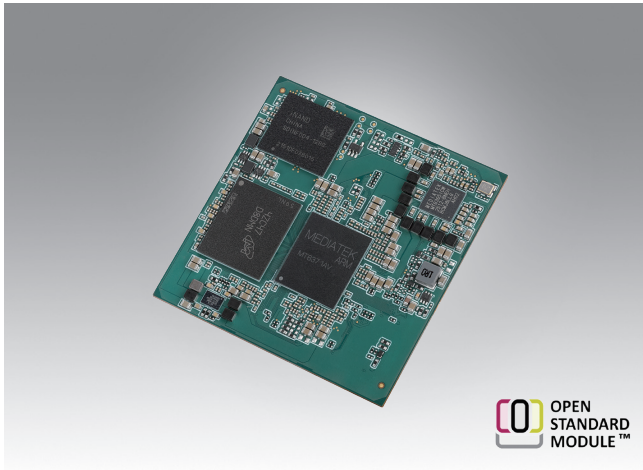


AOM-2421

Mediatek Genio 520 OSM 1.2 Computer-on-Module



Features

- Genio 520, up to 2x Cortex-A78 and 6x Cortex-A55
- Arm Mali-G57 GPU
- Mediatek 8th Gen NPU, up to 10 TOPS
- Onboard LPDDR5 up to 8GB, 6400MT/s memory
- 1x 4-Lane MIPI-DSI/LVDS, 1x DP and 1x eDP1.4
- 2x USB3.2 Gen1, 2x USB2.0, 1x PCIe Gen2.0, 2x I2S, 2x 4wire UART, 1 x 2-wire UART, 3x SPI, 31x GPIO, 2x I2C, 2x 4-Lane MIPI-CSI
- 1x on board UFS (128 GB), 1x 8 bit eMMC and 1x 4-bit SDIO for storages
- Support Android / Yocto

Introduction

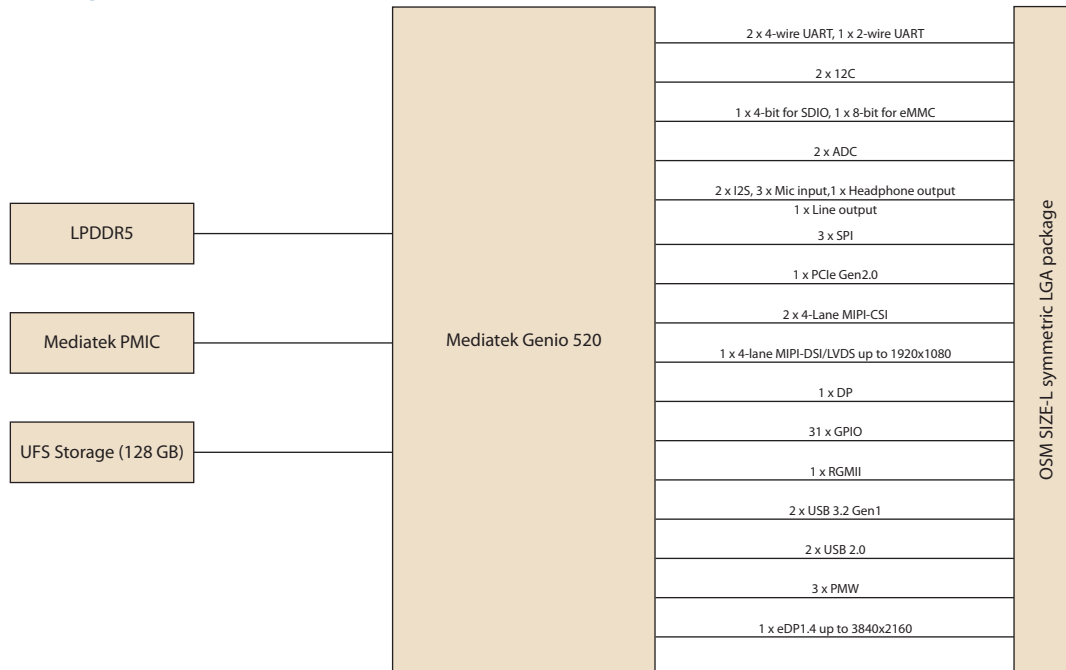
Advantech AOM-2421 OSM 1.2 Computer-on-Module is built on MediaTek's Genio 520 SoC family, combining 2x Arm Cortex-A78 and 6x Cortex-A55 CPU complex with a Mali-G57 GPU and next-generation Gen 8 NPU that delivers up to 10 TOPS AI throughput for generative-AI, vision and analytics workloads at the edge. The module supports up to 8 GB LPDDR5-6400, UFS 3.1 or eMMC 5.1 flash, and integrates rich high-speed I/O including one PCIe Gen2, 2x USB 3.2 Gen1, 2x USB 2.0, dual MIPI-CSI-2, 4-lane MIPI-DSI/LVDS, eDP 1.4 and DP 1.4, plus I2C, SPI, UART, and GPIO for embedded applications.

AOM-2421 mates with Advantech's OSM Size-L carrier board to accelerate peripheral integration and time-to-market. Developers receive reference schematics, layout checklists and validated BSPs for Yocto, Android, along with test utilities, hardware design aids and reference drivers, enabling a seamless transition from prototype to mass production.

Specifications

Form Factor		OSM 1.2
Processor System	CPU	Genio 520, 2x Cortex-A78 up to 2.6GHz and 6x Cortex-A55 up to 2.0GHz
Memory	Technology	LPDDR5 6400MT/s
	Capacity	Up to 8GB
	Flash	UFS Storage (128 GB)
Graphics	LVDS/MIPI DSI	1x 4-lane MIPI-DSI/LVDS up to 1920x1080
	HDMI	-
	eDP	1x eDP1.4 up to 3840x2160
	DP	1x DP1.4 up to 3840x2160 and 5120x2160
	Graphics Engine	Arm Mali G57 GPU 4K60 Video Decoder & 4K30 Video Encoder
Ethernet	Chipset	1x RGMII
	Speed	10/100/1000 Mbps
RTC	RTC	Option
Security		Arm TrustZone + OP-TEE
I/O	PCIe	1x PCIe Gen 2.0
	SATA	-
	USB	2 x USB 3.2 Gen1 2 x USB 2.0
	Audio	2 x I2S, 3 x Mic input, 1 x Headphone output 1 x Line output
	SPDIF	-
	SDIO	1 x 4-bit for SDIO, 1 x 8-bit for eMMC
	Serial Port	2 x 4-wire UART, 1 x 2-wire UART
	SPI	3
	ADC	2
	CAN	-
	GPIO	31
	I2C	2
	Camera Input	2 x 4-Lane MIPI-CSI
	PWM	3
	Touch	-
Keypad	-	
Power	Power Supply Voltage	5V
	Power Consumption	TBD
Environment	Operating Temperature	0 - 60 °C
	Operating Humidity	95% relative humidity, non-condensing
Mechanical	Dimensions (W x D)	45 x 45 mm
Operation System		Android / Yocto
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-2421CO-SHA1E	Genio 520	8GB	128 GB UFS	4	1	2 USB 3.2 Gen 1 2 USB 2.0	1x MIPI-DSI 1x eDP, 1x DP	1	2	2	3	45 x 45 mm	5V	0 ~ 60 °C

Development Board

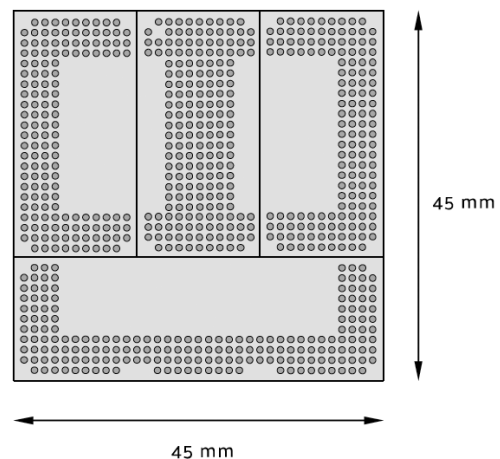
Part No.	Description
AOM-DK2421	AOM-2421 OSM Development Kit

Optional Accessories

Part No.	Description
1700021565-01	Debug port cable
96LCM-G070WV40L-A0	AUO 7" LCD, 400nits, 800x480
1700021883-01	LVDS cable of AUO 7" of ROM-ED92
1700021882-01	Back light cable of AUO 7" of ROM-ED92
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



*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

<p>Certified OS and BSP</p> <ul style="list-style-type: none"> Platform compatibility tests Preloaded functional driver and software stacks 	<p>Licensed Services</p> <ul style="list-style-type: none"> License authorized Canonical delivers 10-years of bug fixes and security updates In-house bundled service 	<p>Numerous AI and Edge Resources</p> <ul style="list-style-type: none"> Containerized technology for service provision and deployment AI resources from Caffe, TensorFlow, and mxnet 	<p>Local Partner Alliance</p> <ul style="list-style-type: none"> Embedded Linux and Android Alliance (ELAA)
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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.



Features

Comprehensive Management	Remote Access	Efficient Operations
<ul style="list-style-type: none">• Devices status• Peripherals/firmware• Open for extension	<ul style="list-style-type: none">• Real-time monitoring• Remote controls• Troubleshooting	<ul style="list-style-type: none">• Zero-touch on-boarding• OTA updates• 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