

## GNSS High Rejection Time Sync Antenna



8171D-HR-DH-W



8171D-HR-NDH-W

PCTEL's GNSS High Rejection Time Sync Antenna is a multiband antenna covering GPS L1, Glonass G1, Galileo E1, and Beidou B1I. PCTEL's proprietary filtering design allows wideband coverage while achieving superior out-of-band rejection. This antenna comes in a small, conical form factor to minimize perching and provide runoff. The temporary mount model (8171D-HR-DH-W) is equipped with a TNC female connector, while the permanent mount models (8171D-HR-NDH-W) has an N-Male bottom-fed connector. This antenna is ideal for any global GNSS time synchronization application that requires an externally mounted antenna.

### Features

- GPS L1, Glonass G1, Galileo E1, Beidou B1I Frequencies
- Industry Leading Out-of-Band Rejection
- 26 dB LNA Gain
- Low Noise Figure < 2.0 dB
- Conical radome sheds water, ice, and minimizes bird perching

### Applications

- Carrier Network Timing / Small Cell
- Utility Electric Grid Synchronization
- Positive Train Control (PTC) Networks
- Broadcast Digital TV Networks
- Public Safety Communications
- Banking / Financial Time Stamping
- Seismic Detection

### Low Noise Amplifier Specifications

|   |
|---|
| <b>Frequency Band:</b><br>1559-1610 MHz   |
| <b>Amplifier Gain:</b><br>@ 3.0VDC: 26 dB (typical)   |
| <b>Noise Figure:</b><br>< 2.0 dB (typical)  |
| <b>Out-of-band Rejection:</b> f0 = 1586 MHz<br>f0 ± 50 MHz :≥ 60dBc<br>f0 ± 60 MHz :≥ 70dBc |
| <b>DC Voltage:</b><br>2.8-6.0 V (operating)<br>≤ 12.0 V (survivability)                     |
| <b>DC Current:</b><br>< 25 mA (typical)   |

### RF/Electrical Specifications

| Part Number                     | Frequency Band | Nominal Gain | Polarization        | Nominal Impedance |
|---------------------------------|----------------|--------------|---------------------|-------------------|
| 8171D-HR-DH-W<br>8171D-HR-NDH-W | 1559-1610 MHz  | 2 dBic @ 90° | Right Hand Circular | 50 ohms           |

### Mechanical Specifications

| Part Number    | Dimensions                    | Weight             | Shock                                   | Vibration   |
|----------------|-------------------------------|--------------------|---|---|
| 8171D-HR-DH-W  | 2.36" x 1.73"<br>(60 x 44 mm) | 0.1 lbs<br>(50 g)  | Vertical axis<br>50G, other<br>axes 30G | 3 axis, sweep = 15 min<br>10-200 Hz log sweep: 3G |
| 8171D-HR-NDH-W | 2.36" x 2.80"<br>(60 x 71 mm) | 0.15 lbs<br>(68 g) |   |   |

  

| Part Number    | Radome Material  | Connector  | Mounting Method                       |
|----------------|------------------|------------|---------------------------------------|
| 8171D-HR-DH-W  | GE Lexan EXL9330 | TNC Female | ¾" thru-hole or bracket mount*        |
| 8171D-HR-NDH-W | GE Lexan EXL9330 | N Male     | N Female Panel Mount or Bracket Mount |

### Environmental Specifications

| Temperature Range          | Ingress Protection |
|----------------------------|--------------------|
| -40° C to +85° C operating | IP67**             |



\* Order MMK1925 for compatible mounting.  
\*\* When installed according to the manufacturer's Installation instructions.