

EPC-R5710

NXP i.MX8M Plus Cortex-A53 Edge AI System

Coming Soon



Features

- NXP i.MX 8M PLUS 4xA53@1.8GHz
- Integrate 2.3 TOPS NPU and extend 8-26 TOPS AI card
- 4Kp30,1080p60 HEVC, H.264, VP9, VP8 decoding
- 1080p60 H.265, H.264 encoding
- 1xHDMI2.0
- 5xGbE LAN, 1xGbE Fiber
- USB3.0,USB2.0,RS232,RS485,CAN FD,SATA,SD
- 8 Channels Mic Array
- Support AI card/5G/4G/GPS/ Wi-Fi 5/Wi-Fi6/BT
- Support TPM,TCM
- Linux and, Android
- Embedded DeviceOn, DeviceOn.CommBridge



Introduction

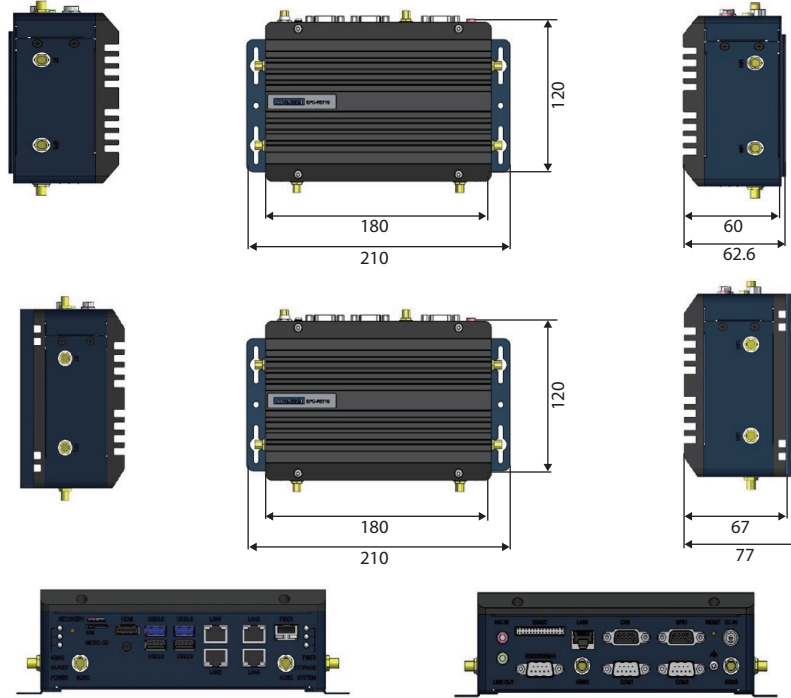
Advantech EPC-R5710 is an AI edge intelligent industrial gateway integrating NXP's high performance of video coding/decoding and AI function. It can provide 2.3-28.3 TOPS NPU AI computing power, and support multiple network ports, a variety of industrial interfaces and storage, as well as wireless technologies including 5G/4G,Wi-Fi5/6. It also supports 8-way MIC array to realize audio and video AI analysis. Integrated cloud collaboration functions.EPC-R5710 supports a variety of PLC data acquisition and industrial protocol conversion. With its high performance and high quality, it is widely used in AI video surveillance, machine vision and industrial data acquisition applications in the fields of security, smart city, smart transportation, smart factory, energy and power.

Specifications

Processor	CPU/GPU	NXP i.MX 8M Plus Cortex-A53 Dual/Quad Core (up to 1.8GHz) ,GPU GC7000UL
	NPU	2.3 TOPS Neural Network performance, extend 8-26 TOPS AI card
	MCU	1 x Arm Cortex -M7 core
Memory	Technology	LPDDR4
	Capacity	2GB/4GB/6GB on board
	Flash	16/32GB EMMC NAND Flash for OS and 8MB SPI NOR Flash for boot loader
Graphics	HDMI	1 x HDMI2.0, 1920x1080
	Graphics Engine	GC7000UL with 2D/3D Graphic Acceleration supporting 1G Pixel/s, OpenVG 1.1, Open GL ES3.1, Vulkan, and Open CL 1.2 FP.
	H/W Video Codec	Decoder: H.265, H.264, VP8/9 1080p Encoder:H.264, VP8 1080p
Ethernet	Ethernet	5 x 10/100/1000Mbps (route/switch), 1 x 1G FSP fiber
WatchDog Timer	WatchDog Timer	1~6553s, default 60s, power on/off 4s
RTC	RTC	Support
TPM/TCM	TPM/TCM	Support
Front I/O	Ethernet	5 x 10/100/1000Mbps, 1 x 1G FSP fiber
	USB	2 x USB3.0 type A host, 2 x USB2.0 type A host
	HDMI	1 x HDMI2.0, 1920x1080
	Micro SD	1 x Micro SD socket
	SIM	1 x standard SIM socket
Rear I/O	Audio	1 x Mic , 1 x Line out,
	MIC Array	2 x I2S+1xI2C, support 8 channels MIC array (Digital or analog)
	CAN	1 x CAN FD
	Serial Port	2 x RS232/RS422/RS485, 1 x 2-wire RS232 or debug port (default:R232)
	GPIO	5
Indicator	LED	6 Green LED for power, system, storage, 5G,4G,Wi-Fi and fiber status
	Mini PCIe	1 x mini PCIe slot (only USB2.0 signal for 4G/GPS)
Expansion	M.2 E Key	1 x M.2 E Key slot (for WiFi5/WiFi6, BT and 8-26 TOPS AI card)
	M.2 B Key	1 x M.2 B KEY (USB3.0 for 5G)
	SATA	1 x SATA2.0 Header (2.5 inch SSD)
	Antenna Holes	8 (5G/4Gx4 & WIFI/BTx2&BTx1&GPSx1)
	System	210 x 120 x 62.6 mm or 220 x 120 x 77 mm (for AI card)
Mechanical	Mounting	Wall mount
	Power supply	12V 3A DC-in
Environment	Operating temperature	0-50°C, -40-70°C
	Operating Humidity	5 - 95% relative humidity, non-condensing
Operating System		Linux, Android
Certifications		CCC/CE/FCC Class B

Dimensions

Unit: mm



For AI

Ordering Information

Part Number	CPU	Memory	Flash	HDMI	SATA	SD	LAN	Fiber	USB	UART	Can	Audio	GPIO	TPM	MIC Array	Operating Temperature
EPC-R5710NQ-BLA1E	NXP 8M PLUS 1.8GHz	4 GB	16 GB	1	1	1	5	1	2 USB3.0 2 USB2.0	2 x RS232/RS485 1 x RS232	1	1 Line out 1 MIC in	5	(1)	1	0 ~ 50°C
EPC-R5710NQ-ALA1E	NXP 8M PLUS 1.8GHz	6 GB	16 GB	1	1	1	5	1	2 USB3.0 2 USB2.0	2 x RS232/RS485 1 x RS232	1	1 Line out 1 MIC in	5	(1)	1	0 ~ 50°C
EPC-R5710IQ-XLA1E	NXP 8M PLUS 1.8GHz	2 GB	16 GB	1	1	1	5	1	2 USB3.0 2 USB2.0	2 x RS232/RS485 1 x RS232	1	1 Line out 1 MIC in	5	1	1	-40 ~ 70°C
EPC-R5710IQ-BLA1E	NXP 8M PLUS 1.8GHz	4 GB	16 GB	1	1	1	5	1	2 USB3.0 2 USB2.0	2 x RS232/RS485 1 x RS232	1	1 Line out 1 MIC in	5	1	1	-40 ~ 70°C
EPC-R5710IQ-ALA1E	NXP 8M PLUS 1.8GHz	6 GB	16 GB	1	1	1	5	1	2 USB3.0 2 USB2.0	2 x RS232/RS485 1 x RS232	1	1 Line out 1 MIC in	5	1	1	-40 ~ 70°C

*(1) BOM options available on MP version.

Packing List

Part Number	Description
1960103066N001	WALL MOUNT 2965C for EPC-R5710
1960104002N101	Wall mount Bracket for EPC-R5710 Liquid 2965C for AI configuration

Optional Accessories

Part Number	Description
96PSA-A36W12W7	ADP A/D 100-240V 36W 12V WO/PFC
1702002605	Power Cord 3P EU 10A 250V 183 cm (72 in)
1702031801	Power Cord 3P UK 10A 250V 183 cm (72 in)
1702002600	Power Cord UL 3P 10A 125V 183 cm (72 in)
1700008921	Power Cord 3P PSE 183 cm (72 in)
1700009652	Power Cord CCC 3P 10A 250V 187 cm (73.6 in)
968DD00064	Quectel RM500Q-GL m.2 Wireless 5G Module
1750009353-01	TUBE Ant. SMA-Jack/F-BH MHF4/113 BLK 300mm for 5G
1750009372-01	Ant.SMA/M 90/180 5G BLK 167mm RG178 for 5G
1990038961N000	Thermal Pad PG45A K=4.5 45*30*2MM for 5G
968AD00584	Quectel EC20CEFHLG Mini PCIe 4G module
1750007965-01	Antenna Cable R/P SMA (M) to MHF4, 300 mm (11.8 in) for 4G

Optional Accessories

Part Number	Description
1750008303-01	Antenna AN0727-64SP6BSM for 4G
1970005269T000	HD R2 32x32x27.4MM SC EPC-R5710 for 4G
1990016840S000	Thermal Pad 32x32x1.5mm GR-Hm K=6 for DAC-SC01 for 4G
AIW-154BN	AzureWare AW-CM276MA WiFi5 module
AIW-165BN	AzureWare AW-XM458MA WiFi6 module
1750007965-01	WiFi Coaxial Cable, SMA (M) to MHF4, 300 mm for WiFi5/WiFi6
1750008717-01	WiFi Dual band 2.4G and 5G Antenna for WiFi5/WiFi6
1970005268T000	HD R2 20x20x27.4MM SC EPC-R5710 for WiFi5/WiFi6
1990031873N020	Thermal pad 20x20x2.5mm(t) K=4.0 TP TG4040 for WiFi5
1990033689N000	Thermal-Pad 20x20x1mm TP K=1.2 Eapus XR-HL for WiFi6
1990030557N000	Thermal-Pad 70x62x2mm XR-HL K=1.2 TP Eapus for SSD
XCUC2SHD-MLU220	Cambricon AI card MLU220 8Tops
9696R571E00	EPC-R5710 M.2 E Key for Cambricon AI card
9696R571B00	EPC-R5710 M.2 B KEY board for Cambricon AI card
TBD	Cambricon AI card MLU220 power cable
2170000021	Thermal Grease PSX-D 1Pcs=0.5g for Cambricon AI card
TBD	Hailo-8 HM218B1C2KAE 2230 A+E key M.2 module AI Module 26 Tops
1990011911N000	Thermal Pad 20x20x1.0mm GR-Hm K=6 for Hailo H8 AI card
1700019474	Debug cable D-SUB 9P(F)/D-SUB 9P(F) 100cm

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

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| <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) |
|--|--|--|---|

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