

SPACE

GNSS Receiver for Space Applications

Next generation GNSS receiver for space applications designed to meet the demanding needs of modern missions

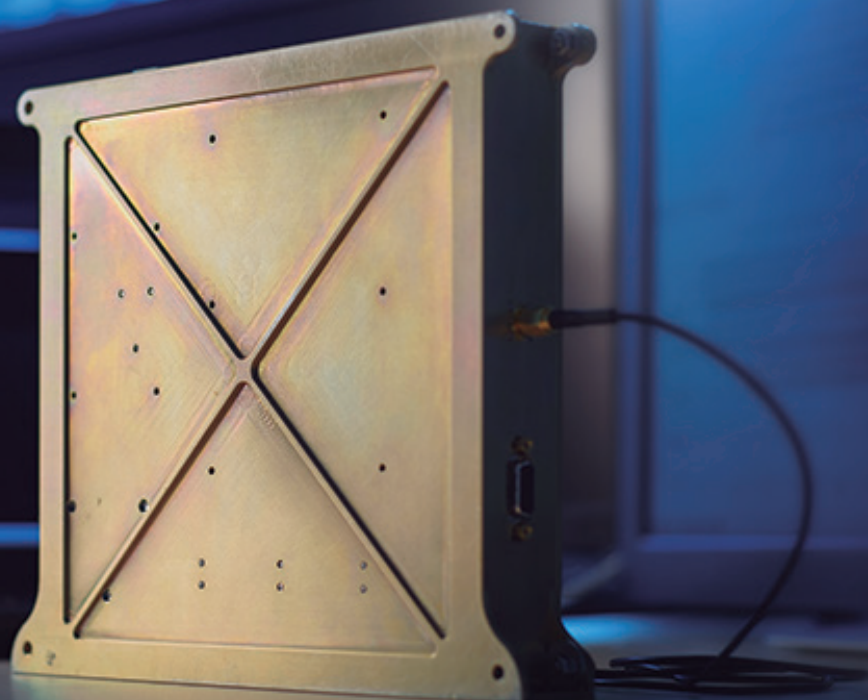
What is *Sextans GMV* ?

Sextans GMV is a software defined GNSS receiver which provides accurate position, navigation and timing information to support multiple spaceborne applications. Typical platforms include microsattellites and microlaunchers. *Sextans GMV* is multi-constellation and multi-frequency.

Sextans GMV has been engineered to provide a flexible, configurable, extendible capability for spaceborne missions. The product has been developed to meet the needs of providing position, navigation and timing for missions covering earth observations, telecommunications/IoT, navigation, science and exploration. It is suitable for use onboard cubesats, microsattellites or micro-launchers, whether individual satellites, multiple satellites or mega constellations. *Sextans GMV* can be configured to meet your mission needs.

For further information:

If you have an application for *Sextans GMV* and would like more information or to discuss your requirements, please contact the team: sextans@gmv.com



How does **Sextans GMV** work?

Sextans GMV can be deployed standalone or readily integrated into an existing OBC (depending on the processor power).

The modular architecture and RTEMS 5.0 operating system allows the **Sextans GMV** for Symmetric/ Asymmetric multiprocessing on a range of HW architectures. The flexibility of the **Sextans GMV** Receiver enables it to be customised to operate on a single processing core, or in parallel with other applications (e.g. guidance, navigation and control algorithms) on a multi-core processor.



Main features

- Dual constellation.
- Providing standalone precise navigation in-flight.
- Adaptability to different HW platforms.
- Configurability for different space mission requirements.
- Wide range of interfaces (HW and SW).
- Multiple navigation modes (LSQ, EKF).

Product roadmap

- Dual Frequency Receiver.
- PPS & Timing functionality.
- Reusable launchers applications.

Data sheet

| | |
|------------------------|--|
| Type | Software Defined Radio GNSS Receiver |
| Communication | - UART (RS-422) - PUS |
| Supported bands | - GPS L1 / Galileo E1 |
| Platforms | - Zynq 7030 |
| Performance | - 10 m and 0.25 m/s in LSQ (single frequency mode) - Option of improving performance in Hybrid EKF mode (single frequency + IMU) |
| Acquisition / Tracking | - 5 min TTFF in cold start / 2 min TTFF in warm start - ACQ sensitivity of 40 dBHz in frequency domain and 28 dBHz in time domain - TCK sensitivity of 28 dBHz - Up to 40 channels (single frequency) |
| Applications | - Microlaunchers |
| Navigation modes | - Least Square - Hybrid Kalman Filter (optional) |
| Outputs (1-10 Hz) | - PVT - PPS - Raw Measurements: Pseudoranges, Dopplers, Carrier Phases - Tracking outputs: Correlation IQ, Code and Phase errors - Processing status - Almanacs / Ephemerides |
| Mass | 600 g |
| Volume | 155 x 76 x 54 mm ³ |
| Power Input | 15 - 50 V (DC) < 8 W |

Sextans GMV is a modular system that allows the customer to:

- Configure its functionality and performance in-flight.
- Adapt to specific processors and processing budgets.
- Offers ease of SW upgrade including the core functions.
- Provides flexible interfaces with external hardware.

