



## Embedded Motherboard



# IB4-271

## ELKHART LAKE THIN MINI-ITX MOTHERBOARD



Intel® Elkhart Lake  
Celeron® J6412 processor



1 x HDMI (4096 x 2160 @60 Hz)  
1 x DP (4096 x 2160 @60 Hz)  
1 x LVDS (1920 x 1200 @60 Hz)



Support Wi-Fi/BT module  
Support Wi-Fi 6



Thin Mini-ITX form-factor  
170 mm x 170 mm (6.69" x 6.69")

### CPU

<b>CPU</b>	Intel® Celeron® J6412 processor
<b>Frequency</b>	2.60 GHz
<b>Chipset</b>	SoC
<b>Processing Units</b>	4 Cores
<b>TDP</b>	10 W

### System

<b>GPU</b>	Intel® UHD Graphics
<b>Graphic Engine</b>	DirectX, OpenGL, OpenCL, Intel® Quick Sync Video
<b>System Memory</b>	Up to 32 GB, 2 x SO-DIMM DDR4-3200 MHz
<b>Storage</b>	1 x M-Key M.2 (2280) for SSD 2 x SATAIII
<b>TPM</b>	Optional: TPM2.0
<b>Watchdog Timer</b>	Yes
<b>Auto Power On</b>	Yes
<b>RTC</b>	Set up independently every day, a week as a cycle
<b>Remo on</b>	NA
<b>Power Requirement</b>	DC-IN, 12 V ~24 V
<b>Dimensions</b>	170 mm x 170 mm (6.69" x 6.69")
<b>Operating system</b>	Windows 10 (64bit) /Windows 11 (64bit) Linux Ubuntu (64bit)
<b>Operating Temperature</b>	0°C ~60°C (32°F~140°F) @0.7m/s Air Flow
<b>Storage Temperature</b>	-20°C ~75°C (-4°F~167°F)
<b>Humidity</b>	5% ~95% @ 45°C (non-condensing)

### Network

<b>Network Controller</b>	2 x Realtek RTL 8111H Gigabit Ethernet
<b>Wi-Fi/BT</b>	1 x E-Key M.2 (2230) for Wi-Fi/BT Support Wi-Fi 5, Wi-Fi 6
<b>Mobile Network</b>	1 x B-Key M.2 (3042) for 3G/4G module 1 x SIM Slot

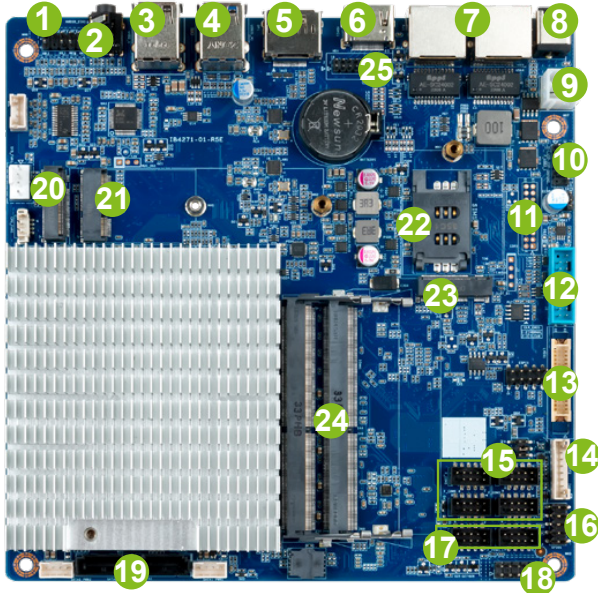
### Rear I/O

<b>USB</b>	2 x USB3.2 Gen2, 2 x USB2.0
<b>Display Interface</b>	1 x HDMI (Max.4096 x 2160 @60 Hz) 1 x DP (Max.4096 x 2160 @60 Hz)
<b>Audio</b>	1 x 2-in-1 Headset (MIC-IN & AUDIO-OUT)
<b>Ethernet Interface</b>	2 x RJ45

### Internal I/O

<b>USB</b>	2 x USB3.2 Gen1, signal by 1 x 19pin header 2 x USB2.0, signal by 1 x 9pin header
<b>Display</b>	1 x 30pin dual channel 24bit LVDS 1 x 20pin eDP coloy with LVDS 1 x 16pin J_HDMI coloy with HDMI
<b>Serial port</b>	4 x RS232, signal by 4 x 9pin header 2 x RS232/422/485, signal by 2 x 9pin header
<b>Power</b>	1 x 4pin ATX PWR_IN, 2 x 4pin SATA_PWR
<b>Audio</b>	1 x 10pin FP_AUDIO, 1 x 4pin SPEAKER
<b>Others</b>	4 x GPI, 4 x GPO 1 x 10pin F_PANEL 1 x 3pin CLR_CMOS 1 x 8pin INVERTER 1 x 4pin SYS_FAN, 1 x 4pin CPU_FAN

## Dimensions and Drawing



No.	Dimensions	No.	Dimensions
1	FP_AUDIO	20	M-key M.2
2	HEADSET	21	E-key M.2
3	2*USB2.0	22	SIM-SLOT
4	2*USB3.2 GEN2	23	B-key M.2
5	DP	24	2*SO-DIMM
6	HDMI	25	J_HDMI
7	2*RJ45		
8	DC-IN		
9	ATX_PWR		
10	USB2.0 header		
11	eDP		
12	USB3.0 header		
13	LVDS		
14	INVERTER		
15	4*RS232		
16	GPIO		
17	2*RS232/422/485		
18	F_PANEL		
19	2*SATAIII		

## Order information

IB4-271	Intel® Celeron® J6412 processor
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## Optional

Wi-Fi/BT module	Intel® Dual Band Wireless-AC 9260, Intel® Wi-Fi 6 AX200, Intel® Wi-Fi 6E AX210 (Gig+)
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## Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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