The HC882 helical antenna is designed and crafted for precision positioning, covering the GPS/QZSS-L1/L2, GLONASS-G1/G2/G3, Galileo-E1/E5b, and BeiDou-B1/B2 frequency bands, including the satellite-based augmentation system (SBAS) available in the region of operation [WAAS (North America), EGNOS (Europe), MSAS (Japan), or GAGAN (India)], as well as L-band correction services.

Weighing only 42 g, the HC882 features a precision-tuned helix element that provides excellent axial ratios and operates without the requirement of a ground plane, making it ideal for a wide variety of applications, including unmanned aerial vehicles (UAVs).

The HC882 features an industry-leading low current, low-noise amplifier (LNA) that includes an integrated low-loss pre-filter to prevent harmonic interference from high-amplitude signals, such as 700 MHz band LTE and other nearby in-band cellular signals.

All Tallysman® helical antenna elements are protected by a robust military-grade IP67-compliant plastic enclosure. The enclosure’s base provides two threaded inserts for secure attachment, as well as a rubber O-ring around the outer edge to seal the antenna base and its integrated SMA connector.

Tallysman’s HC882 has passed a rigorous 30-hour vibration test procedure, consisting of five cycles of 2-hour tests per axis (x, y, z):
- Cycle 1: 1.05 Grms;
- Cycle 2: 1.20 Grms;
- Cycle 3: 1.35 Grms;
- Cycle 4: 3.67 Grms;
- Cycle 5: 3.67 Grms.

**Applications**
- Autonomous unmanned aerial vehicles (UAVs)
- Precision GNSS positioning
- Precision land survey positioning
- Mission-critical GNSS timing
- Network timing and synchronization
- Sea and land container tracking
- Fleet management and asset tracking
- Marine and avionics systems
- Law enforcement and public safety

**Features**
- Very low noise preamp: 1.6 dB typ
- Axial ratio: ≤ 0.5 dB at zenith
- LNA gain 28 dB typ. or 35 dB typ.
- Low current: 15 mA typ. or 21 mA typ.
- ESD circuit protection: 15 kV
- Invariant performance from 2.2 to 16 VDC
- IP67, REACH, and RoHS compliant

**Benefits**
- Extremely lightweight (42 g)
- Ideal for RTK and PPP surveying systems
- Excellent RH circular polarized signal reception
- Great multipath rejection
- Increased system accuracy
- Excellent signal-to-noise ratio
- Industrial temperature range
- Rugged design, ideal for harsh environments

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**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)

**Contact us:**
info@tallysman.com
T: +1 613 591-3131
**HC882 Dual-band Helical Antenna + L-band**

**Frequency Coverage:** GNSS/QZSS-L1/L2, GLONASS-G1/G2/G3, Galileo-E1/E5b, BeiDou-B1/B2 + L-band correction services

### Antenna

**Technology**
- Triple-frequency, RHCP quadrifilar Helix

<table>
<thead>
<tr>
<th>Gain</th>
<th>Axial Ratio</th>
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<tbody>
<tr>
<td><strong>GNSS</strong></td>
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<tr>
<td>GPS / QZSS</td>
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<tr>
<td>L1</td>
<td>2.5</td>
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<tr>
<td>L2</td>
<td>2.7</td>
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<tr>
<td>L5</td>
<td>-</td>
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<tr>
<td><strong>GLONASS</strong></td>
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<tr>
<td>G1</td>
<td>1.5</td>
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<tr>
<td>G2</td>
<td>2.0</td>
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<tr>
<td>G3</td>
<td>1.0</td>
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<tr>
<td><strong>Galileo</strong></td>
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<tr>
<td>E1</td>
<td>2.5</td>
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<tr>
<td>E5a</td>
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<td>E5b</td>
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<td>E6</td>
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<td><strong>BeiDou</strong></td>
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<td>B1</td>
<td>2.5</td>
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<td>B2</td>
<td>1.1</td>
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<td>B2a</td>
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<tr>
<td>B3</td>
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<td><strong>IRNSS / NavIC</strong></td>
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<td>L5</td>
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<tr>
<td><strong>QZSS</strong></td>
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<tr>
<td>L6</td>
<td>-</td>
</tr>
<tr>
<td><strong>L-band correction services</strong></td>
<td>1.5</td>
</tr>
</tbody>
</table>

### Satellite Communications

- **Iridium**
- **Globalstar**

### Phase Centre

- Phase Centre Variation (PCV) ± 3.0 mm (all freq.)
- Phase Centre Offset (PCO) 34 mm @ L1 | 38 mm @ L2/E5b

### Mechanical Diagram

**Mechanicals**
- **Mechanical Size** 44.2 mm (dia.) x 62.4 mm (h.)
- **Weight** 42 g
- **Available Connectors** SMA
- **Radome / Enclosure** Radome and Base: EXL9330
- **Mount** 3 M2.5 screws

### Environmental

- **Operating Temperature** -40 °C to +85 °C
- **Storage Temperature** -50 °C to +95 °C
- **Random Vibration** MIL-STD-810E - Test method 514.5
- **Shock and Drop** -
- **Salt Fog** -
- **IP Rating (housing)** IP67
- **Compliance** IPC-A-610, FCC, RED / CE Mark, RoHS, REACH

### Ordering Information

**Part Number** 33-HC882-xx

Please refer to our [Ordering Guide](https://www.tallysman.com/resource/tallysman-ordering-guide/) to review available radomes and connectors at:

**Warranty:**
- **Parts and Labour** 3-year standard warranty

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