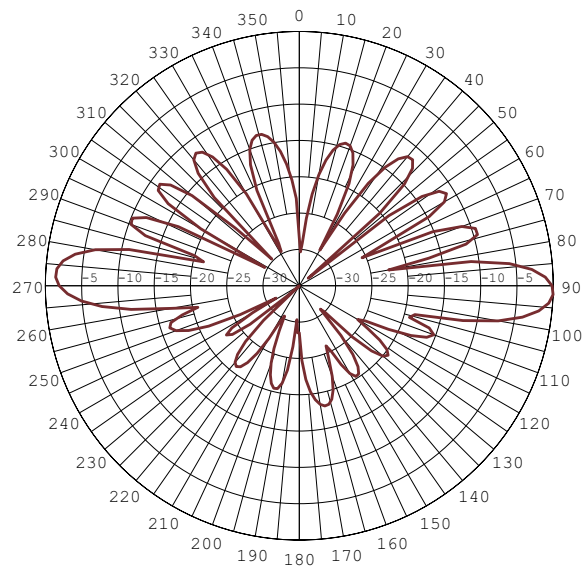
| Model          | Dimensions                            | Weight              | Housing Material                                       |
|----------------|---------------------------------------|---------------------|--------------------------------------------------------|
| BOA24004NF     | .825 OD x 10.1 L in (2.09 x 25.65 cm) | 0.33 lbs (151 gram) | Black UV-Stable Pultruded Fiberglass (0.625" diameter) |
| BOA24006NF     | .825 OD x 15.0 L in (2.09 x 38.1 cm)  | 0.38 lbs (176 gram) | Black UV-Stable Pultruded Fiberglass (0.625" diameter) |
| BOA24006NM     | .825 OD x 14.8 L in (2.09 x 37.5 cm)  | 0.30 lbs (134 gram) | Black UV-Stable Pultruded Fiberglass (0.625" diameter) |
| BOA24008NF     | .825 OD x 19.4 L in (2.09 x 49.3 cm)  | 0.45 lbs (203 gram) | Black UV-Stable Pultruded Fiberglass (0.625" diameter) |
| BOA24008NM     | .825 OD x 19.1 L in (2.09 x 48.5 cm)  | 0.35 lbs (161 gram) | Black UV-Stable Pultruded Fiberglass (0.625" diameter) |
| BOA24008DT12NF | .825 OD x 25.4 L in (2.09 x 64.5 cm)  | 0.52 lbs (235 gram) | Black UV-Stable Pultruded Fiberglass (0.625" diameter) |
| BOA24008DT12NM | .825 OD x 25 L in (2.09 x 63.5 cm)    | 0.40 lbs (182 gram) | Black UV-Stable Pultruded Fiberglass (0.625" diameter) |
| BOA24008DT7NF  | .825 OD x 25.4 L in (2.09 x 64.5 cm)  | 0.52 lbs (235 gram) | Black UV-Stable Pultruded Fiberglass (0.625" diameter) |
| BOA24008DT7NM  | .825 OD x 25 L in (2.09 x 63.5 cm)    | 0.42 lbs (192 gram) | Black UV-Stable Pultruded Fiberglass (0.625" diameter) |
| BOA24010NF     | .825 OD x 25.3 L in (2.09 x 64.4 cm)  | 0.52 lbs (235 gram) | Black UV-Stable Pultruded Fiberglass (0.625" diameter) |
| BOA51004NF     | .825 OD x 5.5 L in (2.09 x 13.9 cm)   | 0.27 lbs (124 gram) | Black UV-Stable Pultruded Fiberglass (0.625" diameter) |
| BOA51004NM     | .825 OD x 5.3 L in (2.09 x 13.5 cm)   | 0.18 lbs (82 gram)  | Black UV-Stable Pultruded Fiberglass (0.625" diameter) |
| BOA58006NF     | .825 OD x 7.29 in (2.09 x 18.5 cm)    | 0.30 lbs (134 gram) | Black UV-Stable Pultruded Fiberglass (0.625" diameter) |
| BOA58006NM     | .825 OD x 7.03 L in (2.09 x 17.8 cm)  | 0.30 lbs (134 gram) | Black UV-Stable Pultruded Fiberglass (0.625" diameter) |
| BOA58010NF     | .825 OD x 17.9 L in (2.09 x 45.5 cm)  | 0.43 lbs (194 gram) | Black UV-Stable Pultruded Fiberglass (0.625" diameter) |
| BOA58010NM     | .825 OD x 17.6 L in (2.09 x 19.3 cm)  | 0.33 lbs (152 gram) | Black UV-Stable Pultruded Fiberglass (0.625" diameter) |

### MECHANICAL & ENVIRONMENTAL SPECIFICATIONS, continued

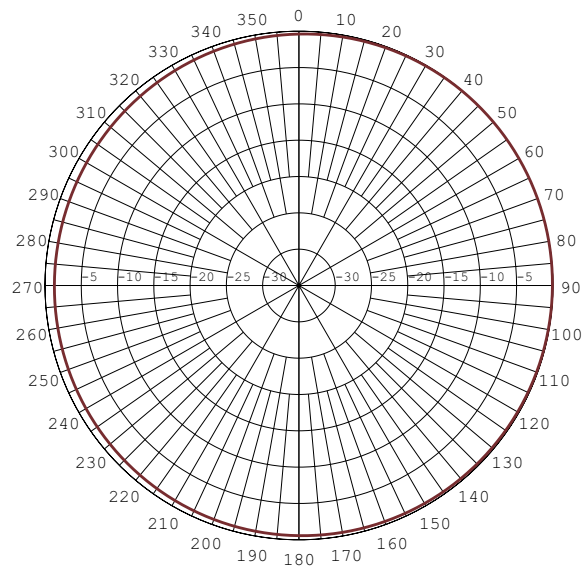
| Model          | Bending Moment at Rated Wind | Lateral Thrust at Rated Wind | Equivalent Flat Plate Area |
|----------------|------------------------------|------------------------------|----------------------------|
| BOA24004NF     | 0.97 lbf-ft                  | 2.31 lbf                     | 0.03 ft <sup>2</sup>       |
| BOA24006NF     | 2.13 lbf-ft                  | 3.41 lbf                     | 0.04 ft <sup>2</sup>       |
| BOA24006NM     | 2.07 lbf-ft                  | 3.36 lbf                     | 0.04 ft <sup>2</sup>       |
| BOA24008NF     | 4.24 lbf-ft                  | 5.25 lbf                     | 0.05 ft <sup>2</sup>       |
| BOA24008NM     | 4.14 lbf-ft                  | 5.19 lbf                     | 0.05 ft <sup>2</sup>       |
| BOA24008DT12NF | 7.16 lbf-ft                  | 6.81 lbf                     | 0.07 ft <sup>2</sup>       |
| BOA24008DT12NM | 7.04 lbf-ft                  | 6.74 lbf                     | 0.07 ft <sup>2</sup>       |
| BOA24008DT7NF  | 7.16 lbf-ft                  | 6.81 lbf                     | 0.07 ft <sup>2</sup>       |
| BOA24008DT7NM  | 7.04 lbf-ft                  | 6.74 lbf                     | 0.07 ft <sup>2</sup>       |
| BOA24010NF     | 7.16 lbf-ft                  | 6.81 lbf                     | 0.07 ft <sup>2</sup>       |
| BOA51004NF     | 0.30 lbf-ft                  | 1.31 lbf                     | 0.02 ft <sup>2</sup>       |
| BOA51004NM     | 0.27 lbf-ft                  | 1.25 lbf                     | 0.02 ft <sup>2</sup>       |
| BOA58006NF     | 0.51 lbf-ft                  | 1.70 lbf                     | 0.02 ft <sup>2</sup>       |
| BOA58006NM     | 0.48 lbf-ft                  | 1.64 lbf                     | 0.02 ft <sup>2</sup>       |
| BOA58010NF     | 3.57 lbf-ft                  | 4.83 lbf                     | 0.05 ft <sup>2</sup>       |
| BOA58010NM     | 3.48 lbf-ft                  | 4.76 lbf                     | 0.05 ft <sup>2</sup>       |

## Radiation Patterns

Elevation Pattern at 2500MHz

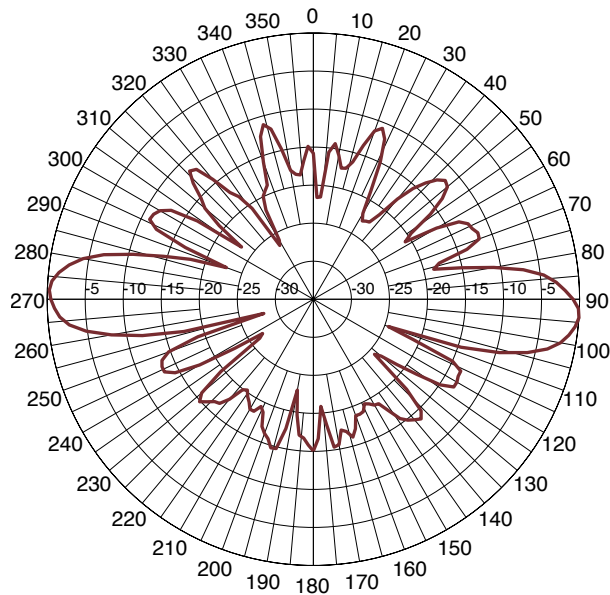


Azimuth Pattern at 2500MHz

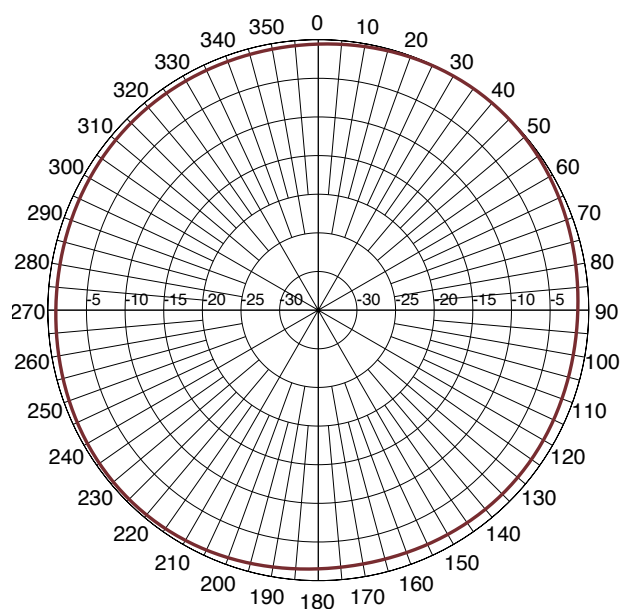


### Radiation Patterns

Elevation Pattern at 2450MHz

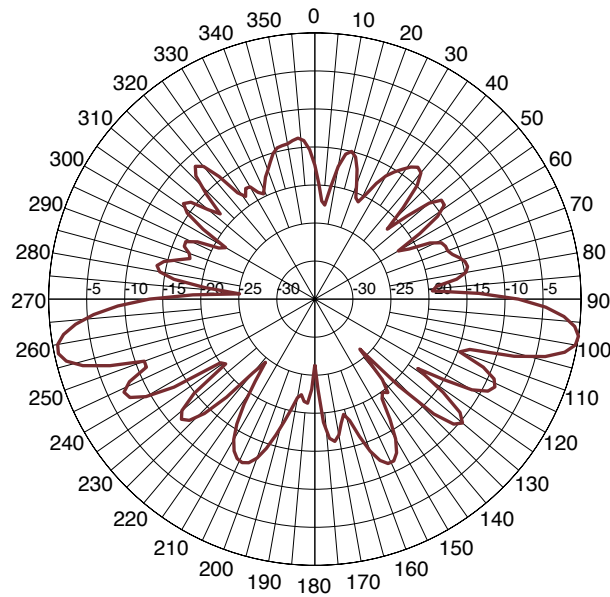


Azimuth Pattern at 2450MHz

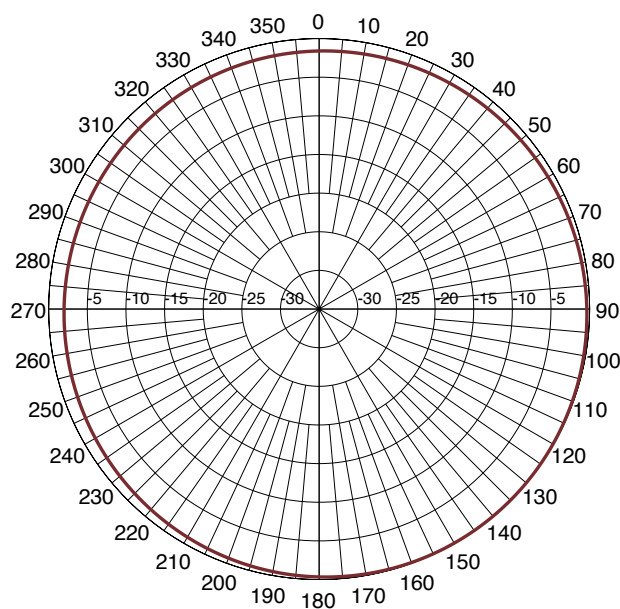


### Radiation Patterns

Elevation Pattern at 2440MHz

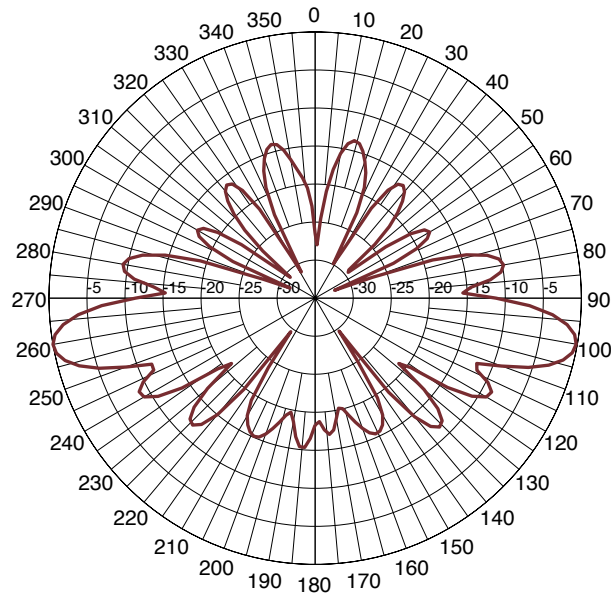


Azimuth Pattern at 2440MHz

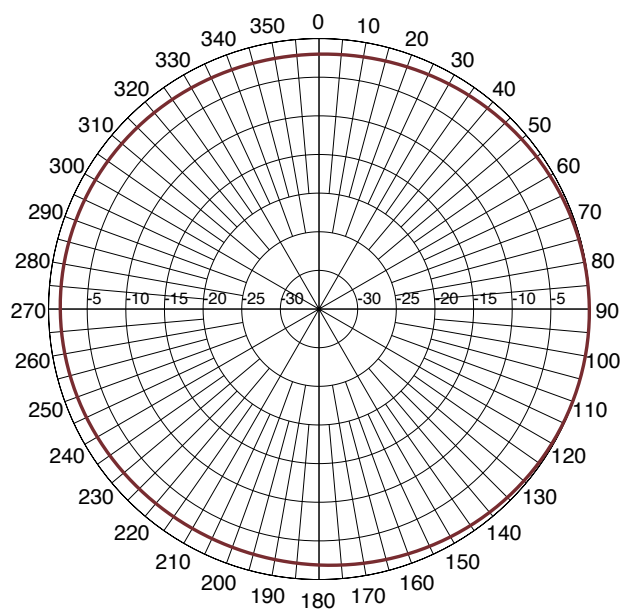


### Radiation Patterns

Elevation Pattern at 2450MHz

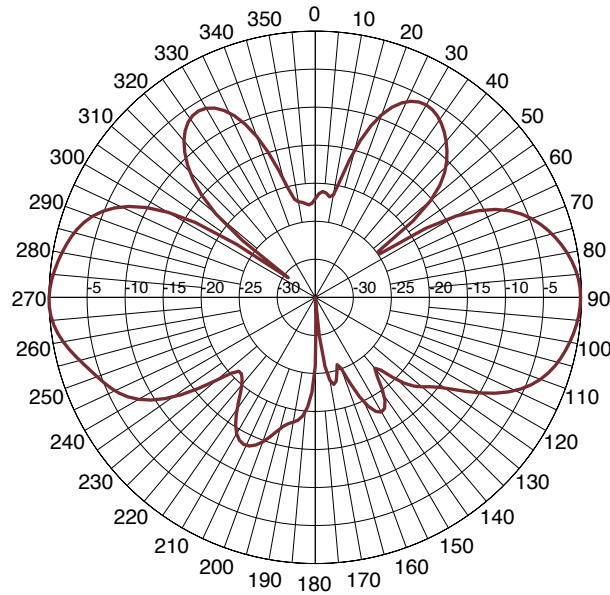


Azimuth Pattern at 2450MHz

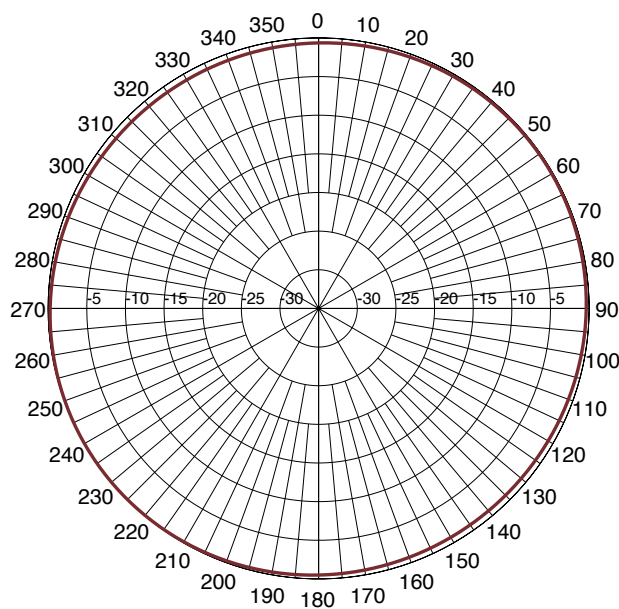


### Radiation Patterns

Elevation Pattern at 2450MHz

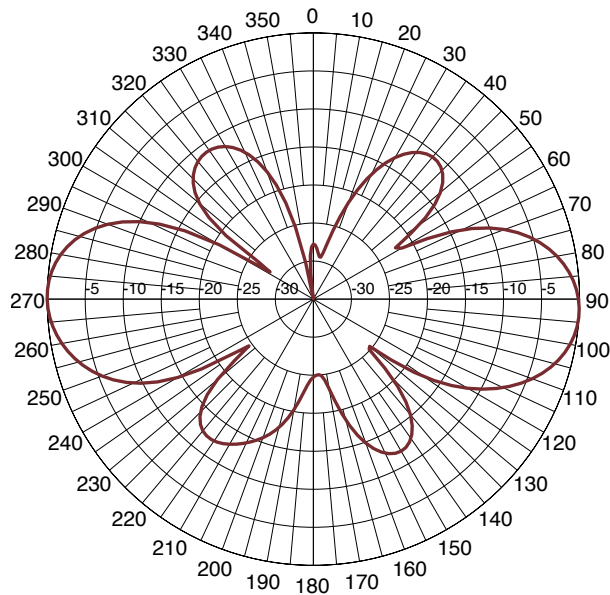


Azimuth Pattern at 2450MHz



### Radiation Patterns

Elevation Pattern at 2450MHz



Azimuth Pattern at 2450MHz

