NavtechGPS
+1-703-256-8900 or 800-628-0885
info@NavtechGPS.com
www.NavtechGPS.com

When precision matters.™

A Tallysman *Accutenna*®

TW3892 GPS L1/L2 + GLONASS G1/G2 + BeiDou B1 + Galileo E1 + L-Band

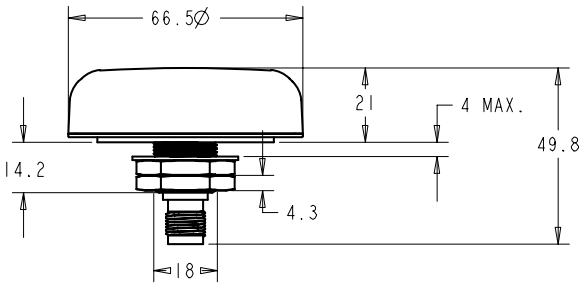
The TW3892 precision tuned dual band, *Accutenna*® technology antenna for reception of GPS L1/L2, GLONASS G1/G2 + BeiDou B1 + Galileo E1+ L-band correction services coverage and is especially designed for precision dual frequency positioning. The TW3892 provides superior multi-path rejection and axial ratio, a linear phase response, and tight Phase Centre Variation (PCV), while protecting against intermodulation and saturation caused by high level cellular 700MHz signals. This antenna is ideal for precision agriculture, autonomous vehicle tracking and guidance, and other applications where precision matters.

Architecturally, the TW3892 features a dual feed circular stacked patch element. The signals from the two orthogonal feeds are summed in quadrature, pre-filtered in a low loss filter to protect against a wide range of potentially interfering signals, amplified in high linearity, wide-band LNA, then band-split, tightly filtered and amplified prior to signal recombination at the output

The TW3892 covers GPS L2 (1227.6MHz), GLONASS G2 (1248MHz centre), GPS L1/WAAS/EGNOS/MSAS (1575.42MHz), GLONASS G1 (1602MHz, centre), BeiDou B1, Galileo E1. (1561 and 1589 MHz) and L-band correction services (1525-1559MHz)

The TW3892 is housed in a through-hole mount, weather-proof enclosure for permanent installations. L Bracket or Pipe Mount (part numbers 23-0040-0, 23-0065-0 respectively) are available for non-rooftop installation. A 100mm ground plane is recommended for non-roof-top installations.

TW3xxx Dimensions (mm)



Applications

- Precision GPS position
- Dual Frequency RTK receivers
- Mission Critical GPS Timing
- Military & Security

Features

- Very low Noise Preamp, < 2dB
- Axial ratio: <2dB typ.
- Tight Phase Center Variation
- LNA Gain 35 dB typ.
- Low current: 24 mA typ.
- ESD circuit protection: 15 KV
- Invariant performance from: +2.5 to 16VDC

Benefits

- Ideal for L1/L2 RTK surveying systems
- Great multipath rejection
- Increased system accuracy
- Great signal to noise ratio
- IP67, REACH, and RoHS compliant

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Specifications (Measured a Vcc = 3V, and Temperature=25°C)

Antenna

Patch Architecture			Circular, Dual Feed, Dual Stacked Patch	
L1/L2 Gain (100mm ground plane)			4.0 / 4.0 dBic typ at Zenith	
G1/G2 Gain (100mm ground plane),			3.0 /2.5 dBic typ at Zenith	
Axial Ratio @ zenith				
L2	<	<1dB	G2	<1.5dB
L-Band		<1dB		
L1/E1		<1dB	G1	<1.5dB
1dB Bandwidth,			L2: 1227MHz-1250MHz	L1: 1525MHz–1606MHz
Polarization			RHCP,	

Electrical

Bandwidth			L2: 1213MHz-1261MHz (Filter bandwidth) L1: 1525 MHz-1606MHz (Filter bandwidth)	
Overall LNA Gain			35dB typ, 32 dB min, each of L1 and L2 Bands,	
Gain Variation with Temperature.			3dB max over operational temperature range	
LNA Noise Figure			2.5dB typ @25°C	
VSWR (at LNA output)			<1.5:1	
Supply Voltage Range			+2.5 to 16VDC nominal, up to 50mV p-p ripple	
EMI Immunity			50V/Meter, excepting L1+/-100MHz and L2 +/- 100MHz	
Supply Current			24 mA typ. at 25°C, 25mA max at 75°C.	
ESD Circuit protection			15 KV air discharge.	
Out-of-Band Rejection	**L2**		**L1**	
	<1130MHz	>40 dB	<1450 MHz	>30dB
	<1190 MHz	>30 dB	>1690 MHz	> 30dB
	>1284 MHz	>32 dB	>1730 MHz	> 40dB

Mechanicals & Environmental

Mechanical Size, Ground Plane	66mm x 21mm (see drawing on other page), 100mm ground plane recommended
Operating Temperature Range	-40°C to +85°C
Enclosure	Radome: EXL9330, Base: Zamak White Metal
Weight	185 g
Attachment Method	Permanent ¾" (19mm) through hole mount
Environmental	IP67, RoHS, RED, and REACH compliant
Shock	Vertical axis: 50 G, other axes: 30 G
Vibration	3 axis, sweep = 15 min, 10 to 200 Hz sweep: 3 G
Salt fog / spray	MIL-STD-810F Section 509.4

Ordering Information

TW3892 – GPS L1/L2 + GLONASS G1/G2 + BeiDou B1 + Galileo E1 + L-band 33-3892-xx-yy-zzzz
Where xx = connector type, yy = shape and colour of radome and zzzz = cable length in mm (where applicable)

Please refer to the Ordering Guide (http://www.tallysman.com/wp-content/uploads/Current-Ordering-Guide.pdf) for the current and complete list of available radomes and connectors.

Tallysman An ISO 9001:2015 Certified Company
36 Steacie Drive, Ottawa ON K2K 2A9 Canada
Tel +1 613 591 3131 Fax 613 591 3121 sales@tallysman.com