Aikri QCS404 Development Kit

Based on the Qualcomm® QCS404 SoC

1. **Smart Speakers**
2. **Smart Soundbars**
3. **Home Cinema**
4. **Smart Assistants**
5. **Home Hubs**

About eInfochips

eInfochips, an Arrow Electronics company, is a leading provider of digital transformation and product engineering services. eInfochips accelerates time to market for its customers with its expertise in IoT, AI/ML, security, sensors, silicon, wireless, cloud, and power. eInfochips being a Qualcomm Snapdragon Technology Partner (STP) offers turnkey product designs on multiple Snapdragon and other SoCs of Qualcomm® and have enabled global customers with Qualcomm based product designs.
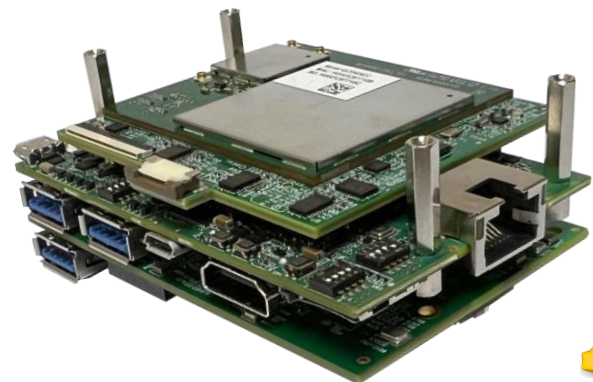
eInfochips Aikri QCS404 Dev Kit

The Aikri 404 development kit is powered by the Qualcomm® QCS404 based Aikri SoM. This SoM integrates a 64-bit Quad-core Arm Cortex-A53-1.4 GHz CPU, dual Hexagon™ QDSP6 v66, 2x2 802.11ac Wi-Fi and BT5.0 connectivity and supports a mic array, multi-speaker connection via Wi-Fi/BT, PCIe and multi-room audio streaming. The QCS404 is designed specifically for smart audio applications and supports features such as Multi-mic Noise/Echo Cancellation that isolates noisy environments from voice, simultaneous multi-keyword detection to aid voice services like Amazon Alexa and Google assistant.

The Aikri development kit helps kick-start and optimize your creation of complex, feature-rich smartaudio solutions such as Smart-speakers, Soundbars, Home cinema, Smart assistants, Home Hubs etc. within a short turnaround time.

eInfochips Advantages

- ✓ **28** Years of experience in system design
- ✓ **10** Design centers worldwide
- ✓ **500+** Product designs
- ✓ **35+** Product designs on Qualcomm
- ✓ **15M+** Product deployments across globe
- ✓ **ISO 9001, ISO13485, AS9100/EN9100, ISO26262** and **CMMi L3** compliant processes

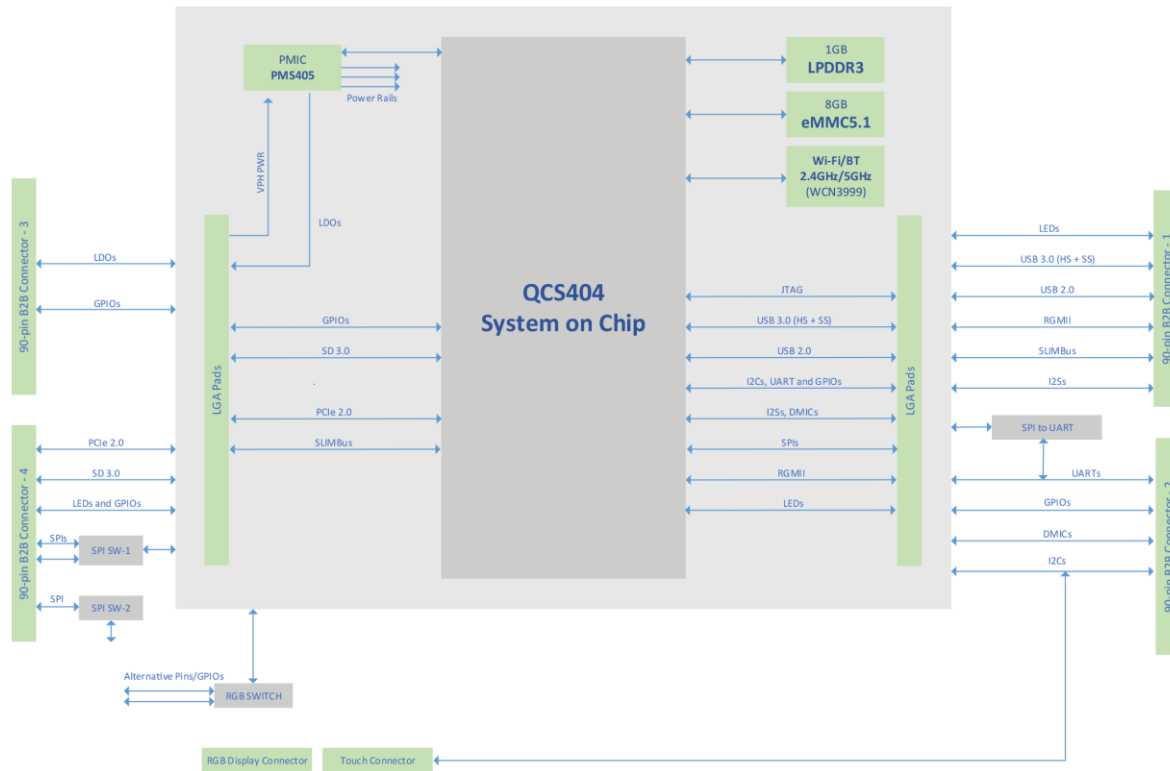## Aikri QCS404 SoM

Processors	4x Arm Cortex-A53 @ up to 1.4 GHz, dual DSPs (Audio and Compute with AI engine)
Memory	1GB LPDDR3, 8GB eMMC
Connectivity	• Qualcomm® Wi-Fi via WCN3999 WLAN 2x2 802.11ac; Bluetooth5.0 • Ethernet RGMII

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Display Interface	• SPI; Touchscreen - Capacitive panels via external IC (I2C, SPI, and interrupts)	
Sensor Interface	• 1x IMU sensor (SPI based) • Compass sensor (I2C based)	• Barometric Pressure & Temp. Sensor (I2C based)
Audio Interfaces	• 1x headset output (3.5mm headset Jack) from WCD9335 • 1x Earpiece output from WCD9335 codec • 2x Lineout from WCD9335 codec • 2x I2S Amplifier	• 5x analog MICs - can be interfaced on WCD9335 codec header. • 1x headset MIC - uses AMIC2 of WCD9335 codec. • 3x digital MICs - can be interfaced on WCD9335 codec header. • 6x Digital MICs available through PDM interfaces
I/O Interfaces	• 3x USB-C 3.0 Type-A port; 1x USB2.0 Micro-B port • 1x MicroSD Card V3.0 - 4-bit (SDC2) • GPIOs (low speed expansion connector) • High and low speed expansion headers • 1x PCIe Gen2 (Standard Mini PCIe connector) • ZigBee - Silicon Labs MGM13P02F512GA-V2	• 1x 10/100/1000 Mbps RJ45 Ethernet • 1x MicroUSB for Console • 6x User LEDs • Battery connector • 1x CAN (SPI to CAN)
Operating Environment	• Input voltage: 12V	• Operating temperature: -20 to +60° C
Mechanical Specification	• SoM: 55mm x 48mm LGA • Interposer Board: 65.42 mm X 63.12 mm with 4x 90-pin board to board connectors	• Carrier board: 85mm x 54mm, 96board CE specification dimensions with headers • Mezzanine board: 85mm x 54mm, 96board CE specification dimensions with headers
Software and OS	• Linux, Yocto Thud, Kernel 4.14	
Dev Kit Contents	• 1x Aikri-40X-4LS-1 SoM soldered on Interposer card • 1x Carrier board	• 1x Mezzanine board • 12V power adapter; USB cable
Orderable Parts	• Development kit: Aikri-40X-4LD-1	

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