TW2710/TW2712

TALLYSMAN®

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: ≤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**

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Antenna (Measured on a 100mm Ground Plane)

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

		Gain dBic typ. at Zenith	Axial Ratio dB at Zenith
GNSS			
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**	-	-
Satellite Communications			
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

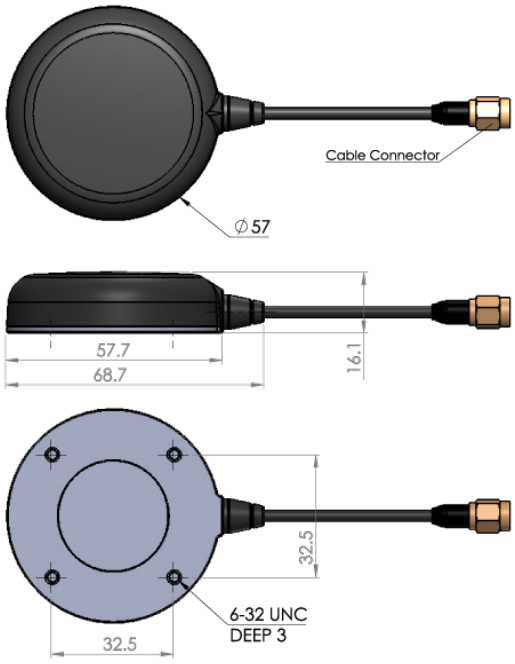
Low Noise Amplifier (LNA) (Measured a Vcc = 3V, Temperature=25°C)

Frequency Bandwidth ... 1559-1606 MHz

	TW2710	TW2712
Architecture	No pre-filter	Pre-filtered
Out-of-Band Rejection	<1500 MHz >40 dB <1540 MHz >20 dB >1640 MHz >45 dB	<1500 MHz >60 dB <1540 MHz >45 dB >1640 MHz >45 dB
Gain	28 dB min.	26 dB min.
Noise Figure	1.5 dB typ.	3.5 dB typ.

Gain Flatness ..... +/- 2 dB
VSWR ..... <1.5:1 typ 1.8:1 max
Supply Voltage Range ... +2.5 to 16 VDC nominal (12VDC recommended maximum)
Supply Current ..... 15 mA typ., 22mA max. (@85°C)
ESD Circuit protection ... 15 KV air discharge

TW2710 /TW2712 Dimensions (mm)



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.

www.tallysman.com