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## TW3320/TW3322 Wideband GPS/GLONASS Antenna

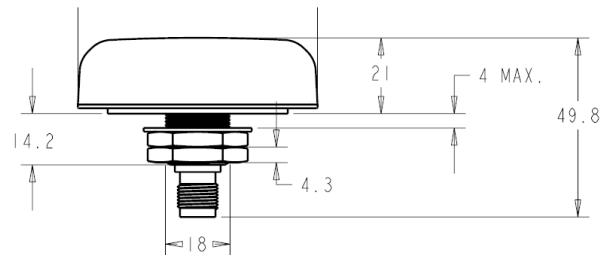
The TW3320/TW3322 is a high performance GNSS antenna covering the GPS L1, GLONASS L1 and SBAS (WAAS, EGNOS & MSAS) frequency band (1575 to 1606 MHz). It features a patch element with 40% wider bandwidth than hitherto available in this format. Unlike its competitors, both GPS-L1 and GLONASS signals are 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/ is housed in a permanent mount industrial-grade weather-proof enclosure. Two options for pole mounting are available an L-bracket (P/N#23-0040-0) or a pipe mount (P/N#23-0065-0)



TW3320/TW3322  
Shown with Low Profile Radome. Conical Radome also available



### 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 16 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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# TW3320/TW3322 Wideband GPS/GLONASS Antenna Specifications

## Antenna

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

## Electrical

Architecture	TW3320	LNA stage 1 -> SAW filter-> LNA stage 2
	TW3322	SAW Prefilter ->LNA stage 1 -> SAW filter-> LNA stage 2
Filtered LNA Frequency Bandwidth		1574 to 1606 MHz
Polarization		RHCP
Gain (1575.42 to 1606 MHz)		28dB min., TW3320; 26dB, TW3322,
Gain flatness		+/- 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; 2.5dB typ., TW3322
Supply Voltage Range (over coaxial cable)		+2.5 to 16 VDC nominal
Supply Current		15 mA max. at 85°C
ESD Circuit Protection		15 KV air discharge

## Mechanicals & Environmental

Mechanical Size	66.5 mm dia. x 21 mm H
Operating Temperature Range	40 to +85 °C
Enclosure	Radome: ASA Plastic, Base: Zamak White Metal
Weight	150 g
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

## Ordering Information

Legacy Part Numbers:		
TW3320 – GPS/Glonass Antenna		32-3320-xx-yy
TW3322 – GPS/Glonass Antenna with Pre-filter		32-3322-xx-yy
Connector:	xx = 00 TNC	xx = 01 N Type (premium applies)
Radome Colour	yy = 10 Dark grey low profile	yy = 11 White low profile

\* As a result of a growing product portfolio, Tallysman has rationalized its part number system. No changes have been made to the mechanical or electrical properties of these products. Where administratively possible, please use the following Part Numbers.

TW3320 – GPS/GLONASS antenna      33-3320-xx-yy-zzzz      TW3322 – 33-3322-xx-yy-zzzz

Where xx = connector type, yy = type and colour of radome, and zzzz = cable length in mm (where applicable)

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

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