



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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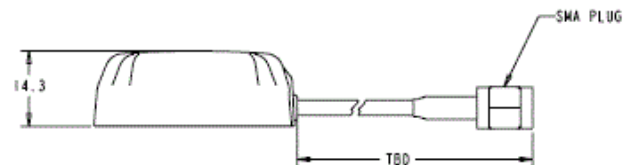
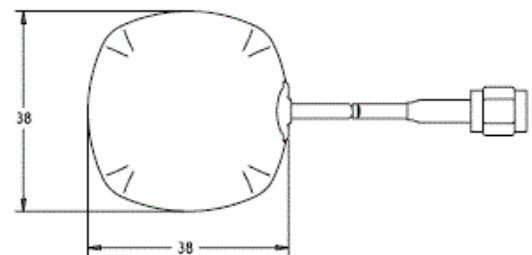
When precision matters...™

## 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





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## 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	<1500 MHz	>32 dB (TW4320)	>50dB (TW4322)
Out-of-Band Rejection	<1550 MHz	>25 dB	>50dB
Out-of-Band Rejection	>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.

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