



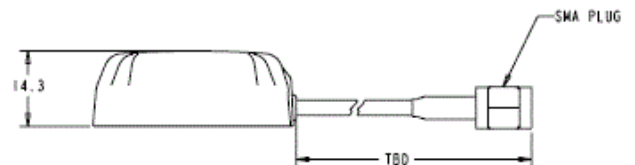
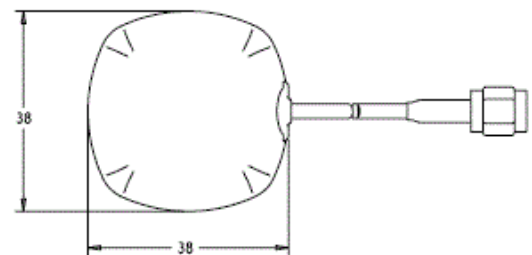
When precision matters...™

TW4020 Wideband GPS Antenna

The TW4020 is a commercial grade wideband GNSS antenna covering the GPS L1, frequency band. It features a small patch element with 40% wider bandwidth than typical GPS L1 antennas.

The TW4020 features a high performance custom tuned ceramic patch element, 15 KV ESD circuit protection, a high gain two-stage low noise amplifier (LNA) with a mid-section high rejection SAW filter. It covers the GPS L1 and SBAS (WAAS/EGNOS/MSAS) frequency band (1572.5 to 1578 MHz), and it offers great circular polarized signal reception.

Even with the wider bandwidth, the TW4020 antenna is among the smallest high performance antenna available. It is housed in a compact IP67 magnetic mount enclosure.



Applications

- Cost Sensitive Positioning
- Fleet Management & Asset Tracking
- Covert surveillance

Features

- 40% wider bandwidth, small footprint
- Axial ratio: 6 dB max (GPS)
- Low noise LNA: 1 dB
- High rejection SAW filter
- High gain: 28 dB typ.
- Wide voltage input range: 2.5 to 16 VDC
- IP67 weather proof housing

Benefits

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



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Specifications

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 (over full bandwidth)	4dB @ Fcenter, 6 dB max

Electrical

Architecture	LNA stage 1 -> SAW filter-> LNA stage 2
	Filtered LNA Frequency Bandwidth 1565 to 1585 MHz
Polarization	RHCP
Gain	28dB min., 1575.42 MHz
Gain flatness	+/- 2 dB, 1575 to 1606 MHz
Out-of-Band Rejection	<1500 MHz -45dB (typical) <1550 MHz -25dB (typical) >1640 MHz -40dB (typical)
VSWR (at LNA output)	<1.5:1
Noise Figure	1 dB typ.
Supply Voltage Range (over coaxial cable)	+2.5 to 16 VDC nominal (12VDC recommended maximum)
Supply Current	12 mA 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: ASA plastic
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

Legacy Part Number:

TW4020 - Wideband GPS Antenna

32-4020-xx-yyyy

Connector: xx = 00 SMA male, 01 = TNC male 02 = MCX male 03 = MMCX male 04 = SMB male
05 = MCX right angle male 06 = MMCX right angle male 07 = SMA female 08 = H.FL** 09 = U.FL
10 = SMA R/A** 11 = Reverse polarity SMA** ** Premiums apply. Please contact your Distributor

Cable length: yyyy = cable length in mm

* As a result of a growing product portfolio, Tallysman has rationalized its part number system. No changes have been made to the mechanical or electrical properties of these products. Where administratively possible, please use the following Part Numbers.

TW4020 - Wideband GPS Antenna 33-4020-xx-yyyy

Please refer to the Ordering Guide (<http://www.tallysman.com/orderingguide.php>) for the current and complete list of available radomes and connectors.

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