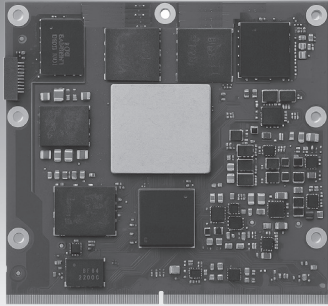


AOM-6741

Qualcomm IQ9 Series AI On Module 1.0 / SMARC 2.2

Preliminary



Qualcomm



CE FCC RoHS COMPLIANT PRODUCT

Features

- Qualcomm Kryo™ Gen6 8 cores up to 3.2 GHz
- Qualcomm Adreno 663 GPU
- Qualcomm 2 Hexagon Tensor Processors up to 100 INT8 TOPS
- Onboard LPDDR5 8400 MT/s up to 32GB
- 4x DP and 2x MIPI-DSI for Displays
- 4x MIPI-CSI with Qualcomm® Spectra™ ISP
- 2x USB3.2 Gen2, 1x USB2.0, 6x PCIe Gen4.0, 2x 2.5G Ethernet
- 1x UFS3.1 Gear4 , 1x SDIO
- Support Linux OS
- Real-time Subsystem (1x RGMII, 8x CAN-FD)

Introduction

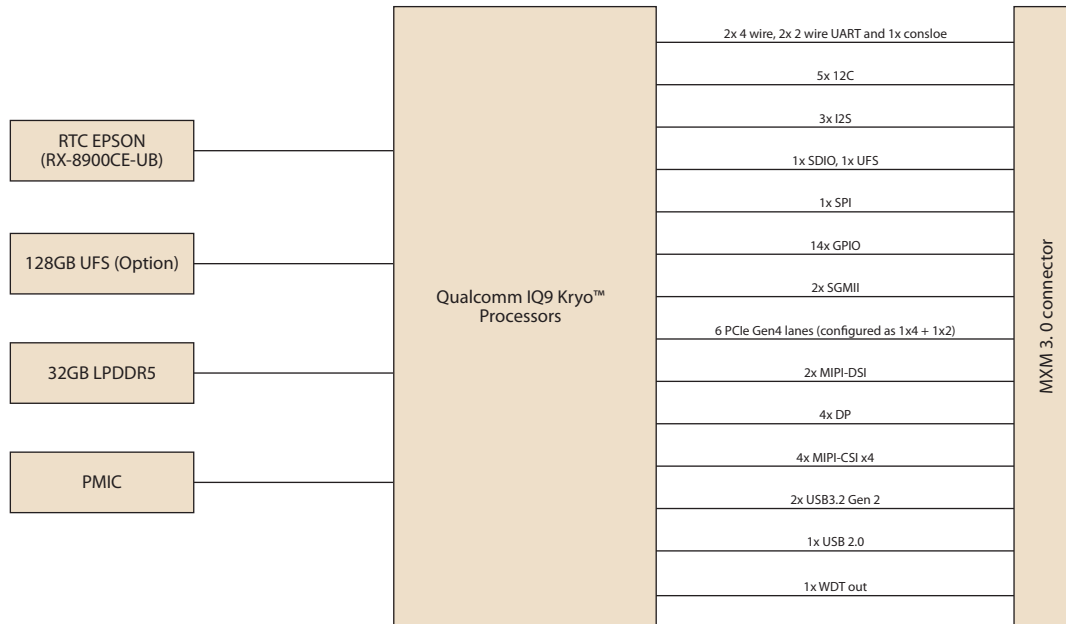
The AOM-6741 is powered by the Qualcomm® IQ-9075/IQ-9100 SoC, featuring octa-core Kryo Gen6 CPUs with an Adreno™ 663 GPU and 5th-gen VPU for advanced vision and 100 TOPS edge-AI workloads. It supports up to 32 GB LPDDR5 (ECC) and UFS 3.1 storage, and exposes rich high-speed I/O for embedded applications, including PCIe Gen4 (1 x4 + 1 x2), 2 USB 3.1 Gen2 + 1 USB 2.0, 2 SGMII for GbE/2.5GbE, 4 4-lane MIPI-CSI (D-PHY/C-PHY), 4 DisplayPort + 2 MIPI-DSI, I²C, SPI, UART/serial engines, SDIO, and GPIO.

Paired with Advantech AOM carrier boards, AOM-6741 accelerates peripheral integration and time-to-market. Deliverables include reference schematics, layout checklists, test utilities, hardware design tools, and reference drivers for Linux to streamline carrier-board and system development.

Specifications

Form Factor		AOM 1.0 / SMARC 2.2
Processor System	CPU	Qualcomm IQ9 Kryo™ 8 cores. up to 3.2 GHz
Memory	Technology	LPDDR5 up to 8400MT/s
	Capacity	On-board up to 36GB
	Flash	128GB UFS Storage (by option)
Graphics	LVDS/MIPI DSI	2 x 4 lane MIPI DSI
	HDMI	-
	eDP	-
	DP	4
Graphics Engine	Graphics Engine	Adreno 663 GPU Adreno 5th Gen. VPU 8K@60 fps
	Chipset	Integrated SGMII
Ethernet	Speed	2x 2.5 Gigabit Ethernet
RTC	RTC	1
Security		Qualcomm® Trusted Execution Environment (TEE) v5.3
I/O	PCIe	1 x PCIe 3.0 x4, 1 x PCIe 3.0 x2
	SATA	-
	USB	2 x USB 3.2 Gen2 1 x USB2.0
	Audio	2 x I2S
	SPDIF	-
	SDIO	-
	Serial Port	2x 4-wire UART, 2x 2-wire UART
	SPI	1
	CAN	6x CAN-FD by Real-time Subsystem+2x CAN-FD
	GPIO	14
	I ² C	3
	Camera Input	4x 4-Lane MIPI-CSI
	PWM	-
	Touch	-
Keypad	-	
Power	Power Supply Voltage	5V
	Power Consumption	50W TDP
Environment	Operating Temperature	0 ~ 60 °C / -40 ~ 85 °C
	Operating Humidity	5 ~ 95% relative humidity, non-condensing
Mechanical	Dimensions (W x D)	82 x 80 mm
Operation System		Linux
Certifications		CE/FCC Class B

Block Diagram



Ordering Information

Part No.	CPU	Memory	Storage	Display	Camera	LAN	USB	Size	Operating Temperature
AOM-6741W8-9075NA1	IQ-9075	36GB	128GB	4x DP 2x MIPI-DSI	4x MIPI-CSI	2x 2.5G	2 USB3.2 1 USB2.0	82 x 80 mm	-40 ~ 85 °C
AOM-6741W8-9100NA1	IQ-9100	36GB	128GB	4x DP 2x MIPI-DSI	4x MIPI-CSI	2x 2.5G	2 USB3.2 1 USB2.0	82 x 80 mm	-40 ~ 85 °C
AOM-6741C8-9075NA1	IQ-9075	16GB	N/A	4x DP 2x MIPI-DSI	4x MIPI-CSI	2x 2.5G	2 USB3.2 1 USB2.0	82 x 80 mm	0 ~ 60 °C
AOM-6741C8-9100NA1	IQ-9100	16GB	N/A	4x DP 2x MIPI-DSI	4x MIPI-CSI	2x 2.5G	2 USB3.2 1 USB2.0	82 x 80 mm	0 ~ 60 °C

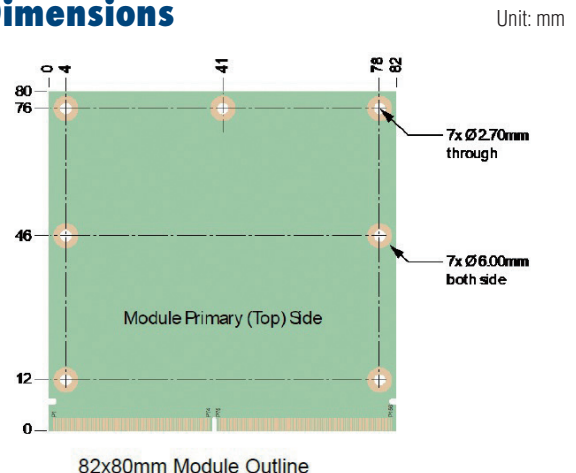
Development Board

Part No.	Description
AOM-DB6500	AOM Carrier Board

Optional Accessories

Part No.	Description
1700021565-01	Debug port cable
1700019474	D-SUB 9P(F)/D-SUB 9P(F) RS232/RS485 100c
TBD	Heatskin with a fan
TBD	Semi Heat Sink
TBD	Screw for Heat Spreader and Semi Heat Sink
96PSA-A150W19P4-4	ADP A/D 100-240V 150W 19V C14 TERMINAL BLOCK 4P
1700000237	Power Cord PSE 3P 12A 125V 183cm (US)
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

Dimensions



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