Product summary

AssistNow

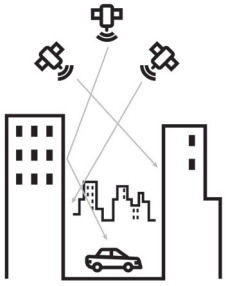
Assisted GNSS (A-GNSS) service

Achieve premium performance in challenging IoT environments

- Shortest time-to-first-fix in urban canyons or under other weak GNSS signal conditions
- Maximum fix probability in adverse or challenging environments
- Minimize power consumption by 90% to get a first position fix
- Free basic package and optional add-on for best position accuracy
- Simplified testing and design with u-center 2 software and evaluation kits

The challenges of GNSS

GNSS users expect instant position information. With standard positioning this is often not possible because at least four satellites must be identified, and their complete live orbital position data (called Ephemeris) received. Under adverse signal conditions, like in urban canyons or when signal is weak, the receiver can take several minutes or even fail to download orbital data from satellites, resulting in a negative impact on the device energy budget.



To cost-effectively fulfill their mission, energy constrained applications such as battery operated IoT devices need to last months or even years in the field. Lengthy or repeated attempts at data download can quickly drain power and affect operations.

Assisted GNSS (A-GNSS) accelerates position calculations by delivering satellite orbital data such as ephemeris, almanac, accurate time, and satellite status to the GNSS receiver via wireless networks or the Internet. This aiding data enables a GNSS receiver to compute a position within seconds, even under poor signal conditions. A-GNSS provides faster Time-To-First-Fix, improved accuracy and position availability, benefits that directly translate to lower power consumption and larger power autonomy.

Shortest time-to-first-fix (TTFF)

TTFF is a very important key performance indicator when designing IoT devices, because it directly affects business robustness. The ability to locate your asset almost immediately in the most critical environments, even with limited sky visibility, provides unprecedented reliability for your application. AssistNow presents a groundbreaking improvement for challenging designs that may not receive optimal GNSS signals due to their compact design or suboptimal device positioning.

Maximize position fix probability

Assets, cars, people, and pets continuously move across different areas. At the same time, GNSS users expect to always have a reliable location. Typically, when a car exits an underground parking area or a person / pet leaves home for a walk, the surrounding environment is often densely populated with buildings, trees and other obstacles that disrupt GNSS signals, causing unstable reception. AssistNow maximizes the probability of a GNSS fix, even in the most challenging conditions, ensuring user expections are fulfilled.

Minimize energy drain

For battery operated devices, energy consumption is a key driver of business efficiency. Most battery-operated IoT devices stay in the field for several years without the option of battery replacement, due to logistical and operational cost constraints. AssistNow keeps GNSS energy drain under control, removes the need for extra battery capacity and extends device lifetime.

Always get the best position accuracy

The trade-off between position accuracy and energy consumption is a complex challenge, as it directly impacts both cost and device longevity. By waiting longer, the GNSS receiver might achieve better accuracy, but the device also consumes more energy, which affects device lifetime and business sustainability. There are also applications where the target accuracy must be achieved very rapidly. With AssistNow, you can easily strike the right balance by selecting the free-of-charge Predictive Orbits option or the premium Live Orbits option for best position accuracy.

Easy testing with u-center 2

Testing and evaluating GNSS performance has never been easier. The u-center 2 software, which runs on Microsoft Windows, raises the benchmark for GNSS performance evaluation tools, providing:

- Quick GNSS product configuration
- Easy and intuitive AssistNow service configuration
- Evaluate performance with and without AssistNow to immediately appreciate the benefit in all scenarios
- https://www.u-blox.com/u-center-2

AssistNow

Assisted GNSS (A-GNSS) service

AssistNow Price Plans

We provide easy-to-deploy solutions with flexible pricing models that increase positioning performance.

	Free	Paid
Predictive Orbits		
Almanac	•	•
Orbit prediction	•	•
Live Orbits		
Date and time		•
Ephemeris		•
Klobuchar ionospheric corrections		•
Satellite health state		•
Benefits		
Time-to-first-fix (TTFF)	•	• •
Position accuracy	•	• •
Power Consumption	•	• •

• Good • • Best

AssistNow Predictive Orbits

Supports GPS, Galileo, GLONASS, and BeiDou

With AssistNow Predictive Orbits, users download u-blox's orbit prediction data and almanac of the GNSS satellites from the Internet at their convenience using HTTPS protocol. The data can either be stored in the GNSS receiver's Flash EPROM (if available) or in the memory of the application processor.

- Minimize the battery consumption by reducing the time to position fix by up to 90%
- Get a reliable position fix even with weak signal or partial sky visibility

AssistNow Live Orbits

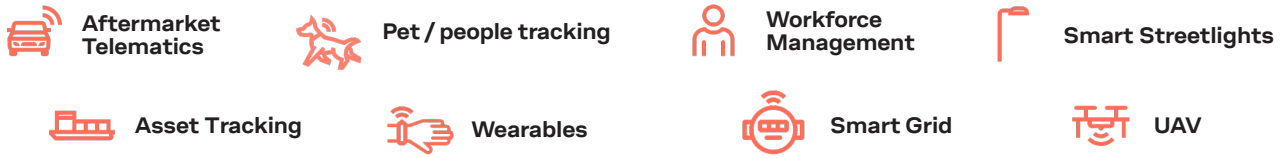
Supports GPS, Galileo, GLONASS, BeiDou and QZSS

With AssistNow Live Orbits, an internet-connected device downloads GNSS assistance data every 2-4 hours. The service works on all standard mobile communication networks and no special arrangements with mobile network operators are needed.

- Improves the time to position fix by more than 95%
- Improves position accuracy for the most demanding IoT application, even with weak GNSS signal

Assisted GNSS applications

A-GNSS is critical for applications like asset tracking, aftermarket telematics, people and pet tracking, along with many other industrial use cases, where fast, reliable, and power-efficient location fixes are essential – even in challenging environments or under low connectivity conditions.



AssistNow Specification

	Predictive Orbits	Live Orbits
Data validity	up to 14 days	2-4 hrs
Data size	~ 3-135 KB/s	~ 1-4 KB/s
Time-to-First-Fix	~10s	~2s

Useful links

Web Page	**www.u-blox.com/product/assistnow**
Thingstream platform	**portal.thingstream.io/register**

u-blox products supporting AssistNow

All GNSS receivers built on u-blox 9 and 10 platform support AssistNow.

Further information

For contact information, see **www.u-blox.com/contact-u-blox**.

For more details, see **https://developer.thingstream.io/guides/location-services/assistnow**

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