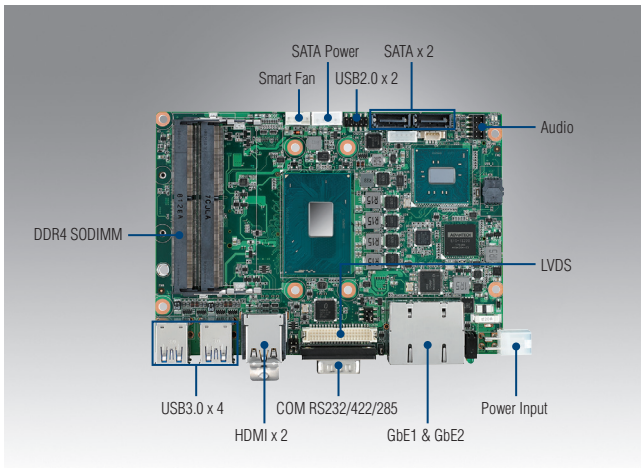


MIO-5391

7th Gen Intel Core Mobile Processors, Xeon, i7, i5, i3 3.5" SBC w/ MIOe



Specifications

Platform	Processor	i7-7820EQ	i5-7442EQ	i3-7102E	E3-1505MV6
	Max. Frequency	3.7 GHz	2.9 GHz	-	4.0 GHz
Memory	Base Frequency	3.0 GHz	2.1 GHz	2.1 GHz	3.0 GHz
	Core/Tread	4	4	2	4
Graphics	LLC	8MB	6MB	3MB	8MB
	CPU TDP	45W	25W	25W	45W
Display I/F	Chipset	QM175	QM175	QM175	CM238
	BIOS	AMI UEFI 128Mbit			
Ethernet	Technology	DDR4 up to 2400MHz			
	Max. Capacity	Up to 32GB			
External I/O	Channel/Socket	Dual Channel 260P SO-DIMM (1 DIMM per Channel)			
	ECC Support	ECC is supported with Xeon SKU			
Internal I/O	Controller	Intel Gen 9 low power graphics			
	Max. Frequency	1GHz			
Board Feature	Base Frequency	350MHz			
	Graphics Memory	Intel DMVTS.0, share memory up to 1024MB			
Storage	3D/HW Acceleration	HW Codec: H.265/HEVC 8bit/10bit encode/decode; VP8 8bit encode/decode; VP9 10bit decode; MPEG2; JPEG; VC1/MMV9. Direct3D 2015/11.2/11.1/10/9; OpenGL5.0; OpenCL 2.0/1.2/1.0			
	LVDS	48-bit LVDS up to WUXGA 1920 x 1200 at 60Hz			
Expansion	HDMI	Supports 3.3/5/12V for VDD power, 5/12V for inverter			
	Multit-Display	Supports 2 ports HDMI 1.4 for HD Video playback			
Power	Controller	LAN1: Intel 219LM, LAN2: Intel 210IT			
	Speed	10/100/1000 Mbps			
Environment	Ethernet	2 x RJ-45			
	VGA/HDMI/DP	-/2/-			
Certification	USB3.0/USB2.0	4/-			
	COM Port	1 x RS-232/422/485			
Mechanical	LED	Power status, HDD R/W			
	Power DC-Jack	Optional			
Safety	SATA	2 x SATA GenIII 6.0Gbps			
	USB2.0	2			
Dimensions	Serial Bus	SMBus default, I2C optional			
	COM Port	1 x RS-232/422/485			
Temperature	GPIO	16-bit general purpose input output I/O (Option to 2x COM ports, RS-232 only)			
	Audio	Realtek ALC888S, High Definition Audio (HD), Line-in, Line-Out, Mic-in			
Humidity	Inverter	3.3/5/12V for VDD power, 5/12V for inverter			
	LPC/SPI Bus	-			
Vibration Resistance	CAN Bus	-			
	Fan	1 x Smart Fan			
EMC	Front Panel Control	Power-on, Reset, Buzzer, ...			
	Watchdog Timer	65536 level, 0-65535 sec			
Safety	TPM	TPM2.0 (support by request)			
	iManager 3.0	Yes			
Safety	SATA	2, up to 6Gb/s (600 MB/s)			
	mSATA	1 x Full-size			
Safety	NVME*	1, dimension: 2230; PCIe x2			
	M.2	E-Key (PCIe x1, USB2.0)			
Safety	mPCIe/mSATA	1 x full size mSATA with Sim holder			
	MIO Extension	DDI x1, 4 PCIe x1, USB2.0, LPC, SMBUS, rest, Line out, Power on			
Safety	Supply Voltage	Vin: DC 12V +/- 10%; RTC Battery: Lithium 3V/210mAh			
	Power Management	ATX 2x2 pin 90D, optional DC-Jack or ATX 2x2 pin 180D			
Safety	Max. Consumption	67.6W	50.729W	29.623 W	TBD
	Idle Consumption	8.2W	6.595W	5.333 W	TBD
Safety	Temperature	Operating: Standard: 0 ~ 60° C (32 ~ 140° F), Extend: -40 ~ 85° C (-40 ~ 185° F)			
	Humidity	Storage: -40 ~ 85° C (-40 ~ 185° F)			
Safety	Vibration Resistance	Operating: 40° C @ 95% relative humidity, non-condensing			
	EMC	Storage: 60° C @ 95% relative humidity, non-condensing			
Safety	Certification	CE, FCC			
	Safety	-			
Safety	Dimensions	146 x 102 mm (5.7" x 4")			

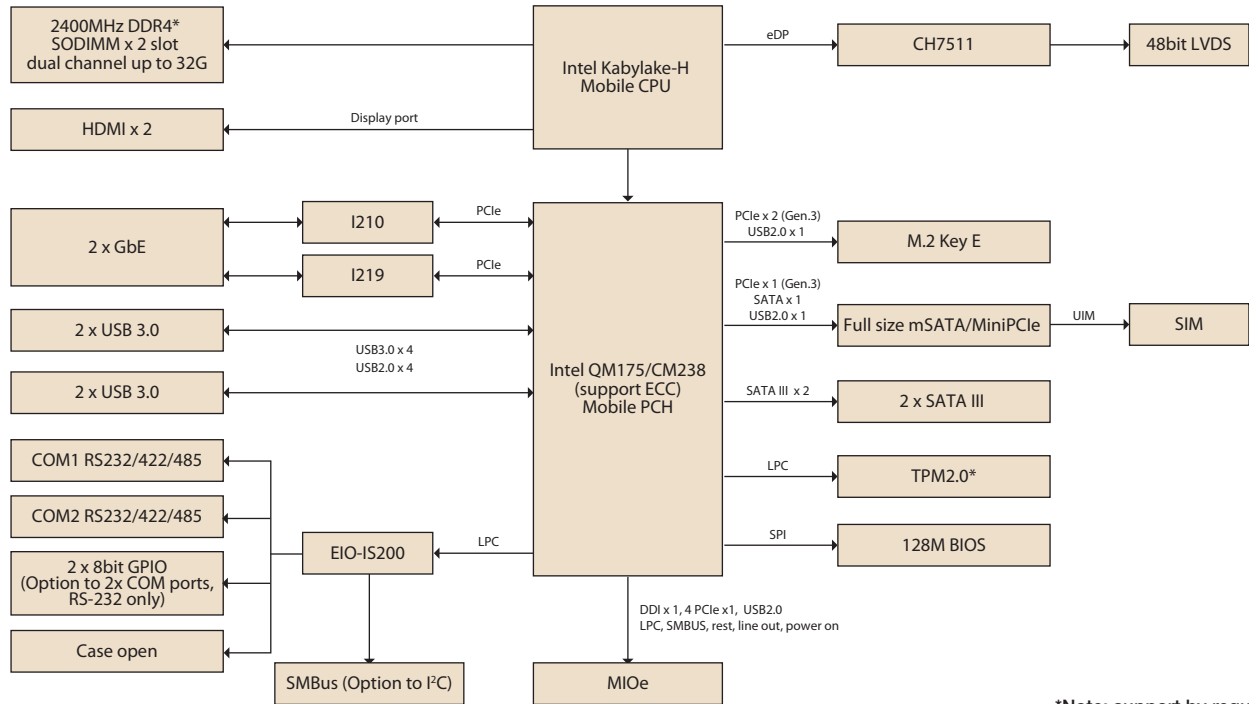
Features

- 7th Gen Intel Core i7/i5/i3 + PCH QM175 & Xeon + PCH CM238
- Dual channel DDR4 2400, Max 32GB
- 1 Intel i210 GbE & 1 Intel i219 GbE support iAMT, rich I/O: 2COM, SATA, USB3.0, SMBus/I2C, 16 bit GPIO full-size Mini PCIe or mSATA /M.2 E Key support NVME, 12V Power input
- Full-size Mini PCIe or mSATA /M.2 E Key
- Support NVME (optional)
- Supports iManager, WISE-PaaS/RMM, emb. SW API

Software APIs:



Block Diagram



*Note: support by request

Ordering Information

Part No.	CPU	Max. Frequency	Core	TDP	DDR4 Memory	PCH	Thermal Solution	Operating Temperature
MIO-5391E4M-H0A2	E3-1505MV6	4.0GHz	4	45W	ECC support	CM238	Active	0 ~ 60 °C
MIO-5391C7-H0A2	i7-7820EQ	3.7GHz	4	45W	non-ECC	QM175	Active	0 ~ 60 °C
MIO-5391C5-U1A2	i5-7442EQ	2.9GHz	4	25W	non-ECC	QM175	Passive	0 ~ 60 °C
MIO-5391C3-U1A2	i3-7102E	2.1GHz	2	25W	non-ECC	QM175	Passive	0 ~ 60 °C
MIO-5391E4MZ2-H0A2	E3-1505MV6	4.0GHz	4	45W	ECC support	CM238	Active	-40 ~ 85 °C
MIO-5391C7Z2-H0A2	i7-7820EQ	3.7GHz	4	45W	non-ECC	QM175	Active	-40 ~ 85 °C
MIO-5391C5Z2-U1A2	i5-7442EQ	2.9GHz	4	25W	non-ECC	QM175	Passive	-40 ~ 85 °C

Packing List

Part No.	Description	Quantity
MIO-5391 SBC	MIO-5391 SBC	1
2006539100	Startup Manual	1
1700006291	M Cable SATA 7P/SATA 7P 30cm C=R 180/90	1
1700018785	SATA 35cm power cable	1
1700019414	A Cable D-SUB 9P(M)/2*5P-2.0 30cm for FWA-5442	1
1700019584	Audio Cable 2*5P-2.0/JACK*3 20cm	1
	mini Jumper pack	1
1960089060T001	Cooler (for TDP 45W SKU)	1
1960089142T001	Heatsink (for TDP 25W SKU)	1

Optional Accessories

Part No.	Description
1960090936N001	Heat spreader (16.7mm height)
1700002172	Internal 2 ports USB cable 17CM

Embedded OS/API

Embedded OS/API	Part No.	Description
WIN10 for I7 & Xeon SKUs	20706WX9HS0017	img W10 19HL MIO-5391 64b 1809 ENU
WIN10 for I5 & I3 SKUs	20706WX9VS0020	img W10 19VL MIO-5391 64b 1809 ENU
Software API		SUSI 4.0/iManager 3.0
Software API		WisePaaS/DeviceOn

Rear I/O View

