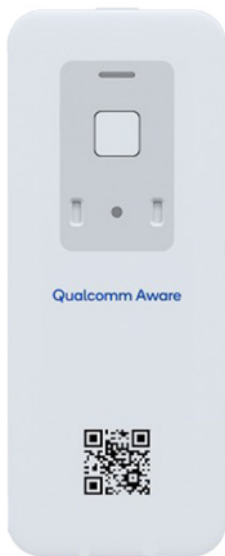# Qualcomm® QTS110 Tracker

An ultra-low power global device with condition monitoring sensors and next generation indoor and outdoor location technologies for real-time asset tracking.

The Qualcomm® QTS110 Tracker is designed specifically for global multi-modal (land, sea and air) supply chain tracking needs and works with the Qualcomm Aware™ Platform—our all-in-one device-to-cloud service that comes with integrated devices, global data connectivity, device management, tracking and sensing modules, and developer-friendly cloud APIs.

Related Products

This product was built using the Qualcomm® 9205 LTE Modem, a next-generation global multi-mode, multi-band chipset to support reliable, optimized connectivity for IoT applications.

Highlights

Global device for supply chains

- Truly global device built using proven Qualcomm® MDM9205 LTE Modem
- Integrated security-rich SIM allowing worldwide connectivity over 2G, eMTC, or NBIOT
- Designed for coverage over poor-RF areas

Qualcomm Aware Cloud-integrated

- Pre-integrated with Qualcomm Aware Cloud
- Qualcomm Aware service APIs for enterprise integration, location, and service management
- Intuitive web application to change device and sensor configuration and update firmware

Ultra-low power operation

- Highly customized for extremely low-power operation during positioning, cellular communication, and sensor operation

State-of-the-art positioning support

- Multi-technology positioning solution using GNSS, cellular scan-based, and Wi-Fi scan-based
- Periodic location reporting and geofence alerts can be configured using Qualcomm Aware Cloud
- Cloud-driven configurable hierarchy of location technologies for our best location at low power
- Optionally, automated cloud-led deployment of location profiles based on journey requirements

Integrated sensors and execution framework

- Supports five sensors: temperature, humidity, pressure, light, and IMU
- Use cases include temperature monitoring and real-time excursion reporting, motion detection, anti-theft support via ALS, and fall and shock detection
- Sensor configuration management via Qualcomm Aware Cloud

Materials are subject to change without notice.
87-43678-1 Rev. G

Qualcomm QTS110 Tracker is a product of Qualcomm Technologies, Inc. and/or its subsidiaries.

QTS110 Target Applications

- Pallet Tracking
- Equipment Tracking
- Cold Chain Monitoring
- Container Shipment Tracking
- In-Transit Theft Protection
- Vaccine Transportation

Features

- One SKU with comprehensive RF bands support from 700 MHz to 2.1 GHz enable global asset tracking

- Ready-to-use global connectivity via a SIM that carries cellular operator profiles. SIM can be OTA updated

- Positioning via cellular scan relies on serving, neighbor cells measurements. Qualcomm® Terrestrial Positioning Service (TPS) with 65+ M cell sites database provides accurate location

- Integrated Wi-Fi 2.4 GHz for access point measurements. Wi-Fi measurements are cross referenced against 8+ billion AP database for precise positioning

- Suitable for indoors, urban canyons, and open sky. GNSS accuracy of <10 meters*, cellular scan-based accuracy around 100 meters*, Wi-Fi scan-based accuracy around 20 meters*

- Highly accurate sensors: Temperature sensor with 0.5^0 C** accuracy in -20^0 C to 60^0 C range, humidity sensor with 2-3% RH accuracy for ambient RH of 20-50%

- Low-power sensor processing

- Security-rich file system and boot, Qualcomm® Trusted Execution Environment (TEE) for TEE-SIM

- Up to 150 days of use with temperature measurement every 15 minutes and hourly reporting to cloud

- LEDs to indicate device, alert status

- Multitude of power optimizations such as support for 3GPP PSM feature, optimized cellular, and Wi-Fi scanning

- Cloud-configurable location and sensor parameters that offer a trade-off between performance and power

* Specified location accuracies are observed under specific set of conditions (e.g dense urban for Wi-Fi positioning)

** Tests and improvements ongoing

*** eSIM is included in initial production units

To learn more visit: aware.qualcomm.com

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Cloud Integration

- Qualcomm Aware Cloud agent on device allows device to be commissioned for customer shipment journey via the cloud.

- Via the cloud agent or dashboard, the cloud can control device level sensor, location, power, connectivity, and device management policies.

- Location, sensor telemetry data, device health data, diagnostic data, alerts sent from device to cloud are encrypted and can be unencrypted by the cloud.

- Software can be updated remotely to add new features to the device by means of a FOTA package push from the cloud.

Specifications

Dimensions	50 mm x 125 mm x 14 mm
Weight	125 g
Cellular Technology	Rel.12 EGPRS MSC33 LTE Technology: Rel.14 LTE Cat-M1, Rel.14 LTE Cat-NB2
Connectivity	Pre-provisioned for global connectivity using TEE-SIM or eSIM***
RF Bands - LTE	Low Band: B5, B8, B12, B13, B14, B18, B19, B20, B26, B27, B28, B85 Middle Band: B1, B2, B3, B4, B25, B66
RF Bands - 2G	850, 900, 1800, 1900
Location - GNSS	GPS, GLONASS, BeiDou, Galileo, QZSS with L1 band support
Location - Terrestrial	Cellular and Wi-Fi scan-based
Wi-Fi Support	2.4 GHz Wi-Fi Rx
Sensors	IMU, humidity, NIST, and ISO-17025 certified temperature sensor, pressure, ambient light
Sensor Accuracy/ Range	IMU: - ±4/±8/±16/±32g full scale Humidity: 2-3% RH accuracy for ambient RH of 20-50% Temp: +/- 0.5^0 C accuracy in -20^0 C to 60^0 C Operating Pressure: 260 hPA to 1260 hPA with 1 hPA accuracy Ambient Light: 0-66K Lux
Supported Sensing Algorithims	Periodic and excursion reporting of temperature, pressure and humidity, fall detection, shock detection, change in ambient light conditions and anti-theft algorithims Flight mode detection, motion detection, and motion state change
Battery	Lithium rechargeable battery with 2600 mAh capacity at 3.7 V
Charging	Charging cradle. 0 to 100% in 5 hours
Operating Conditions	Temperature: 20^0 C to 60^0 C Humidity: 85% RH (no condensation)
LED	LEDs indicating battery life, cloud connectivity, excursions and panic conditions
Certification	CE/UK/FCC/ISED
IP Rating	IP65

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