A Tallysman Accutenna™
TW4721 Wideband Dual Feed GPS/GLONASS/BeiDou/Galileo Antenna

The TW4721 is a compact, wideband Accutenna™ technology GNSS antenna from Tallysman that provides accurate reception for all upper L-band GPS, GLONASS, Beidou, and Galileo signals (L1, G1, B1, B1 BOC, B1-2, E1) and associated augmentation signals (WAAS, EGNOS and MSAS SBAS).

The TW4721 features a novel 25mm dual feed wideband patch element that, in sharp contrast with its competitors, provides a truly circularly polarized response, with a typical axial ratio of less than 2dB over the full bandwidth. This provides a more linear carrier phase response and substantially improved multipath rejection for higher precision applications.

The TW4721 is the smallest, lightest, wideband GNSS antenna available. It is housing in a compact IP67 magnetic or adhesive mount enclosure and is available with a wide range of connector options and custom coax cable lengths.

The antenna can be ordered without the magnet. In such cases, the magnet is replaced with a plastic plug to provide a smooth under surface, with the option of ordering it with or without 1.1 mm doublesided VHB tape on the bottom.

Applications
- Cost Sensitive Mission Critical Positioning
- UAV / UAS
- Covert surveillance
- Fleet Management & Asset Tracking

Features
- Dual feed patch element
- 40% wider bandwidth, small footprint
- Axial ratio: 2 dB typ.
- Low noise LNA: 1 dB
- High rejection mid-section SAW filter
- High gain: 26 dB typ.
- Wide voltage input range: 1.8 to 16 VDC
- IP67 weather proof housing
- Low Power: 10mA typ. over supply range.

Benefits
- Greatly enhanced multipath rejection
- improved GNSS reliability
- Excellent signal to noise ratio
- RoHS compliant
- Ideal for harsh environments
- Excellent out of band signal rejection

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

Antenna
Architecture
Wideband Dual Feed Patch Element
2 dB radiated power bandwidth (RHCP)
47 MHz
Antenna Gain (with 100mm ground plane)
4.5 dBi @ 1582.5MHz
Axial Ratio over full bandwidth
<2 dB typ, 3 dB max.
Polarization
RHCP

Electrical
Architecture
Dual Feed Patch -> Hybrid-> LNA stage 1 -> SAW filter-> LNA stage 2
Filtered LNA Frequency Bandwidth
1559 to 1606 MHz
Gain
26dB min, 1559 MHz to 1606MHz
Gain flatness
+/- 2dB, 1559 MHz to 1606MHz
Out-of-Band Rejection
<1500MHz ->40dB
<1525MHz ->45dB
>1630MHz ->45dB
VSWR (at LNA output)
<1:5:1
Noise Figure
1.0dB typ.
Supply Voltage Range (over coaxial cable)
+1,8VDC to 16VDC nominal (12VDC recommended maximum)
Supply Current
10mA typ.
ESD Circuit Protection
15KV air discharge

Mechanicals & Environmental
Mechanical Size
38mm x 38mm dia x 14.3mm High
Cable
RG174
Operating Temp. Range
-40°C to +85°C
Enclosure
Radome and base: ASA plastic
Weight
50gm (Enclosure + SMA connector 34gm, cable 0.31gm/cm)
Attachment Method
Magnetic or Adhesive
Environmental
IP67, REACH and RoHS compliant
Shock
Vertical axis: 50G, other axes: 30G
Vibration
3 axis, sweep = 15 min, 10 to 200Hz sweep: 3G
Warranty
One year, parts and labour

Ordering Information
TW4721 – GPS/GLONASS/BeiDou/Galileo Antenna
xx = connector type
yyyy = cable length in mm
33-4721-xx-yyyy


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