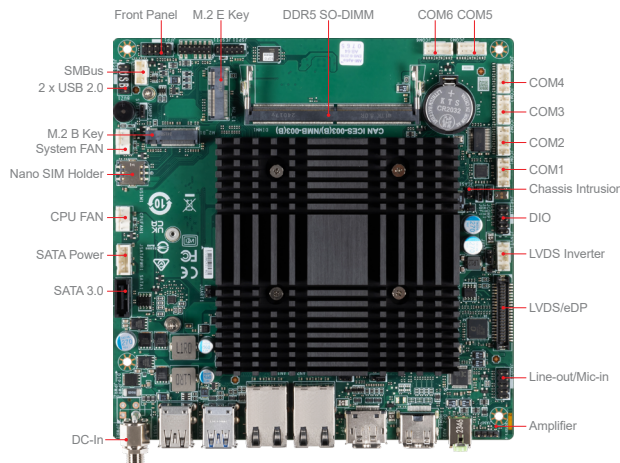


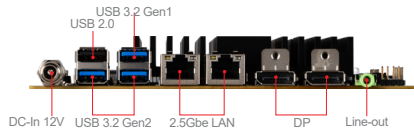
MS-CF13

Mini-ITX with Intel® Alder Lake-N SoC Series for Fanless, Low-Profile, Ultra Low-Power & Multi-Displays Solution

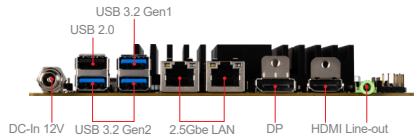
NEW



SKU1



SKU2/3/4



Features

- Intel® Alder Lake-N PC Client & Embedded Series SoC
- DDR5 4800 MHz SODIMM Slot up to 16GB
- Triple independent displays: DP, HDMI/DP, LVDS/eDP
- 2 2.5 GbE LAN with RJ-45
- 1 M.2 E Key Slot, 1 M.2 B Key (with SIM Holder)
- 1 M.2 B key, 1 SATA 3.0 for storage
- 2 USB 3.2 Gen 2, 1 USB 3.2 Gen 1, 3 USB 2.0, 6 COM, GPIO, Audio, Amplifier-3W
- Onboard TPM 2.0
- DC-IN 12V

Ordering Information

Part Number	Description
911-CF13-101	MS-CF13/601-CF13-010/801-CF13-102 10 Fanless, Intel ADL-N N97, 1*DDR5 SO-DIMM, 3*USB 3.2, 3*USB 2.0, 6*COM, 2*DP+1*LVDS/eDP, 2*M.2, 2*2.5Gbe LAN, 1*SATA 3.0, DC-in 12V, BULK
911-CF13-102	MS-CF13/601-CF13-020/801-CF13-103 10 Fanless, Intel ADL-N N97, 1*DDR5 SO-DIMM, 3*USB 3.2, 3*USB 2.0, 6*COM, 1*DP+1*HDMI+1*LVDS/eDP, 2*M.2, 2*2.5Gbe LAN, 1*SATA 3.0, DC-in 12V, BULK
911-CF13-103	MS-CF13/601-CF13-030/801-CF13-103 10 Fanless, Intel ADL-N Core i3-N305, 1*DDR5 SO-DIMM, 3*USB 3.2, 3*USB 2.0, 6*COM, 1*DP+1*HDMI+1*LVDS/eDP, 2*M.2, 2*2.5Gbe LAN, 1*SATA 3.0, DC-in 12V, BULK
911-CF13-104	MS-CF13/601-CF13-040/801-CF13-103 10 Fanless, Intel ADL-N Atom X7425E, 1*DDR5 SO-DIMM, 3*USB 3.2, 3*USB 2.0, 6*COM, 1*DP+1*HDMI+1*LVDS/eDP, 2*M.2, 2*2.5Gbe LAN, 1*SATA 3.0, DC 12V, BULK
911-CF13-106	MS-CF13/601-CF13-050/801-CF13-102 10 Fanless, Intel ADL-N Core i3-N305, 1*DDR5 SO-DIMM, 3*USB 3.2, 3*USB 2.0, 6*COM, 2*DP+1*LVDS/eDP, 2*M.2, 2*2.5Gbe LAN, 1*SATA 3.0, DC-in 12V, BULK
911-CF13-005	MS-CF13/601-CF13-010/801-CF13-005 10 Fanless, Intel ADL-N N97, 1*DDR5 SO-DIMM, 3*USB 3.2, 3*USB 2.0, 6*COM, 2*DP+1*LVDS/eDP, 2*M.2, 2*2.5Gbe LAN, 1*SATA 3.0, DC-in 12V, Single
911-CF13-006	MS-CF13/601-CF13-020/801-CF13-006 10 Fanless, Intel ADL-N N97, 1*DDR5 SO-DIMM, 3*USB 3.2, 3*USB 2.0, 6*COM, 1*DP+1*HDMI+1*LVDS/eDP, 2*M.2, 2*2.5Gbe LAN, 1*SATA 3.0, DC-in 12V, Single
911-CF13-007	MS-CF13/601-CF13-030/801-CF13-007 10 Fanless, Intel ADL-N Core i3-N305, 1*DDR5 SO-DIMM, 3*USB 3.2, 3*USB 2.0, 6*COM, 1*DP+1*HDMI+1*LVDS/eDP, 2*M.2, 2*2.5Gbe LAN, 1*SATA 3.0, DC-in 12V, Single
911-CF13-008	MS-CF13/601-CF13-040/801-CF13-008 10 Fanless, Intel ADL-N Atom X7425E, 1*DDR5 SO-DIMM, 3*USB 3.2, 3*USB 2.0, 6*COM, 1*DP+1*HDMI+1*LVDS/eDP, 2*M.2, 2*2.5Gbe LAN, 1*SATA 3.0, DC 12V, Single
911-CF13-010	MS-CF13/601-CF13-050/801-CF13-010 10 Fanless, Intel ADL-N Core i3-N305, 1*DDR5 SO-DIMM, 3*USB 3.2, 3*USB 2.0, 6*COM, 2*DP+1*LVDS/eDP, 2*M.2, 2*2.5Gbe LAN, 1*SATA 3.0, DC-in 12V, Single

Specifications

Processor	CPU	SKU1		SKU2	SKU3	SKU4
		Intel® IOTG Alder Lake-N Processor N97, QC, 12W			Intel® IOTG Alder Lake-N Core i3-N305, QC, 9W up to 15W	Intel® IOTG Alder Lake-N Atom x7425E, QC, 12W
	Frequency	N97, 2.0GHz, up to 3.6GHz			i3-N305, 1.8GHz, up to 3.8GHz	x7425E, 1.5GHz, up to 3.4GHz
	L2 Cache	6MB				
	CPU Type	BGA				
Memory	Chipset	Integrated in SoC				
	BIOS	AMI UEFI				
	Technology	Single Channel for DDR5 4800MHz				
Display	Max. Capacity	Up to 16GB				
	Socket	1 x 262-pin DDR5 SO-DIMM				
	Controller	Intel® UHD Graphics				
	Graphic Memory	Depends on CPU				
	LVDS	1 x Dual channel 18/24-bit (Connector shared with eDP)				
	eDP	1 (Connector shared with LVDS)				
	HDMI	N/A		1		
Display	DisplayPort	2		1		
	Multiple Display	3 independent displays				
	Display Interface	LVDS up to 1920 x 1200 @60Hz eDP up to 1920 x 1080 @60Hz DP up to 4096 x 2304 @60Hz		LVDS up to 1920 x 1200 @60Hz eDP up to 1920 x 1080 @60Hz HDMI up to 3840 x 2160 @30Hz DP up to 4096 x 2304 @60Hz		
Ethernet	Controller	2 x Intel® I226-V 2.5GbE LAN				
Audio	Controller	Realtek® ALC897 Audio Codec (Co-lay ALC888S)				
Super I/O	Controller	Fintek F81966AB-I				
H/W Monitor	Watchdog Timer	256-level Watchdog Timer				
	Smart Fan	Yes				
TPM	Controller	Infineon® SLB 9672VU2.0				
I/O Interface	USB	2 x USB 3.2 Gen 2 (rear) 1 x USB 3.2 Gen 1 (rear) 1 x USB 2.0 (rear) 2 x USB 2.0 (internal)				
	Serial	6 x COM ports (internal) COM1: RS-232/422/485, 0V/5V/12V COM2-6: RS-232				
	GPIO	8-bit (4 x GPI; 4 x GPO), 5V				
	M.2	1 x M.2 B key (SATA/PCIe x1, USB 3.2 Gen 2 x 1, USB 2.0 w/NANO SIM-Holder), 2242/3042/2280 1 x M.2 E key (PCIe x1, USB 2.0), 2230				
Storage	SATA	1 x SATA 3.0				
Power Supply	DC	DC-in 12V				
	ATX	N/A				
Environment	Operating Temperature	0 ~ 60°C Note: Thermal w/ Airflow:0.7m/s				
	Operating Humidity	10 ~ 90%, non-condensing				
	Storage Temperature	-20 ~ 80°C				
	Storage Humidity	10 ~ 90%, non-condensing				
Form Factor	Dimensions	170 x 170 mm (Mini-ITX)				
	Weight	0.51 kg				
Certification	EMC	CE, FCC Class B, BSMI, RCM, VCCI, UKCA				
Software Platform	OS Support	Windows 10 IoT Enterprise LTSC (64-bit, 21H2) Windows 11 IoT Enterprise 24H2 LTSC (64-bit) Linux (Support by request)				

Packing List

Part Number	Description	Quantity
K1D-1012115-V03	SATA Cable with Power, 230mm	1
E21-CF13010-C22	I/O SHIELDING For DP+HDMI	1
E21-CF13020-C22	I/O SHIELDING For DP+DP	

Optional Item

Part Number	Description
K14-1009062-V03	COM Port Cable, 250mm
K14-1018003-V03	COM port cable, 300mm
K1B-3008012-E06	USB 2.0 Cable, 330mm

Block Diagram

