

Snapdragon Wear™ 1300 Platform

The Snapdragon Wear 1300 Platform is Qualcomm Technologies' next-generation single chipset Cat M1 and NB-IOT connectivity solution.

The Snapdragon Wear 1300 is purpose-built to support reliable, optimized cellular connectivity for wearable trackers targeting kids, seniors, and pets and for connected sportswatches, health/fitness wearables, and accessories.

Key features in the Snapdragon Wear 1300 platform make it ideal for small form factor wearable devices requiring low-power and wide-area connectivity.

The Snapdragon Wear 1300 Platform has multi-band, multi-mode features and is designed to support extended RF frequencies from 450MHz to 2.1GHz and more than 23 global RF bands. Its high reliability, low latency, and voice support of Rel.14 LTE Cat-M1 (eMTC), along with extended coverage and delay tolerance of Rel.14 LTE NB-2 (NB-IoT), make it a robust, cutting-edge modem technology. It also supports 2G/E-GPRS which is designed to allow for connectivity in areas where LTE IoT is not yet deployed.

Robust application and services for wearables specific use cases are supported through a variety of hardware and software components including: an ARM Cortex A7 processor, ThreadX and AliOS RTOSs, and a comprehensive set of native networking protocols.

Highlights

High level of integration

Snapdragon Wear 1300 is 50% smaller than its predecessor¹. With integrated flash, RAM, and RF front-end, it is also designed to be more cost effective.



Ultra-low power for long battery life

Snapdragon Wear 1300 reduces power consumption by up to 70% in idle mode compared to its predecessor. This power consumption reduction, along with an ultra-low system level cutoff voltage and advanced battery management features, allows Snapdragon Wear 1300 to support a wide range of batteries with extended battery life.



Integrated GNSS receiver

Snapdragon Wear 1300 uses the latest generation Qualcomm® GNSS HW Gen 9, with support for both a dedicated GNSS antenna and a cellular + GNSS shared antenna, thus providing maximum design flexibility on the end-device.



Hardware-based security-rich foundations

Snapdragon Wear 1300 features a comprehensive security-rich framework, including Qualcomm® Trusted Execution Environment (TEE). The solution is a FIPS certifiable cryptographic hardware platform and includes features for storage security and key provisioning, debug security, hardware crypto, and secure boot.



To learn more visit:

[Qualcomm.com/wearables](https://www.qualcomm.com/wearables)

Materials are subject to change without notice.
87-28739-1 Rev. A

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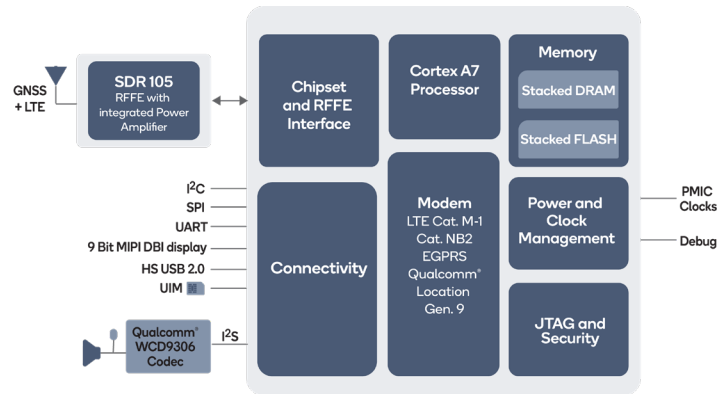
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- Range of smart trackers for pets, kids, and seniors
- Connected sportwatches, health and fitness wearables, and accessories
- Enterprise applications

Features & Specifications

- Advanced Rel.14 LTE capabilities: Cat-M1 with 2,984 max. UL TBS Rel.14, Cat-M1 VoLTE enhancements, Cat-NB2 with multi-carrier NPRACH and Paging, Cat-M1 coverage enhancements Mode A support, Cat-M1 with enhanced coverage restriction, Cat-M1 w/ HARQ-ACK bundling in HD-FDD mode, Cat-NB2 with larger TBS and 2 HARQ processes, Cat-M1 retuning to another narrowband region within 1 retuning symbol, Cat-NB2 Release Assistance Indication (RAI)
- Voice Services: LTE Cat-M1 VoLTE over IMS, GSM CS voice
- Security Features: Secure debug, Hardware-based Crypto Engine, Secure file system, Qualcomm Trusted Execution Environment, Secure Boot
- Battery thermal monitoring capability
- Integrated Cortex A7 processor supports ThreadX and AliOS Things RTOS
- One hardware design supporting eMTC/ Cat-M1, NB-IoT/Cat-NB2, E-GPRS
- One software image no matter what technology is used
- One RF: Extended frequency range support from 450MHz to 2.1GHz supporting >23 global bands
- Power optimized, QRD industrial tracker reference design, with integrated indoor and outdoor position location capabilities, and integrated drivers for various sensors
- Companion antenna tuner and reference antenna for cellular and GNSS to help address issues with global connectivity

Snapdragon Wear 1300 Block Diagram



Supported RF Bands

LTE low bands	
B5, B8, B12, B13, B14, B18, B19, B20, B26, B27, B28, B31, B71, B72, B73, B85	
LTE mid bands	EGPRS bands
B1, B25, B2, B66, B3, B4	B3, B2, B8, B5

Specifications

Dimensions	14.7mm × 15.3mm
CPU	Arm Cortex A7 CPU, up to 800 MHz
Cellular Modem	Voice Services: LTE Cat-M1 VoLTE over IMS, GSM CS voice
LTE Speed	Peak Download Speed: 588 kbps (Rel.14 Cat-M1), 127kbps (Rel.14 Cat-NB2) Peak Upload Speed: 1119 kbps (Rel.14 Cat-M1), 158.5 kbps (Rel.14 Cat-NB2)
Cellular Technology	Cellular Technology: Rel.12 EGPRS MSC33 LTE Technology: Rel.14 LTE Cat-M1, Rel.14 LTE Cat-NB2
Network Protocols	IPv4/IPv6 stack with TCP and UDP, PPP, SSL, DTSL, FTP, ping, HTTP, MQTT, OMA Lightweight M2M, CoAP
Location	GPS, GLONASS, Beidou, Galileo, QZSS
Interfaces	HS-UART (4-wire), ADC, PWM, I ² S, GPIO, SPI, USB 2.0
Electrical	Supply Voltage Range: 2.4V to 4.8V
Operating Temperatures	Maximum Temperature: 85°C Minimum Temperature: -40°C
Operating System	ThreadX OS and AliOS

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To learn more visit:

Qualcomm.com/wearables

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