



When precision matters.®

A Tallysman Accutenna®

TW3967 Embedded Triple Band GNSS Antenna + L-band Correction Services

The TW3967 is an Accutenna® technology antenna providing triple band GPS L1/L2/L5, GLONASS G1/G2/G3, BeiDou B1/B2, Galileo E1/E5 plus L-band correction services coverage and is especially designed for precision triple frequency positioning. The TW3967 provides superior multi-path signal rejection, a linear phase response, and tight Phase Centre Variation (PCV). This antenna is ideal for precision agriculture, autonomous vehicle tracking and guidance, and other applications where precision matters.

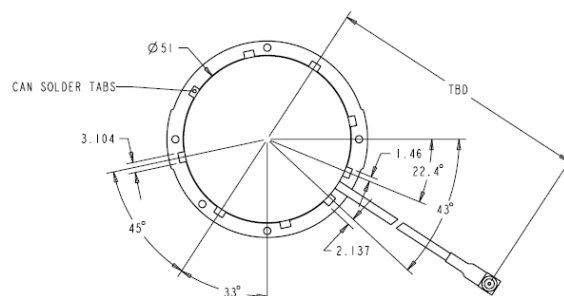
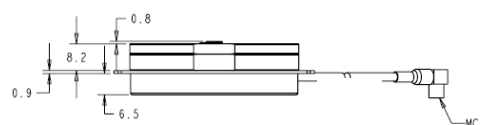
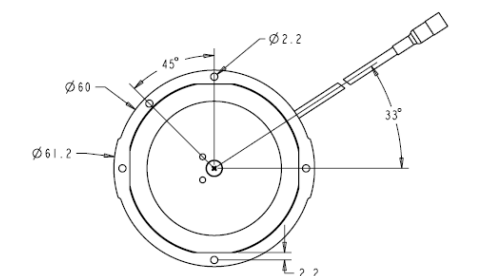
The TW3967 features a precision tuned, twin circular dual feed, stacked patch element. The signals from the two orthogonal feeds are combined in a hybrid combiner, amplified in a wide-band LNA, then band-split for narrow filtering in each band and further amplified prior to recombination at the output.

The antenna also has a strong pre-filter to mitigate inter-modulated signal interference from LTE and other cellular bands.

The TW3967 offers excellent axial ratio and a tightly grouped phase center variation.

The TW3967 covers from 1164MHz to 1254MHz and 1525MHz to 1606MHz.

The TW3967 is also available with 35dB or 18dB gain with a part number of TW3972E and TW3967LC respectively. A 100mm ground plane is recommended.



Applications

- Precision GPS position
- Triple Frequency RTK receivers
- Mission Critical GPS Timing
- Military & Security
- Network Timing and Synchronization

Features

- Very low Noise Preamp, < 2.5dB
- Axial ratio: <2dB typ.
- Tight Phase Center Variation
- LNA Gain 28 dB typ.
- Low current: 24 mA typ.
- ESD circuit protection: 15 KV
- Invariant performance from: +2.5 to 16VDC

Benefits

- Ideal for triple band RTK surveying systems
- Great multipath rejection
- Increased system accuracy
- Great signal to noise ratio
- REACH and RoHS compliant



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

Antenna

E5a/L5 Gain (100mm ground plane)		-1.5dBic typ. at Zenith	
B2/E5b/G3 Gain (100mm ground plane)		2.5 dBic typ. at Zenith	
L2 Gain (100mm ground plane)		4.0 dBic typ. at Zenith	
G2 Gain (100mm ground plane)		2.5 dBic typ. at Zenith	
E1 Gain (100mm ground plane)		4.0 dBic typ. at Zenith	
L1 Gain (100mm ground plane)		4.0 dBic typ. at Zenith	
G1 Gain (100mm ground plane)		2.5 dBic typ. at Zenith	
Axial Ratio @ zenith			
L5/E5ab	<1.5dB	B2	<1.5dB
L2	<1dB	G2	<1.5dB
L-Band	<1dB		
L1/E1	<1dB	G1	<1.5dB

Electrical

Filter Bandwidth		L2/L5: 1164MHz-1254MHz	L-Band/L1: 1525 MHz-1606MHz
Overall LNA Gain		TW3967: 28dB typ. TW3972E: 35dB typ.	
Gain Variation with Temperature.		3dB max over operational temperature range	
LNA Noise Figure		2.5dB typ at 25°C	
VSWR (at LNA output)		<1.5:1 typ 1.8:1 max.	
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,	
ESD Circuit protection		15 KV air discharge.	
Out-of-Band Rejection	L5/E5/L2/G2	L1/E1/B1/G1	
	<1050 MHz	>45 dB	<1450 MHz
	<1125 MHz	>30 dB	>1690 MHz
	>1350 MHz	>45 dB	>1730 MHz
			>30dB
			> 30dB
			> 40dB

Mechanicals & Environmental

Mechanical Size, Ground Plane	60mm x 14.9mm (see drawing on other page), 100mm ground plane recommended
Operating Temperature Range	-40°C to +85°C
Weight	70 g (excludes cable)
Environmental	RoHS 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

Ordering Information

TW3967 – Triple Band GNSS antenna with L-Band Correction(28dB)	33-3967-xx-yy-zzzz
TW3972E – Triple Band GNSS antenna with L-Band Correction(35dB)	33-3972E-xx-yy-zzzz
TW3967LC – Low Current Triple Band GNSS antenna with L-Band Correction(18dB)	33-3967LC-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/index.php/gnss/ordering-guide/>) for the current and complete list of available radomes and connectors.

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