

TW1829



When precision matters.®

TW1829 Dual-Band Antenna GPS/QZSS + GLONASS + Galileo + Bei Dou

Frequency Coverage: L1/L2/G1/G2/E1/B1

Overview

The TW1829 employs Tallysman's patented Accutenna® technology providing dual-band GPS/QZSS 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 TW1829 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 TW1829 offers excellent axial ratio and a tightly grouped phase center variation.

The TW1829 covers GPS/QZSS L2 (1227.6 MHz), GLONASS G2 (1248 MHz centre), GPS/QZSS L1/WAAS/EGNOS/MSAS (1575.42 MHz), GLONASS G1 (1602 MHz, centre), Galileo E1 (1575.42 MHz centre), and BeiDou B1 (1575.42 MHz centre).

The TW1829 has a pre-filter which increases the antenna's immunity to high-amplitude interfering signals, such as LTE and other cellular signals.



Applications

- Autonomous unmanned aerial vehicles (UAVs)
- Precision GPS position
- Dual-frequency RTK receivers
- Mission Critical GPS Timing
- Safety & security
- Network timing & synchronization

Features

- Very low noise preamp: 2.5 dB
- Axial ratio: < 2.0 dB typ.
- Tight phase center variation
- High-gain LNA: 26 dB typ.
- Low current: 12 mA typ.
- ESD circuit protection: 15 kV
- Invariant performance from 2.5 to 16 VDC

Benefits

- Lightweight (37 g 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

About Tallysman: With global headquarters and manufacturing in Ottawa, Canada, Tallysman is a leading manufacturer of high-precision antennas and components for Global Navigation Satellite System (GNSS) applications. Tallysman's mission is to support the needs of a new generation of positioning systems by delivering unprecedented antenna precision at competitive prices. Learn more at www.tallysman.com

Revision: 2.1

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Antenna

Technology Dual-feed Stacked RHCP ceramic patch

		Gain dBic typ. at Zenith	Axial Ratio dB at Zenith
GNSS			
GPS / QZSS	L1	4.0	≤ 1.5
	L2	3.7	≤ 2
	L5	-	-
GLONASS	G1	4.0	≤ 1.5
	G2	3.7	≤ 2
	G3	-	-
Galileo	E1	4.0	≤ 2
	E5A	-	-
	E5B	-	-
	E6	-	-
BeiDou	B1	4.0	≤ 1.5
	B2	-	-
	B2a	-	-
	B3	-	-
IRNSS / NavIC	L5	-	-
QZSS	L6	-	-
L-Band Services (1525 MHz - 1559 MHz)		-	-
Satellite Communications			
Iridium		-	-
Globalstar		-	-
Other			
Axial Ratio at 10°	-	Efficiency	-
PC Variation	-		

Mechanicals

Size	48 mm(d)x12.2 mm(h)100 mm ground plane recommended
Weight	37 g
Radome	-
Mount	-

Environmental

Operating Temperature	-40 °C to +85 °C
Storage Temperature	-50 °C to +95 °C
Vibration	MIL-STD-810-D
Shock	Vertical axis: 50G, other axes: 30G
Salt Fog	-
IP Rating	Not Applicable
Compliance	IPC-A-610, FCC, RED / CE Mark, RoHS, REACH

Warranty:

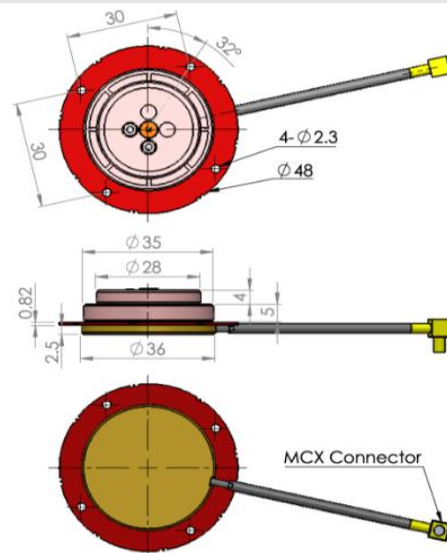
Parts and Labour	One year (extended warranty available)
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Low Noise Amplifier (LNA) - Measured at 3V and 25°C

Frequency Bandwith		Out of Band Rejection	
		Upper Band	Lower Band
1557-1606 MHz	1215-1261 MHz	< 1450 MHz > 35 dB < 1520 MHz > 30 dB > 1650 MHz > 35 dB	< 1170 MHz > 40 dB < 1190 MHz > 30 dB > 1290 MHz > 32 dB

Architecture	Pre-Filtered
Gain	27 dB typ, 26 dB min, each of L1 and L2 Bands
Noise Figure	2.5 dB typ. @25 °C
VSWR	< 1.5:1 typ. 1.8:1 max.
Supply Voltage Range	2.5 to 16 VDC nominal, up to 50mV p-p ripple
Supply Current	12 mA typ. at 25 °C
ESD Circuit Protection	15 kV air discharge.
P 1dB Output	-
Group Delay	-

Mechanical Diagram



Ordering Information

Part Number **33-1829-xx-yyyy**

Where xx = connector type yyyy= cable length (in mm) and zz = reserved for Tallysman's use

Please refer to our **Ordering Guide** to review available radomes and connectors at:
<https://www.tallysman.com/resource/tallysman-ordering-guide/>