



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...™

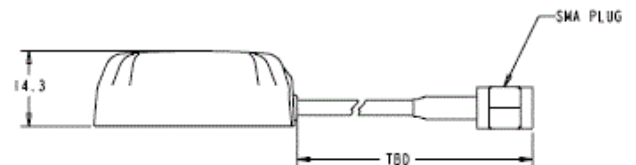
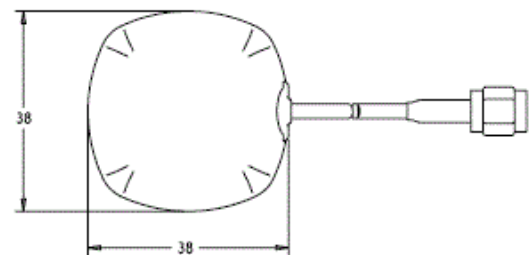
TW4020/TW4022 Wideband GPS Antenna

The TW4020/TW4022 is a commercial grade wideband GNSS antenna covering the GPS L1, frequency band. It features a small patch element with 40% wider bandwidth than typical GPS L1 antennas.

The TW4020/TW4022 features a high performance custom tuned ceramic patch element, 15 KV ESD circuit protection, a high gain two-stage low noise amplifier (LNA) with a mid-section high rejection SAW filter. It covers the GPS L1 and SBAS (WAAS/EGNOS/MSAS) frequency band (1572.5 to 1578 MHz), and it offers great circular polarized signal reception.

The TW4022 includes a pre-filter designed to mitigate strong intermodulated or near frequency signals.

Even with the wider bandwidth, the TW4020/TW4022 antenna is among the smallest high performance antenna available. It is housed in a compact IP67 magnetic mount enclosure.



Applications

- Cost Sensitive Positioning
- Fleet Management & Asset Tracking
- Covert surveillance

Features

- 40% wider bandwidth, small footprint
- Axial ratio: 1dB typ (GPS)
- Low noise LNA: 1 dB
- High rejection SAW filter
- High gain: 28 dB typ.
- Wide voltage input range: 2.5 to 16 VDC
- IP67 weather proof housing

Benefits

- Increased system accuracy
- 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 Bandwidth	31 MHz
Antenna Gain (with 100mm ground plane)	4.5 dBic
Axial Ratio over Bandwidth (over full bandwidth)	<1dB @ Fcenter,

Electrical

Architecture	LNA stage 1 -> SAW filter-> LNA stage 2 (TW4020) SAW filter LNA stage 1 -> SAW filter-> LNA stage 2 (TW4022) Filtered LNA Frequency Bandwidth 1565 to 1585 MHz		
Polarization	RHCP		
Gain	TW4020: 26dB min., TW4022: 25dB min,		
Gain flatness	+/- 2 dB, 1575 to 1606 MHz		
Out-of-Band Rejection (typ)		TW4020	TW4022
	<1500 MHz	-45dB	->70dB
	<1550 MHz	-25dB	->65dB
	>1640 MHz	-40dB	->60dB
VSWR (at LNA output)	<1.5:1 typ 1.8:1 max.		
Noise Figure	1 dB typ. (TW4020) 3.5dB typ. (TW4022)		
Supply Voltage Range (over coaxial cable)	+2.5 to 16 VDC nominal (12VDC recommended maximum)		
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 to +85 °C
Enclosure	Radome and base: EXL9330
Weight	73g (enclosure 34gm, 3m cable 39gm)
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

Ordering Information

TW4020 - Wideband GPS Antenna	33-4020-xx-yyyy
TW4022 - Prefiltered Wideband GPS Antenna	33-4022-xx-yyyy
Where xx = connector type and yyyy = length of cable 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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