# Open-Q™ 2500 Development Kit

Based on the Qualcomm® Snapdragon™ Wear SDW2500 platform

Intrinsyc's Open-Q™ 2500 Development Kit is an open frame kit using our ultra-compact (approx. 525mm2), production-ready Open-Q™ 2500 SOM, a computing module powered by Qualcomm's® Snapdragon Wear™ SDW2500 platform. The Open-Q™ 2500 SOM combines critical elements for wearable device innovation: high performance, small size, low power, integrated sensor support, and seamless connectivity. The SOM is designed to meet the needs of a range of Android based wearable devices including pet, children, and elderly trackers, high-end fitness trackers, smartwatches, connected headsets, smart eyewear, and more.

Key Features

- Qualcomm® Snapdragon™ Wear SDW2500 (APQ8009W)
- Powered by ultra-small Open-Q™ 2500 SOM
- Open-frame Mini-ITX Form-factor carrier board for evaluation and development
- Numerous I/O and connectivity options
- Optional LCD/touchscreen
- Optional camera
- Optimized Android™ for Wearables
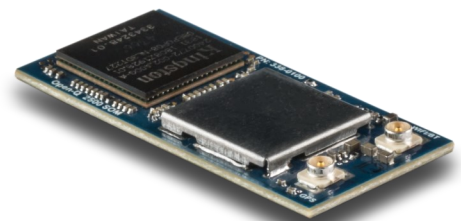
Open-Q 2500 SOM

Hardware Specifications

Open-Q 2500 SOM

*See the Open-Q 2500 SOM datasheet for complete details

Processors	Snapdragon™ Wear 2500 (APQ8009W) optimized for wearables Quad-Core ARM Cortex A7 (32-bit) at 1.094GHz
Memory/Storage	PoP memory: 1GB LPDDR3 RAM, 8GB eMMC Flash
Wireless	Wi-Fi 802.11b/g/n (WCN3620) w/ U.FL antenna connector, Bluetooth 4.x
Location Services	Gen 8C GNSS (WGR7640) with U.FL antenna connector

Open-Q 2500 Carrier Board

Display Interface	4 lane MIPI DSI interface for optional LCD/touch panel DSI interface supports up to 720p at 60fps, optimized for wearables
Camera Interface	2-lane MIPI CSI camera interface to support up to 8MP
Audio Interfaces	2x digital mics, mono I2S speaker amp with speaker terminals — on carrier board 2x I2S interfaces and DMIC inputs on audio expansion header
USB Interface	USB2 with Type-C interface for quick-charge capability
I/O Interfaces	microSD card socket, SPI, I2C, GPIO, sensor I/O on expansion headers Debug serial USB microB interface
Wireless	1x Wi-Fi/BT PCB antennas on Carrier Board
GNSS Receiver	GNSS receiver LNA/BPF and antenna connector on carrier board
Form Factor	SOM Size: 31.5mm x 15mm Carrier Board Size: 170mm x 170mm—Mini-ITX form factor with on-board mounting for optional LCD panel
Power Input	Power Input: 12V/3A from included wall adapter or single-cell Li-Ion battery (not included)

Software

OS Support	Android™ 8 for Wearables — Note that all hardware features may not be supported by SW — see latest SW release notes for details

Optional Display and Camera

Purchasing Information

Open-Q 2500 Dev Kit	Part number: QC-DB-J10003	Store Link
Open-Q 2500 SOM	Part number: QC-DB-J10004	Store Link
Open-Q LCD	Part number: QC-DB-G00005	Store Link
Open-Q 13MP Camera	Part number: 030-0181-0101_B	Store Link

Intrinsyc Product Design Services

Intrinsyc also offers comprehensive product development including hardware, software, mechanical engineering, as well as specialty services such as camera, audio, DSP, and RF development. Contact Intrinsyc to discuss your product design needs today: sales@intrinsyc.com

Development Kit includes: Carrier board, SOM, ST Micro sensor board, 12V power supply, Quick Start Guide, access to full documentation, SW updates, and basic development kit support.

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Datasheet: Open-Q 2500 Development Kit v1.1

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