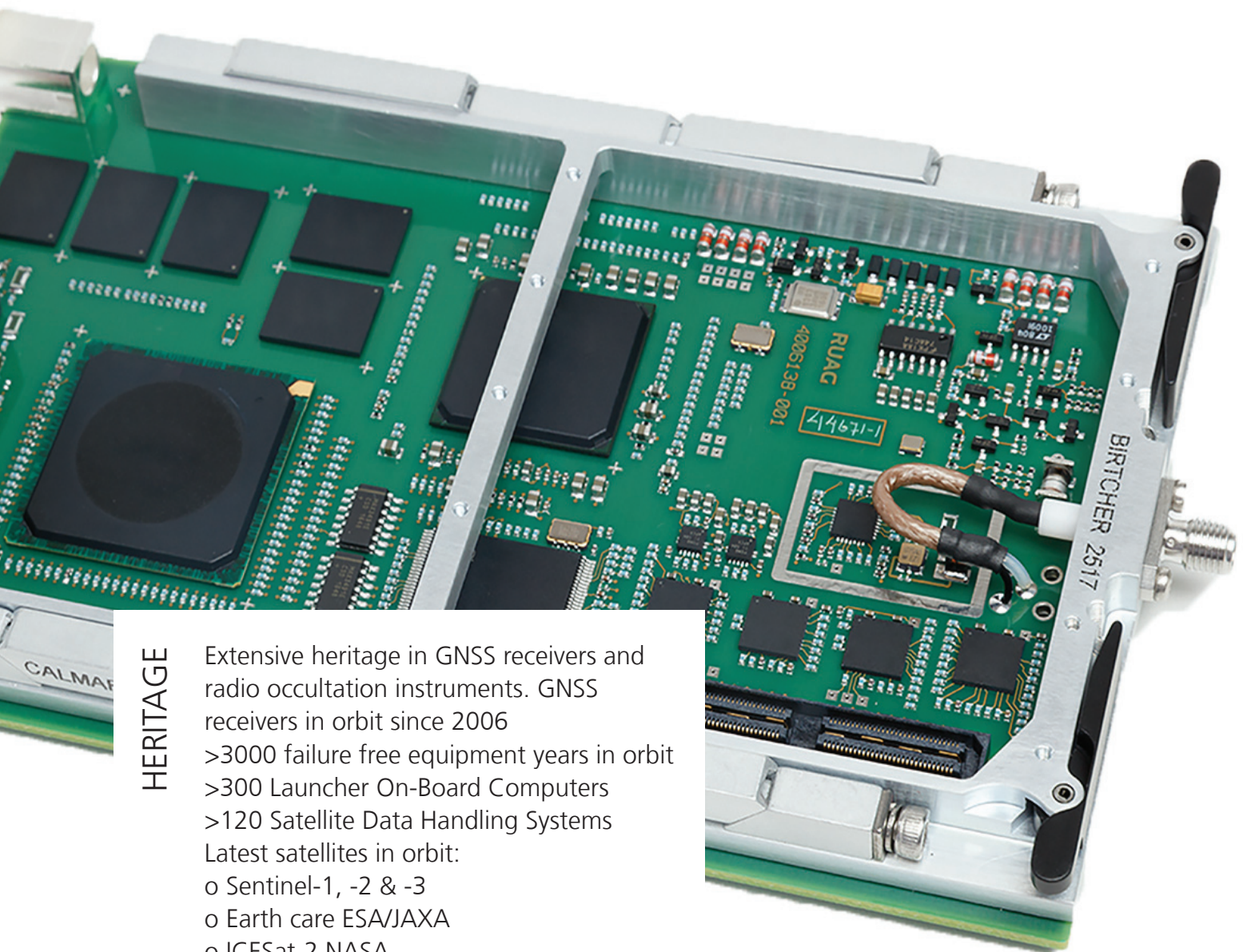


Constellation GNSS Receiver

The Constellation GNSS receiver is one of the high quality products that offer a cost effective solution for applications deployed in larger quantities. The receiver use GPS and Galileo signals to calculate the position of the spacecraft within 3.5 meter 3D. The receiver performs fast acquisition providing a navigation solution within 4½ minute after power on autonomously without guidance and within 60s after a warm start.



HERITAGE

Extensive heritage in GNSS receivers and radio occultation instruments. GNSS receivers in orbit since 2006
>3000 failure free equipment years in orbit
>300 Launcher On-Board Computers
>120 Satellite Data Handling Systems
Latest satellites in orbit:
o Sentinel-1, -2 & -3
o Earth care ESA/JAXA
o ICESat-2 NASA

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**Together
ahead. RUAG**

KEY FEATURES

- Multiconstellation single frequency receiver optimized for low earth orbit.
- Tracks signals from GPS L1 and Galileo E1 and provides position, velocity and time.
- No configuration needed.
- Possible to use with and without external LNA
- 1-3 Antenna inputs

INTERFACES

SMA connector

- GNSS RF Interface

VPX connector including

- +5V power supplySpaceWire interface
- CAN interface
- UART RS422 interface
- PPS RS422 output

Data Products

- Navigation solution based on GPS & Galileo Constellations
 - Position
 - Velocity
 - Time
- Navigation solution update rate 1Hz or 10Hz.
- PPS output synchronized with GPS/Galileo second
- Support Data
 - Tracking State

Specification

- Better than 3.5m RMS accuracy
- Better than 0.1 m/s RMS 3D velocity accuracy
- PPS Time error < 1 μ s RMS
- Time to first fix:
 - 60 s warm start
 - 4½ min cold start
- Communication: UART, SpaceWire or CAN
- PPS output
- Powered by a single +5V supply

Options

- RUAG can provide customized solutions for different card sizes and standards.
- Supply for external LNA
- LNA
- Antenna

Environment

- Temperature -20 to +65 °C
- Vibration Level 0.1 g²/Hz in the range 20-2000Hz
- Shock Level 1400g @ 2000Hz
- All memories with error correction codes
- Sustains total dose up to 10 years in low earth orbit

Budgets

Form factor	3U 100 x 160 mm
Power consumption	< 10 W (+5V)
Mass	225 g incl. frame

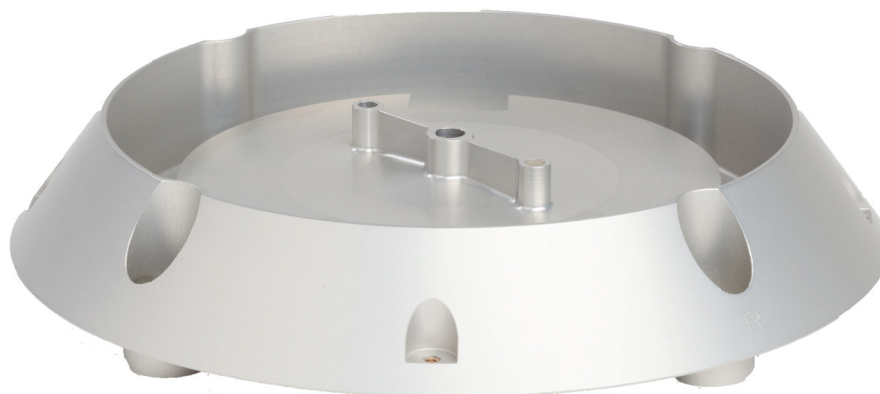


Photo of passive antenna