8178D-HR-DH-W

8178D-HR-DH-W Time Sync, High Gain, High Rejection Antenna

PCTEL's GNSS High Rejection, High Gain Time Sync Antenna is a full GNSS band antenna covering GPS L1, GLONASS L1, Galileo E1 and Beidou B1 satellite frequency bands. PCTEL's proprietary filtering design allows wideband coverage while achieving superior out-of-band rejection and high gain 40 dB performance. This antenna comes in a small, conical form factor to minimize perching and provide runoff. The 8178D-HR-DH-W is equipped with a TNC female connector and is ideal for any global GNSS time synchronization application that requires an externally mounted antenna.

Features

- GPS L1, GLONASS L1, Galileo E1 and Beidou B1 frequencies
- Industry leading out-of-band rejection
- 40 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

ELECTRICAL SPECIFICATIONS - GNSS ANTENNA

| Frequency Range | LNA Gain | Element Gain | Polarization | Out of Band Rejection |
|-----------------|----------------------------------|--------------|---------------------|---|
| 1559-1610 MHz | $40 \text{ dB} \pm 4 \text{ dB}$ | 2 dBic @ 90° | Right hand circular | f0 = 1586 MHz f0 \pm 50 MHz: \geq 60 dBc f0 \pm 60 MHz: \geq 70 dBc |

ELECTRICAL SPECIFICATIONS - GNSS ANTENNA, continued

| Current Draw | DC Voltage | Noise Figure | VSWR | Nominal Impedance |
|----------------------|------------------------------------|-----------------------|--------------------|-------------------|
| < 25 mA (typical) | 2.8- 5.5V (operating) ¹ | < 2.0 dB (typical) | 2.0:1 (typical) | 50 ohms |

MECHANICAL SPECIFICATIONS

| Dimensions | Weight | Housing Material | Mount | Connector |
|-------------------------------|-------------------|------------------|---|------------|
| 2.36″ x 1.73″ (60 x 44 mm) | 0.1 lbs (50 g) | GE Lexan EXL9330 | ³ ⁄ ₄ " thru-hole or bracket mount ² | TNC Female |

| ENVIRONMENTAL SPECIFICATIONS | | | | | | |
|------------------------------|--|--|--|--|--|--|
| Temperature Range | Vibration | Ingress Protection | | | | |
| -40°C to +85°C operating | 3 axis, sweep = 15 min 10-200 Hz log sweep: 3G | IP673 ³ | | | | |
| ¹ Gain may decre | ase at lower voltages. ² Order MMK1925 for compatible mounting. | ³ When installed according to the manufacturer's installation instructions. | | | | |

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(60.00

