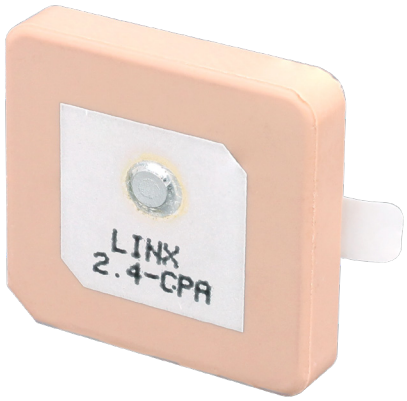
Product Brief

# ANT-2.4-CPA
## 2.4 GHz Directional Embedded Ceramic Patch Antenna

The 2.4-CPA compact ceramic patch antenna offers directional signaling at 2.4 GHz with a footprint of only 20 mm x 20 mm on a recommended ground plane size of 40 mm x 40 mm.

The 2.4-CPA antenna supports 2.4 GHz ISM applications including Bluetooth® and ZigBee®, as well as single-band WiFi.

The 2.4-CPA antenna mounts to the printed circuit board (PCB) using re-peelable 5000NS adhesive backing which allows for repositioning or reorientation of the antenna. The pin-type connection feeds through the PCB where it is soldered to the feed line.




### Features

- Directional radiation pattern orthogonal to antenna surface
- Compact size, 20 mm x 20 mm x 4 mm
- Peak gain: 5.5 dBi when used with a 40 mm x 40 mm ground plane. Larger ground planes provide increased gain performance
- Pin-mount solder connection for direct PCB attachment
- Right-hand circularly polarized (RHCP)
- Durable re-peelable self-adhesive backing

### Applications

- 2.4 GHz ISM:
  - Bluetooth®
  - ZigBee®
- Single-band WiFi/802.11
- Sensing and remote monitoring
- Hand-held devices
- Internet of Things (IoT) devices
- Gateways

### Ordering Information

| Part Number | Description |
|---|---|
| **ANT-2.4-CPA** | 2.4 GHz ceramic patch antenna |

Available from Linx Technologies and select distributors and representatives.

## Electrical Specifications

| Frequency Range | 2.4 GHz to 2.5 GHz |
|---|---|
| VSWR (max.) | 2.7 |
| Return Loss (max.) | -6.9 |
| Peak Gain (dBi) | 5.5 |
| Average Gain (dBi) | -0.8 |
| Efficiency (%) | 88 |
| Polarization | RHCP |
| Radiation | Directional |
| Max Power | 8 W |
| Wavelength | 1/4-wave |
| Electrical Type | Radiating patch |
| Impedance | 50 Ω |
| Connection | Pin type |
| Weight | 6.1 g (0.22 oz) |
| Dimensions | 20.0 mm x 20.0 mm x 4.0 mm (0.79 in x 0.79 in x 0.16 in) |
| Operating Temperature Range | -40 °C to +85 °C |
| ESD Sensitivity | NOT ESD sensitive. As a best practice, Linx may use ESD packaging. |

Electrical specifications and plots measured with a 40 mm x 40 mm (1.6 in x 1.6 in) ground plane.

## VSWR

Figure 1 provides the voltage standing wave ratio (VSWR) across the antenna bandwidth. VSWR describes the power reflected from the antenna back to the radio. A lower VSWR value indicates better antenna performance at a given frequency. Reflected power is also shown on the right-side vertical axis as a gauge of the percentage of transmitter power reflected back from the antenna.

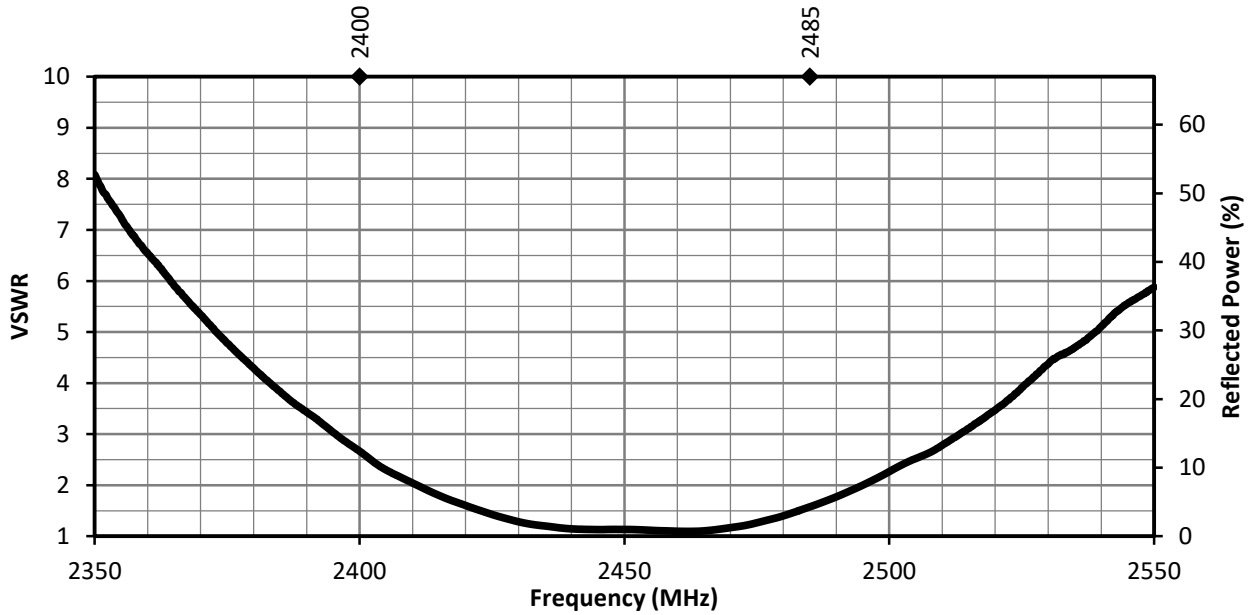



**Figure 1. ANT-2.4-CPA Dimensions**