**Main features**

- Real-time signal processing for both acquisition and tracking
- Real-time raw measurement generation (pseudo range, Doppler, carrier phase and C/N0)
- Real-time position, velocity and time determination
- Supports multiple front-ends connected to a common clock reference for multi-antenna processing
- RTK ready with CP (L1 -> short baselines)
- Multi-antenna ready for attitude determination
- Fast-reacquisition for maximization of availability in urban applications

**Supported systems**

- GPS, GLONASS and GALILEO, all-in-view L1

**Supported augmentations**

- SBAS augmentation according to RTCA/DO-229D

**Supported CPUs**

- Intel Pentium
- Intel Atom
- Low-cost embedded (ARM, PXA,...)

**Navigation update rate**

Configurable 10 Hz to 0.1Hz

**Time to First Fix @ -130 dBm**

- Cold start: <1 min
- Assisted start (with extended ephemeris): < 6 sec
- Hot Start: < 1 sec

**Accuracy**

< 3 m (95%) in open sky, unaugmented

**Outputs:**

- Position, velocity and time in NMEA format (LS and Kalman)
- Raw measurements and ephemeris in RINEX format

**Supported operating systems (host computer):**

- Windows
- Linux

**CHECK ALSO**

srx-10 info website:
http://www.gmv.com/en/Products/srx-10/

**CONTACT**

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For more info:
http://www.gmv.com/en/Products/srx-10/
WHAT IS srx-10?
The srx-10 is a hosted software defined GPS/GLONASS/GALILEO/ SBAS receiver fully developed by GMV.

As a fully hosted solution, a general purpose CPU can host all software defined receiver functions, even signal acquisition and tracking, with the only requirement of adding on a low cost RF front-end.

In order to target mass-market applications the software receiver is optimized to run on low cost CPU platforms such as ARM, PXA, etc.

BENEFITS
GMV’s product aims to offer GPS/GLONASS/GALILEO reception and SBAS augmentation with almost zero marginal production costs. User devices for personnel location and telematics applications will therefore be able to slash their BOM cost compared to conventional hardware receivers or partially hosted hardware receivers.

Other benefits offered by GMV's software receiver are its enormous flexibility and upgradeability. Since it is a fully hosted solution, there is no need to change any HW; this makes it much easier to phase in new features and market receiver customizations. In the case of automotive OEMs this feature will allow remote in-factory upgrading of telematics devices to include the latest available GNSS services.

The extensive test campaigns carried out with low cost CPUs in urban and non-urban scenarios are providing performances very similar to those offered by conventional world class mass-market GPS receivers.

Due to its flexibility and modular design, the srx-10 is also an ideal engineering tool to prototype and test innovative signal processing techniques and perform engineering trade-offs among different options. The srx-10 is currently being extensively used as R&D platform in a number of GNSS studies for ESA and the European Commission.

FRONT-END
The srx-10 front-end HW has been fully developed by GMV. It is connected to the host processor through a USB port that allows real-time communication.

The srx-10 allows the user to configure many front-end parameters. In particular, RF bandwidth and sampling frequency can be configured, which allows adapting the front-end to the computational capabilities of the host processor and to the specific application.

External clock connectivity is allowed in order to use several front-ends with common shared clock, which can be very useful for multiple antenna applications.

PERFORMANCE
srx-10 has been validated through exhaustive experimental campaigns in most-demanding urban scenarios, in order to test the receiver capabilities in terms of navigation continuity and resistance against the main expected threats, namely: poor visibility and strong multipath (LoS and, mainly, NLoS).

The following figure shows the percentile curve of the estimated horizontal positioning error in a typical deep urban environment:

Following is an example of positioning error (millimetric accuracy) of srx-10 working in RTK Carrier-Phase Relative mode. Being L1 only, this mode is compatible with short baselines.

srx-10 is integrated with GMV’s patented IBPL and KIPL unique integrity algorithms, able to provide optimum, state-of-the-art, protection levels in hardest urban conditions, enabling reliable road-charging applications. Figure below shows an example of Protection Levels (computed to satisfy a target integrity risk of 1E-4) based on srx-10 and KIPL during an extensive campaign at London City Center.