



## TECHNOLOGY DESCRIPTION

High-performance passive GNSS antenna for in-orbit positioning of space vehicles (CubeSats, LEO-Sats). The antenna is designed to receive all GNSS signals in L-band and enables robust positioning and timing. It consists of a number of lightweight self-supporting sheet metal parts and a thin two-sided printed circuit board.

The dimensions are in accordance with the antenna specifications for all CubeSat sizes including 1U (max. 100 × 83 × 10 mm³). The mass is only 20 g.



## INNOVATIVE ASPECTS

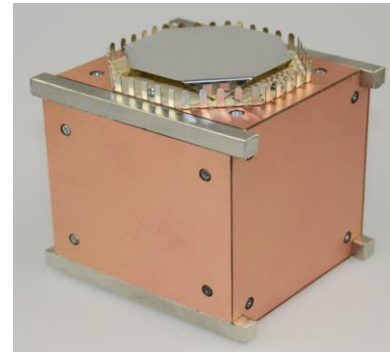
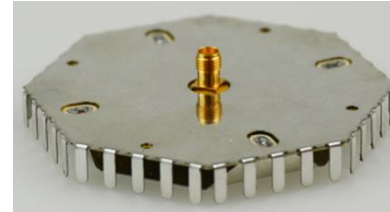
The Cube/LEO-Sat GNSS antenna was the first high performance, low mass antenna specially designed according to the CubeSat standards. The antenna received the Best Innovation Award at the 38th ESA Antenna Workshop. The Cube/LEO-Sat GNSS antenna is available as Elegant Bread Board (EBB = Prototype, TRL 4) and will undergo certification for space applications soon. Key performance parameters of the Cube/LEO Sat antenna:

- Passband: 1160–1300 MHz and 1525–1610 MHz
- Passive zenith gain: L1, E1, G1 (1.52–1.61 GHz): > 1.5 dBic  
L5, L2, E6 (1.16–1.30 GHz): > 0 dBic
- Internal diameter (octagon-shaped): 82 mm
- Height (w/o SMA) : 9.5 mm



## TECHNOLOGY READINESS (in space application)

TRL 4 (06/2024); TRL 8 (expected by 12/2024)



COUNTRY OF ORIGIN

Germany

LATEST UPDATE

06/2024

TAGS #communication #GNSS #antenna #lightweight #passive #CubeSat

## APPLICATION AREAS

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TECH CARD

