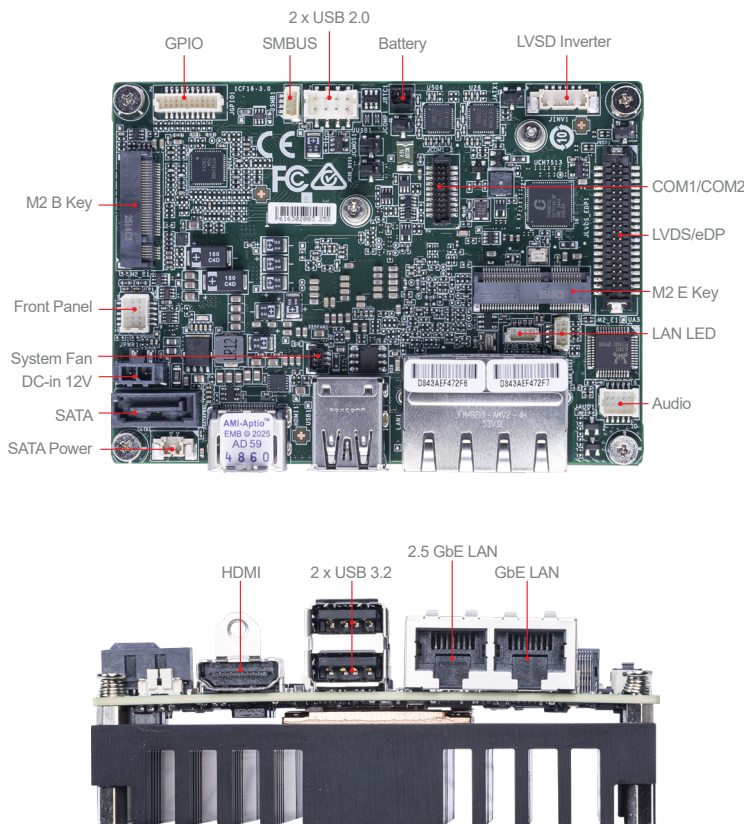


MS-CF16 V3.0

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



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, 2 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-CF16-011	MS-CF16/606-CF16-210/806-CF16-026 30 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 PHY, 1*SATA 3.0, 1*USB 3.2 Gen 2 x 1, 1*USB 3.2 Gen 1, 2*USB2.0, GPIO, 2*COM, TPM2.0, DC-in 12V, Non-WT, SINGLE
916-CF16-012	MS-CF16/606-CF16-220/806-CF16-027 30 OPTA 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 PHY, 1*SATA 3.0, 1*USB 3.2 Gen 2 x 1, 1*USB 3.2 Gen 1, 2*USB2.0, GPIO, 2*COM, TPM2.0, DC-in 12V, WT, SINGLE
916-CF16-013	MS-CF16/606-CF16-230/806-CF16-026 30 OPTB TWL N150, LPDDR5 8GB, 1*HDMI, 1*LVDS/eDP, 1*M.2 E key, 1*M.2 B key, 1*2.5GbE LAN, 1*GbE LAN PHY, 1*SATA 3.0, 1*USB 3.2 Gen 2 x 1, 1*USB 3.2 Gen 1, 2*USB2.0, GPIO, 2*COM, TPM2.0, DC-in 12V, Non-WT, SINGLE

Specifications

Processor	CPU	Alder Lake-N SKU	Twin Lake SKU	Amston Lake SKU
		Intel® IOTG Alder Lake-N Processor N97, QC, 12W	Intel® Twin Lake-N Processor N150, QC, 6W	Intel® IOTG Amston Lake Atom, X7433RE, QC, 9W
Memory	Frequency	N97, 2.0GHz, up to 3.6 GHz	N150, 0.8GHz, up to 3.6 GHz	X7433RE, 1.5GHz, up to 3.4 GHz
	L2 Cache	6MB		
	CPU Type	BGA		
	Chipset	Integrated in SoC		
	BIOS	AMI		
Display	Technology	Single-channel LPDDR5 4800 MHz		
	Max. Capacity	Up to 16GB		
	Socket	Onboard		
	Controller	Intel® HD Graphics		
Ethernet	Graphic Memory	Depends on CPU		
	LVDS	Dual Channel 18/24-bit (Connector shared with eDP)		
	eDP	1 (Connector shared with LVDS)		
	HDMI	1		
	Multiple Display	2 independent displays		
Audio	Display Interface	LVDS up to 1920 x 1200 @60Hz eDP up to 1920 x 1080 @60Hz HDMI up to 3840 x 2160 @30Hz		
	Controller	1 x Realtek® RTL8125BG-CG 2.5GbE LAN 1 x Realtek® RTL8111K-CG 1GbE LAN	1 x Realtek® RTL8125BI-CG 2.5GbE 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	2 x COM ports (internal) COM1~2: RS-232/422/485, 0V/5V/12V		
	GPIO	16-bits (8 x GPI; 8 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		
	ATX	N/A		
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	-20 ~ 80°C	-40 ~ 80°C
	Storage Humidity	10 ~ 90%, non-condensing		
	Dimensions	101 x 73 mm (Pico-ITX)		
Form Factor	Weight	0.30 kg		
Certification	EMC	CE, FCC Class B, BSMI, VCCI, RCM, UKCA, IC		
Software Platform	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
K10-3004466-V03	LAN LED Cable, 150mm	2
K1B-3008067-V03	USB Cable, 150mm	1
K1D-3010008-V03	SATA Cable with Power, 150mm	1
K1G-3002069-V03	DC Power Cable, 150mm	1
K14-3018001-V03	COM PORT Cable, 150mm	1

Optional Item

Part Number	Description
E31-0807850-K08	Heatspreader