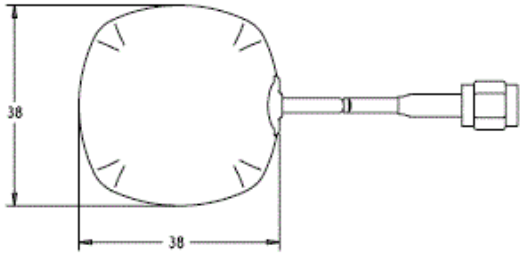
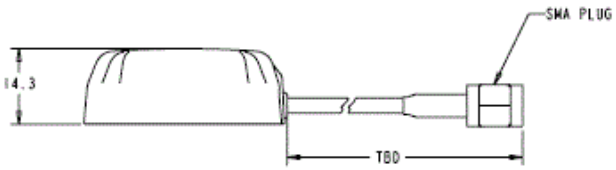
TW4320/TW4322 Wideband GPS/GLONASS Antenna

The TW4320/TW4322 is a wideband GNSS antenna covering the GPS L1, GLONASS L1 and SBAS (WAAS, EGNOS & MSAS) frequency bands (1575 to 1606 MHz). It features a small patch element with 40% wider bandwidth than previously available in this format. Unlike its competitors, both GPS-L1 and GLONASS signals are included in the 1dB received power bandwidth.

The TW4320/TW4322 has a two stage Low Noise Amplifier with a mid-section SAW. A tight pre-filter is available in the TW4322 to protect against saturation by high level sub-harmonics and L-Band signals.

Even with the wider bandwidth, the TW4320/TW4322 antenna is among the smallest high performance antenna available. It is housed in a compact IP67 magnetic mount enclosure. It comes with 5 metres of cable and a wide range of connectors.





Applications

- Cost Sensitive Mission Critical Positioning
- Military & Security
- Covert surveillance
- Fleet Management & Asset Tracking

Features

- 40% wider bandwidth, small footprint
- Axial ratio: 6 dB max (GPS & GLONASS)
- Low noise LNA: 1 dB
- High rejection mid-section SAW filter
- Available Pre-filter (TW4322)
- High gain: 28 dB typ.
- Wide voltage input range: 2.5 to 10 VDC

Benefits

- 1dB Bandwidth Includes GPS-L1 & GLONASS
- Excellent multipath rejection
- 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 (TW4320) SAW Prefilter ->LNA stage 1 -> SAW filter-> LNA stage 2 (TW4322)
Filtered LNA Frequency Bandwidth	1574 to 1606 MHz
Polarization	RHCP
Gain	28dB min., 1575.42 to 1606 MHz
Gain flatness	+/- 2 dB, 1575 to 1606 MHz
Out-of-Band Rejection	<1500 MHz >32 dB <1550 MHz >25 dB >1640 MHz >35 dB
VSWR (at LNA output)	<1.5:1
Noise Figure	1 dB typ.(TW4320); 3.5 dB typ. (TW4322)
Supply Voltage Range (over coaxial cable)	+2.3 to 10 VDC nominal
Supply Current	12 mA max.
ESD Circuit Protection	15 KV air discharge

Mechanicals & Environmental

Mechanical Size	38mm x 38mm dia. x 14.3mm H
Connectors	SMA male, others available
Cable	RG174 / 5 metres, other lengths optional
Operating Temp. Range	40 to +85 °C
Enclosure	Radome and base: ASA plastic
Weight	50g
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
Warranty	One year, parts and labour

Ordering Information

TW4320 – GPS/Glonass Antenna, 5 metre cable, SMA Male	32-4320-xx-yyyy
TW4322 – GPS/Glonass Antenna, with pre-filter, 5 metre cable, SMA Male	32-4322-xx-yyyy

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