A Tallysman Accutenna®
TW8829 GPS L1/L2 + GLONASS G1/G2

The TW8829 employs Tallysman's unique Accutenna technology providing dual band GPS L1/L2, GLONASS G1/G2, Galileo E1, and BeiDou B1 coverage and is especially designed for precision dual frequency positioning where light weight is important.

The TW8829 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 TW8829 offers excellent axial ratio and a tightly grouped phase center variation.

The TW8829 covers GPS L2 (1227.6MHz), GLONASS G2 (1248MHz centre), GPS L1/WAAS/EGNOS/MSAS (1575.42MHz), GLONASS G1 (1602MHz, centre), Galileo (1575.42MHz centre), and BeiDou B1 (1575.42MHz centre).

The TW8829 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/L2 RTK surveying systems
- Great multipath rejection
- Increased system accuracy
- Excellent signal to noise ratio
- IP67, REACH, and RoHS compliant
TW8829 GPS L1/L2 + GLONASS G1/G2

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

**Antenna**
- Patch Architecture: Circular, Dual Feed, Dual Stacked Patch
- L2 Peak Gain (100mm ground plane), 1227.6-1246MHz: 3.7 dBic peak gain at Zenith
- L1 Peak Gain (100mm ground plane), 1575.42-1606MHz: 4.0 dBic peak gain at Zenith
- Axial Ratio, over full bandwidth, both L1 & L2: ≤ 2dB typ, 1 dB max. at Zenith
- Polarization: RHCP

**Electrical**
- Bandwidth: L2: 1215MHz-1261MHz (Filter bandwidth) L1: 1557 MHz-1606MHz (Filter bandwidth)
- Overall LNA Gain: 27dB typ, 26 dB min, each of L1 and L2 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+/L2-100MHz and L2+/L1-100MHz
- Supply Current: 12 mA typ. at 25°C.
- ESD Circuit protection: 15 KV air discharge.
- Out-of-Band Rejection:
  - L1:
    - <1450 MHz: >35 dB
    - <1520 MHz: >30 dB
    - >1650 MHz: >35 dB
  - L2:
    - <1170 MHz: >40 dB
    - <1190 MHz: >30 dB
    - >1290 MHz: >32 dB

**Mechanicals & Environmental**
- Mechanical Size, Ground Plane: 100mm ground plane recommended
- Cable: 1.38mm OD (micro-coax) or 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**

TW8829 - GPS L1/L2 + GLONASS G1/G2  33-8829-xx-yyyy
Where xx = connector type, yyyy = cable length in mm (all 4 digits required)


**Tallysman Wireless Inc**

36 Steacie Drive  
Ottawa ON K2K 2A9 Canada  
Tel +1 613 591 3131  Fax 613 591 3121
sales@tallysman.com

The information provided herein is intended as a guide only and is subject to change without notice. This document is not to be regarded as a guarantee of performance. Tallysman Wireless Inc. hereby disclaims any or all warranties and liabilities of any kind. 

© 2017 Tallysman Wireless Inc. All rights reserved.