TW2100 Magnet Mount GPS L1 Antenna

The TW2100 by Tallysman Wireless is a professional grade, magnet mount GPS L1 antenna, specially designed for industrial, agricultural and military precision positioning and timing applications.

The TW2100 features a custom high performance, dual-feed, wide band patch element. Its LNA configuration provides a LNA for each feed, a mid section high rejection SAW for the combined signal, followed by a final stage of LNA. It provides ±10MHz bandwidth centred on 1575.42 MHz and covers all GPS L1, Galileo E1 and SBAS (WAAS/EGNOS/MSAS) signals. It features great axial ratio over the entire frequency range (<3dB), excellent circular polarized signal reception, great multipath rejection and out-of-band signal rejection.

The TW2100 is housed in a compact, industrial-grade weather-proof, magnet mount enclosure, and comes with a bulkhead SMA female connector or with 5 metres of cable and a wide range of connector.

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

**Features**
- Great axial ratio: <3 dB over full bandwidth
- Low noise LNA: ≤1 dB
- High rejection SAW filter
- High gain: 28 dB typ.
- Low current: 10 mA typ.
- ESD circuit protection: 15 KV
- Wide voltage input range: +3.0 to 10 VDC
- Weather proof housing: IP67

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

www.tallysman.com
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Specifications

Vcc = 3V, over full bandwidth, T=25°C

Antenna

Architecture
Dual, Quadrature Feeds

Antenna Gain (100mm ground plane)
4.25 dBiC

Axial Ratio (over full bandwidth)
<3 dB

Electrical

Architecture
One LNA per feed line, mid section SAW filter, output LNA

Frequency Bandwidth
1575 MHz ± 10 MHz

Polarization
RHCP

Gain (LNA)
28 dB min. at 90° (at 1575.42 MHz)

Out-of-Band Rejection
>42 dB

VSWR (at LNA input)
<1.5:1

Noise Figure
1 dB typ.

Supply Voltage Range
+3.0 to 10 VDC nominal

Supply Current
10 mA typ.

ESD Circuit Protection
15KV air discharge

Mechanicals & Environmental

Mechanical Size
57 mm dia. x 15 mm H

Connectors
Bulkhead SMA Female, SMA Male on cable

Cable
RG174 / 5 metres, custom lengths optional

Operating Temp. Range
-40 to +85 °C

Enclosure
Radome: ASA Plastic, Base: Zamak White Metal

Weight
150 g

Attachment Method
Magnet or permanent (pre-tapped 4 x 6-32UNC)

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

TW2100 – GPS L1 antenna, 5 metre cable, SMA Male
TW2100-0

TW2100 – GPS L1 antenna, Bulkhead SMA Female
TW2100-7

Please contact Tallysman Wireless for additional information

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