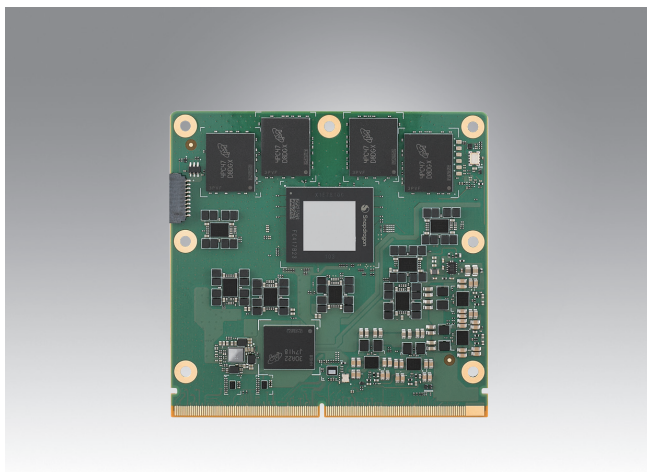


AOM-6731

Qualcomm IQ-X Customized SMARC 2.2 (12V Input)



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

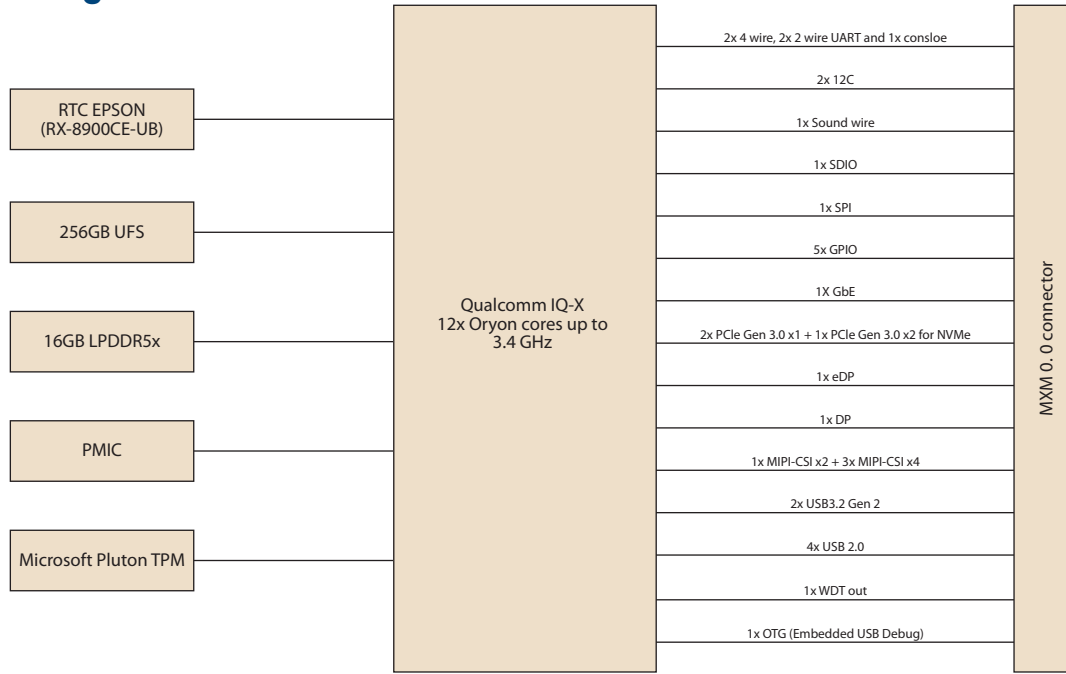
Advantech AOM-6731 Customized SMARC 2.2 (12V Input) AI module is powered by Qualcomm IQ-X SoC which includes up to Qualcomm Oryon™ 12 cores in combination with Andreno Snapdragon X GPU and Andreno 5th Gen. VPU graphics engine. It provides PCIe, USB 3.2, Giga Ethernet, MIPI-CSI, I2C, SPI, GPIO and eDP, 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	Customized SMARC 2.2 (12V Input)	
Processor System	CPU	IQ-X X1E78100, 12 cores Oryon CPU up to 3.4GHz
Memory	Technology	LPDDR5x 8533MT/s
	Capacity	On-board 16GB
	Flash	UFS 256GB
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
	I2C	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	IQ-X	16GB	256GB	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

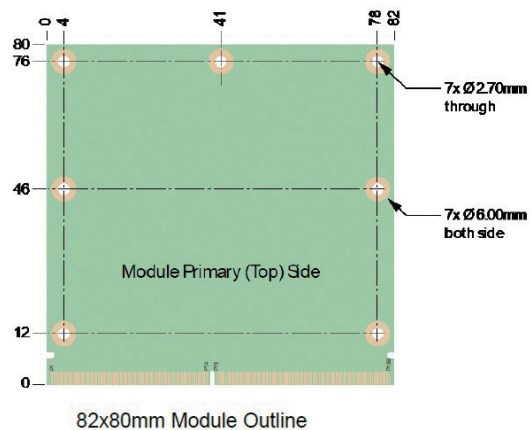
Part No.	Description
AOM-DB6700	AOM Carrier Board

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.