

# Open-Q™ 605 Single Board Computer

## Based on the Qualcomm® QCS605 processor

Intrinsic's Open-Q™ 605 Single Board Computer is a small, production-ready, computing platform powered by Qualcomm's® QCS605 system-on-chip, their first built specifically for IoT devices. The QCS605 supports advanced computing at the edge with Qualcomm's integrated AI Engine, consisting of the powerful 8-core Kryo 300 CPU, Adreno 615 GPU, Hexagon 685 DSP, and Spectra 270 ISP. The AI Engine is supported by the Qualcomm Neural Processing SDK, for advanced on-device AI, image processing, and machine learning. Built on 10nm LPP process technology, the QCS605 is engineered for exceptional power and thermal efficiency.

With its advanced wireless connectivity, integrated location capability, advanced battery management, and comprehensive I/O expansion, the Open-Q 605 SBC is ideal for a wide range of smart, embedded, vision applications requiring advanced, low-power on-device processing.

## Key Features

- Qualcomm® Snapdragon™ QCS605 SoC
- Small (50x68 mm) production-ready SBC
- Dual-camera ready
- Wi-Fi 802.11b/g/n/ac 2x2 MIMO, Bluetooth 5.x
- GPS/Glonass/Beidou/Galileo receiver
- Numerous I/O expansion and connectivity options

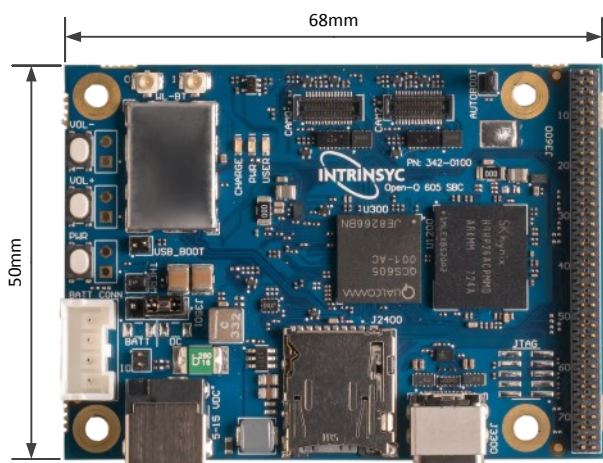
## Applications

- Wearable cam / Action cam / 360 degree cam
- Smart home / IP cam / Security cam
- Industrial machine vision camera
- Stereo-vision camera
- Retail analytics camera
- Robotics / drones



## Technical Specifications — Open-Q 605 Single Board Computer

<b>CPUs</b>	Qualcomm® Kryo™ 300 Octa-core 64-bit ARM v-8 compliant CPU built on 10nm LPP technology, with: <ul style="list-style-type: none"> <li>• Kryo Gold: Two high-performance cores up to 2.5 GHz</li> <li>• Kryo Silver: Six low-power cores up to 1.7 GHz</li> </ul> Qualcomm® Hexagon™ 685 DSP + Adreno™ 615 GPU supporting artificial intelligence and machine learning
<b>Memory/Storage</b>	Non-PoP, combo eMCP chip with 4GB LPDDR4X SDRAM and 32GB eMMC Flash storage
<b>Wireless</b>	Wi-Fi 802.11b/g/n/ac 2x2 MIMO (WCN3990) + Bluetooth 5.x, U.FL antenna connectors
<b>Location— GNSS</b>	Qualcomm® GNSS receiver (SDR660G), Integrated Qualcomm® Location Suite Gen9 VT, U.FL antenna connector
<b>Power Management</b>	Qualcomm® power management system (PM670 + PM670L) provides power, clocks, housekeeping, battery charging and fuel gauge, integrated audio codec
<b>Embedded Display</b>	4-lane MIPI DSI + I2C touch interface on flex cable connector to support optional LCD panel up to 1080p at 30fps
<b>External Display</b>	DisplayPort 1.4 via USB Type-C up to 4K at 30fps with USB data concurrency
<b>Camera Interfaces</b>	2x 4-lane MIPI CSI to micro camera module connectors 2x Qualcomm® Spectra™ 270 14-bit image signal processors
<b>Audio</b>	Integrated audio codec with speaker amp provides 2x analog mic I/Ps, 1x speaker O/P, headset I/O I2S/SLIMBus digital audio interface + 2x DMIC ports on expansion header for other audio I/O options
<b>USB Interface</b>	USB3.1 Type-C interface with DisplayPort video output and Quick-Charge capability
<b>Micro SD Card</b>	Micro SD card socket for additional, removable storage.
<b>Expansion Header</b>	76 Pin header with: Multiple SPI, I2C, UART, GPIO, and sensor I/O interfaces Digital and analog audio I/O, LED flash O/P, haptic O/P, power output rails
<b>User Interface</b>	Three buttons and three LEDs for user control and status indication
<b>Power Input</b>	5V -> 15V DC external power or single-cell Lithium Ion battery (not included), charged by USB Type-C
<b>OS Support</b>	Android™ 9 Pie
<b>Form Factor</b>	50mm x 68mm x 13mm, with four mounting holes, panel-ready power jack, μSD socket and USB Type-C
<b>Operating Temp.</b>	-25°C to +85°C Tc (based on component case temperature specifications)
<b>Certifications</b>	FCC/IC/CE pre-certified Wi-Fi/BT (planned), ROHS/REACH compliant (planned)



Development Kit includes: 605 SBC, 12V power supply, Quick Start Guide, access to full documentation, SW updates, and basic development kit support.

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### Purchasing Information

<b>Open-Q 605 SBC Dev Kit</b>	Part number: QC-DB-S00003 <a href="#">Store Link</a>
<b>Open-Q 605 SBC (board only)</b>	Part number: QC-DB-S00004 <a href="#">Store Link</a>

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