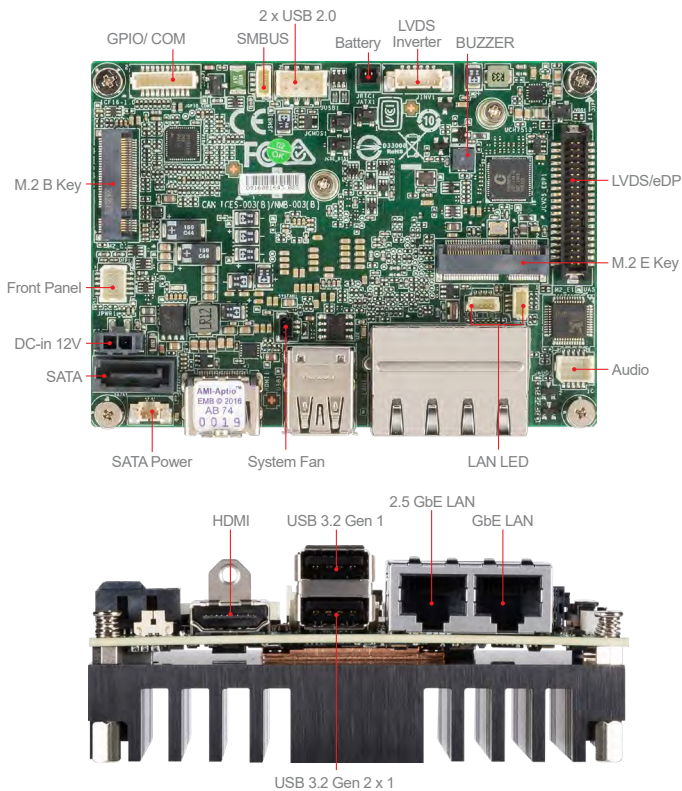


MS-CF16

Pico-ITX SBC with Intel® Alder Lake-N/Amston Lake/Twin Lake for Fanless, Low-Power, High-Performance, Wide Temperature & Harsh environment Solution

NEW



Features

- Intel® Alder Lake-N/Amston Lake/Twin Lake Series SoC
- LPDDR5 4800 MHz onboard memory up to 16GB
- Dual independent displays: HDMI, LVDS/eDP
- 1 2.5 GbE/1 GbE LAN with RJ-45
- 2 USB 3.2 (Bottom layer USB 3.2 Gen 2 x 1, Top layer USB 3.2 Gen 1), 2 USB 2.0, 1 COM (RS-232/422/485), GPIO, Audio
- 1 M.2 B Key, 1 M.2 E Key Slot
- SATA 3.0 for storage
- Wide operating temperature : -40~70°C
- DC-IN 12V

Ordering Information

Part Number	Description
916-CF16-002	MS-CF16006-CF16-090/806-CF16-015 13 INTEL ADL-N N97, LPDDR5 4GB, 1*HDMI, 1*LVDS/eDP, 1*M.2 E key, 1*M.2 B key, 1*2.5GbE LAN, 1*GbE LAN, 1*SATA 3.0, 1*USB 3.2 Gen 2, 1*USB 3.2 Gen 1, 2*USB 2.0, GPIO, 1*COM, TPM2.0, DC-in 12V/Non-WT, Single 12-PACK For Channel
916-CF16-003	MS-CF16006-CF16-100/806-CF16-016 13 INTEL ADL-N N97, LPDDR5 8GB, 1*HDMI, 1*LVDS/eDP, 1*M.2 E key, 1*M.2 B key, 1*2.5GbE LAN, 1*GbE LAN, 1*SATA 3.0, 1*USB 3.2 Gen 2, 1*USB 3.2 Gen 1, 2*USB 2.0, GPIO, 1*COM, TPM2.0, DC-in 12V/Non-WT, Single 12-PACK For Channel
916-CF16-004	MS-CF16006-CF16-110/806-CF16-017 13 INTEL ADL-N N97, LPDDR5 16GB, 1*HDMI, 1*LVDS/eDP, 1*M.2 E key, 1*M.2 B key, 1*2.5GbE LAN, 1*GbE LAN, 1*SATA 3.0, 1*USB 3.2 Gen 2, 1*USB 3.2 Gen 1, 2*USB 2.0, GPIO, 1*COM, TPM2.0, DC-in 12V/Non-WT, Single 12-PACK For Channel
916-CF16-005	MS-CF16006-CF16-120/806-CF16-018 13 INTEL ADL X7425E, LPDDR5 8GB, 1*HDMI, 1*LVDS/eDP, 1*M.2 E key, 1*M.2 B key, 1*2.5GbE LAN, 1*GbE LAN, 1*SATA 3.0, 1*USB 3.2 Gen 2, 1*USB 3.2 Gen 1, 2*USB 2.0, GPIO, 1*COM, TPM2.0, DC-in 12V/Non-WT, Single 12-PACK For Channel
916-CF16-006	MS-CF16006-CF16-130/806-CF16-019 13 INTEL ASL X7433RE, LPDDR5 8GB, 1*HDMI, 1*LVDS/eDP, 1*M.2 E key, 1*M.2 B key, 1*2.5GbE LAN, 1*GbE LAN, 1*SATA 3.0, 1*USB 3.2 Gen 2, 1*USB 3.2 Gen 1, 2*USB 2.0, GPIO, 1*COM, TPM2.0, DC-in 12V/WT, Single 12-PACK For Channel
916-CF16-007	MS-CF16006-CF16-140/806-CF16-020 13 INTEL ASL X7433RE, LPDDR5 16GB, 1*HDMI, 1*LVDS/eDP, 1*M.2 E key, 1*M.2 B key, 1*2.5GbE LAN, 1*GbE LAN, 1*SATA 3.0, 1*USB 3.2 Gen 2, 1*USB 3.2 Gen 1, 2*USB 2.0, GPIO, 1*COM, TPM2.0, DC-in 12V/WT, Single 12-PACK For Channel
916-CF16-019	MS-CF16006-CF16-280/806-CF16-035 13 INTEL TWL-N N150, LPDDR5 4GB, 1*HDMI, 1*LVDS/eDP, 2*M.2 E key, 1*2.5G LAN, 1*1G LAN, 1*SATA 3.0, 1*USB 3.2 Gen 2, 1*USB 3.2 Gen 1, 2*USB 2.0, 1*GPIO/COM, TPM2.0, DC-in 12V/Non-WT, Single 12-PACK For Channel
916-CF16-020	MS-CF16006-CF16-290/806-CF16-036 13 INTEL TWL-N N150, LPDDR5 8GB, 1*HDMI, 1*LVDS/eDP, 2*M.2 E key, 1*2.5G LAN, 1*1G LAN, 1*SATA 3.0, 1*USB 3.2 Gen 2, 1*USB 3.2 Gen 1, 2*USB 2.0, 1*GPIO/COM, TPM2.0, DC-in 12V/Non-WT, Single 12-PACK For Channel

Specifications

		Alder Lake -N SKUs	Twin Lake SKU	Amston Lake SKU
Processor	CPU	Intel® IOTG Alder Lake-N Processor N97, QC, 12W Intel® IOTG Alder Lake-N Atom x7425E, QC, 12W	Intel® Twin Lake-N Processor N150, QC, 6W	Intel® IOTG Amston Lake Atom, X7433RE, QC, 9W
	Frequency	N97, 2.0GHz, up to 3.6 GHz x7425E, 1.5GHz, up to 3.4 GHz	N150, 0.8GHz, up to 3.6 GHz	X7433RE, 1.5GHz, up to 3.4 GHz
	L2 Cache	6MB		
	CPU Type	BGA		
Memory	Chipset	Integrated in SoC		
	BIOS	AMI		
	Technology	Single-channel LPDDR5 4800 MHz		
	Max. Capacity	Up to 16GB		
Display	Socket	Onboard		
	Controller	Intel® HD Graphics		
	Graphic Memory	Depends on CPU		
	LVDS	Dual Channel 18/24-bit (Connector shared with eDP)		
Ethernet	eDP	1 (Connector shared with LVDS)		
	HDMI	1		
	Multiple Display	2 independent displays		
	Display Interface	LVDS up to 1920 x 1200 @60Hz eDP up to 1920 x 1080 @60Hz HDMI up to 3840 x 2160 @30Hz		
Audio	Controller	Realtek® RTL8125BG-CG 2.5GbE LAN		1 x Realtek® RTL8125BI-CG 2.5GbE LAN
	Controller	1 x Realtek® RTL8111K-CG 1GbE LAN		1 x Realtek® RTL8111KI-CG 1GbE LAN
Super I/O	Controller	Realtek® ALC897 High Definition Audio Codec		
H/W Monitor	Controller	Fintek F81966AB-I		
TPM	Watchdog Timer	256-level Watchdog Timer		
I/O Interface	Controller	Infineon® SLB 9672VU2.0		Infineon® SLB 9672XU2.0
	USB	2 x USB 2.0 ports (internal) 2 x USB 3.2 ports (rear) (Bottom layer USB 3.2 Gen 2 x 1, Top layer USB 3.2 Gen 1)		
	Serial	1 x COM port (internal) COM: RS-232/422/485, 0V/5V/12V		
	GPIO	8-bits (4 x GPI; 4 x GPO), 5V		
Storage	M.2	1 x E key 2230 (PCIe x1 + USB 2.0) 1 x B key 2242/3042 (PCIe x1/SATA 3.0 + USB 3.2 Gen 2 + USB 2.0)		
	SATA	1 x SATA 3.0		
Power Supply	DC	DC-in 12V		
Environment	Operating Temperature	-10 ~ 60°C Note: 1. Thermal w/ Airflow: 0.7m/s 2. The standard thermal solution only supports TDP up to 12W.	-10 ~ 60°C Note: 1. Thermal w/ Airflow: 0.7m/s 2. The standard thermal solution only supports TDP up to 6W.	40 ~ 70°C Note: 1. Thermal w/ Airflow: 0.7m/s 2. The standard thermal solution only supports TDP up to 9W.
	Operating Humidity	10 ~ 90%, non-condensing		
	Storage Temperature	-20 ~ 80°C		-40 ~ 80°C
	Storage Humidity	10 ~ 90%, non-condensing		
Form Factor	Dimensions	101 x 73 mm (Pico-ITX)		
Certification	Weight	0.30 kg		
Software Platform	EMC	CE, FCC Class B, BSMI, VCCI, RCM, UKCA, IC		
	OS Support	Windows 10 IoT Enterprise 21H2 LTSC (64-bit, only for ADL-N & AML) Windows 11 IoT Enterprise 24H2 LTSC (64-bit) Linux (Support by request)		

Packing List

Part Number	Description	Quantity
K14-3018013-V03	COM PORT Cable, 150mm	1
K1B-3008067-V03	USB Cable, 150mm	1
K1D-3010008-V03	SATA Cable with Power, 150mm	1
K1G-3002069-V03	DC Power Cable, 150mm	1
K10-3004466-V03	LAN LED Cable, 150mm	2

Optional Item

Part Number	Description
E31-0807850-K08	Heatspreader

Block Diagram

