



TW1320/TW1322 Embedded GPS/GLONASS Antenna

The TW1320/TW1322 is a high performance OEM 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 previously available in this format. Unlike its competitors, both GPS-L1 and GLONASS signals are included in the 1dB RHCP received power bandwidth.

The TW1320/TW1322 has a two stage Low Noise Amplifier (LNA) with a mid-section SAW. An optional tight pre-filter is available with part number TW1322 to protect against saturation by high level sub-harmonics and L-Band signals.

The built-in 35mm circular ground plane should ideally be augmented with a local system ground plane or reflecting surface (DC connection not required).

OEM antennas are easily detuned by the local environment. Tallysman offers custom tuning services for optimized integration into OEM end-user modules.

Applications

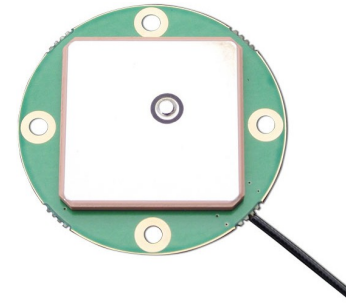
- Embedded OEM applications
- Precision Agriculture, Mining & Construction
- Military & Security
- Avionics
- Law Enforcement & Public Safety
- Fleet Management & Asset Tracking

Features

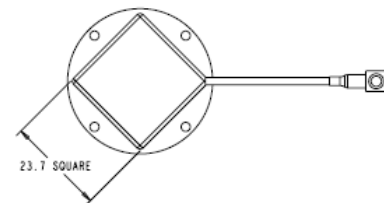
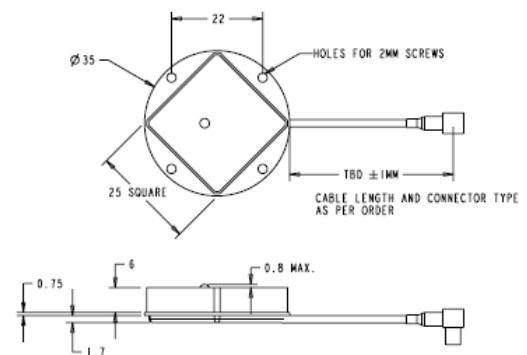
- 1dB bandwidth 1575MHz-1606MHz
- Very low noise LNA: 1 dB
- 4dB Axial Ratio @1590MHz, 8db over B/W
- High rejection SAW filter
- LNA gain: 28dB TW1320, 26dB TW1322 typ.
- Low current: 10mA typ.
- ESD circuit protection: 15 KV
- Wide Supply voltage: fixed 2.5V to 16V

Benefits

- Great multipath rejection
- Increase system accuracy
- Excellent signal to noise ratio
- Great out of band signal rejection
- Compact form factor
- RoHS compliant



TW1320 Dimensions (mm)





TW1320/TW1322 Embedded GPS/GLONASS Antenna

Specifications

At; Vcc = 3V, over full bandwidth, T=25°C

Antenna

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

Electrical

Architecture	TW1320	LNA stage 1 -> SAW filter-> LNA stage 2
	TW1322	SAW Prefilter ->LNA stage 1 -> SAW filter-> LNA stage 2
Filtered LNA Frequency Bandwidth		1574MHz to 1606MHz
Gain (1575.42 to 1606 MHz)		28dB min., TW1320; 26dB min, TW1322,
Gain flatness		+/- 2dB, 1575MHz to 1606MHz
Out-of-Band Rejection	TW1320: <1500MHz	>35dB. TW1322: >70dB.
	TW1320: <1550MHz	>25dB. TW1322: >45dB.
	TW1320: >1650MHz	>35dB. TW1322: >70dB.
VSWR (at LNA output)		<1.5:1
Noise Figure		TW1320:1 dB typ. TW1322: 3.5dB typ.
Supply Voltage Range (over coaxial cable)		+2.5VDC to 16VDC nominal
Supply Current		10mA max.
ESD Circuit Protection		15KV air discharge

Mechanicals & Environmental

Mechanical Size	35mm dia. x 7.25mm
Connectors	U.FL standard, Other connectors available on request
Cable	1.38mm OD, 15 cm. Custom lengths optional
Operating Temp. Range	-40°C to +85°C
Weight	50g
Attachment Method	Adhesive or screw mount
Environmental	RoHS compliant
Shock	Vertical axis: 50G, other axes: 30G
Vibration	3 axis, sweep = 15 min, 10 to 200 Hz sweep: 3 G

Ordering Information

TW1320 – OEM GPS/GLONASS antenna, 32-1320-XX –YYYY ZZ

TW1322 – Pre-filtered OEM GPS/GLONASS antenna, 32-1322-XX –YYYY ZZ

XX= Connector type, YYYY = cable length in mm, ZZ customer version

Please contact Tallysman Wireless for additional information

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. © 2011 Tallysman Wireless Inc. All rights reserved.