# Tallysman

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# TW4037/TW4039 Low Gain GPS Antenna

NavtechGPS)

The TW4037/TW4039 are very low power, compact GNSS antennas covering the GPS L1, frequency band. This antenna features an LNA with constant performance from 2.7V to 5.5V supply voltage, and includes protection against close-proximity 700MHz LTE and L-band transmitting antennas.

The TW4037/TW4039 provide a minimum gain of 15dB and 12dB, respectively and excellent noise figure. The TW4037/TW4039 patch has 40% wider bandwidth for better axial ratio and has 15 KV ESD circuit protection. The LNA has a +/- 10MHz bandwidth that covers the full GPS L1 signal plus the SBAS (WAAS /EGNOS/MSAS) frequency band (1572.5 to 1578 MHz).

The TW4039 variant provides a "Brick-Wall" pre-filter to protect against saturation by high level sub-harmonics and L-Band signals.

It is housed in a compact IP67 magnetic mount enclosure.



### Applications

- Battery operated monitoring
- Covert Surveillance
- Fleet Management & Asset Tracking
- Satcom based AVL solutions

### Features

- Invariant response, 2.7 to 5.5 VDC Supply
- Low Noise Figure 1.8dB/3.3dB Typ. (TW4037/TW4039)
- Axial ratio: 4 dB max (GPS)
- Min Gain: 15dB/12dB (TW4037/TW4039)
- IP67 weather proof housing

### **Benefits**

- Excellent signal to noise ratio
- RoHS compliant
- Ideal for harsh environments
- Excellent out of band signal rejection

## TW4037/TW4039 Low Power GPS Antenna

31 MHz

45MHz

4.5 dBic

+/-2dB

>4 dB

>28 dB

RG174

-40 to +85 °C

Magnetic

>30 dB (TW4037)

+2.7 to 5.5 VDC

<1.5:1 typ. 1.8:1 max. 1.8 dB typ. (TW4037)

5.5mA typical, 7mA max

38mm x 38mm dia. x 14.3mm H

73g (enclosure 34gm, 3m cable 39gm)

3 axis, sweep = 15 min, 10 to 200 Hz sweep: 3 G

Vertical axis: 50 G, other axes: 30 G

Radome and base: EXL9330

IP67 and RoHS compliant

15 KV air discharge

4dB

RHCP

Wideband Single Feed Patch

TW4037: Patch -> LNA-> SAW

TW4039: Patch -> Pre-filter SAW-> LNA> SAW 15dB min (TW4037), 12dB min (TW4039)

>60dB (TW4039)

3.3dB typ. (TW4039)

>8dB

>56dB

**Specifications** Vcc = 3V, over full bandwidth, T=25°C

#### Antenna

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Architecture 1 dB Bandwidth 10dB Return Loss Bandwidth Antenna Gain (with 100mm ground plane) Axial Ratio over Bandwidth (at zenith and F<sub>center</sub>) Polarization

### Electrical

Architecture

Gain @ 1575.42 MHz	
Gain flatness	
Out-of-Band Rejection	<1500 MHz
	<1550 MHz
	>1640 MHz
VSWR (at LNA output)	

Noise Figure Supply Voltage Range (over coaxial cable) Supply Current ESD Circuit Protection

### **Mechanicals & Environmental**

Mechanical Size Cable Operating Temp. Range Enclosure Weight Attachment Method Environmental Shock Vibration

Ordering Information

Part Numbers:

TW4037 – Wideband GPS Antenna TW4039 – Prefiltered Wideband GPS Antenna 33-4037-xx-yyyy 33-4039-xx-yyyy

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

### **Tallysman Wireless Inc**

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