

# TW2710/TW2712



When precision matters.®

## TW2710 and TW2712 Single Band GNSS Antennas Frequency Coverage: L1/G1/B1/E1

### Overview

The TW2710 and TW2712 antennas employ Tallysman's unique Accutenna technology, covering the GPS L1, GLONASS G1, BeiDou B1, Galileo E1, frequency bands, as well as SBAS (WAAS, QZSS, EGNOS & MSAS, 1557MHz to 1606MHz).

Designed for precision industrial, agricultural and military applications the TW2710 and TW2712 provide a truly circular response over its entire bandwidth thereby producing superior multipath signal rejection.

With a low axial ratio, excellent phase linear response and a tight phase centre variation, the TW2710 and TW2712 provide the performance normally associated with premium-priced antennas.

Each antenna also features a dual-feed wideband patch element, with one Low Noise Amplifier (LNA) per feed, a mid section combiner and SAW filter, and a final output gain stage.

Differing from the TW2710, only by an added pre-filter option, the TW2712 provides extra protection against saturation by strong near frequency or harmonic signals, such as LTE.

The TW2710 and TW2712 are housed in a compact, industrial-grade weatherproof enclosure, and are



available with a variety of connectors and cable lengths. They can be ordered with a choice of a magnet mount, adhesive mount, direct screw mount, or a plastic plug that provides a smooth mounting surface.

### Applications

- High Accuracy & Mission Critical GNSS
- Precision Agriculture, Mining & Construction
- Military & Security
- Law Enforcement & Public Safety
- Fleet Management & Asset Tracking

### Features

- Covers B1 / E1 / L1 / G1 Frequencies
- Great axial ratio: 1 typ., 3 dB max
- Low noise LNA:  $\leq 1$  dB
- High rejection SAW filter
- LNA gain: 28 dB typ.
- Low current: 15 mA typ.
- Wide voltage input range: 2.5 to 16 VDC

### Benefits

- Excellent multipath rejection
- Increased system accuracy
- Excellent signal to noise ratio
- Great out of band signal rejection
- Ideal for harsh environments
- 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](http://www.tallysman.com)

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# TW2710 and TW2712 Single Band GNSS Antennas

## Frequency Coverage: L1/G1/B1/E1

### Antenna (Measured on a 100mm Ground Plane)

Architecture ..... Dual-feed RHCP ceramic patch

		Gain	Axial Ratio
		dBic typ. at Zenith	dB at Zenith
<b>GNSS</b>			
GPS	L1	4.75	≤ 2 typ. 2.5 max.
	L2	-	-
	L5	-	-
GLONASS	G1	4.75	≤ 2 typ. 2.5 max.
	G2	-	-
	G3	-	-
Galileo	E1	4.75	≤ 2 typ. 2.5 max.
	E5a	-	-
	E5b	-	-
	E6	-	-
BeiDou	B1	4.75	≤ 2 typ. 2.5 max.
	B2	-	-
	B3	-	-
IRNSS/NavIC	L5	-	-
QZSS	L6	-	-
<b>Satellite Communications</b>			
Iridium		-	-
Globalstar		-	-

### Mechanical

**Mechanical Size** ..... 57 mm dia. x 15 mm H  
**Weight** ..... 110 g  
**Attachment Method** ..... Magnet, Adhesive or permanent (pre-tapped 4 x 6-32 UNC)  
**Cable** ..... RG174 up to 5M  
**Enclosure** ..... Radome: ASA plastic, Base: Zamak white metal

### Environmental

**Operating Temp. Range** ... -40 to +85 °C  
**Shock** ..... Vertical axis: 50 G, other axes: 30 G  
**Vibration** ..... 3 axis, sweep = 15 min, 10 to 200 Hz sweep: 3 G  
**Compliance** ..... IP67, RoHS and RED compliant

### Other Information

**Warranty** ..... One year – parts and labour

### Ordering Information

TW2710 antenna ..... 33-2710-xx-yyyy-zz  
 TW2712 antenna ..... 33-2712-xx-yyyy-zz

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

Please refer to the Ordering Guide for the current and complete list of available radomes and connectors.

### Low Noise Amplifier (LNA) (Measured a Vcc = 3V, Temperature=25°C)

Frequency Bandwidth ... 1559-1606 Mhz

	TW2710	TW2712
<b>Architecture</b>	No pre-filter	Pre-filtered
<b>Out-of-Band Rejection</b>	<1500 MHz >40 dB <1540 MHz >20 dB >1640 MHz >45 dB	<1500 MHz >60 dB <1540 MHz >45 dB >1640 MHz >45 dB
<b>Gain</b> .....	28 dB min.	26 dB min.
<b>Noise Figure</b> .....	1.5 dB typ.	3.5 dB typ.
<b>Gain Flatness</b> .....	+/- 2 dB	
<b>VSWR</b> .....	<1.5:1 typ 1.8:1 max	
<b>Supply Voltage Range</b> ...	+2.5 to 16 VDC nominal (12VDC recommended maximum)	
<b>Supply Current</b> .....	15 mA typ., 22mA max. (@85°C)	
<b>ESD Circuit protection</b> ...	15 KV air discharge	

### TW2710 /TW2712 Dimensions (mm)

