Qualcomm Dragonwing

Pinpoint accuracy, real-time guidance. Positioning that works virtually anywhere.

Global location solutions with Qualcomm® Terrestrial Positioning Service (TPS)

In environments where positioning accuracy and precision are critical, the absence of geolocation and navigation capabilities can lead to delayed responses, misplaced assets, and operational gaps. GNSS systems like GPS can fall short in certain environments such as warehouses, factories, retail stores, and hospitals due to signal interference and structural complexity. Also in dense urban areas, multipath errors can occur, and in rural areas signal obstructions can make satellite-based positioning unreliable. That's why hybrid systems using multiple alternative signal types, such as Wi-Fi and cellular, are essential for accurate navigation and precise positioning in the most challenging signal environments.

Qualcomm® Location-based Guidance Solutions

Our location-based guidance solutions deliver superior location data, addressing critical challenges across various industries. Powered by Qualcomm TPS, this solution delivers fast and context-aware location intelligence using Wi-Fi, cellular, IP, and Bluetooth® Low Energy (BLE) signals, including ESLs.

Qualcomm TPS uses a hybrid positioning approach and are pre-integrated across the Qualcomm® processor portfolio, while remaining easy to deploy on third-party hardware through lightweight SDKs and APIs. This enables enterprise applications across industries, including retail, warehousing, hospitals, and manufacturing, among others, to gain operational visibility into asset and personnel whereabouts. The system can use individual signal types, or an intelligent blend of several signals based on the environment. A survey tool is also available that further enhances indoor accuracy by mapping environments using access point data. This reduces deployment costs by leveraging existing network infrastructure.

Benefits

- **Superior Global Location:** Get superior location data globally in a range of environments and areas where GPS signals are challenged, and when devices are underground or offline
- **Power-efficient Performance:** Designed to conserve energy, this solution supports continuous or on-demand tracking without draining device batteries
- **Flexible Integration:** Deploys easily on Qualcomm Technologies' or third-party SoCs via SDKs, APIs, Qualcomm® modules, and pre-built devices like the Qualcomm Aware Tracker and Qualcomm Aware Thin Tracker
- **Works Without a Live Connection:** Even offline, it can determine location using smart caching and token-based methods
- **Geofence Triggers:** Enable devices to automatically report location when they arrive or depart, and automatically shut off or turn on depending on the physical location, as they move across geofenced areas, helping maintain privacy and deliver powerful context-based alerts

Use Cases

- **Public Safety Devices:** Use positioning information to understand the location of first responders to help optimize staffing resources, response times, and validate location of where devices were used
- **Supply Chain and Logistics:** Use non-terrestrial networks to track vehicle fleets and assets throughout their journey, including through the last mile, to ensure visibility through the entire supply chain. Indoor-outdoor asset tracking with visibility into temperature, movement, and handling
- **Personal Safety:** Real-time tracking for kids' wearables, emergency devices, pet trackers, and offender monitoring

Powered by Qualcomm® Technology

At the core of these solutions are our cutting-edge silicon platforms, geolocation services, and intelligent software frameworks:

- **Qualcomm Dragonwing™ Products:** A family of low-power, high-performance processors designed specifically for powerful and energy-efficient computing, and edge AI processing in embedded and industrial environments
- **Qualcomm TPS:** Industry-leading, power-efficient indoor/outdoor positioning and obsevability using global Wi-Fi, cellular, IP, and BLE signals, without the need for GPS. Flexible integration options through SDKs and RESTful APIs

Reimagine What's Possible with Location-based Guidance

Bring precision, visibility, and real-time awareness to people, places, and assets with intelligent location services.

Get in touch to learn more and get started

Qualcomm Dragonwing

To learn more visit: qualcomm.com/products/internet-of-things/iot-solutions