

# TW3039



When precision matters.®

## TW3039 Permanent Mount GPS L1 Antenna

Frequency Coverage: L1

### Overview

The TW3039 is a very low power GNSS antenna covering the GPS L1, frequency band.

This antenna features an LNA with constant performance from 2.5 V to 16 V supply voltage and includes protection against close-proximity 700 MHz LTE and L-band transmitting antennas.

The TW3039 provide a typical gain of 15 dB and an excellent noise figure.

The LNA has a +/- 10 MHz bandwidth that covers the full GPS L1 signal plus the SBAS (WAAS /EGNOS/MSAS) frequency band (1565.4 to 1585.4 MHz).



### Applications

- Mission Critical GPS Tracking & Timing
- Precision Agriculture, Mining & Construction
- Military & Security
- Avionics
- Law Enforcement & Public Safety
- Fleet Management & Asset Tracking

### Features

- Great axial ratio
- Low noise LNA: 2.2 dB min.
- High rejection SAW filter
- Low current: 7 mA max.
- ESD circuit protection: 15 KV
- Wide voltage input range: +2.5 to 16 VDC
- Weather proof housing: IP69K

### Benefits

- Excellent multipath rejection
- Increase system accuracy
- Excellent signal to noise ratio
- Great out of band signal rejection
- Ideal for harsh environments
- RoHS and REACH compliant

**About Tallysman:** With global headquarters and manufacturing in Ottawa, Canada, Tallysman is a leading manufacturer of high-precision antennas and components for Global Navigation Satellite System (GNSS) applications. Tallysman's mission is to support the needs of a new generation of positioning systems by delivering unprecedented antenna precision at competitive prices. Learn more at [www.tallysman.com](http://www.tallysman.com)

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## Antenna

Technology Single-feed RHCP ceramic patch

		Gain dBic typ. at Zenith	Axial Ratio dB at Zenith
<b>GNSS</b>			
GPS / QZSS	L1	4.5	≤ 4
	L2	-	-
	L5	-	-
GLONASS	G1	-	-
	G2	-	-
	G3	-	-
Galileo	E1	-	-
	E5A	-	-
	E5B	-	-
	E6	-	-
BeiDou	B1	-	-
	B2	-	-
	B2a	-	-
	B3	-	-
IRNSS / NavIC	L5	-	-
QZSS	L6	-	-
L-Band Services (1525 MHz - 1559 MHz)		-	-
<b>Satellite Communications</b>			
Iridium		-	-
Globalstar		-	-
<b>Other</b>			
Axial Ratio at 10°	-	Efficiency	-
PC Variation	-		

## Mechanicals

**Size** Flat: 66.5 mm dia. x 21 mm H  
Conical: 66.5 mm dia. x 47.5 mm H

**Weight** 150 g

**Radome** Radome: Dark Gray or White EXL9330

**Mount** -

## Environmental

**Operating Temperature** - 70 °C to + 85 °C

**Storage Temperature** - 70°C to + 95 °C

**Vibration** MIL-STD-810-D

**Shock** Vertical axis: 50G, other axes: 30G

**Salt Fog** MIL-STD-810F Section 509.4

**IP Rating** IP69K Housing

**Compliance** IPC-A-610, FCC, RED / CE Mark, RoHS, REACH

## Warranty:

**Parts and Labour** One year (Extended warranty available)

## Low Noise Amplifier (LNA) - Measured at 3V and 25°C

Frequency Bandwidth		Out of Band Rejection	
		Upper Band	Lower Band
1575.42MHz ± 10MHz	-	< 1500 MHz ≥ 75 dB < 1550 MHz ≥ 18 dB > 1640 MHz ≥ 75 dB	-

**Architecture** Pre-filtered

**Gain** 15 dB min.

**Noise Figure** 2.3 dB typ.

**VSWR** <1.5:1 typ. 1.8:1 max.

**Supply Voltage Range** 2.5 to 16 VDC (12 VDC recommended maximum)

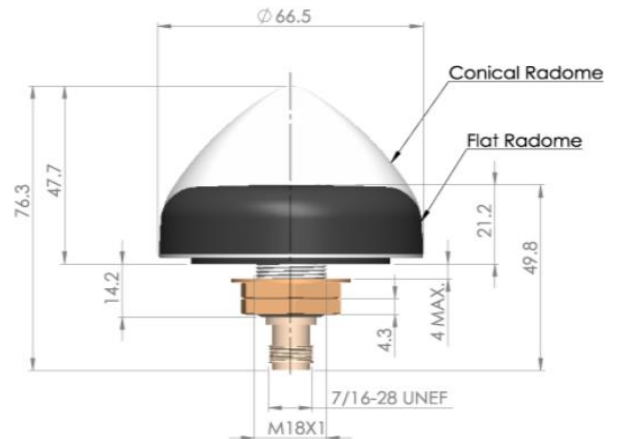
**Supply Current** 7.5 mA typ

**ESD Circuit Protection** 15 KV air discharge

**P 1dB Output** -

**Group Delay** -

## Mechanical Diagram



## Ordering Information

**Part Number** 33-3039-xx-yy-zzzz

Where xx = connector type, yy = shape and colour of radome and zzzz = cable length in mm (where applicable)

Please refer to our **Ordering Guide** to review available radomes and connectors at: <https://www.tallysman.com/resource/tallysman-ordering-guide/>