

AOM-7721

Qualcomm X Elite AI On Module 1.0

Preliminary

Features

- Qualcomm Oryon™ 12 cores up to 3.4 GHz
- Andreo Snapdragon X GPU, VPU 5th Gen.
- Onboard LPDDR5x 16GB, 8533MT/s LPDDR5x
- 1x DP and 1x eDP1.4 for Displays
- 2x USB3.2 Gen2, 4x USB2.0, 3x PCIe Gen3.0, 1x SoundWire, 2x 4wire UART, 1x SPI, 16x GPIO, 2x I2C, 6x PWM, 4x MIPI-CSI
- 1x UFS, 1x 4-bit SDIO for storages
- Support Windows 11

Qualcomm Windows 11



Introduction

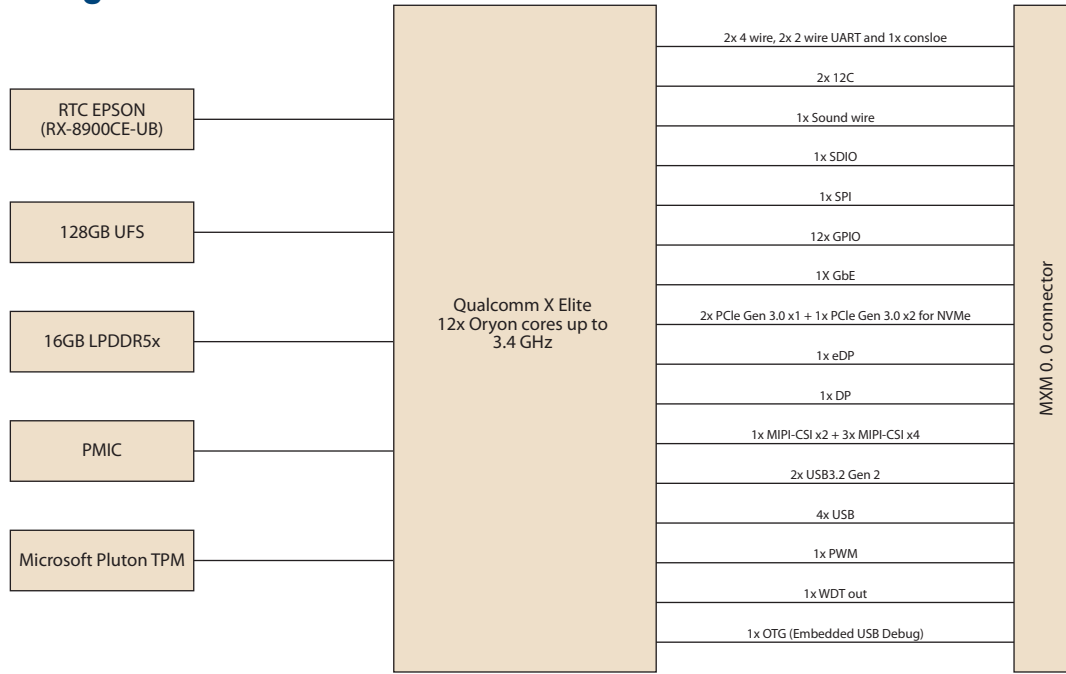
Advantech AOM-7721 AOM1.0 AI module is powered by Qualcomm X Elite SoC which includes up to Qualcomm Oryon™ 12 cores in combination with Andreo Snapdragon X GPU and Andreo 5th Gen. VPU graphics engine. It provides PCIe, USB 3.2, Giga Ethernet, MIPI-CSI, I2C, SPI, GPIO, PWM and eDP, DP for embedded applications.

AOM-7721 is paired with Advantech AOM 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, test utilities, hardware design utilities and reference drivers.

Specifications

Form Factor	AOM 1.0	
Processor System	CPU	X Elite X1E78100, 12 cores Oryon CPU up to 3.4GHz
Memory	Technology	LPDDR5x 8533MT/s
	Capacity	On-board 16GB
	Flash	UFS 128GB
Graphics	LVDS/MIPI DSI	-
	HDMI	-
	eDP	1x eDP1.4: 4096 x 2160 at 60Hz
	DP	1x DP V1.4a, 5120 x 2880 at 60Hz
	Graphics Engine	Andreo 5th Gen. VPU, 4K60 Codec Andreo Snapdragon X GPU, DX12.2, OpenGL ES3.2, OpenCL 3.0
Ethernet	Chipset	RTL8111
	Speed	10/100/1000 Mbps
RTC	RTC	1
Security	Qualcomm® Trusted Execution Environment (TEE) v5.3	
I/O	PCIe	2x PCIe Gen 3.0 x1, 1x PCIe Gen 3.0 x2 for NVMe
	SATA	-
	USB	2x USB 3.2 Gen2 4x USB2.0
	Audio	1x Soundwire
	SPDIF	-
	SDIO	1x 4-bit for SD Card
	Serial Port	2x 4-wire UART, 2x 2-wire and 1 console
	SPI	1
	CAN	-
	GPIO	16
	I ² C	2
	Camera Input	1x 2-Lane MIPI-CSI + 3x 4-Lane MIPI-CSI
	PWM	6
	Touch	-
Keypad	-	
Power	Power Supply Voltage	15V
	Power Consumption	TBD
Environment	Operating Temperature	0 – 60 °C
	Operating Humidity	5 – 95% relative humidity, non-condensing
Mechanical	Dimensions (W x D)	82 x 80 mm
Operation System	Windows 11	
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-7721W0-RIA1E	X Elite	16GB	128GB	5	2	2 USB3.2 4 USB2.0	1x eDP, 1x DP	1	-	2	1	82 x 80 mm	15V	0 ~ 60 °C

Development Board

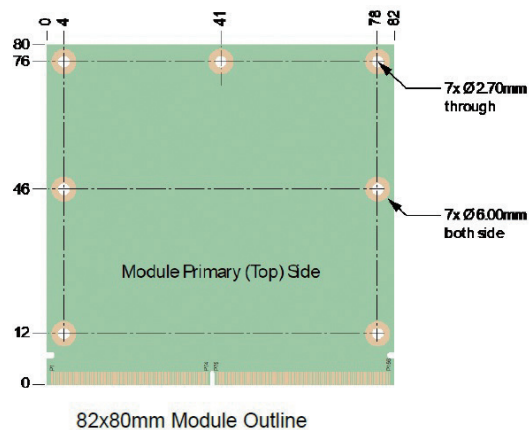
Part No.	Description
AOM-DBxxxx	AOM Carrier Board

Optional Accessories

Part No.	Description
1700021565-01	Debug port cable
1700019474	D-SUB 9P(F)/D-SUB 9P(F) RS232/RS485 100c
TBD	Heat Spreader
TBD	Semi Heat Sink
TBD	Screw for Heat Spreader and Semi Heat Sink
96PSA-A60W24T2-3	ADP A/D 100-240V 60W 24V C14 CORD END 2PIN 62368
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

Dimensions

Unit: mm



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