Aikri QCS405 System On Module (SoM)

Based on the Qualcomm® QCS405 SoC

1. Smart Speakers
2. Smart Soundbars
3. Home Cinema
4. Smart Speakers with Display
5. Smart Assistants
6. 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 QCS405 SoM

The Aikri System on Module (SoM) is powered by Qualcomm® QCS405 processor. The QCS405 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 405 SoM integrates a 64-bit Quad-core Arm Cortex-A53-1.4 GHz CPU, dual Hexagon™ QDSP6 v66, 2x2 802.11ac DBS Wi-Fi and BT5.0 connectivity and supports a mic array, multi-speaker connection via Wi-Fi/BT, PCIe, HDMI/DSI displays and multi-room audio streaming. This production-ready SoM has a Yocto Linux BSP pre-loaded and helps manufacturers easily create voice-supported smart audio applications such as Smart speakers, Soundbars, Home cinema, Smart assistants, Home Hubs etc.

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
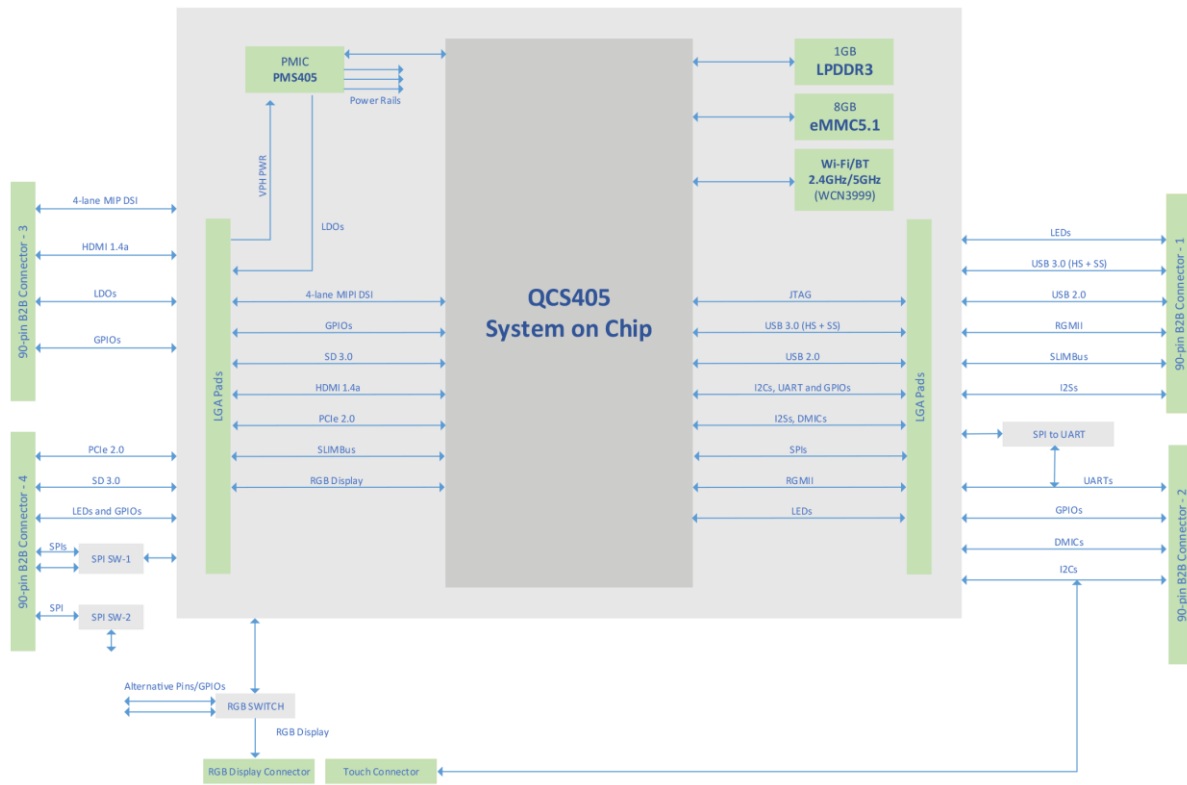- ✓ **ISO 9001, ISO13485, AS9100/EN9100, ISO26262** and **CMMi L3** compliant processes

Qualcomm

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ENRICHING LIVES THROUGH ENGINEERING EXCELLENCE

Aikri QCS405 SoM

Processors	Qualcomm® QCS405 • 64-bit customized Arm Cortex-A53 quad-core @ up to 1.4 GHz • Adreno 306 at 600 MHz • Dual Hexagon® QDSP6 v66 DSPs (Audio and Compute with AI engine)
Memory	1GB LPDDR3, 8GB eMMC
Connectivity	• Qualcomm® Wi-Fi via WCN3999 WLAN 2x2 802.11ac; Bluetooth5.0 (ufl connectors on board the SoM) • Ethernet RGMII

Display Interfaces	• 1x HDMI Port - HDMIv1.4a up to 1080p 30fps	• 1x MIPI-DSI 4 lanes
Audio	• 6x Digital MICs through PDM interfaces • 6x Channel TDM MICs • 6x analog MICs; 3 DMICs from WCD9335 audio codec. • 1x headset o/p; 1x earpiece o/p; 2x lineout; 2x stereo speakers from WCD9335	• Encode: PCM and AAC • Decode: PCM, AAC, MP3, AIFF, APE, DSF, FLAC and VORBIS

I/O Interfaces	• 1x USB-C 3.0 • GPIOs, SPIs, I2Cs, I3C, UARTs; GPIO connections to sensor core DSP

Operating Environment	• Input voltage: 3.6V	• Operating temperature: -30 to +85° 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
Software and OS	• Linux, Yocto Thud, Kernel 4.14
Orderable Parts	• System On Module (SOM): Aikri-40X-5LS-1 • Development kit: Aikri-40X-5LD-1

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