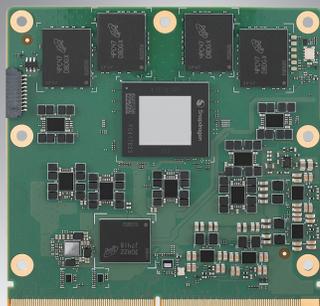


# AOM-6731

## Qualcomm X Elite AI On Module 1.0

Preliminary



### Features

- Qualcomm Oryon™ 12 cores up to 3.4 GHz
- Andreno 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, 5x GPIO, 2x I2C, 4x MIPI-CSI
- 1x UFS, 1x 4-bit SDIO for storages
- Support Windows 11

Qualcomm Windows 11



### Introduction

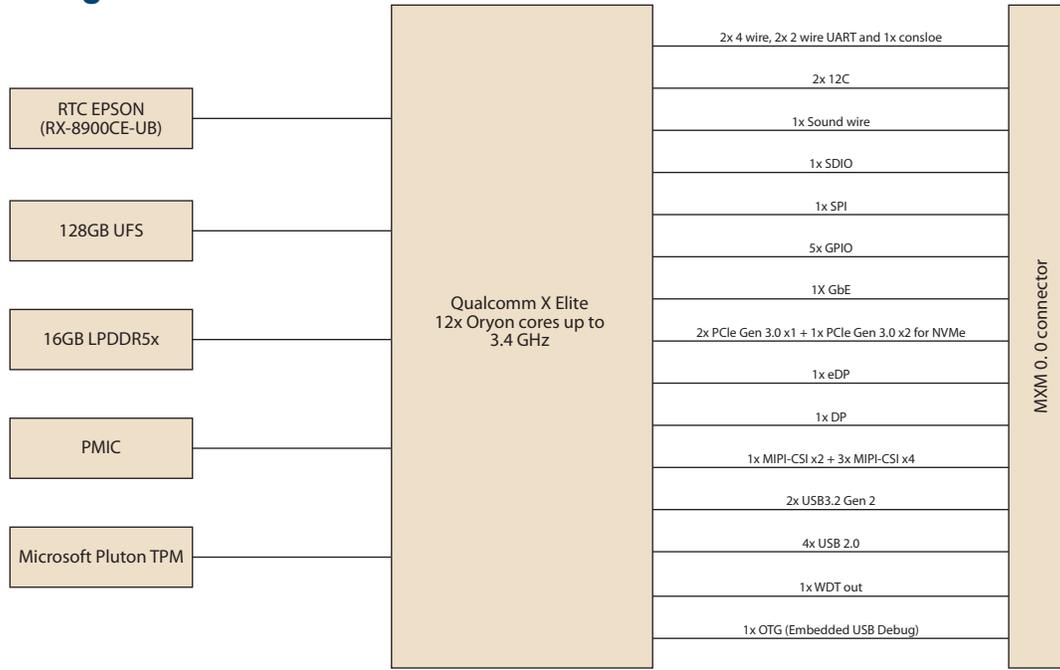
Advantech AOM-6731 AOM1.0 AI module is powered by Qualcomm X Elite SoC which includes up to Qualcomm Oryon™ 12 cores in combination with Andreno Snapdragon X GPU and Andreno 5th Gen. VPU graphics engine. It provides PCIe, USB 3.2, Giga Ethernet, MIPI-CSI, I2C, SPI, GPIO and eDP, DP for embedded applications.

AOM-6731 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, 4096 x 2160 at 60Hz
	Graphics Engine	Andreno 5th Gen. VPU, 4K60 Codec Andreno 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	5
	I <sup>2</sup> C	2
	Camera Input	1x 2-Lane MIPI-CSI + 3x 4-Lane MIPI-CSI
	PWM	-
	Touch	-
Keypad	-	
Power	Power Supply Voltage	12V
	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-6731W0-RIA1E	X Elite	16GB	128GB	4	1	2 USB3.2 4 USB2.0	1x eDP, 1x DP	1	-	2	1	82 x 80 mm	12V	0 ~ 60 °C

## Development Board

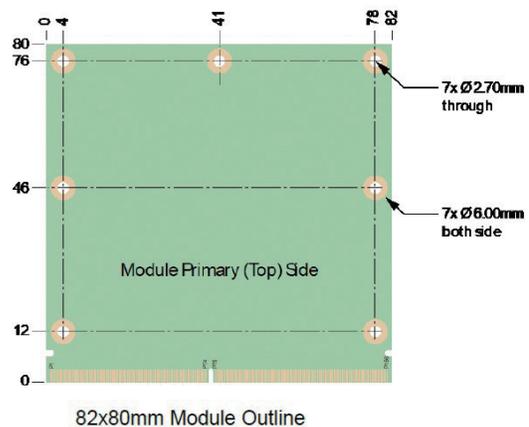
Part No.	Description
AOM-DB6700	AOM Carrier Board

## 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

Unit: mm



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