TW4327/TW4329 Low Current GPS/GLONASS Antenna

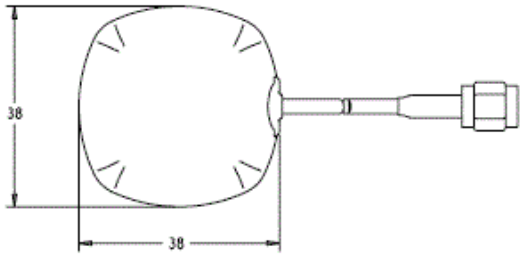
The TW4327/TW4329 is a very low power, compact wideband GNSS antenna covering the GPS L1, GLONASS L1 and SBAS (WAAS, EGNOS & MSAS) frequency bands (1575 to 1606 MHz.

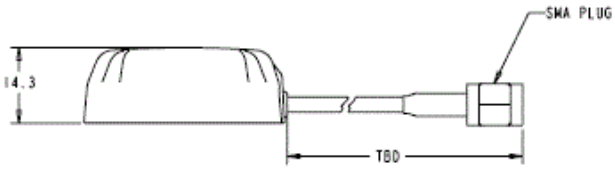
This antenna features a bigger patch element with 40% wider bandwidth and a smaller foot print than most of its competitors. The LNA has a typical current consumption of just 1.75mA, with constant characteristics over supply voltages from 2.5V to 16V. The LNA is a two stage amplifier with a mid-section high rejection SAW filter, with an optional anti-jamming pre-filter(TW4329).

The TW4327/TW4329 are amongst the lowest power devices available, yet still provide excellent noise figure with 21dB nominal gain (TW4327).

The TW4329 variant provides a "Brick-Wall" pre-filter to protect against saturation by high level sub-harmonics and near L-Band signals.

The TW4327/TW4329 are housed in a very small footprint IP67 compliant magnetic mount enclosure.





Applications

- Battery operated 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 (TW4329)
- Wide voltage input range: 2.5 to 16 VDC
- IP67 weather proof housing

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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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 Bandwidth (over full bandwidth)	6 dB typical, 8dB Maximum.
Polarization	RHCP

Electrical

Architecture	LNA stage 1 -> SAW filter-> LNA stage 2 (TW4327) SAW Pre-filter ->LNA stage 1 -> SAW filter-> LNA stage 2 (TW4329)		
Filtered LNA Frequency Bandwidth	1574 to 1606 MHz		
Gain @1575.42MHz	24dB Typ, 21dB Min (TW4327); , 21dB Typ,18dB Min (TW4329)		
Gain flatness	+/- 2 dB, 1575 to 1606 MHz		
Out-of-Band Rejection Out-of-Band Rejection	<1500 MHz	>40 dB (TW4327)	>70dB (TW4329)
	<1530 MHz	>35dB (TW4327)	>70 dB (TW4329)
	>1640 MHz	>45 dB (TW4327)	>65dB (TW4329)
VSWR (at LNA output)	<1.5:1		
Noise Figure	1.5dB typ.(TW4327);	3.9 dB typ. (TW4329)	
Supply Voltage Range (over coaxial cable)	+2.5 to 12 VDC (recommended, 16 VDC maximum)		
Supply Current	1.75mA typical, 2.0mA 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

TW4327 – Low Current GPS/GLONASS Antenna,	33-4327-xx-yyyy
TW4329 – Low Current GPS/GLONASS Antenna, with pre-filter	33-4329-xx-yyyy

Where xx = connector type, 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 connectors.

Tallysman™

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Rev 2.1