Tallysman Wireless

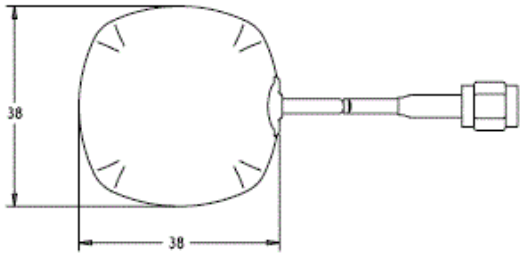
When precision matters.™

# TW4320/TW4322 Wideband GPS/GLONASS Antenna

The TW4320/TW4322 is a wideband GNSS antenna covering the GPS L1, GLONASS L1 and SBAS (WAAS, EGNOS & MSAS) frequency bands (1575 to 1606 MHz). It features a small patch element with 40% wider bandwidth than previously available in this format. Unlike its competitors, both GPS-L1 and GLONASS signals are included in the 1dB received power bandwidth.

The TW4320/TW4322 has a two stage Low Noise Amplifier with a mid-section SAW. A tight pre-filter is available in the TW4322 to protect against saturation by high level sub-harmonics and L-Band signals.

Even with the wider bandwidth, the TW4320/TW4322 antenna is the smallest high performance antennas available. It is housed in a compact IP67 magnetic mount enclosure.




## Applications

- Cost Sensitive Mission Critical Positioning
- Military & Security
- Covert surveillance
- Fleet Management & Asset Tracking

## Features

- 40% wider bandwidth, small footprint
- Axial ratio: 6 dB Typ. (GPS & GLONASS)
- Low noise LNA: 1 dB
- High rejection mid-section SAW filter
- Available Pre-filter (TW4322)
- High gain: 28 dB typ.
- Wide voltage input range: 2.5 to 16 VDC

## Benefits

- 1dB Bandwidth Includes GPS-L1 & GLONASS
- Excellent multipath rejection
- improved GNSS reliability
- Excellent signal to noise ratio
- RoHS compliant
- Ideal for harsh environments
- Excellent out of band signal rejection

# TW4320/TW4322 Wideband GPS/GLONASS Antenna

## Specifications

### Antenna

| | |
|---|---|
| Architecture | Wideband Single Feed Patch |
| 1 dB radiated power bandwidth | 31 MHz |
| 10dB Return Loss Bandwidth | 45MHz |
| Antenna Gain (with 100mm ground plane) | 4.5 dBic |
| Axial Ratio (over full bandwidth) | 6 dB typical, 8dB Maximum. |
| Polarization | RHCP |

### Electrical

| | | | |
|---|---|---|---|
| Architecture | LNA stage 1 -> SAW filter-> LNA stage 2 (TW4320) | | |
| | SAW Pre-filter ->LNA stage 1 -> SAW filter-> LNA stage 2 (TW4322) | | |
| Filtered LNA Frequency Bandwidth | 1574 to 1606 MHz | | |
| Gain | 28dB min., 1575.42 to 1606 MHz | | |
| Gain flatness | +/- 2 dB, 1575 to 1606 MHz | | |
| Out-of-Band Rejection Out-of-Band Rejection | <1500 MHz | >32 dB (TW4320) | >50dB (TW4322) |
| | <1550 MHz | >25 dB | >50dB |
| | >1640 MHz | >35 dB | >70dB |
| VSWR (at LNA output) | <1.5:1 typ. 1.8:1 max. | | |
| Noise Figure | 1 dB typ.(TW4320); | 3.5 dB typ. (TW4322) | |
| Supply Voltage Range (over coaxial cable) | +2.5 to 16 VDC nominal | | |
| Supply Current | 12 mA max. | | |
| ESD Circuit Protection | 15 KV air discharge | | |

### Mechanicals & Environmental

| | |
|---|---|
| Mechanical Size | 38mm x 38mm dia. x 14.3mm H |
| Cable | RG174 |
| Operating Temp. Range | -40 °C to +85 °C |
| Enclosure | Radome and base: EXL9330 |
| Weight | 50 gm (Enclosure + SMA connector 34gm, cable 0.31gm/cm) |
| Environmental | IP67 and RoHS compliant |
| Shock | Vertical axis: 50 G, other axes: 30 G |
| Vibration | 3 axis, sweep = 15 min, 10 to 200 Hz sweep: 3 G |
| Warranty | One year, parts and labour |

## Ordering Information

| | |
|---|---|
| TW4320 – Wideband GPS Antenna | 33-4320-xx-yyyy |
| TW4322 – Prefiltered Wideband GPS Antenna | 33-4320-xx-yyyy |

Where xx = connector type and yyyy = cable length in mm

Please refer to the Ordering Guide (http://www.tallysman.com/orderingguide.php) for the current and complete list of available radomes and connectors.


## Tallysman Wireless Inc

36 Steacie Drive
Ottawa ON K2K 2A9 Canada
Tel +1 613 591 3131 Fax 613 591 3121 sales@tallysman.com




Rev 2.3