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 among the smallest high performance antenna available. It is housed in a compact IP67 magnetic mount enclosure. It comes with 5 metres of cable and a wide range of connectors.

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

Features
- 40% wider bandwidth, small footprint
- Axial ratio: 6 dB max (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 10 VDC

Benefits
- 1dB Bandwidth Includes GPS-L1 & GLONASS
- Excellent multipath rejection
- Increased system accuracy
- 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 Bandwidth: 31 MHz  
10dB Return Loss Bandwidth: 45 MHz  
Antenna Gain (with 100mm ground plane): 4.5 dBi  
Axial Ratio over Bandwidth (over full bandwidth): 4dB @ Fcenter, 6 dB max

**Electrical**

Architecture:  
LNA stage 1 -> SAW filter-> LNA stage 2 (TW4320)  
SAW Prefilter ->LNA stage 1 -> SAW filter-> LNA stage 2 (TW4322)  
Filtered LNA Frequency Bandwidth: 1574 to 1606 MHz  
Polarization: RHCP  
Gain: 28dB min., 1575.42 to 1606 MHz  
Gain flatness: +/- 2 dB, 1575 to 1606 MHz  
Out-of-Band Rejection:  
<1500 MHz: >32 dB  
<1550 MHz: >25 dB  
>1640 MHz: >35 dB  
VSWR (at LNA output): <1.5:1  
Noise Figure: 1 dB typ. (TW4320); 3.5 dB typ. (TW4322)  
Supply Voltage Range (over coaxial cable): +2.3 to 10 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  
Connectors: SMA male, others available  
Cable: RG174 / 5 metres, other lengths optional  
Operating Temp. Range: 40 to +85 °C  
Enclosure: Radome and base: ASA plastic  
Weight: 50g  
Attachment Method: Magnetic  
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 – GPS/Glonass Antenna, 5 metre cable, SMA Male 32-4320-xx-yyyy  
TW4322 – GPS/Glonass Antenna, with pre-filter, 5 metre cable, SMA Male 32-4322-xx-yyyy

**Tallysman Wireless Inc**

106 Schneider Road, Unit 3  
Ottawa ON K2K 1Y2 Canada  
Tel 613 591 3131  
Fax 613 591 3121  
sales@tallysman.com

The information provided herein is intended as a guide only and is subject to change without notice. This document is not to be regarded as a guarantee of performance. Tallysman Wireless Inc hereby disclaims any or all warranties and liabilities of any kind. © 2012 Tallysman Wireless Inc. All rights reserved.

www.tallysman.com

Rev 1.2