



Choke Ring Antenna

OVERVIEW

The Thales Choke Ring Antenna retains the original International GPS Service (IGS) design and is thus fully compliant with the requirements for IGS permanent stations. The choke ring is machined from a single billet of 6061-T6 aluminum. The choke ring includes a Dorne & Margolin C146-10 vertical dipole element. The Choke Ring Antenna provides proven technology and reliability and is the standard for high-end reference applications.

PROVEN DESIGN

The Thales Choke Ring is a proven design and is used in dozens of high-end networks around the world. These networks include the IGS, Southern California Integrated GPS Network (S.C.I.G.N.), the Ordnance Survey in the United Kingdom and the China State Seismological Bureau (CSSB). The antenna consists of a ground plate with five concentric ring structures, a Dorne & Margolin C146-10 dipole element and a proprietary low-noise amplifier (LNA). The choke ring design significantly mitigates multipath by attenuating reflected GPS signals, thereby improving the quality of the GPS observables.

THALES LNA AND DORNE & MARGOLIN ELEMENT

The patented Thales pre-filtered low-noise amplifier (LNA) exhibits superior low-noise performance. U.S. Patent #5,347,546 covers the method for obtaining low losses and frequency selectivity at the same time. It operates over a 5 to 15 volt DC antenna supply, and includes RF filtering for excellent out-of-band interference rejection.



GPS INDUSTRY LEADER

Thales reference station products continue to raise the industry standard for high-precision continuous operation. The Choke Ring Antenna provides great value to our customers, combining the field-tested IGS design with advanced GPS choke ring technology at an affordable price.

CHOKE RING ANTENNA

TECHNICAL SPECIFICATIONS

Standard Features

Billet Forged Choke Ring Antenna

- Billet aluminum construction, machined from a single piece of 6061-T6 aluminum
- Accepted IGS design
- Dorne & Margolin C146-10 element
- Conductive gaskets for antenna stability in humid conditions
- North marker for back-sighting alignment
- Gold alodine anti-oxidation coating
- Proprietary Thales low-noise amplifier (LNA), 5 to 15 volt operation

Options

Billet Forged Choke Ring Antenna

- Available Radomes
 - Thales conical snow dome
 - SCIGN short hemispherical radome
- Carrying bag
- Line amplifier
- Low-loss antenna cable

Thales Choke Ring Antenna Specifications

Temperature

- Operating -55°C to $+65^{\circ}\text{C}$
- Storage -55°C to $+75^{\circ}\text{C}$

Humidity

- 100%

Frequency

- L1 1575.42 ± 10.23 MHz
- L1 1227.60 ± 10.23 MHz

Polarization

- RHCP

Antenna Gain

- +5dBIC @ ZENITH
- 4dBIC @ 5° ELEVATION

DC Power

- 5-15V, 45mA TYP

LNA Gain L1

- 38dB \pm 3dB

LNA Gain L2

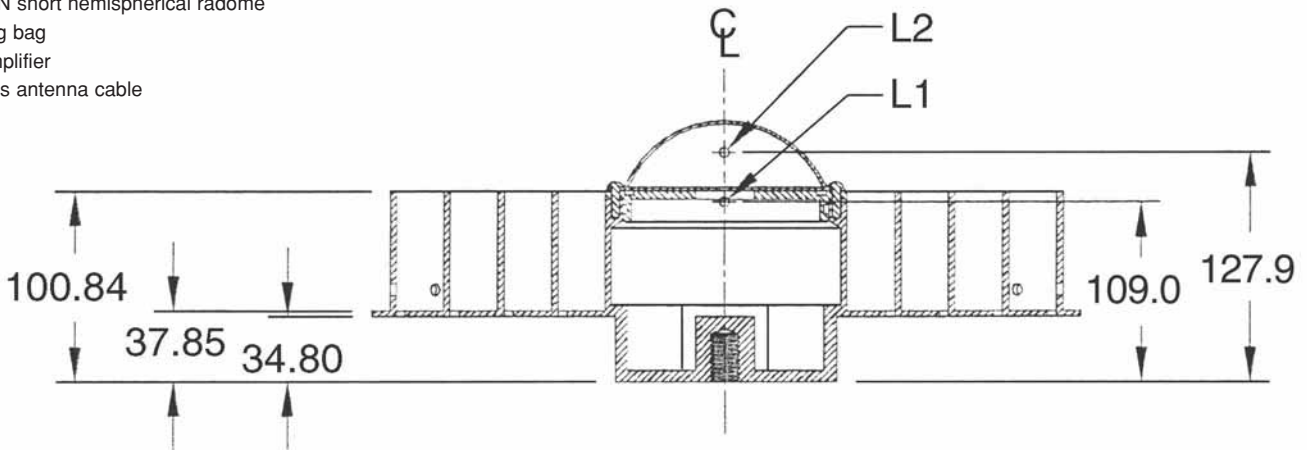
- 39dB \pm 3dB

Output

- 50 OHM, TYPE N

Weight

- 4.7 kg (10.5 lbs)



The Thales Choke Ring is IGS compliant and provides superior multipath rejection. (Dimensions are in millimeters).



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THALES

Thales follows a policy of continuous product improvement; specifications and descriptions are thus subject to change without notice. Please contact Thales for the latest product information.

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