

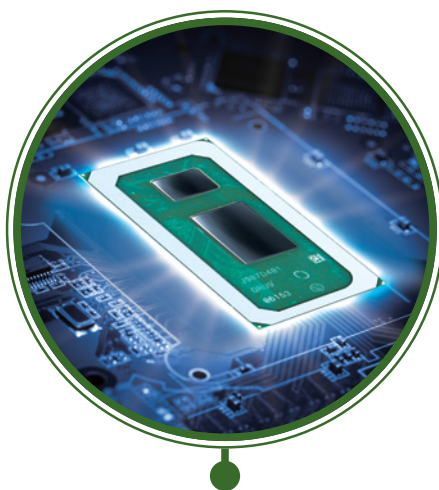
Intel® Elkhart Lake Platform

» Intel® Elkhart Lake Platform Overview



Real-Time/Time Determinis

- Intel® Time Coordinated Computing, Time Sensitive Networking features
- Scalability and consolidation of temporally deterministic workloads



Safety, Security, Manageability

- First Intel product designed with functional safety capabilities. SIL2/Cat.3 PL d certified, SIL3/Cat.4 PLe capable
- In-Band and OOB manageability
- Intel® PTT, Intel® DAL technologies
- Intel® Boot Guard



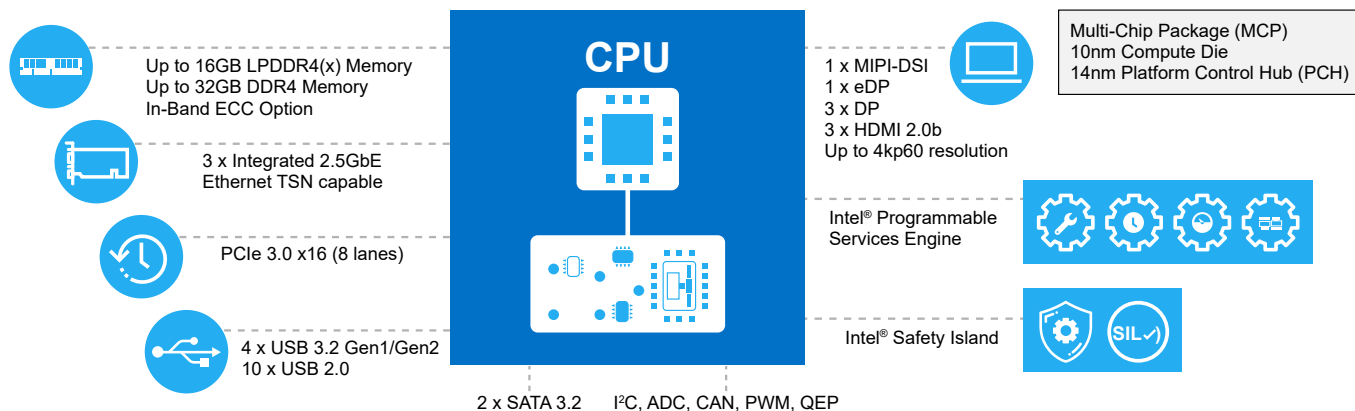
Function+

- Intel® Programmable Services Engine
- Intel® UHD Graphics, media, and display supporting video encode/decode requirements
- Integrated Gigabit Ethernet (2.5GbE)
- Fully Integrated Voltage Regulator (FIVR)

» Generational Comparison

	Apollo Lake-I	Elkhart Lake
Memory / ECC	1867 MHz DDR3L (max. 8 GB) 2400 MHz LPDDR4 (max. 8 GB)	LPDDR4 4267MT/s (max. 8GB/16GB @3200MT/s), DDR4 3200MT/s (max. 32GB with IB ECC)
TDPs	6W-12W	4.5W-12W
Ethernet	-	3 x 2.5GbE TSN MACs
Storage and IO	2 SATA 6Gb/s, 6 USB 3.2 Gen 1 (1 dual role), eMMC 5.0	2 SATA 6Gb/s, 4 USB 3.2, 3 2.5GbE TSN MACs, 2 UFS 2.0, eMMC 5.1, 10 USB 2.0 (1 dual role), PWM, QEP, ADC, CAN, up to 60 GPIOs via Intel® Programmable Services Engine (40 timed GPIOs)
Max. Display Resolutions	4Kp60 on one display	Intel® UHD Graphics, 4Kp60 on three simultaneous displays
Power Mgmt	PMIC or Multiple Discrete Voltage Regulators (DVR)	Fully Integrated Voltage Regulators (FIVR)

» Block Diagram



» Intel® Elkhart Lake CPU Matrix

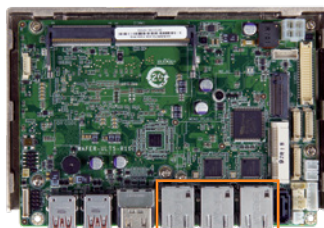
Brand	Processor No.	CPU Core Count	CPU HFM Freq (GHz)	CPU Burst Freq (GHz)	Memory Max Bandwidth/ Channel	Gfx Freq (MHz) Nominal/Turbo	Max. TDP (W)	Junction Temperature Range
Pentium®	N6415	4	1.2	3.0	51.2 (GB/s) / 4	350/800	6.5	0°C ~ 105°C
Pentium®	J6425	4	1.8	3.0	59.7 (GB/s) / 4	400/800	10	0°C ~ 105°C
Celeron®	N6211	2	1.2	3.0	51.2 (GB/s) / 4	250/750	6.5	0°C ~ 105°C
Celeron®	J6413	4	1.8	3.0	59.7 (GB/s) / 4	400/800	10	0°C ~ 105°C
ATom®	X6425E	4	1.8	3.0	59.7 (GB/s) / 4	500/750	12	-40°C ~ 105°C
ATom®	X6413E	4	1.5	3.0	51.2 (GB/s) / 4	500/750	9	-40°C ~ 105°C
ATom®	X6211E	2	1.2	3.0	51.2 (GB/s) / 4	350/750	6	-40°C ~ 105°C
ATom®	X6425RE	4	1.9	N/A	68.2 (GB/s) / 4	400/(N/A)	12	-40°C ~ 105°C
ATom®	X6414RE	4	1.5	N/A	51.2 (GB/s) / 4	400/(N/A)	9	-40°C ~ 105°C
ATom®	X6212RE	2	1.2	N/A	51.2 (GB/s) / 4	350/(N/A)	6	-40°C ~ 105°C
ATom®	X6427FE	4	1.9	N/A	68.2 (GB/s) / 4	400/(N/A)	12	-40°C ~ 105°C
ATom®	X6200FE	2	1.0	N/A	38.4 (GB/s) / 4	N/A	4.5	-40°C ~ 105°C

» Intel® Elkhart Lake Platform OS Support

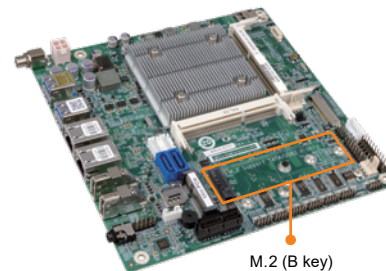
Category	Operating System (Targeted for Support)	Implementation	Distribution and Support
Microsoft	Windows 10 IoT Enterprise (64-bit)	Intel	Intel, Microsoft
Linux	Yocto Project BSP tool-based embedded Linux distribution (64-bit)	Intel	Yocto Project and ISV Partners
	Linux Distribution: Ubuntu (64-bit)	Canonical	Canonical
	Wind River Linux LTS distribution (64-bit)	Wind River	Wind River
Android	Android 10 (64-bit)	Intel	ISV Partners
RTOS	Wind River VxWorks 7	Wind River	Wind River

» Features of IEI Elkhart Lake Products

Display Port	2.5GbE LAN	M.2
IEI provides products supporting Triple-mode DisplayPort output which can auto detect the plugged-in cable type and provide multiple options of display output through one single port.	IEI provides new products supporting TSN (Time Sensitive Networking), which delivers time synchronization with IT network and timeliness between systems.	IEI provides new products supporting Next Generation Form Factor (NGFF) expansion cards with different functions, such as SSD, WWAN and WLAN cards suitable for small devices.



3 x LAN



M.2 (B key)