

MIO-5376

AMD Ryzen™ Embedded R2000 Series 3.5" SBC

NEW



Features

- AMD Ryzen™ Embedded R2000 Processor with Quad Cores, cTDP 12W/15W/25W
- Dual Channel DDR4-2667 up to 32GB
- 3 simultaneous displays: LVDS/HDMI/DP
- 3 GbE (2 support optional PoE, 802.3af), CAN Bus, DC-in 12-24V
- Expansion: M.2 E-Key/B-Key/M-Key (supports NVMe)
- Supports iManager & Software APIs, WISE-DeviceOn

Software APIs:



Watchdog



I²C



SMBus



H/W Monitor



GPIO



Brightness

Utilities:



BIOS flash



Monitoring



Embedded Security ID

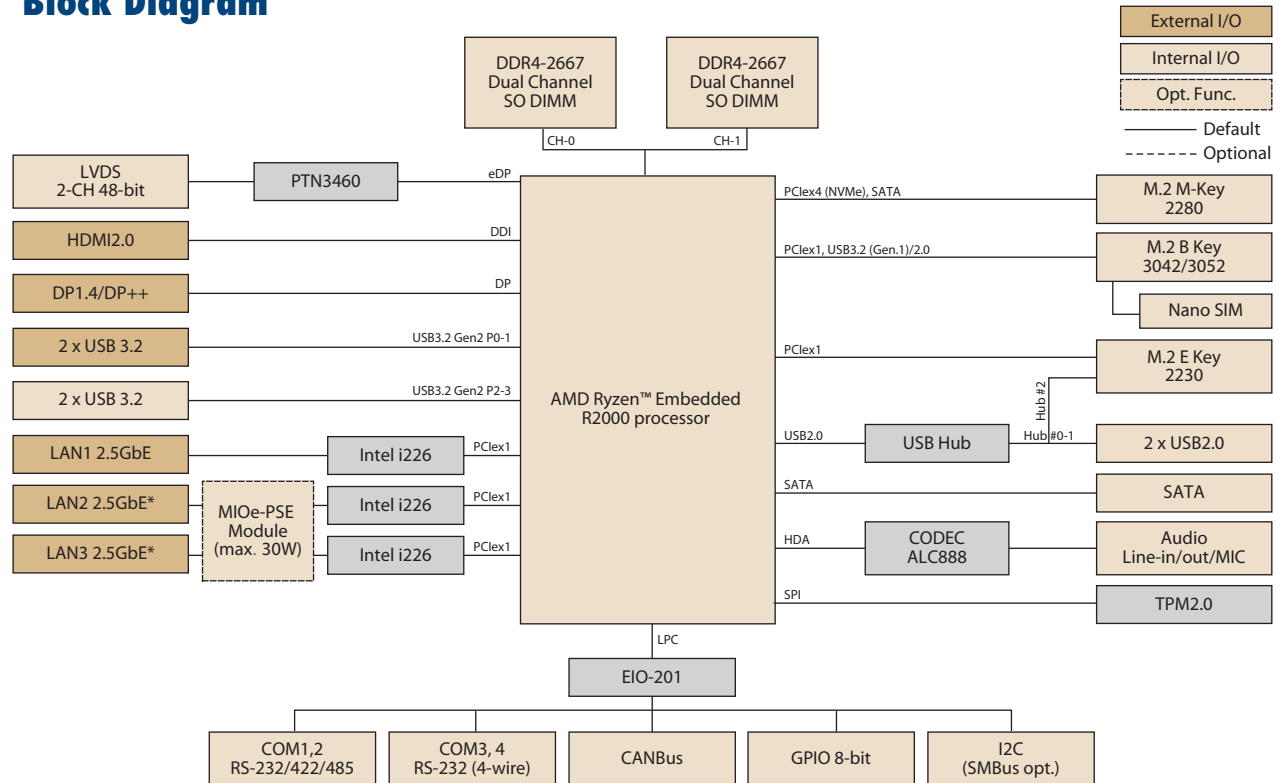
ubuntu® Windows 10 iManager WISE-DeviceOn CE FCC

Specifications

Platform	Processor	R2314 SoC with AMD Radeon™ Graphics	R2514 SoC with AMD Radeon™ Graphics*
	Max. Frequency	3.50 GHz	3.70 GHz
	Base Frequency	2.1 GHz	2.1 GHz
	Core/Tread	4/4	4/8
	CPU cTDP/ TDP	12W/15W/25W	
	Chipset	AMD Ryzen™ Embedded R2000 processor	
	BIOS	AMI EFI 256Mbit	
Memory	Technology	DDR4-2667	
	Max. Capacity	Up to 32GB	
	Channel/Socket	Dual Channels / 2 Sockets	
	ECC Support	No	
Graphics	Controller	Integrated AMD Radeon Graphics R2314: 6 Computing Units (CUs)	
Display I/F	LCD	1 x LVDS: Dual Channel 18/24-bit, up to 1920 x 1200	
	HDMI	1 x HDMI 2.0b, up to 4Kx2Kx24bpp@60Hz	
	DP	1 x DP1.4a, up to 4096x2304x36bpp@60Hz or 5120x3200x24bpp@60Hz	
	Multiple Display	3 simultaneous displays with each display interface combinations	
External I/O	Ethernet	3 x GbE, Intel i226	
	HDMI/DP	2 support optional PSE compliant to 802.3af (15.4W per port) with external PSE power module (Model name: MIOe-PSE)	
	USB3.2	1/1	
	LED	2 x USB3.2 Gen. 2x1 10Gbps	
	Power Connector	Power status, SATA R/W	
		2-pin phoenix connector	
Internal I/O	SATA	1 x SATA III 6.0 Gbps	
	USB3.2	2	
	USB2.0	2	
	Serial Bus	I2C, SMBus* (Option)	
	COM Port	2 x RS-232/422/485, 2 x RS-232 (4-wire)	
	GPIO	8-bit general purpose input output I/O	
	Audio	Realtek ALC888, Line-in/Line-out/MIC	
	Inverter	12V/5V/3.3V selectable	
	CAN Bus	1 x CANBus 2.0	
	Fan	4-wire smart fan	
	Front Panel Control	Power-on, Reset, Buzzer, SATA LED, CaseOpen	
	Watchdog Timer	65536 level, 0-65535 sec	
Board Feature	TPM	TPM2.0	
	iManager 3.0	SW API for Hardware Monitor, Smart Fan Control, Brightness Control, I2C, GPIO, WDT	
Expansion	M.2 E-Key	1 x E-Key 2230 (PCIe x1, USB2.0)	
	M.2 B-Key	1 x B-Key 3042/ 3052 (PCIe x1, USB3.2/ 2.0) w/ Nano-SIM	
	M.2 M-Key	1 x M-Key 2280 (PCIe Gen3x4 SSD, SATA III)	
	Supply Voltage	Vin: DC 12V-24V ±10%; RTC Battery: Lithium 3V/210mAH	
Power	Connector	2-pin phoenix connector	
	Power Management	AT, ATX	
	Max. Consumption	29.59W (12V), 30.42W (24V)	41.19W (12V), 43.23W (24V)
	Idle Consumption	16.95W (12V), 18.11W (24V)	18.10W (12V), 18.70W (24V)
Environment	Temperature	Operating: Standard: 0 ~ 60 °C (32 ~ 140 °F) Storage: 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: Support by request

Block Diagram



*Optional PoE LAN requires external MIOe-PSE module, which provides dual 15.4W port (LAN2 & LAN3) or single port 30W (LAN2)

Ordering Information

Part Number	CPU	TDP	Max. Freq	Core	Gbe	USB 3.2	USB 2.0	RS232/422/485	RS232	TPM2.0	Thermal solution	Operating Temp
MIO-5376R-P5A1	Ryzen R2314	15W	3.5GHz	4	3	4	2	2	2	Y	Passive Heatsink	0 ~ 60 °C

Packing List

Part No.	Description	Quantity
2046537600	MIO-5376 SBC	1
1970005548T001	Startup Manual	1
1700006291	MIO-5376 Passive Heatsink for 15W or below	1
1700031583-01	SATA 7P/SATA 7P 30cm C=R 180/90	1
1700032181-01	SATA power 15P/1*2P-2.0 35cm	1
1700030406-01	Cable 20P-2.0/USB-A 9P(F)x2 35CM	1
1700030406-01	USB2.0 2*5P-2.0/USB-A 4P(F)*2 20cm MIO	1
1700030404-01	COM1, COM2 D-SUB 9P(M)/1*10P-1.25 20cm MIO	2
1700031582-01	COM3, COM4 D-SUB 9P(M)/1*5P-1.25 20cm	2
1700019584-01	Audio 2*5P-2.0/Audio JACK*3 20cm	1

Optional Accessories

Part No.	Description
1970005615T001	Heat spreader
MIOE-PSE-DPA1	MIOe-PSE Dual PSE Ports Power Module (15.4W x 2)
1970005512T001	MIO-5376 Active Cooler for 25W

Embedded OS/API

OS	Part No.	Description
WIN10	20706WX1ES0031	64-bit (UEFI mode only)
Ubuntu 22.04	20706U22DS0002	Ubuntu Desktop 22.04 LTS 64-bit Image & License Sticker for MIO-5376
Software API	Download by website	SUSI v4.0

Rear I/O View



Compatible Expansion Boards

MIOe-PSE



CE FCC

Specifications

Output DC Voltage	50V
Input DC Voltage	12-24V
Power Sourced at PSE module	15.4W / 30W per port
Power at PD (End-point)	12.95W / 25.5W per port
PoE Standard	IEEE 802.3 at
Operating temperature	-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
EMC	CE, FCC Class B
Dimensions	72.1 x 44.0 x 1.6 mm

Ordering Information

P/N	Description
MIOE-PSE-DPA1	MIOe-PSE PoE Module A1 Dual 15.4W
MIOE-PSE-SPA1	MIOe-PSE PoE Module A1 Single 30W