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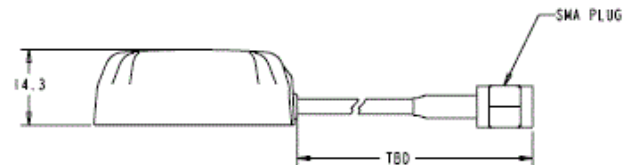
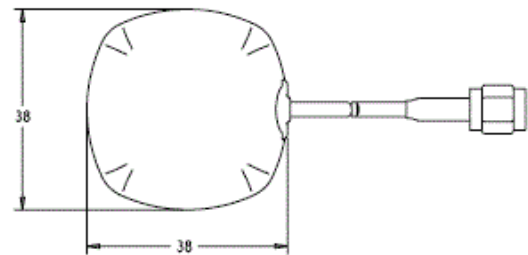
TW4037/TW4039 Low Gain GPS Antenna

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

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

Antenna

Architecture	Wideband Single Feed Patch
1 dB Bandwidth	31 MHz
10dB Return Loss Bandwidth	45MHz
Antenna Gain (with 100mm ground plane)	4.5 dBic
Axial Ratio over Bandwidth (at zenith and F _{center})	4dB
Polarization	RHCP

Electrical

Architecture	TW4037: Patch -> LNA-> SAW TW4039: Patch -> Pre-filter SAW-> LNA> SAW	
Gain @ 1575.42 MHz	15dB min (TW4037), 12dB min (TW4039)	
Gain flatness	+/- 2 dB	
Out-of-Band Rejection	<1500 MHz	>30 dB (TW4037) >60dB (TW4039)
	<1550 MHz	>4 dB >8dB
	>1640 MHz	>28 dB >56dB
VSWR (at LNA output)	<1.5:1 typ. 1.8:1 max.	
Noise Figure	1.8 dB typ. (TW4037)	3.3dB typ. (TW4039)
Supply Voltage Range (over coaxial cable)	+2.7 to 5.5 VDC	
Supply Current	5.5mA typical, 7mA 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

Part Numbers:

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

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.

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