



## A Tallysman Accutenna® TW3710 /TW3712 Multi-Constellation Fixed Mount Antenna

The TW3710 /TW3712 employs Tallysman's unique Accutenna® technology covering the BeiDou B1, Galileo E1, GPS L1, GLONASS G1 and SBAS (WAAS, QZSS, EGNOS & MSAS) frequency band (1557 to 1606 MHz). It provides truly circular response over its entire bandwidth thereby producing superior multipath signal rejection. It is especially suitable for high accuracy applications, and also offers high out of band signal rejection.

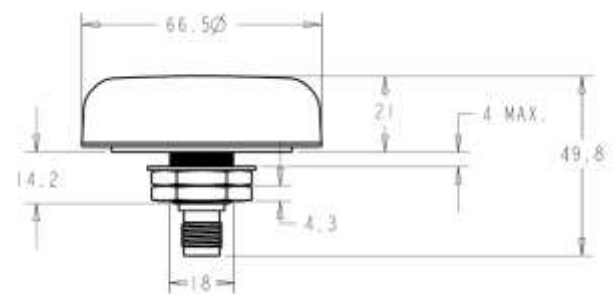
Both antennas feature a dual-feed wideband patch element, with a two stage Low Noise Amplifier, comprised of one input LNA per feed, a mid section SAW to filter the combined output, and a final output gain stage. This configuration provides excellent axial ratio that is constant across the full frequency band along with a superb phase linear response and tight phase centre variation providing performance normally associated with much higher priced antennas.

The TW3712 has a pre-filter to protect against front end saturation by strong near frequency or harmonic signals.

The antennas are housed in a through-hole mount, weather-proof enclosure for permanent installations. L Bracket or Pipe Mount adapters (part numbers 23-0040-0, 23-0065-0 respectively) are available for non-rooftop installation. A 100mm ground plane is recommended for non-roof-top installations.



TW3710 / TW3712 Dimensions (mm)



### Applications

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

### Features

- Covers all GNSS Frequencies
- Great axial ratio: 1 dB typ.
- Low noise LNA: 1 dB (TW3710)
- High rejection SAW filter
- High gain LNA: 28 dB typ. (TW3710)
- Low current: 15 mA typ.
- Wide voltage input range: 2.5 to 16 VDC

### Benefits

- Excellent circular polarisation
- Excellent multipath rejection
- Excellent signal to noise ratio
- Great out of band signal rejection
- Increased system accuracy
- Ideal for harsh environments
- RoHS and REACH compliant



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## Specifications At; Vcc = 3V, over full bandwidth, T=25°C

### Antenna

Architecture	Dual, Quadrature Feeds
2 dB Bandwidth	49 MHz
Antenna Gain (with 100mm ground plane)	4.75 dBic
Axial Ratio (over full bandwidth) horizon to horizon	<1.5 dB typ., <2.5 dB max.

### Electrical

Filtered LNA Frequency Bandwidth	1557 to 1606 MHz
Polarization	RHCP
LNA Gain	28 dB min. (TW3710), 26dB min. (TW3712)
Gain flatness	+/- 2 dB, 1557 to 1606 MHz
Out-of-Band Rejection <1500 MHz	>32 dB (TW3710) >50dB (TW3712)
>1640 MHz	>35 dB >70 dB
VSWR (at LNA output)	<1.5:1 typ. 1.8:1 max.
Noise Figure	1 dB typ. (TW3712: 3dB typ.)
Supply Voltage Range (over coaxial cable)	2.5 to 16 VDC nominal (12VDC recommended maximum)
Supply Current	15 mA typ, 20mA max. at 85°C.
ESD Circuit Protection	15 KV air discharge

### Mechanicals & Environmental

Mechanical Size	66.5 mm dia. x 21 mm H
Operating Temp. Range	-40 to +85 °C
Storage Temperature Range	-45 to +85 °C
Enclosure	Radome: EXL9330, Base: Zamak White Metal
Weight	150 g
Attachment Method	Permanent 3/4" (19mm) through hole mount
Environmental	IP67 and RoHS compliant
Shock	Vertical axis: 50 G, other axes: 30 G
Vibration	3 axis, sweep = 15 min, 10 to 200 Hz sweep: 3 G
Salt Spray	MIL-STD-810F Section 509.4
Warranty	One year, parts and labour

### Ordering Information

TW3710 – Multi-Constellation antenna	33-3710-xx-yy-zzzz
TW3712 – Pre-filtered Multi-Constellation antenna	33-3712-xx-yy-zzzz

Where xx = connector type, yy = shape and colour of radome, and zzzz = length of cable in mm (where applicable)

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.

### Tallysman Wireless Inc

36 Steacie Drive  
Ottawa ON K2K 2A9 Canada Tel +1 613 591 3131 Fax 613 591 3121  
[sales@tallysman.com](mailto:sales@tallysman.com)

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