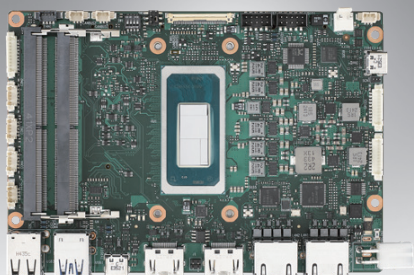


MIO-5379

Intel Core Ultra Processors (Code Name: Arrow Lake U/H)

Preliminary



Features

- Intel® Core™ Ultra 7/5 Processors, up to 14 Cores, TDP 28W/15W
- Dual Channel DDR5-6400 up to 96GB, with IBEC support
- Optional MIOe-TCPD module supports USB-C PD 100W
- 4 simultaneous displays: eDP + 2x HDMI + USB-C with DP Alt.
- 2x LAN, 8x USB (incl. 1x USB4), 4x UART, 2x CAN-FD, 8bit GPIO, I2C(*SMBus)
- 4x M.2 Expansions: E-Key 2230, B-Key 3052, 2x M-Key 2280
- Support EdgeBMC for OOB (Out-of-Band) remote control

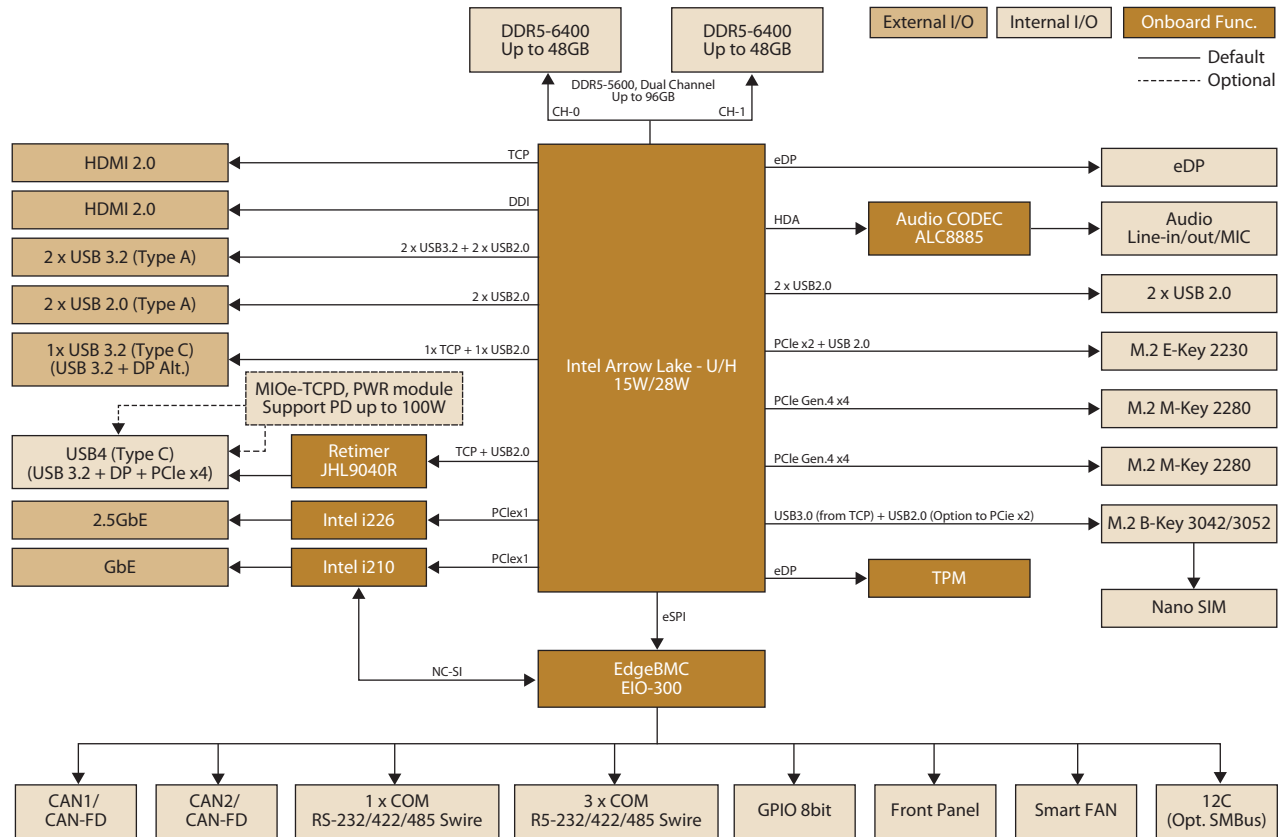
Ubuntu Windows 11 DeviceOn EdgeBMC CE FCC

Specifications

Platform	Processor	Core Ultra 7, 255H	Core Ultra 5, 225H	Core Ultra 7, 255U	Core Ultra 5, 225U
	Max. Frequency (P-Core/E-Core)	5.1/4.4	4.9/4.3	5.2/4.2	4.8/3.8
	Base Frequency (P-Core/E-Core)	1.2/0.9	1.2/0.9	1.8/1.5	1.2/0.9
	Core/Tread	16C/6P+8E	14C/4P+8E	14C/2P+8E	14C/2P+8E
	LLC	L3	L3	L3	L3
	CPU TDP	28W	28W	15W	15W
	Chipset	Intel® Chipset (SoC Integrated)			
	BIOS	AMI UEFI 256Mbit			
Memory	Technology	DDR5-6400 SDRAM			
	Max. Capacity	Up to 96GB			
	Channel/Socket	Dual Channels / 2 Sockets			
Graphics	Controller	Intel® Xe LPG+ graphics architecture			
	Max. Frequency	2.25	2.2	2.1	2.0
	3D/HW Acceleration	Ray Tracing (Full-rate) / Execute Indirect			
Display I/F	AI Features	Intel® XMX Matrix Engines (4-deep systolic)			
	eDP	1 x eDP 1.4			
	HDMI	2 x HDMI 2.1			
	USB	1 x USB 4			
	Multiple Display	4 simultaneous displays: eDP/HDMI/USB			
Ethernet	Controller	LAN1: Intel i210; LAN2: Intel i226 Support TSN			
	Speed	LAN1: 1Gbps; LAN2: 2.5Gbps			
External I/O	Ethernet	2 x RJ-45			
	HDMI/USB-C	2/1			
	USB3.2/2.0	2/2			
	Power DC-Jack	4-pin 90D ATX connector			
Internal I/O	USB	2 x USB-A 2.0, 1 x USB-C 4.0			
	Serial Bus	1 x I2C/SMBus			
	COM Port	1 x RS-232/422/485(8-wire) , 3 x RS-232/422/485 (4-wire)			
	GPIO	8-bit general purpose input output I/O			
	Audio	Realtek ALC888S, Line-in/Line-out/MIC			
	Inverter	12V/5V			
	CAN Bus	2 x CAN-FD			
	Fan	4-wire smart fan			
	Front Panel Control	Power-on, Reset, Buzzer, CaseOpen			
	USB-C PD	USB Type-C PD (Power Delivery) 100w*(optional MIOe-TCPD module)			
Board Feature	EdgeBMC OOB	LAN1: Support EdgeBMC Out-of-Band (OOB) remote control			
	Watchdog Timer	65536 level, 0-65535 sec			
	TPM	TPM2.0			
Expansion	M.2 E-Key	1 x E-Key 2230 (PCIe x2, USB2.0)			
	M.2 B-Key	1 x B-Key 3042/ 3052 (PCIe x2/ SATA, USB2.0) w/ Nano-SIM			
	M.2 M-Key	2 x M-Key 2280 (PCIex4 Gen.4 NVMe)			
Power	Supply Voltage	Vin: DC 12-24V +/- 10%; RTC Battery: Lithium 3V/210mAH			
	Connector	ATX 2x2 pin 90D, optional DC-Jack or ATX 2x2 pin 180D*			
	Power Management	AT, ATX			
Environment	Temperature	0 ~ 60 °C (32 ~ 140 °F)			
	Humidity	Operating: 40° C @ 95% relative humidity, non-condensing Storage: 60° C @ 95%relative humidity, non-condensing			
	Vibration Resistance	3.5 Grms			
Certification	EMC	CE, FCC Class B			
Mechanical	Dimensions	146 x 102 mm (5.7" x 4")			

*Note: Optional function support by request

Block Diagram



Ordering Information

Part No.	CPU	Core	Max.Frequency (P-Core/E-Core)	TDP	Thermal Solution	Operating Temperature
MIO-5379C7P-R1A1	Core Ultra 7, 255H	16C/6P+8E	5.1/4.4	28W	Active Cooler	0-60° C
MIO-5379C5P-Q9A1	Core Ultra 5, 225H	14C/4P+8E	4.9/4.3	28W	Active Cooler	0-60° C
MIO-5379C7-R2A1	Core Ultra 7, 255U	14C/2P+8E	5.2/4.2	15W	Passive Heatsink	0-60° C
MIO-5379C5-Q8A1	Core Ultra 5, 225U	14C/2P+8E	4.8/3.8	15W	Passive Heatsink	0-60° C

Packing List

Part No.	Description	Quantity
	MIO-5379 SBC	
1700030406-01	USB 2.0 Cable 20cm	1
1700031582-01	COM2-4, COM RS-232 4-Wire Cable, D-SUB 9P(M) 20cm	3
1700031582-01	COM1 RS-232/422/485 Cable 20cm	1
1970005512T001	Active cooler for TDP 28W CPU	1
1970005973T001	Passive heatsink for TDP 15W CPU	1

Optional Accessories

Part No.	Description
TBD	Heat spreader
MIOe-TCPD-P1A1	MIOe-TCPD Module
1700035016-01	4 wires COM RS-422/485 cables

Embedded OS/API

OS	Part No.	Description
WIN11	TBD	64-bit (UEFI mode only)
Ubuntu	TBD	Ubuntu Desktop 22.04 LTS
Software API	Download by website	SUSI v4.0

Rear I/O View



Compatible Expansion Boards

MIOe-TCPD



CE FCC

Specifications

Power	Output Power Voltage	20V 5A
	USB Power Delivery Standard	PD 2.0
	Max. Power	100watt
	Input DC Voltage	12-24V
Environment	Temperature	Operating: -40 ~ 85° C (-40 ~ 185° F) Storage: -40 ~ 85° C (-40 ~ 185° F)
	Humidity	Operating: 40° C @ 95% relative humidity, non-condensing Storage: 60° C @ 95%relative humidity, non-condensing
	Vibration Resistance	3.5 Grms
Certification	EMC	CE, FCC Class B
Compatibility	Compatible SBC	MIO-5379 series
Mechanical	Dimensions	70 x 40 x 1.6 mm

Ordering Information

Part No.	Description
MIOE-TCPD-P1A1	MIOe-TCPD 100W PD module