

## GPSL1-TMG-SPI-40NCB, 40 dB Amplifier with Integrated Lightning Protection

The GPSL1-TMG-SPI-40NCB timing reference antennas are specifically designed for long-lasting, trouble-free deployments in congested cell-site applications. The low noise, high gain amplifier is well suited to address attenuation issues associated with applications requiring longer cable runs.

The proprietary quadrifilar helix design, coupled with multistage filtering provides superior out-of-band rejection and lower elevation pattern performance than traditional patch antennas.

Their unique radome shape sheds water and ice, while eliminating problems associated with bird perching. The antenna comes with surge compliant mounting that addresses industry grounding requirements. Custom models or site kits options are also available.

This antenna is made of materials that fully comply with provisions stipulated by EU directives RoHS 2002/95/EC.

The antenna provides integrated, on-board lightning protection capability that alleviates the need for downstream, in-line surge suppressors.

The antenna also features ESD, reverse polarity protection and transit voltage suppression.



### Antenna Element Electrical Specifications

| Frequency Band          | Antenna Gain | Nominal Impedance | VSWR    | Polarization        | Connector                    |
|-------------------------|--------------|-------------------|---------|---------------------|------------------------------|
| 1575.42 MHz<br>± 10 MHz | 3.5 dBic     | 50 Ohms           | < 1.5:1 | Right hand circular | N, female (one - bottom fed) |

### Mechanical Specifications

| Antenna Dimensions                 | Shipping Dimensions                             | Antenna Weight        | Radome Color |
|------------------------------------|---|-----------------------|--------------|
| 7.25" H x 3.20" D<br>(184 x 81 mm) | 7.5" L x 4.4" W x 3.8" D<br>(190 x 112 x 96 mm) | 0.75 lbs<br>(0.34 kg) | White        |

### Environmental Specifications

| Temperature Range | Humidity |
|-------------------|----------|
| -40° C to +85° C  | 95%      |

### Mounting

All mounting options fit pipes of 1"-1.45" (25 mm-37 mm) maximum diameter.

| Model               | Options   |
|---------------------|---|
| GPSL1-TMG-SPI-40NCB | Includes medium duty mount (GPS-TMG-MMD), a grounding screw and lug nut |

### Low Noise Amplifier Specifications

|   |
|---|
| <b>Frequency Band:</b><br>1575.42 ± 10 MHz                                |
| <b>Amplifier Gain:</b><br>40 dB ± 4 dB                                    |
| <b>Nominal Impedance:</b><br>50 Ohms                                      |
| <b>Output VSWR:</b><br>< 2.0:1  |
| <b>Maximum Noise Figure:</b><br>< 2.5 dB @ +25° C including pre-selector  |
| <b>DC Voltage:</b><br>3.3-9.0 V (operating)<br>≤ 28.0 V (survivability)   |
| <b>DC Current:</b><br>< 30 mA @ 5 V                                       |
| <b>Filtering:</b><br>3 stage filtering including pre-selector             |
| <b>Out of Band Rejection:</b><br>≥ -60 dB @ ± 50 MHz off center frequency |
| <b>Lightening Protection Compliance:</b><br>Per EN61000-4-5 Level 4       |