TW3320/TW3322 Wideband GPS/GLONASS Antenna

The TW3320/TW3322 is a high performance GNSS antenna covering the GPS L1, GLONASS L1 and SBAS (WAAS, EGNOS & MSAS) frequency band (1575 to 1606 MHz). It features a patch element with 40% wider bandwidth than hitherto available in this format. Unlike its competitors, both GPS-L1 and GLONASS signals are included in the 1dB received power bandwidth.

The TW3320/TW3322 has a two stage Low Noise Amplifier with a mid-section SAW. An optional tight pre-filter is available with part number TW3322 to protect against saturation by high level sub-harmonics and L-Band signals.

The TW3320/TW3322 has a 19mm (3/4 Inch) through-hole mount white metal base, specifically designed for mobile installations, with an industrial-grade, IP67 compliant conical radome. The standard connector is a TNC Jack (female).

Applications

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

Features

- Low noise LNA: 1 dB typical (TW3320)
- High rejection mid-section SAW filter
- Available Pre-filter (TW3322)
- High gain: 28 dB typ.
- Wide voltage input range: 2.5 to 10 VDC
- IP67 weather proof housing
- Low Power: 9mA typ. at 2.3Vcc min.

Benefits

- Bandwidth fully Includes GPS-L1 & GLONASS
- Excellent multipath rejection
- Increased system accuracy
- Excellent signal to noise ratio
- Great out of band signal rejection
- Ideal for harsh environments
- RoHS compliant
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Specifications

**Antenna**
- Architecture: Wideband Single Feed Patch
- 1 dB Bandwidth: 31 MHz
- 10 dB Return Loss Bandwidth: 45 MHz
- Antenna Gain (with 100mm ground plane): 4.5 dBi
- Axial Ratio: <4 dB @ 1590 MHz, >8 dB typical at band edges

**Electrical**
- Architecture: TW3320 => TW3322
- Filtered LNA Frequency Bandwidth: 1574 to 1606 MHz
- Polarization: RHCP
- Gain (1575.42 to 1606 MHz): 28 dB min., TW3320; 26 dB, TW3322, +/- 2 dB, 1575 to 1606 MHz
- Out-of-Band Rejection: <1500 MHz >35 dB, <1550 MHz >25 dB, >1640 MHz >35 dB
- VSWR (at LNA output): <1.5:1
- Noise Figure: 1 dB typ., TW3320; 2.5 dB typ., TW3322
- Supply Voltage Range (over coaxial cable): +2.3 to 10 VDC nominal
- Supply Current: 10 mA max.
- ESD Circuit Protection: 15 KV air discharge

**Mechanicals & Environmental**
- Mechanical Size: 66.5 mm dia. x 21 mm H
- Connector: TNC Jack (female)
- Cable (Option): Custom flying cable assembly available.
- Operating Temperature Range: 40 to +85 °C
- Enclosure: Radome: ASA Plastic, Base: Zamak White Metal
- Weight: 150 g
- Attachment Method: Fixed-Mount
- 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**
- TW3320 – GPS/Glonass Antenna TNC Connector: 32-3320-xx-yy
- TW3322 – GPS/Glonass Antenna TNC Connector: 32-3322-xx-yy

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