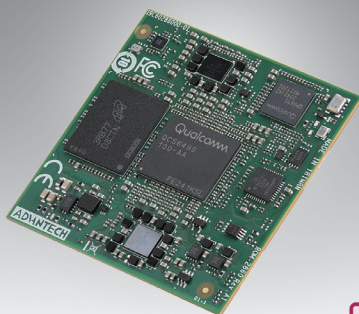


AOM-2721

Qualcomm QCS6490/QCS5430 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

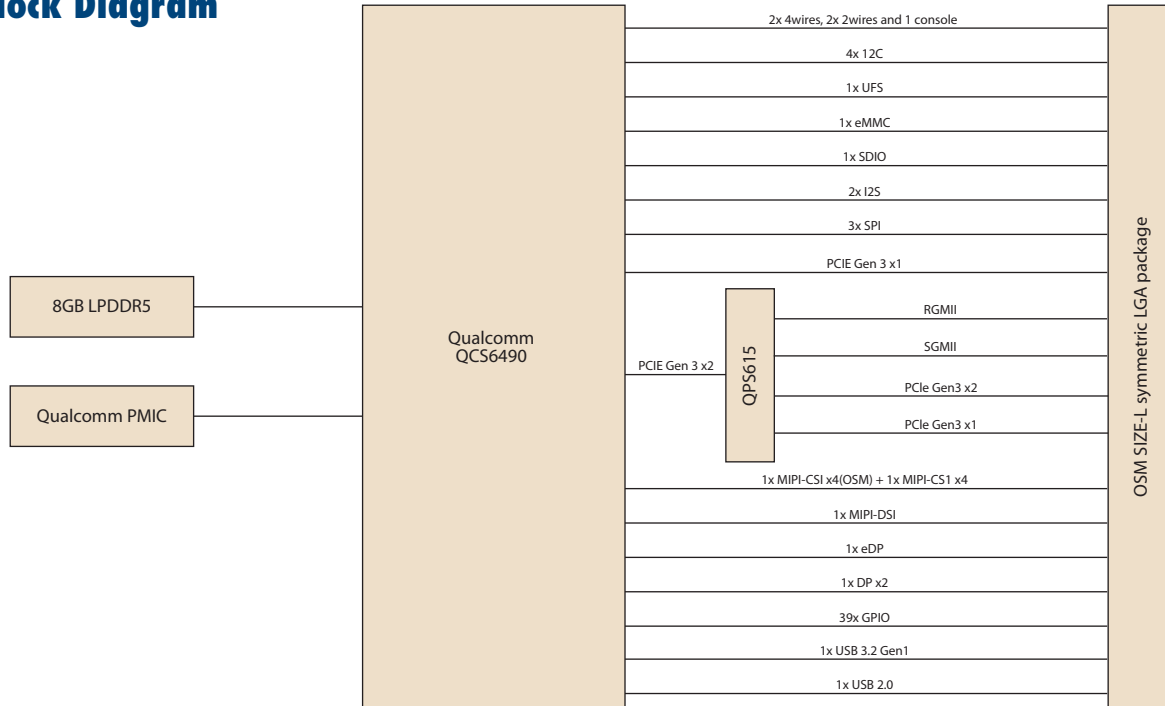
Advantech AOM2721 OSM 1.1 ComputeronModule is powered by Qualcomm QCS6490/5430, with Adreno 643 GPU (QCS6490) or Adreno 642L GPU (QCS5430) and VPU 633. It provides PCIe, USB 3.2, Gigabit Ethernet, MIPICSI, I2C, SPI, GPIO, eDP, DisplayPort and MIPIDSI for embedded applications.

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	8-core Kryo™ 670 CPU: 1x Prime 2.7 GHz + 3x Gold 2.4 GHz + 4x Silver 1.9 GHz
	ISP & NPU	Spectra 570L ISP + Hexagon 770 NPU, 12 dense TOPS
Memory	Technology	LPDDR5 6400MT/s
	Capacity	On-board 8GB
	Flash	-
Graphics	LVDS/MIPI DSI	1x 4LAN MIPI-DSI: 1920x1080 @ 60Hz (Share eDP port)
	HDMI	-
	eDP	1x eDP1.4: 1920x1080 @ 60Hz (Share MIPI-DSI port)
	DisplayPort	1 x DisplayPort, 2 lanes (4K at 60 fps)
	GPU	Adreno 643 GPU, OpenGL ES 3.2 / OpenCL 2.0
	VPU	Adreno VPU 633, Up to 4K60 decode for H.264/H.265/VP9, Up to 4K30 encode for H.264/H.265; Support for HDR10 and HDR10+ playback
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	7.58W
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

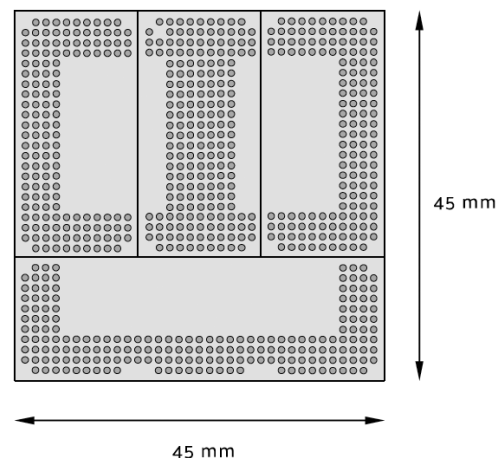
Part No.	Description
ROM-ED92	OSM Carrier Board
AOM-DK2721-FAA1E	AOM-2721 development Kits with Windows 11 IoT Enterprise

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.