ROM-2860

Qualcomm QCS6490
OSM 1.1 Computer-on-Module

Preliminary

OPEN STANDARD MODULE ™

Qualcomm Windows 11 ubuntu CE FCC RoHS COMPLIANT 2002/95/EC
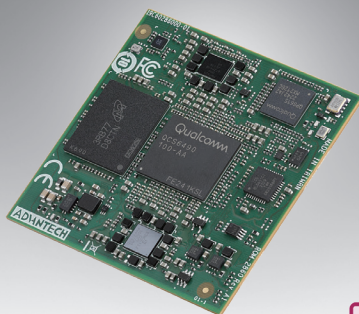
Features

- 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, 2x PCIe Gen3.0 x1, 2x I2S, 2x 4wire UART, 1x SPI,16x GPIO, 2x I2C, 6x PWM, 2x MIPI-CSI x4
- 1x UFS, 1x eMMC and 1x 4-bit SDIO for storages
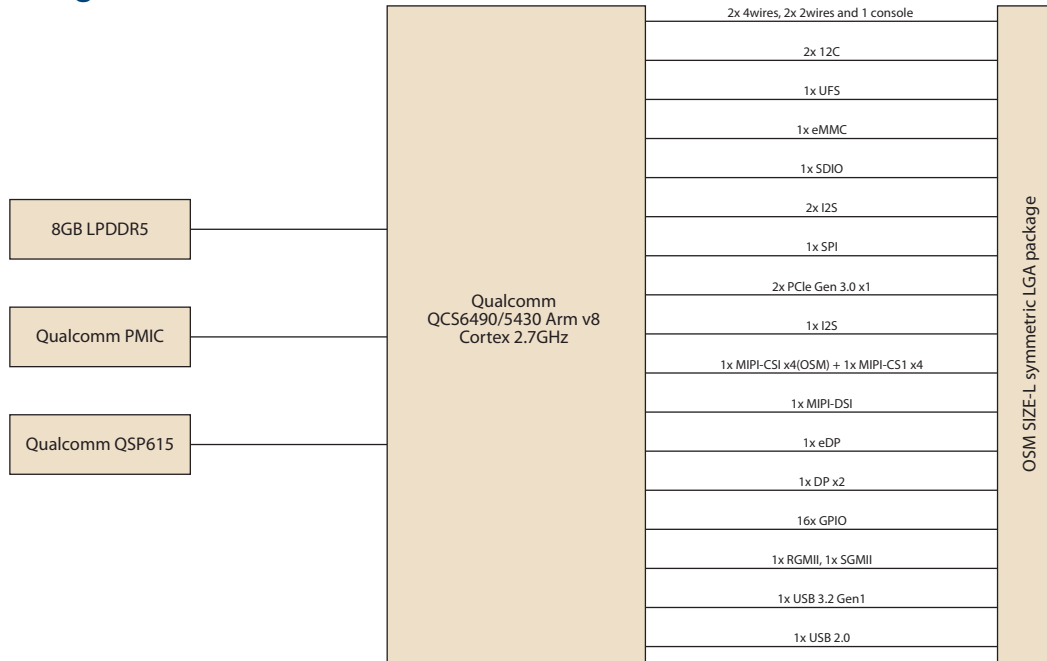- Support Windows 11 and Ubuntu

Introduction

Advantech ROM-2860 OSM 1.1 Computer-on-Module is powered by Qualcomm QCS6490/5430 SoC which includes up to Arm v8 Cortex® in combination with Andreo GPU 643 and Andreo VPU 633 graphics engine. It provides PCIe, USB 3.2, Giga Ethernet, MIPI-CSI, I2C, SPI, GPIO, PWM and eDP, DP, MIPI-DSI display for embedded applications.

ROM-2860 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	QCS6490 Gold plus 2.7GHz + Gold 3 cores 2.4GHz
	2nd CPU	QCS6490 4 lower-power cores 1.9 GHz
Memory	Technology	LPDDR5 8533MT/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)
	DP	1x DP 2lane: 1920x1080 @ 60Hz
	Graphics Engine	Andreo VPU 633 4K30 encode/Decode Andreo GPU 643, OpenGL ES3.2/OpenCL 2.0
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	2x PCIe Gen 3.0 x1
	SATA	-
	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	1
	CAN	-
	GPIO	16
	I²C	2
	Camera Input	1x 4-Lane MIPI-CSI and 1x 4-Lane MIPI-CSI (Via vender reserved pins of OSM)
	PWM	6
	Touch	-
	Keypad	-
Power	Power Supply Voltage	5V
	Power Consumption	TBD
Environment	Operating Temperature	-20 ~ 70 °C
	Operating Humidity	95% @ 40° C (non-condensing)
Mechanical	Dimensions (W x D)	45 x 45 mm
Operation System		Windows 11 and Ubuntu
Certifications		CE/FCC Class B

Block Diagram

8GB LPDDR5	Qualcomm QCS6490/5430 Arm v8 Cortex 2.7GHz
Qualcomm PMIC	
Qualcomm QSP615	

2x 4wires, 2x 2wires and 1 console
2x I2C
1x UFS
1x eMMC
1x SDIO
2x I2S
1x SPI
2x PCIe Gen 3.0 x1
1x I2S
1x MIPI-CSI x4(OSM) + 1x MIPI-CS1 x4
1x MIPI-DSI
1x eDP
1x DP x2
16x GPIO
1x RGMII, 1x SGMII
1x USB 3.2 Gen1
1x USB 2.0

OSM SIZE-L symmetric LGA package

Ordering Information

Part No.	CPU	Memory	Flash Memory	UART	LAN	USB	Display	SD	I2S	I2C	SPI	Size	Power input	Operating Temperature
ROM-2860WO-RHA1E	QCS6490	8GB	-	5	2	1 USB3.2 1 USB2.0	1x MIPI-DSI 1x eDP, 1x DP	1	1	2	1	45 x 45 mm	5V	-20 ~ 70 °C

Development Board

Part No.	Description
ROM-ED92	OSM Carrier Board

Optional Accessories

Part No.	Description
1700021565-01	Debug port cable of ROM-ED92
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-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

Dimensions

Unit: mm

45 mm

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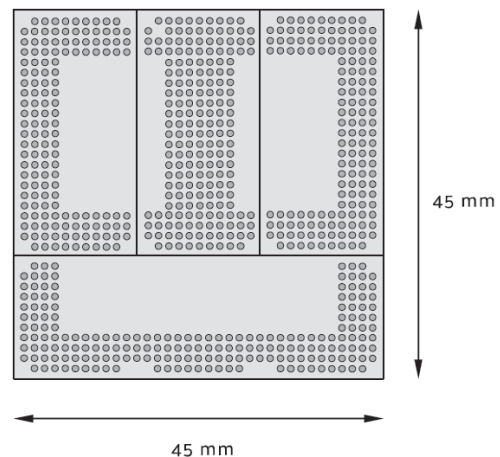
*Please contact us for suggesting suitable cellular module for your region.

Embedded Linux Support and Design-in Services

Hardware Certified Ubuntu and Yocto with Eco Partner Services

Linux is the most popular embedded OS for transportation, outdoor services, factory automation, and mission critical applications. Its open source and kernel reliability features ease security updates, and make it particularly adaptable to new AI and Edge computing technology. Advantech has cooperated with Canonical and other software partners to provide hardware certified Ubuntu image and Yocto BSP as Linux offerings. The Advantech, Embedded Linux, and Android Alliance (ELAA) delivers local software services and consultation.

Features

Certified OS and BSP

- Platform compatibility tests
- Preloaded functional driver and software stacks

Licensed Services

- License authorized Canonical delivers 10-years of bug fixes and security updates
- In-house bundled service

Numerous AI and Edge Resources

- Containerized technology for service provision and deployment
- AI resources from Caffe, TensorFlow, and mxnet

Local Partner Alliance

- Embedded Linux and Android Alliance (ELAA)

WISE-DeviceOn

Massive IoT Device Management Utility

IoT deployment and management typically involves numerous disparate devices installed on multiple sites. These devices require effective monitoring, managing, and tracking. Advantech's easy-to-use WISE-DeviceOn interface enables users to remotely monitor device health, troubleshoot problems, and send software/firmware updates over-the-air (OTA). In sum, DeviceOn empowers quick real-time responsiveness to emerging problems.

WISE-DeviceOn

Features

Comprehensive Management	Remote Access	Efficient Operations
• Devices status	• Real-time monitoring	• Zero-touch on-boarding
• Peripherals/firmware	• Remote controls	• OTA updates
• Open for extension	• Troubleshooting	• Batch control

Product Highlights

SOM-6883

High-performance 11th Gen Intel® COMe Type 6 Module

MIO-5375

Compact 11th Gen Intel® Outdoor Focused 3.5" SBC

EPC-B5587

10th Gen Intel® Xeon® based Edge server

EPC-R3220

Arm based IoT Edge Gateway