

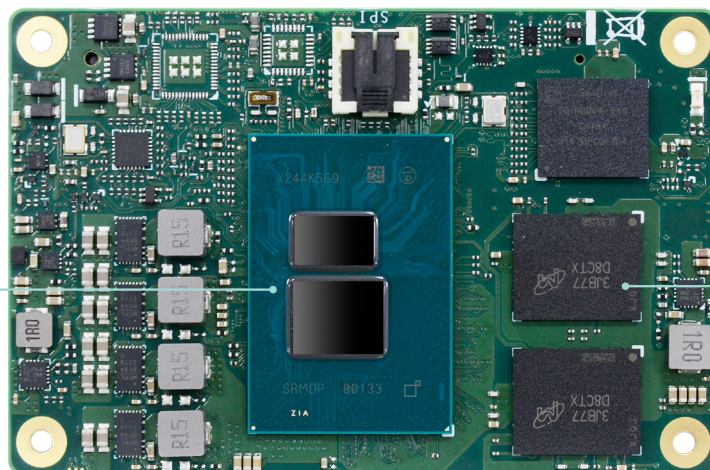
ADN9A2



Intel® Atom® Processor Alder Lake N Series
COM Express® Mini

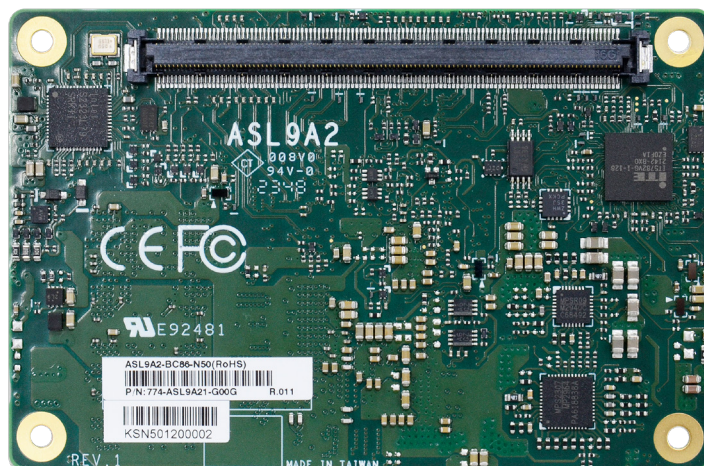


Intel® Atom® Processor



LPDDR5

Top View



Bottom View

KEY FEATURES



DDR5

LPDDR5-4800 up to 16GB



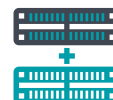
4K High Resolution

Supports 4K/ 2K resolution



High Speed Ethernet

Supports 100M/1000M/2.5Gbps



Multiple Expansion

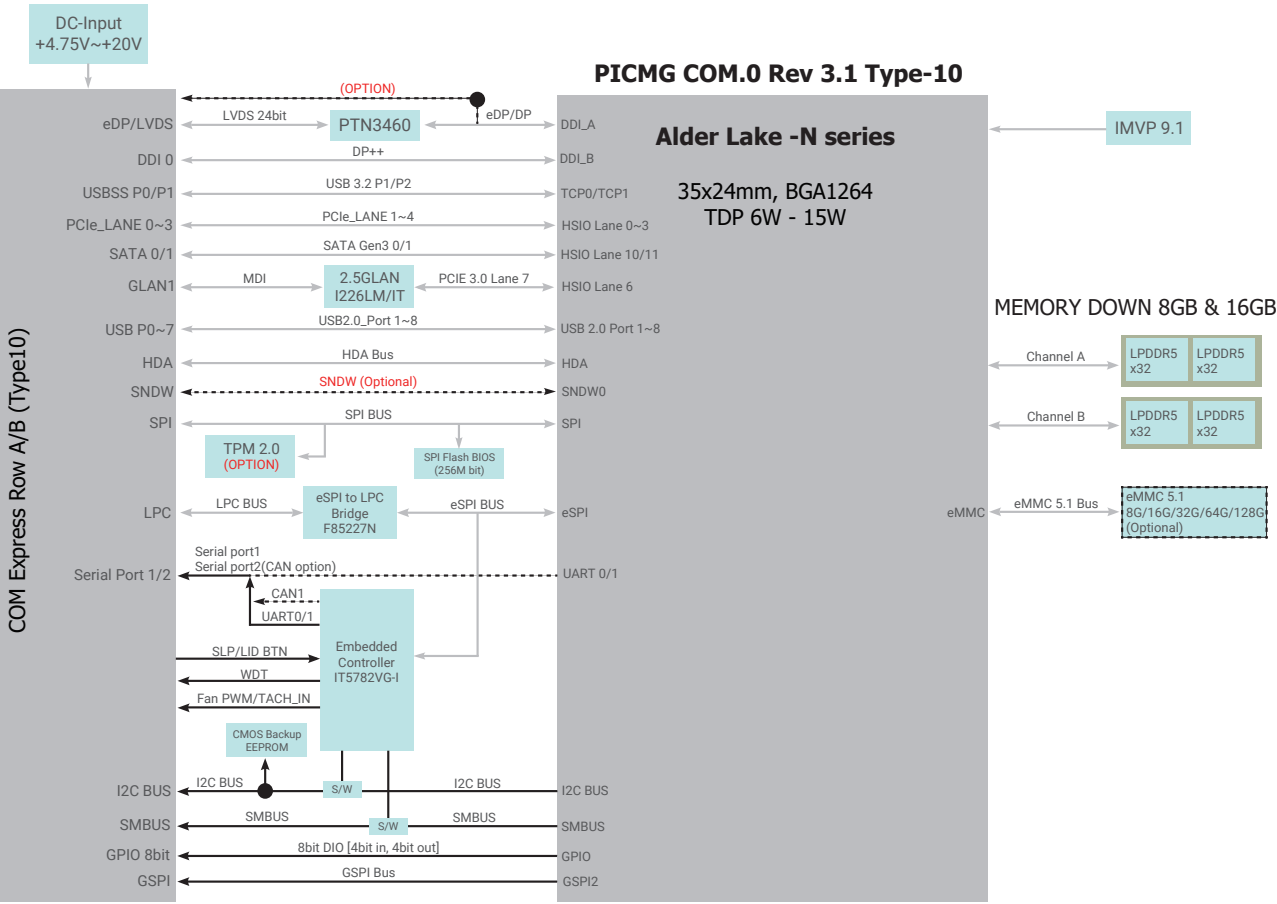
4 PCIe x1, 1 SMBus, 1 I²C, 1 eMMC



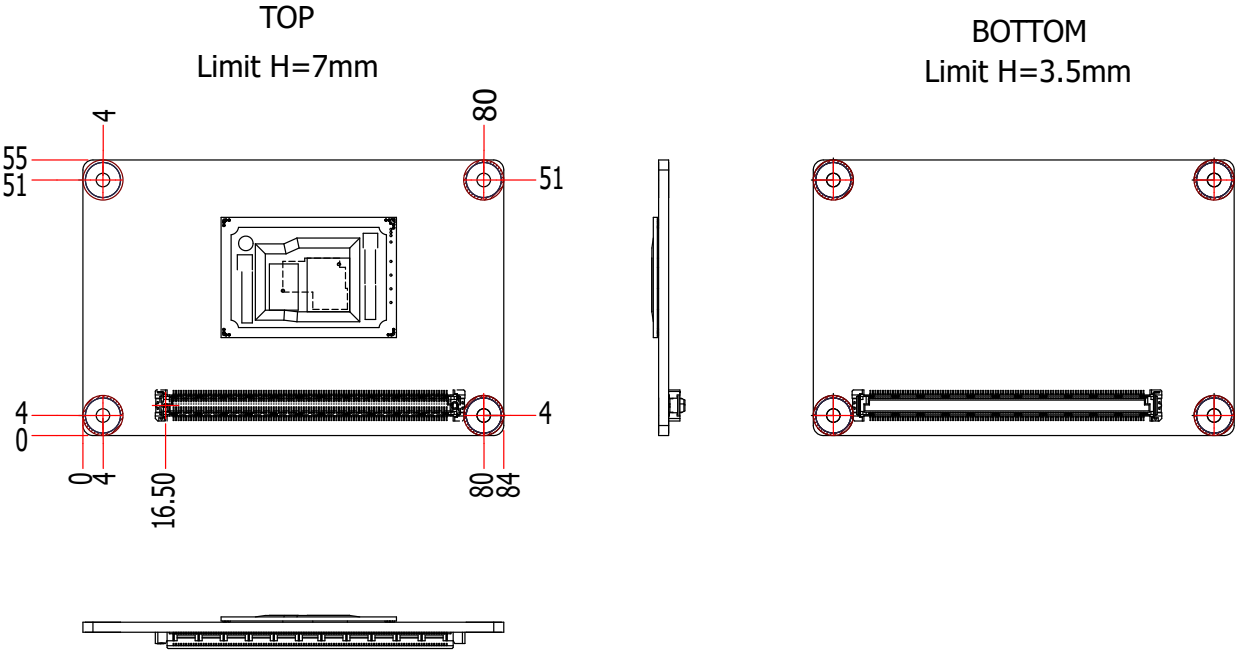
Rich I/O

2 USB 3.2, 8 USB 2.0

BLOCK DIAGRAM



MECHANICAL DRAWING



SPECIFICATION

SYSTEM	Processor	Intel® Atom x7000E / Core-i / Pentium / Celeron series processors (Code Name : Alder Lake-N) Intel® Atom Processor x7425E, 4 Cores, 1.5~3.4GHz, 12W Intel® Processor Core i3-N305, 8 Cores, 1.0/1.8~3.8GHz, 9/15W Intel® Processor N97, 4 Cores, 2.0~3.6GHz, 12W Intel® Processor N50, 2 Cores, 1.0~3.4GHz, 6W	
	Memory	LPDDR5 up to 16GB	
		Dual Channel LPDDR5 4800MHz	
		8GB/16GB supported by project basis. In-band ECC (IB ECC) Supported by all CPU SKUs	
GRAPHICS	BIOS	AMI SPI 256Mbit	
	Controller	Intel® UHD	
	Feature	Open GL 4.6, DirectX 12.1 Vulkan 1.2 (Windows)	
		Mesa 3D, Open GL 4.6, Vulkan 1.2 (Linux)	
		HW Decode: 4K60 10b 4:2:0, 4:4:4 HEVC/VP9/SCC, 4K60 10b 4:2:0 AV1 HW Encode: 4K60 10b 4:2:0, 4:4:4 HEVC/VP9/SCC	
	Display	1 x DDI 1 x LVDS/eDP LVDS: single channel 24-bit, resolution up to 1920x1200 @ 60Hz eDP: resolution up to 4096x2160 @ 60Hz HDMI: resolution up to 4096x2160 @ 30Hz DP++: resolution up to 4096x2160 @ 60Hz, 3840x2160 @60Hz	
		Dual Displays	
EXPANSION	Interface	4 x PCIe x1 (Gen 3)	
		1 x I ² C	
		1 x SMBus	
		1 x LPC	
		1 x SNDW (available upon request)	
		1 x GSPI	
		2 x UART (TX/RX)	
AUDIO	Interface	HD Audio	
ETHERNET	Controller	1 x Intel® I226-IT / I226-LM (10/100/1000Mbps/2.5Gbps)	
I/O	USB	2 x USB 3.2 Gen2	
		8 x USB 2.0	
	SATA	2 x SATA 3.0 (up to 6Gb/s)	
	eMMC	1 x 8GB/16GB/32GB/64GB/128GB eMMC 5.1 (available upon request)	
	DIO	1 x 8-bit DIO	
WATCHDOG TIMER	Output & Interval	System Reset, Programmable via Software from 1 to 255 Seconds	
SECURITY	TPM	dTPM or fTPM (Optional)	
POWER	Type	4.75V~20V, 5VSB, VCC_RTC (ATX mode)	4.75V~20V, VCC_RTC (AT mode)
	Consumption	TBD	
OS SUPPORT	OS Support (UEFI Only)	Windows 11/10 IoT Enterprise 64-bit	
		Linux	
ENVIRONMENT	Temperature	Operating: -5 to 65°C	Storage: -40 to 85°C
	Humidity	Operating: 5 to 90% RH	Storage: 5 to 90% RH
	MTBF	1,394,204 hrs @ 25°C; 927,579 hrs @ 45°C; 637,575 hrs @ 60°C excluding accessories Calculation Model: Telcordia Issue 4 Environment: GB, GC – Ground Benign, Controlled	
MECHANISM	Dimensions	COM Express® Mini	84mm (3.3") x 55mm (2.16")
	Compliance	PICMG COM Express® R3.1, Type 10	
STANDARDS AND CERTIFICATIONS	Certifications	CE, FCC	

ORDERING INFORMATION

Model Name	P/N	CPU	Memory	eMMC	LVDS/eDP	TPM 2.0	Thermal	Operating Temp.
ADN9A2-BC16-7425E	770-ADN9A22-100G	Intel® Atom Processor x7425E, 4 Cores, 12W	16GB	64GB	LVDS	Yes	Heat Sink	0 to 60°C
ADN9A2-BC86-N305	770-ADN9A22-300G	Intel® Core i3 Processor N305, 8 Cores, 9/15W	8GB		LVDS			
ADN9A2-BC86-N50	770-ADN9A22-600G	Intel® Processor N50, 2 Cores, 6W	8GB		eDP			
ADN9A2-BC86-N97	770-ADN9A22-700G	Intel® Processor N97, 2 Cores, 12W	8GB		eDP			

PACKING LIST

Heat Sink	A71-008356-000G
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OPTIONAL ITEMS

Heat Spreader	A71-808364-000G
COM335 Carrier Board Kit	770-CM3351-000G