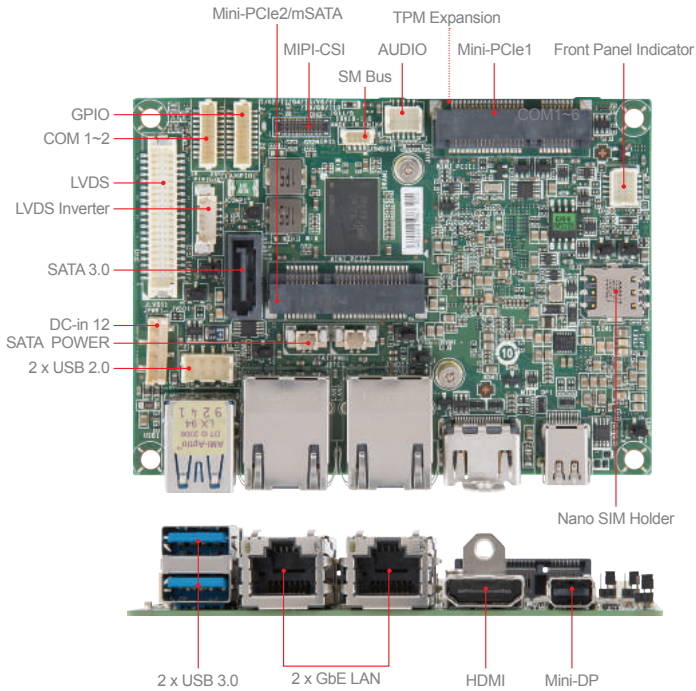


MS-9816

Pico-ITX SBC with Intel® Apollo Lake/Apollo Lake-I for Fanless, Low-Power, High-Performance, Wide Temperature & Harsh environment Solution

NEW



Features

- Intel® Apollo Lake/Apollo Lake-I Series SoC
- Supports LPDDR4 2133/2400 MHz onboard memory up to 4GB
- 3 independent displays: HDMI, Mini-DP and LVDS
- 2 USB 3.0, 2 USB 2.0, and 2 COM ports
- Dual Mini-PCIe, SATA3.0, mSATA, NANO SIM-Holder
- Apollo Lake-I Series support wide operating temperature : -40 ~ 85°C
- Supports Dual GbE LAN
- Supports MIPI-CSI2.0 interface for Camera
- Compact design for size-sensitive & anti-vibration devices in harsh environments
- 1 x MIPI-CSI 2.0 (by request)

Ordering Information

Part Number	Description
919-9816-001	MS-9816 10, Apollo Lake N4200, Onboard LPDDR4 4GB, 1*HDMI, 1*LVDS, 1*Mini-DP, 1*MIPI, 2*Mini-Pcie, 2* USB3.0, 2*USB2.0, 1*SATA3.0, 2*COM, 2*LAN, DC 12V, SINGLE
919-9816-002	MS-9816 10, Apollo Lake N3350, Onboard LPDDR4 4GB, 1*HDMI, 1*LVDS, 1*Mini-DP, 1*MIPI, 2*Mini-Pcie, 2* USB3.0, 2*USB2.0, 1*SATA3.0, 2*COM, 2*LAN, DC 12V, SINGLE
919-9816-003	MS-9816 10, Apollo Lake-I E3940, Onboard LPDDR4 4GB, 1*HDMI, 1*LVDS, 1*Mini-DP, 1*MIPI, 2*Mini-Pcie, 2* USB3.0, 2*USB2.0, 1*SATA3.0, 2*COM, 2*LAN, DC 12V, SINGLE
919-9816-004	MS-9816 10, Apollo Lake-I E3930, Onboard LPDDR4 4GB, 1*HDMI, 1*LVDS, 1*Mini-DP, 1*MIPI, 2*Mini-Pcie, 2*USB3.0, 2*USB2.0, 1*SATA3.0, 2*COM, 2*LAN, DC 12V, SINGLE

Packing List

Part Number	Description	Quantity
K14-3018001-V03	COM PORT Cable, 150mm	1
K1B-3008034-V03	USB Cable, 150mm	1
K1D-3010008-V03	SATA Cable with Power, 150mm	1
K1G-3004057-V03	DC Power Cable, 150mm	1
G71-SEDC177-X03	Driver DVD	1

Specifications

		Apollo Lake SKUs	Apollo Lake-I SKUs
		Processor	CPU Intel® Pentium® Processor N4200, QC, 6W Intel® Celeron® Processor N3350, DC, 6W Frequency N4200, 1.5 GHz, up to 2.5 GHz N3350, 1.1 GHz, up to 2.3 GHz L2 Cache 2M CPU Type BGA Chipset Integrated in SoC BIOS AMI
Memory	Technology Single-channel LPDDR4 2400MHz Max. Capacity Up to 4GB Socket Onboard	Single-channel LPDDR4 2133MHz	
Display	Controller Intel® HD Graphics Graphic Memory Shared system memory up to 1.7 GB SDRAM LVDS Dual Channel 18/24-bit eDP N/A VGA N/A DVI N/A HDMI 1 DisplayPort 1 (Mini-Displayport) Multiple Display 3 independent displays Display Interface LVDS up to 1920 x 1200 @60Hz HDMI up to 3840 x 2160 @30Hz Mini-DP up to 4096 x 2160 @60Hz		
Ethernet	Controller 2 x Intel® I211-AT GbE LAN 2 x Intel® I210-IT GbE LAN		
Audio	Controller Realtek® ALC887-VD2-CG HD Audio Codec		
Super I/O	Controller Fintek F81866AD-I		
H/W Monitor	Watchdog Timer 256-level Watchdog Timer Smart Fan N/A		
TPM	Controller Pin header		
I/O Interface	USB 2 x USB 2.0 (2 x internal) 2 x USB 3.0 (2 x rear) Serial 2 x COM ports (internal) COM1: RS-232/422/485, 0V/5V/12V COM2: RS-232/422/485, 0V/5V/12V GPIO 16-bits (8 x GPI; 8 x GPO), 5V		
Expansion Slot	Mini-PCIe 1 x Full-size 1 x Half-size (Mini-PCIe Full-size Slot w/ NANO SIM-Holder) (Mini-PCIe Half-size Slot w/ mSATA)		
Storage	SATA 1 x SATA 3.0 mSATA 1 (Shared with Mini-PCIe Half-size)		
Power Supply	DC DC-in 12V ATX N/A		
Environment	Operating Temperature -10 ~ 60°C -40 ~ 85°C Operating Humidity 10 ~ 90%, non-condensing Storage Temperature -20 ~ 80°C -40 ~ 85°C Storage Humidity 10 ~ 90%, non-condensing		
Form Factor	Dimensions 101 x 73mm (Pico-ITX) Weight 0.27 kg		
Certification	EMC FCC, CE, RCM, VCCI, BSMI		
Software Platform	OS Support Windows 10 (64-bit) Linux Fedora 25 (by request) Linux Ubuntu 16.04 (by request)		

Optional Item

Part Number	Description
E31-0805810-K08	Heartspreader for Apollo Lake
E31-0805820-K08	Heartspreader for Apollo Lake-I

Semi-rugged Terminal
POS System
HMI Panel PC
Embedded System
Embedded Board
COM Express Board
Oseven Board
Pico-ITX Board
3.5" Board
EPIC Board
PICMG 1.0 Board
Mini-ITX Board
Micro-ATX Board
ATX Board
Mini-PCIe Module