

A Tallysman *Accutenna*® TW8825 GPS L1/L5 + GLONASS G1 + BeiDou B1 + Galileo E1/E5a

The TW8825 employs Tallysman's unique *Accutenna* technology providing dual band GPS L1/L5, GLONASS G1, Galileo E1/E5a, and BeiDou B1 coverage and is especially designed for precision dual frequency positioning where light weight is important.

The TW8825 features a precision tuned, circular dual feed, stacked patch element. The signals from the two orthogonal feeds are combined in a hybrid combiner, amplified in a wide-band LNA, then band-split for narrow filtering in each band and further amplified prior to recombination at the output.

The TW8825 offers excellent axial ratio and a tightly grouped phase center variation.

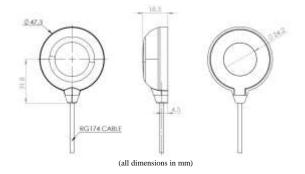
The TW8825 covers GPS L5 + Galileo E5a (1176.45MHz centre), GPS L1/WAAS/EGNOS/MSAS (1575.42MHz), GLONASS G1 (1602MHz, centre), Galileo (1575.42MHz centre), and BeiDou B1 (1575.42MHz centre)

The TW8825 has a pre-filter which increases the antenna's immunity to high amplitude interfering signals, such as LTE and other cellular signals.



Applications

- Airborne Unmanned Autonomous Vehicles
- Precision GPS position
- Dual Frequency RTK receivers
- Mission Critical GPS Timing
- Military & Security
- Network Timing and Synchronization



Features

- Very low Noise Preamp, 2.5dB
- Axial ratio: <2dB typ.
- Tight Phase Center Variation
- LNA Gain 26 dB typ.
- Low current: 12 mA typ.
- ESD circuit protection: 15 KV
- Invariant performance from: +2.5 to 16VDC

Benefits

- Lightweight (52g excluding cable and connector)
- Ideal for L1/L5 RTK surveying systems
- Great multipath rejection
- Increased system accuracy
- Excellent signal to noise ratio
- IP67, REACH, and RoHS compliant



TW8825 GPS L1/L5 + GLONASS G1 + BeiDou B1 + Galileo E1/E5a

Specifications (Measured a Vcc = 3V, and Temperature = 25°C)

Antenna

Patch Architecture Circular, Dual Feed, Dual Stacked Patch

L5 Peak Gain (100mm ground plane), 1164-1189MHz

L1 Peak Gain (100mm ground plane), 1575.42-1606MHz

Axial Ratio, over full bandwidth, both L1 & L2

3.7 dBic peak gain at Zenith
4.0 dBic peak gain at Zenith
≤ 2dB typ, 1 dB max. at Zenith

Polarization RHCP

Electrical

Bandwidth L5: 1164MHz-1189MHz (Filter bandwidth) L1: 1557 MHz-1606MHz (Filter bandwidth)

Overall LNA Gain 27dB typ, 26 dB min, each of L1 and L5 Bands Gain Variation with Temperature. 3dB max over operational temperature range

LNA Noise Figure 2.5dB typ @25°C VSWR (at LNA output) <1.5:1 typ. 1.8:1 max.

Supply Voltage Range +2.5 to 16VDC nominal, up to 50mV p-p ripple

EMI Immunity 50V/Meter, excepting L1+/-100MHz and L5+/-100MHz

Supply Current 12 mA typ. at 25°C. ESD Circuit protection 15 KV air discharge.

Mechanicals & Environmental

Mechanical Size, Ground Plane 100mm ground plane recommended

Cable 2.6mm OD (RG174) Operating Temperature Range -40°C to +85°C

Weight 52 g

Environmental RoHS and REACH 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

TW8825 - GPS L1/L5 + GLONASS G1 + BeiDou B1 + Galileo E1/E5a 33-8825-xx-yyyy Where xx = connector type, yyyy = cable length in mm (all 4 digits required)

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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