Lantronix’s Open-Q™ 212A SOM (System-On-Module) is a compact, production ready module based on the APQ8009 SoC from Qualcomm® Technologies, Inc. The SOM’s small form factor, high-end Wi-Fi/BT and extensive peripheral I/O make it ideal for devices that require cloud connectivity and edge compute capabilities. The SOM’s extensive audio features make it a perfect solution for creating next-gen smart speakers and voice controlled home hub products requiring noise cancellation, voice recognition, or other advanced audio features.

**Key Features**
- High Performance, Low Power Quad-Core ARM Cortex A7
- Pre-certified high performance Wi-Fi/BT module
- Qualcomm® Hi-Fi audio codec for multi-mic solutions
- Qualcomm® Fluence™ Pro multi-mic SW
- Multiple digital and analog audio I/O
- OpenEmbedded Yocto Linux OS

**Applications**
- Audio home hubs
- Home automation control
- Streaming audio devices
- Voice recognition
- Smart speakers

**Engineering Services:**
We provide a full solution – our unparalleled engineering expertise and product development skills deliver innovative products that are cost-effective and can jumpstart your Go-to-Market timeline.

Our business model offers turnkey product development services, or we can augment your team in specific areas of development. The choice is yours.

**Key development expertise in:**
- Camera development and tuning
- Voice control
- Machine learning
- Mechanical & RF design
- Thermal & power optimization

IoT Product Development made easy
Lantronix Open-Q™ 212A SOM

Hardware Specifications:

Open-Q™ 212A SOM

- **Processor**
  - Qualcomm® APQ8009
  - Quad-Core ARM Cortex A7 (32-bit) 1.267GHz
  - Qualcomm® Adreno™ 304 GPU
  - Qualcomm® QDSP6 DSP

- **Memory/Storage**
  - 1GB LPDDR3 RAM, 4GB eMMC Flash storage

- **Wireless**
  - Pre-certified Wi-Fi/BT module - 802.11a/b/g/n/ac, 2x2 MU-MIMO, 2.4/5GHz, Bluetooth 4.2 + BLE (QCA9379-3)
  - 3x MHF4 antenna connectors - 2 for Wi-Fi, 1 separate for BT

- **Location Services**
  - GPS, GLONASS, Compass (WGR7640) w/ U.FL antenna connector

- **Display Interface**
  - 4-lane MIPI DSI interface for LCD up to 720p with touchscreen interface

- **Camera Interface**
  - Up to 8MP over 4-lane MIPI CSI interface

- **Video**
  - 720p@30fps playback, up to 720p playback with H.264 (AVC) and H.265 (HEVC), up to 720p H.264 (AVC) capture

- **Audio Interfaces**
  - I2S interface for external audio devices
  - 2x digital mic inputs directly to processor

- **Audio Codec**
  - Qualcomm® Hi-Fi audio codec on SOM (WCD9326) with:
    - 1x headset interface
    - 4 channels of analog microphone inputs
    - 1x stereo line output
    - 4x digital mic inputs

- **Power/Battery**
  - Qualcomm power management and battery charging solution (PM8916)

- **I/O**
  - 1x USB2, multiple BLSP ports (GPIO, UART, SPI, I2C buses), debug UART

- **Operating Environment**
  - Power input: 3.6V to 4.2V
  - Operating Temperature: 0°C to +50°C

- **Form Factor**
  - Carrier board connection: 3x 100 pin board-to-board connectors
  - Size: 50mm x 46.5mm
  - Four mounting holes for secure mounting and effective thermal solutions

Software:

- **OS Support**
  - OpenEmbedded Yocto Linux for Home Hub applications with Qualcomm® Fluence™ Pro

  *Note that all hardware features are not currently supported by SW versions – see latest SW release notes for details.

Purchasing Information:

- **Open-Q™ 212A SOM**
  - PN: QC-DB-K10004D

Alternate SOM configurations available by special order (minimum order quantities apply) - e.g. different memory size, etc. Contact sales to discuss your specific needs today.

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