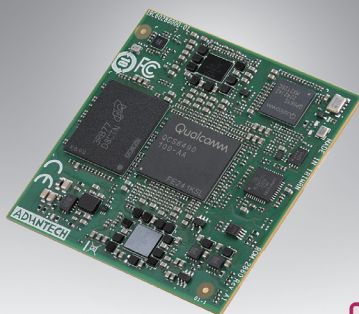


AOM-2721

Qualcomm QCS6490 OSM 1.1 Computer-on-Module



Features

- Qualcomm Arm® v8 Cortex® Gold plus up to 2.7 GHz
- 3x Arm v8 Cortex® Up to 2.4GHz
- Onboard LPDDR5 8GB, 8533MT/s memory
- 1x MIPI-DSI x4, 1x DP and 1x eDP1.4 for Displays
- 1x USB3.2 Gen1, 1x USB2.0, 3x PCIe Gen3.0 x1, 2x I2S, 2x 4wire UART, 3x SPI, 39x GPIO, 4x I2C, 2x MIPI-CSI x4
- 1x UFS, 1x eMMC and 1x 4-bit SDIO for storages
- Support Windows 11 and Ubuntu

Introduction

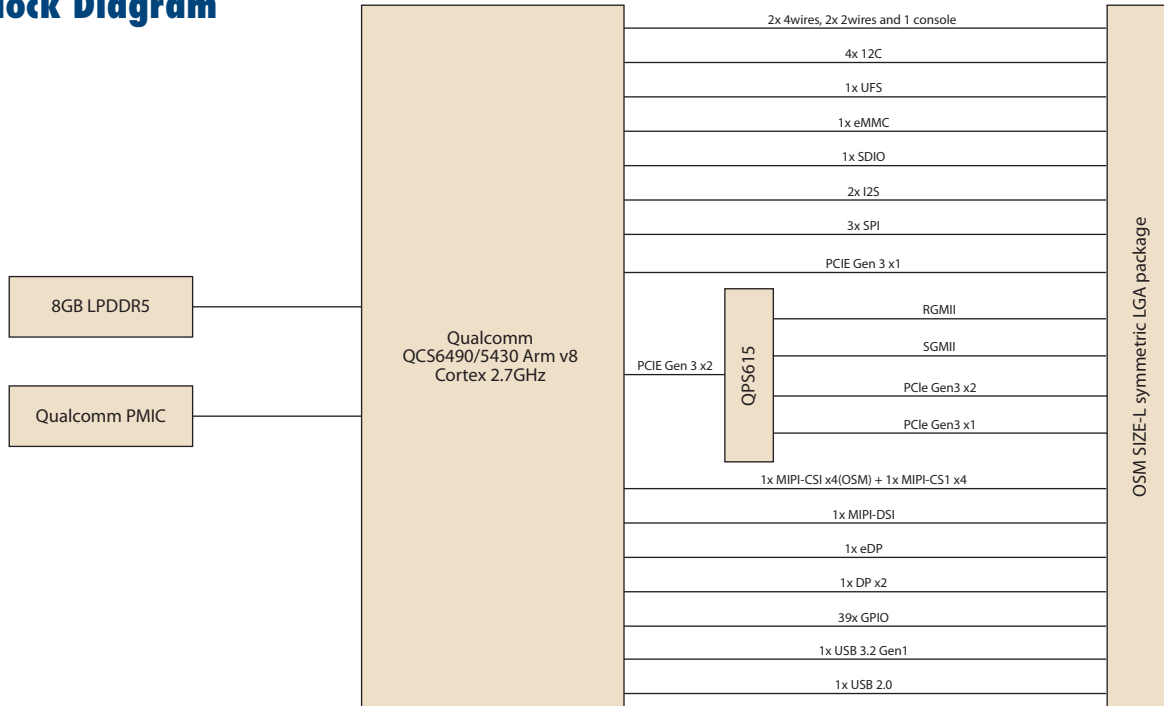
Advantech AOM-2721 OSM 1.1 Computer-on-Module is powered by Qualcomm QCS6490/5430 SoC which includes up to Arm v8 Cortex® in combination with Andreno GPU 643 and Andreno VPU 633 graphics engine. It provides PCIe, USB 3.2, Giga Ethernet, MIPI-CSI, I2C, SPI, GPIO, PWM and eDP, DP, MIPI-DSI display for embedded applications.

AOM-2721 is paired with Advantech OSM carrier board for faster end product peripheral integration and time-to-market. The reference schematics and layout checklists documentations for carrier board development will be provided along with Windows 11 and Ubuntu, test utilities, hardware design utilities and reference drivers.

Specifications

Form Factor	OSM 1.1
Processor System	CPU QCS6490 Gold plus 2.7GHz + Gold 3 cores 2.4GHz QCS5430 2x A78 2.1 GHz + 4x A55 1.8GHz
Memory	Technology LPDDR5 8533MT/s LPDDR5 3200 MT/s
	Capacity On-board 8GB
	Flash -
Graphics	LVDS/MIPI DSI 1x 4LAN MIPI-DSI: 1920x1080 @ 60Hz (Share eDP port) 1x 4LAN MIPI-DSI: 1920x1080 30Hz (Share eDP port)
	HDMI -
	eDP 1x eDP1.4: 1920x1080 @ 60Hz (Share MIPI-DSI port) 1x eDP1.4: 1920x1080 30Hz (Share MIPI-DSI port)
	DP 1x DP 2lane: 1920x1080 @ 60Hz
	Graphics Engine Andreno VPU 633 4K30 encode/Decode Andreno GPU 642L, OpenGL ES3.2/OpenCL 2.0
Ethernet	Chipset 1x RGMII and 1x SGMII
	Speed 10/100/1000 Mbps
RTC	RTC 1
Security	Qualcomm® Trusted Execution Environment (TEE) v5.3
I/O	PCIe 1 x PCIe Gen 3 x2(QPS615), 1 x PCIe Gen 3 x1(QPS615), 1 x PCIe Gen3 x1
	USB 1x USB 3.2 Gen1 1x USB2.0
	Audio 2x I²S
	SPDIF -
	SDIO 1x 4-bit for SDIO, 1x 8-bit for eMMC
	Serial Port 2x 4-wire UART, 2x 2-wire and 1 console
	SPI 3
	CAN -
	GPIO 39
	I²C 4
	Camera Input 1x 4-Lane MIPI-CSI and 1x 4-Lane MIPI-CSI (Via vender reserved pins of OSM)
	PWM -
Power	Power Supply Voltage 5V
	Power Consumption 7.58 Watts
Environment	Operating Temperature -20 ~ 70 °C with 0.7 m/s air flow
	Operating Humidity 95% @ 40° C (non-condensing)
Mechanical	Dimensions (W x D) 45 x 45 mm
Operation System	Windows On Arm 11 IoT Enterprise, Yocto and Ubuntu
Certifications	CE/FCC Class B

Block Diagram



Ordering Information

Part No.	CPU	Memory	Flash Memory	UART	LAN	USB	Display	SD	I2S	I2C	SPI	Size	Power input	Operating Temperature
AOM-2721W0-RHA1E	QCS6490	8GB	-	5	2	1 USB3.2 1 USB2.0	1x MIPI-DSI 1x eDP, 1x DP	1	2	4	3	45 x 45 mm	5V	-20 ~ 70 °C
AOM-2721W8-5430A1	QCS5430	8GB	-	5	2	1 USB3.2 1 USB2.0	1x MIPI-DSI/ eDP, 1x DP	1	2	4	3	45 x 45 mm	5V	-20 ~ 70 °C

Development Board

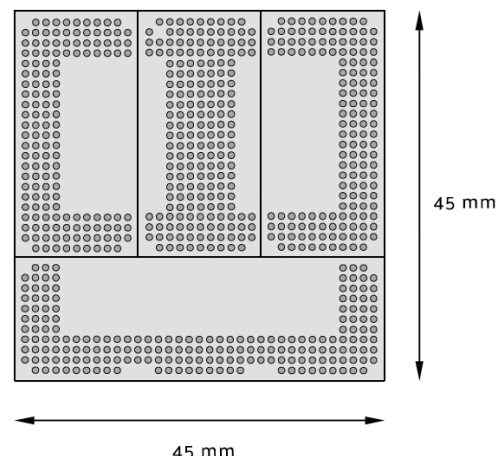
Part No.	Description
ROM-ED92	OSM Carrier Board
AOM-DK2721-FAA1E	AOM-2721 development Kits with Windows 11 IoT Enterprise

Optional Accessories

Part No.	Description
1700021565-01	Debug port cable of ROM-ED92
1970005968T001	H.S R2 Qualcomm QCS6490 11(SYS)W 59.6x45x18mm SC
96LCM-G070WV40L-A0	AUO 7" LCD, 400nits, 800x480
1700021883-01	LVDS cable of AUO 7" of ROM-ED92
1700021882-01	Back light cable of AUO 7" of ROM-ED92
96PSA-A36W12R1-3	ADAPTER 100-240V 36W 12V 3A
1700001524	Power Cord 3P UL 10A 125V 180cm
170203183C	Power Cord 3P Europe (WS-010+WS-083) 183cm
1700019146	Power Cord CCC 3P 10A 250V 183cm
170203180A	Power Cord 3P UK 2.5A/3A 250V 1.83M
1700008921	Power Cord 3P PSE 183cm
AIW-170BQ-001	Qualcomm WiFi6E,BT5.3 M.2 2230 E key
TBD	Quectel_RM520N 5G Sub-6 GHz M.2 module

Dimensions

Unit: mm

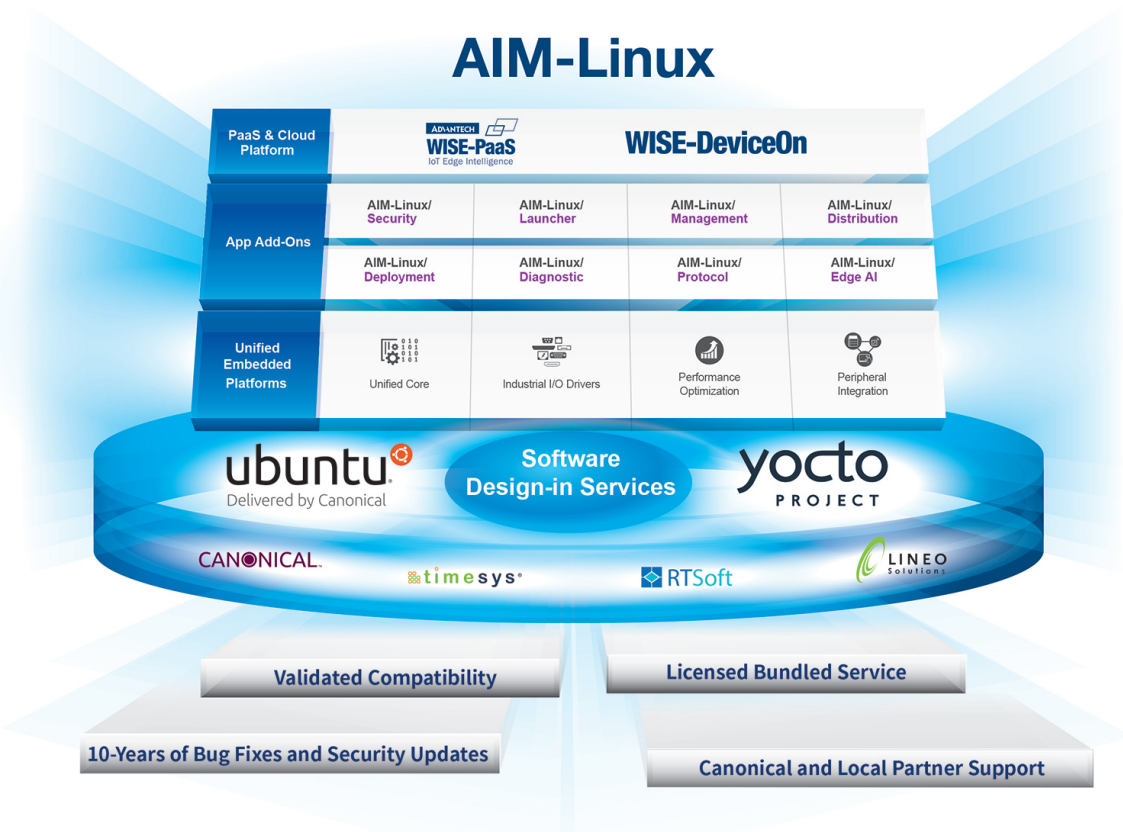


*Please contact us for suggesting suitable cellular module for your region.

Embedded Linux Support and Design-in Services

Hardware Certified Ubuntu and Yocto with Eco Partner Services

Linux is the most popular embedded OS for transportation, outdoor services, factory automation, and mission critical applications. Its open source and kernel reliability features ease security updates, and make it particularly adaptable to new AI and Edge computing technology. Advantech has cooperated with Canonical and other software partners to provide hardware certified Ubuntu image and Yocto BSP as Linux offerings. The Advantech, Embedded Linux, and Android Alliance (ELAA) delivers local software services and consultation.



Features

Certified OS and BSP	Licensed Services	Numerous AI and Edge Resources	Local Partner Alliance
- Platform compatibility tests - Preloaded functional driver and software stacks	- License authorized Canonical delivers 10-years of bug fixes and security updates - In-house bundled service	- Containerized technology for service provision and deployment - AI resources from Caffe, TensorFlow, and mxnet	Embedded Linux and Android Alliance (ELAA)

WISE-DeviceOn

Massive IoT Device Management Utility

IoT deployment and management typically involves numerous disparate devices installed on multiple sites. These devices require effective monitoring, managing, and tracking. Advantech's easy-to-use WISE-DeviceOn interface enables users to remotely monitor device health, troubleshoot problems, and send software/firmware updates over-the-air (OTA). In sum, DeviceOn empowers quick real-time responsiveness to emerging problems.



Features

Comprehensive Management

- Devices status
- Peripherals/firmware
- Open for extension

Remote Access

- Real-time monitoring
- Remote controls
- Troubleshooting

Efficient Operations

- Zero-touch on-boarding
- OTA updates
- Batch control

Product Highlights



SOM-6883

High-performance 11th Gen Intel®
COMe Type 6 Module



MIO-5375

Compact 11th Gen Intel® Outdoor
Focused 3.5" SBC



EPC-B5587

10th Gen Intel® Xeon® based Edge
server



EPC-R3220

Arm based IoT Edge Gateway