A Tallysman *Accutenna*™ TW2705/TW2707 Embedded Multi-Constellation Antenna

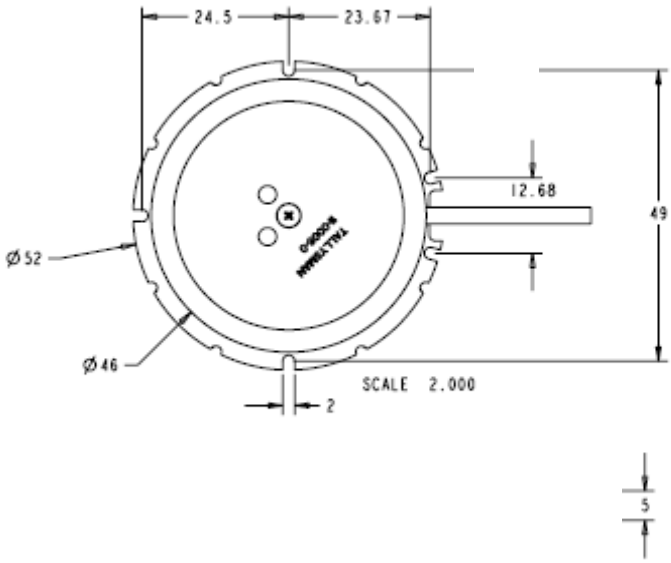
The TW2705/TW2707 employs Tallysman's unique *Accutenna™* technology covering the BeiDou B1, Galileo E1, GPS L1, GLONASS L1 and SBAS (WAAS, QZSS, EGNOS & MSAS) frequency band (1557 to 1606 MHz).). It is especially designed for precision industrial, agricultural and military OEM applications. It provides truly circular response over its entire bandwidth thereby producing superior multipath signal rejection.

The TW2705/TW2707 features a dual-feed wideband patch element, with one LNA per feed, a mid section Combiner and SAW filter, and a final output gain stage.

An optional tight pre-filter is available, part number TW2707 to protect against saturation by high level sub-harmonics and L-Band signals.

The TW2705/TW2707 is available with a variety of connectors and custom cable lengths.

It is highly recommended to take advantage of Tallysman's custom tuning service to ensure optimal performance of this antenna in your housing and with your ground plane.



Applications

- High Accuracy & Mission Critical GNSS
- Precision Agriculture, Mining & Construction
- Military & Security
- Avionics
- 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

TW2705/TW2707 Magnet Mount Multi-Constellation Antenna

Specifications 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 at Zenith over full bandwidth	<2 dB typ, ≤3 dB max

Electrical

Architecture		One LNA per feed line, mid section SAW filter	
Filtered LNA Frequency Bandwidth		1557 to 1606 MHz	
Polarization		RHCP	
LNA Gain		28 dB min. (TW2705) 26dB typ. (TW2712)	
Gain flatness		+/- 2 dB, 1557 to 1606 MHz	
Out-of-Band Rejection	<1500 MHz	>40 dB (TW2705)	>70dB (TW2712)
	<1540 MHz	>20 dB (TW2705)	>40dB (TW2712)
	>1640 MHz	>45 dB (TW2705)	>70dB (TW2712)
VSWR (at LNA output)		<1.5:1	
Noise Figure		≤1 dB typ. (TW2705)	3.5dB typ (TW2712)
Supply Voltage Range (over coaxial cable)		+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	

Mechanicals & Environmental

Mechanical Size	50 mm dia. x 7.8 mm H
Cable	RG174
Operating Temp. Range	-40 to +85°C
Weight	35 g
Attachment Method	Adhesive or screw mount
Environmental	RoHS 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

TW2705 – Multi-Constellation antenna,	33-2705-xx-yyyy
TW2707 – Multi-Constellation antenna	33-2707-xx-yyyy

Where xx = connector type and yyyy = cable length in mm

Please refer to the Ordering Guide (http://www.tallysman.com/orderingguide.php) for the current and complete list of available connectors.

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