A Tallysman *Accutenna*®

TW1825 GPS L1/L5 + GLONASS G1 + BeiDou B1 +Galileo E1/E5a + Navic E5

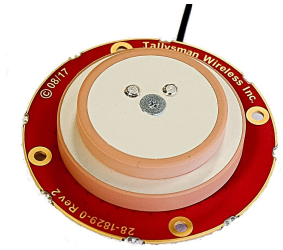
The TW1825 employs Tallysman's unique *Accutenna* technology providing dual band GPS L1/L5, GLONASS G1, Galileo E1/E5a, BeiDou B1, and NavIC L5 coverage and is especially designed for precision dual frequency positioning where light weight is important.

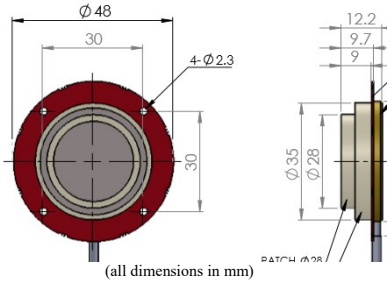
The TW1825 features a precision tuned, circular dual feed, stacked patch element. The signals from the two orthogonal feeds are combined in a hybrid combiner, amplified in a wide-band LNA, then band-split for narrow filtering in each band and further amplified prior to recombination at the output.

The TW1825 offers excellent axial ratio and a tightly grouped phase center variation.

The TW1825 covers GPS L5 (1176.45MHz), Galileo E5a (1176.45MHz centre), NavIC (1176.45MHz), GPS L1/WAAS/EGNOS/MSAS (1575.42MHz), GLONASS G1 (1602MHz, centre), Galileo E1 (1575.42MHz centre), and BeiDou B1 (1575.42MHz centre.

The TW1825 has a pre-filter which increases the antenna's immunity to high amplitude interfering signals, such as LTE and other cellular signals.





(all dimensions in mm)

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, 2.5 dB
- Axial ratio: <2 dB 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 16 VDC

Benefits

- Lightweight (37g 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

TW1825 GPS L1/L5 + GLONASS G1 + BeiDou B1 +Galileo E1/E5a + Navic E5

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

Antenna

Patch Architecture	Circular, Dual Feed, Dual Stacked Patch
L5 Peak Gain (100mm ground plane), 1164MHz – 1189MHz	3.7 dBic peak gain at Zenith
L1 Peak Gain (100mm ground plane), 1575.42MHz-1606MHz	4.0 dBic peak gain at Zenith
Axial Ratio, over full bandwidth, both L1 & L5	≤ 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.

Out-of-Band Rejection	**L1**		**L5**	
	<1450 MHz	>35 dB	<1000 MHz	>80 dB
	<1520 MHz	>30 dB	<1100 MHz	>34 dB
	>1650 MHz	>35 dB	>1230 MHz	>43 dB

Mechanicals & Environmental

Mechanical Size, Ground Plane	48mm(d)x12.2mm(h)100mm ground plane recommended
Cable	1.38mm OD (micro-coax) or 2.6mm OD (RG174)
Operating Temperature Range	-40°C to +85°C
Weight	37 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

TW1825 GPS L1/L5 + GLONASS G1 + BeiDou B1 +Galileo E1/E5a + Navic E5	33-1825-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.

An ISO 9001:2015 Certified Company

36 Steacie Drive, Ottawa ON K2K 2A9 Canada

Tel +1 613 591 3131 Fax 613 591 3121

sales@tallysman.com

Rev 1.1