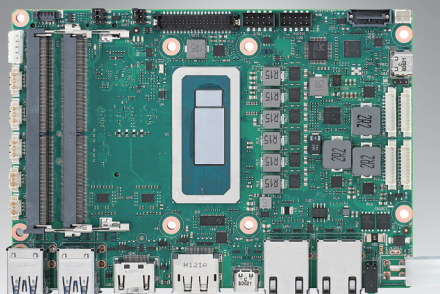


MIO-5377

12th Gen. Intel® Core™ Processor (Code Name: Alder Lake-P) 3.5" SBC

NEW



Windows 10

WISE-DeviceOn iManager



Specifications

Platform	Processor	i7-1270PE	i7-1265UE	i5-1245UE	i3-1215UE	7305E
	Max. Frequency	4.5GHz	4.7GHz	4.4GHz	4.4GHz	N/A
	Base Frequency	1.8GHz	1.7GHz	1.5GHz	1.2GHz	1.0GHz
	Core/Thread	4P+8E/16T	2P+8E/12T	2P+8E/12T	2P+4E/8T	1P+4E/5T
	LLC	18MB	12MB	12MB	10MB	8MB
	CPU TDP	28W	15W	15W	15W	15W
Memory	Chipset	On-package Intel 600 Series Chipset				
	BIOS	AMI EFI 256Mbit				
	Technology	DDR5-4800				
Graphics	Max. Capacity	Up to 64GB				
	Channel/Socket	Dual Channels / 2 Sockets				
	Controller	Intel® Iris® Xe Graphics				
Display I/F	Max. Frequency	1.35GHz	1.25GHz	1.2GHz	1.1GHz	1.1GHz
	Execution Unit	96	96	80	64	48
	3D/HW Acceleration	DX12, OGL4.0, OCL1.2, HW Encode: H.265/HEVC, H.264, MPEG2, HW Decode: H.265				
Ethernet	LCD	1 x LVDS: Dual Channel 18/24-bit, up to 1920 x 1200				
	HDMI/DP	1 x HDMI 2.0b, up to 4096 x 2160 x 24bpp@60Hz 1 x DP1.4a, up to 4096 x 2304 x 36bpp@60Hz				
	Multiple Display	4 simultaneous displays via LVDS + HDMI + DP + USB Type-C Alt. Mode				
External I/O	Controller	LAN1: Intel i219LM, LAN2: Intel i226				
	Speed	LAN1: GbE, LAN2: 2.5GbE				
	Ethernet	2 x RJ-45				
Internal I/O	HDMI/DP	1/1				
	USB Type-C	1 x USB3.2 Gen2, support DisplayPort1.4a Alt. Mode				
	USB3.2	4 x USB3.2 Gen2x1 10Gbps				
Board Feature	LED	Power status, SATA R/W				
	Power DC-Jack	Optional				
	SATA	1 x SATA Gen3 6.0Gbps				
Expansion	USB4	1 (Type-C)				
	USB2.0	2				
	COM Port	2 x RS-232/422/485, 2 x RS-232 (4-wire), max. 1Mbps				
Power	CANBus	2 x CAN2.0				
	Serial Bus	3 x I2C 1Mbps (default), 1 x SMBus* (optional to I2C1)				
	Audio	Realtek ALC888s, Line-in/Line-out/MIC				
Environment	GPIO	8-bit general purpose input output I/O				
	Inverter	12V/5V/3.3V selectable				
	Fan	12V, 1A (4-wire)				
Certification	Front Panel Control	Power-on, Reset, Buzzer, SATA LED, CaseOpen				
	Watchdog Timer	65536 level, 0~65535 sec				
	TPM	Discrete TPM2.0, iTPM* support by request				
Mechanical	iManager 3.0	SW API for Hardware Monitor, Smart Fan Control, Brightness Control, I2C, GPIO, WDT				
	M.2 E-Key	1 x E-Key 2230 (PCIex1, USB2.0)				
	M.2 B-Key	1 x B-Key 3042 LTE/3052 5G** w/ Nano SIM, B-Key default 3042 length				
Power	M.2 M-Key	1 x M-Key 2280 (PCIex4 Gen.4 NVMe)				
	Supply Voltage	Vin: DC 12V~24V +/- 10%; RTC Battery: Lithium 3V/210mAH				
	Connector	ATX 2x2 pin 90D, optional DC-Jack or ATX 2x2 pin 180D				
Environment	Power Management	AT, ATX				
	Max. Consumption	28.86W (12V), 30.24W (24V)	23.80W (12V), 24.70W (24V)	23.71W (12V), 24.40W (24V)	TBU	TBU
	Idle Consumption	24.45W (12V), 25.04W (24V)	11.86W (12V), 13.03W (24V)	11.80W (12V), 12.55W (24V)	TBU	TBU
Certification	Temperature	Operating: Standard: 0 ~ 60° C (32 ~ 140° 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				
Mechanical	EMC	CE, FCC Class B				
	Dimensions	146 x 102 mm (5.7" x 4")				

*Note: Support by request

**Note: 5G module test with Fibocom FM350 (MediaTek)

ADVANTECH

MI/O Extension SBCs, Modules and Chassis

All product specifications are subject to change without notice.

Last updated: 15-May-2023

Features

- 12th Gen. Intel® Core™ Processor up to 12 Cores, TDP 28/15W
- Dual Channel DDR5-4800 up to 64GB
- 4 simultaneous displays: LVDS/HDMI/DP/USB-C Alt. DP
- 2x GbE, 6x USB, 1x USB4, 4x UART, 2x CANBus, 3x I2C
- 3 Expansions: M.2 E-Key, B-Key, M-Key (support NVMe)
- Supports iManager & Software APIs, WISE-DeviceOn

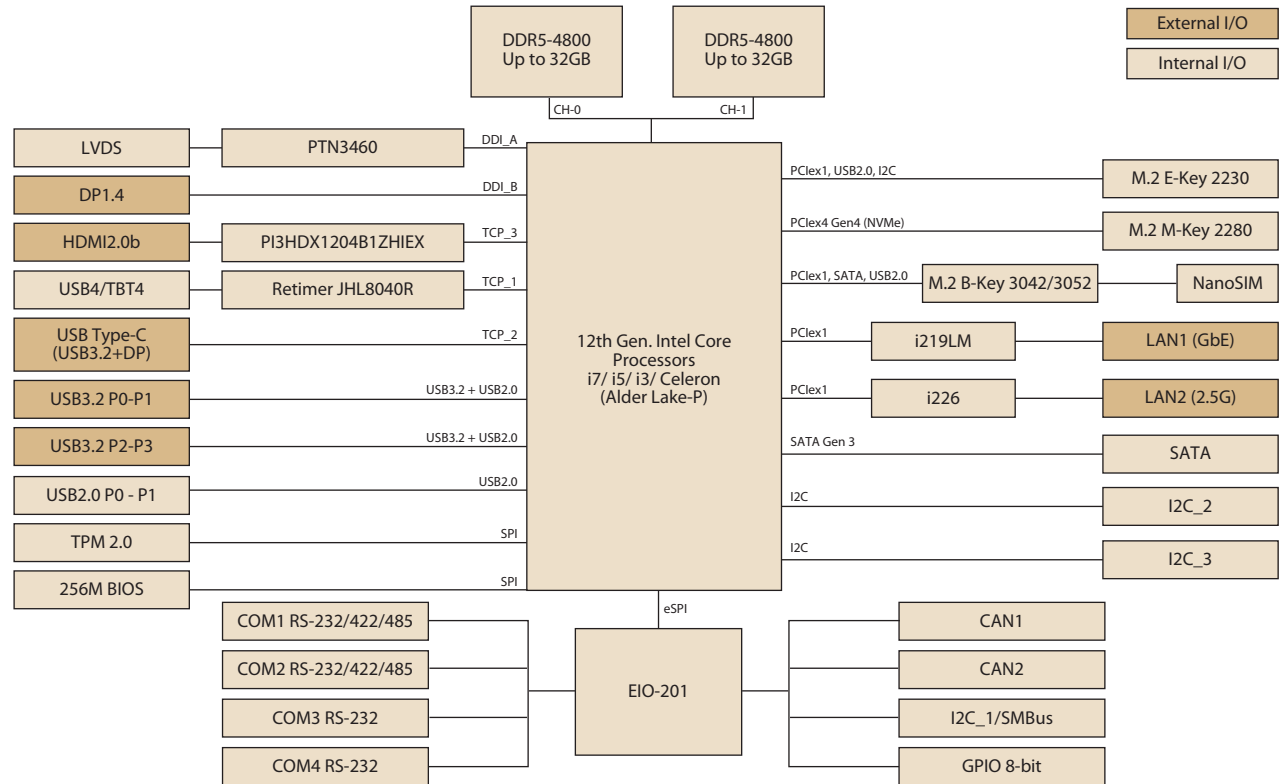
Software APIs:



Utilities:



Block Diagram



Ordering Information

Part No.	CPU	TDP	Max Frequency	Cable Kit	Thermal Solution	Operating Temperature
MIO-5377C7P-Q5A1	i7-1270PE	28W	4.5GHz	Y	Active	0 ~ 60 °C
MIO-5377C7-Q7A1	i7-1265UE	15W	4.7GHz	Y	Passive	0 ~ 60 °C
MIO-5377C5-Q4A1	i5-1245UE	15W	4.4GHz	Y	Passive	0 ~ 60 °C
MIO-5377C3-Q4A1	i3-1215UE	15W	4.4GHz	Y	Passive	0 ~ 60 °C
MIO-5377CR-S0A1	Celeron 7305E	15W	NA	Y	Passive	0 ~ 60 °C

Packing List

Part No.	Description	Quantity
	MIO-5377 SBC	
2046537700	Startup Manual	1
1700006291	SATA cable 30cm	1
1700031583-01	SATA Power cable, 15P/1*2P-2.0 35cm	1
1700030406-01	M Cable 2*5P-2.0/USB-A 4P(F)*2 20cm	1
1700030404-01	RS-232 9P(M)/1*10P-1.25 20cm	2
1700031582-01	COM3/4 Cable, D-SUB 9P(M)/1*5P-1.25 20cm	2
1700019584-01	A Cable 2*5P-2.0/Audio JACK*3 20cm	1
1970005548T001	MIO-5377 Heatsink (Passive)	1
1970005512T001	MIO-5377 QFCS (Active)	1

Optional Accessories

Part No.	Description
1970005615T001	MIO-5377 Heatspreader

Embedded OS/API

OS	Part No.	Description
WIN10	20706WX1HS0006 (Win10 PN)	64-bit (UEFI mode only)
Ubuntu 22.04 LTS	20706U22DS0001	
Software API	Download by website	
Yocto BSP		

Rear I/O View

