

Intel® NUC 13 Pro: The Right Size for Modern Business

# Built for the Edge

Power IoT with the astonishing performance of 13th Gen Intel<sup>®</sup> Core<sup>™</sup> processors in a 4x4 that fits almost anywhere

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# Built for the Edge

Intel® NUC 13 Pro devices offer the perfect combination of size, performance, rich I/O, and reliability that is truly built for edge use cases in factories, retail stores, hospitals, smart cities, and more.

It all starts with the latest generation Intel<sup>®</sup> Core<sup>™</sup> processors in the Intel<sup>®</sup>NUC 13 Pro optimized for embedded applications. Up to 64GB dual-channel DDR4-3200 memory and Windows 10 IoT Enterprise deliver outsized performance in a 4x4 form factor. Select SKUs also come with Intel vPro<sup>®</sup> Enterprise that provides comprehensive security, enterprise-grade stability, and hardware-based remote management.

Businesses also benefit from advanced features including power control, hardware alarm clock, hardware KVM, boot redirection, beyond firewall support, cloud-based manageability, remote PC remedy, and unattended system control.

To provide an eco-friendly foundation to business applications built for the edge, Intel® NUC 13 Pro is upgradable, repairable, and reusable. Select SKUs come with five-year product availability, and every system is qualified for 24x7 operation and designed to last with a three-year warranty from Intel.

## What is Edge Compute?

Edge computing brings compute, storage, and connectivity closer to the user, leading to lower latency with a higher, more efficient use of bandwidth and better security capabilities.

### Why use an Intel® NUC 13 Pro for Edge Computing?

- Pack the power of the latest-generation, full-size desktop PCs into a form factor small enough to hold in your hand.
- Support a variety of uses including kiosks, multipledisplay walls, meeting rooms, telehealth, and more.
- Get all the ports and wireless connections expected from a desktop PC—USB, HDMI, Thunderbolt<sup>™</sup> technology, 2.5 Gigabit Ethernet, Wi-Fi—in Intel's industry-leading ultra-small form factor.
- Build on the Intel vPro<sup>®</sup> Platform for greater manageability, built-in security features, and stability to help lower costs by simplifying IT administration and increasing uptime.



### Features

#### 13th Gen Intel® Core™ i7/i5/i3 processors

Intel vPro® Enterprise with 13th Gen Intel® Core™ i7/i5 processors (on select SKUs only)

Linux, Windows 11 Pro, or Windows 10 IoT Enterprise

Intel® Iris®  $X^{e}$  graphics or Intel® UHD graphics for 13th Gen Intel® Processors

Up to 64GB dual-channel DDR4-3200 memory

All SKUs support dual M.2 SSDs (2280 Gen 4 NVMe & 2242 SATA); additional 2.5" drive support on select SKUs

2 Thunderbolt<sup>™</sup> 4 ports, 3 USB 3.2 ports, 1 USB 2.0 port, 2 HDMI 2.1 TMDS Compatible (4K@60Hz) ports

Intel® i226 Ethernet for speeds up to 2.5 Gbps (second Ethernet port option available as second LAN accessory)

Intel® Wi-Fi 6E (Gig+)

Delayed AC start, auto CMOS reset, DC transient voltage suppression, and DC overvoltage/undervoltage protection

Headless, 2nd virtual, and persistent display emulation modes via HDMI ports

Tolerates up to 40° C external ambient operating temperature

Matte-textured chassis finish to meet low-reflectivity requirements

Board: 104x102x20.07mm "K" chassis: 117x112x37mm "H" chassis: 117x112x54mm



## LoT and Edge Compute

The term "edge computing" has become increasingly popular over the years with the proliferation of data and the need to quickly process and analyze it. Edge computing is a distributed computing concept that allows data to be processed closer to the originating source.

In other words, edge computing is all about proximity and its benefits include decreasing bandwidth constraints, reducing network latency, predicting maintenance issues, and improving security and business insights.

Instead of transmitting raw data to a centralized location for processing and analysis, edge computing allows those tasks to be performed where the data is generated – be that a retail store, factory floor, hospital, or smart city – lowering the costs of data transport, providing better response times, and enabling faster decision-making.



At Intel, we are committed to delivering an amazing experience so that makes Intel® NUC the edge compute platform of choice for distributors, developers, and end users. The breadth of the Intel NUC family of high-quality, reliable, and easy-to-use products create a massive leap forward in scalability for Industry IoT solutions.

Over the past decade, Intel NUCs have been used as edge computing devices primarily in the retail, banking, and hospitality industries for digital signage, multi-display video walls, intelligent vending, digital kiosks, and other interactive displays. The Intel® NUC Pro Software Suite (NPSS) helps to ensure digital signage applications keep running during any unexpected system failures.

But there are many more edge compute usages for Intel NUCs. Here are just a few:

#### Transportation

- Interactive digital screens
- Wayfinding kiosks

#### Healthcare

- Medical imaging
- Virtual care endpoints
- Telehealth remote monitoring

#### Manufacturing

- Autonomous manufacturing
- Human wellness monitoring
- Error detection and mitigation

#### Education

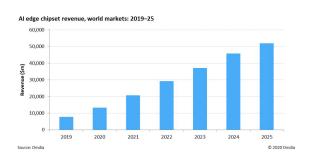
- Classroom safety and security
- Smart boards
- Interactive displays
- Bring Your Own Device (BYOD) presentation and collaboration

#### Supply chain

- End-to-end logistics management
- Quality assurance
- Inventory management



Al is changing every market, enabling new and enhanced use cases at the Edge across multiple industries – from manufacturing and health and life sciences to retail, safety, and security.



According to research from Omdia, global edge AI chipset revenue will reach \$51.9 billion by 2025, driven by the increasing need for AI inference at the edge. Moving inferencing to the Edge reduces latency, and bandwidth requirements of having to ship all the data to the cloud, improving the overall performance to meet the increasingly time-critical processing demands of emerging Internet of Things (IoT) devices and applications.



Intel® NUC 13 Pro is ideal for Edge AI Inferencing. The combination of its performance, power, and size makes it conducive to AI Inferencing workloads in space constrained environments.

This generation of NUC offers select SKUs which include 13th Generation Intel® Core™ i7 processors that are equipped with 96 graphics execution units (EU). The Execution Unit is the foundational building block of Intel's graphics architecture. Execution Units are compute processors optimized for simultaneous Multi-Threading for high throughput compute power. Edge Al Inferencing Use Cases:

- Impression metrics
- Recommendation systems
- Object detection
- Path tracking
- Quality inspection



## Intel vPro<sup>®</sup> An Unrivaled Business PC Platform

For comprehensive security, enterprise-grade stability, and hardware-based remote management, select Intel® NUC 13 Pro SKUs feature Intel vPro® Enterprise with 13th Gen Intel® Core™ i7/i5 processors.



## Revolutionary business performance

Provide business teams with Intel's latest, highly reliable, professional-grade technologies to help them thrive in a rapidly changing digital world. 13th Gen Intel® Core™ processors are designed to amplify employee productivity with powerful performance tuned for the workloads and applications business professionals use most.



## Intel<sup>®</sup> Stable IT Platform Program

Take advantage of hardware stability and enterprise-level validation of key hardware components to reduce the number of changes seen over the life of a device. Intel® SIPP aims for no hardware driver or firmware changes for at least 15 months, or until the next-generation product is released.



### Comprehensive, Multilayer Security

Evolving threats require all-inclusive security features, designed to the most stringent standards. Intel® Hardware Shield delivers integrated hardware-based PC protection, which includes below-the-OS security, application and data protection, and advanced threat detection.



## Hardware-based remote management

In today's work-at-home world, the office is everywhere. With PCs running on Intel vPro $^{(\! 8\!)}$ , IT can be everywhere too.

### Cloud-Based Manageability

By hosting management servers in the cloud, any PC that can connect to the cloud, regardless of whether it's inside or outside the corporate firewall, can be accessible.

#### Intel<sup>®</sup> Active Management Technology

Fix a wider range of systems issues, even when the OS is down, with persistent out-of-band connectivity that operates independently of the OS. Repair corrupted drivers, application software, or the OS on non-responsive systems that will not run or boot.

### Intel® Endpoint Management Assistant (Intel® EMA) software

With Intel® EMA Software, IT can remotely and securely manage Intel® Active Management Technology devices beyond the firewall via the cloud on known Wi-Fi networks.

### KVM (Keyboard, video, mouse)

Hardware-based KVM allows IT to remotely control PCs even if the OS is not running or the system is asleep. No additional equipment or software is required if Intel<sup>®</sup> AMT is configured.

#### Hardware alarm clock

Set wake-up times and schedule patch, drivers and app updates.

### Remote PC Remedy

Diagnose and remedy PC fleets remotely including OS and image installation.

### **Remote Power Control**

Manage entire fleets with remote power-on, power-off, and BIOS redirection.



## Robustness for Edge Deployments

Intel® NUC 13 Pro provides robustness that makes it "more than a PC" for edge deployments. Its hardware, software, and firmware features ensure that "uptime" is a measurable value and "downtime" doesn't happen, avoiding failures from the start.



## Robust Hardware

- Qualified for "24x7" sustained operation
- Dual M.2 slots for SSD redundancy
- 40°C external ambient operating temp.
- 12V~20V wide-range DC input
- Input power protection (dirty DC, transients, under/over voltage)
- Delayed AC auto power-on (boot ready ~1.5s after power is available)
- DC cable lock
- Over 180,000 unit-hours of burn-in and reliability testing on Intel<sup>®</sup> NUC Mini PC Pro and Essentials to deliver ultra-high reliability



## Robust Firmware

- Robustness against BIOS corruption (self-healing BIOS)
- Robustness against CMOS corruption (auto CMOS reset)
- Headless, virtual, and persistent display emulation modes
- Built-in HDMI CEC on each HDMI port:
- BIOS control and API calls to turn the display on/off, system on/off
- API calls to query the display's power status, switch the display's input, ...
- USB power on/off (BIOS control and API)





## Robust Software

Intel® NUC Pro Software Suite Software Robustness for Your Solution

### **Application Monitoring**

- Relaunch an application if it unexpectedly quits ("crash")
- Terminate (and relaunch) an application if it becomes unresponsive ("hang")
- OS shutdown or restart if target application fails <n> times
- Hardware watchdog timer executes hard system reset if NPSS/system becomes unresponsive
- Log application monitoring activity to log file

### **Player Failover**

- Assess health status of player device
- Broadcast "heartbeat" and keep track of "paired" NUC's health status
- Take over display of paired NUC if it detects loss of heartbeat
- Retake its own display when affected NUC resumes healthy status
- User-friendly setup via separate Configuration Tool



When digital signage solutions run continually and reliably, they help businesses build their brands and connect with customers. However, unexpected failures can quickly undermine brand integrity, especially when they occur at unattended installations.

To add resilience to digital signage, the Intel® NUC 13 Pro features the Intel® NUC Pro Software Suite (NPSS) which monitors unattended applications and provides redundant screen services for digital signage applications. NPSS is available for both Windows and Linux and is agnostic of CMS package.

## **Application Monitor**

The Application Monitor feature of NPSS makes it easy to monitor up to five digital signage applications simultaneously.

### How it works

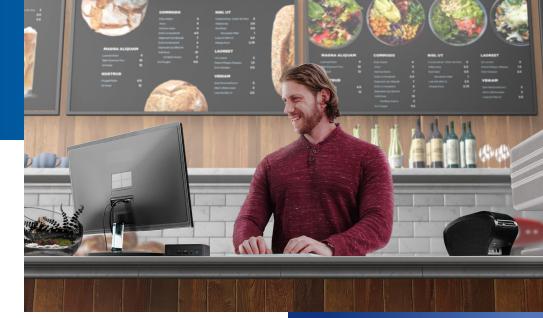
- Monitored unresponsive applications are restarted after the timeout threshold is reached.
- Systems can be configured to restart if the monitored application crashes a specific number of times since last restart.
- Unresponsive applications can be terminated and restarted.

## **Player Failover**

If an individual system failure occurs, the Player Failover feature of NPSS can provide redundant screen services for display continuity. The bundled NPSS Configuration Tool provides step-by-step instructions for configuring the Player Failover capabilities to target each Intel NUC and its primary and secondary displays.

### How it works

- Each Intel NUC system is connected to its primary display via the HDMI1 port and to the primary display of the other Intel NUC via HDMI2 port.
- Systems configured for Player Failover establish a heartbeat to support failure detection.
- Each Intel NUC supports its primary display while both systems are operational.
- When a failure is detected, the operational Intel NUC drives both displays - its own as well as the primary display of the failed system.



## Advanced Features

NPSS offers advanced features that make it easy to configure select system settings and perform diagnostics. HDMI Hardware Diagnostic supports execution of HDMI CEC control and status commands to the display via HDMI CEC.

## Key capabilities

- Terminate and relaunch the application when a targeted application becomes unresponsive.
- Gracefully shut down or restart the OS when it detects a target application failed x+ times, since the last Windows boot, as specified by the user.
- Log application monitoring activity to an easily accessible log file.
- Enable a hardware watchdog timer to execute a hard system reset if the system (or NPSS itself) becomes unresponsive.
- Take over display of a paired Intel NUC if it experiences a system failure, allowing the affected Intel NUC to resume driving its display when it returns to a healthy state.



Sustainability is a core value for Intel, and upgradable, repairable, and reusable Intel® NUC products are leading the way.



## Reimagining sustainable computing

Sustainability is built into every stage of the Intel NUC product life cycle—including product design, manufacturing, packaging, customer use, and returns.

## Sustainable shipping

Compared to larger PCs, the small size of Intel NUC products saves big on shipping, warehousing, and cooling costs.



## Sustainable design and build

Intel NUC products are made from recycled plastics and built with low-temperature solder for approximately 25 percent energy savings.

## Sustainable packaging

The latest Intel NUC product packaging including box, liners, and paperwork—is recyclable or reusable in secondary markets.

## Sustainable returns

When an Intel NUC product is returned, every attempt is made to recycle it, repurpose it, or repair it as part of the Return Material Authorization (RMA) Program.

## Right to Repair

Intel NUC devices are designed to be customized, upgraded and yes, repaired. With robust product documentation, tools for troubleshooting and maintenance, and a wide catalog of modular parts, users can rebuild their original NUC or upgrade it with higher performing components.

## Intel NUC Sustainability Achievements

## 99.5%

of all Intel NUC returned material was kept out of landfills in 2021.

## 95%

of all Intel NUC packaging was designed to be recyclable or reusable in 2021.

## 75%

Two-thirds of the chassis for the Intel® NUC 13 Pro is made up of up to 75% postconsumer recycled plastics. Compare this to many other products on the market that are using closer to 20% recycled plastics, and you can start to envision how the higher percentage has a significant impact on what we are able to re-use.

Learn more: intel.com/NUCsustainability

## Built with 13th Generation Intel® Core™ i7 vPro® processors

## Intel<sup>®</sup> NUC 13 Pro Kits and Boards

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	i7

Name		Intel® NUC 13 Pro Board					
SKU	NUC13L3Kv7	NUC13L3Hv7	NUC13L5Kv7	NUC13L5Bv7			
Form Factor	Slim	Tall	Slim	Board			
Processor	<b>Intel® Core™ i7-1</b> Intel® Iris® Xe Graphics, 14 Processor Cores (6P+8E), 20 thread P-Cores: Up to 5.2GHz Turbo,	s, 24MB Intel® Smart Cache, 35W TDP	Intel® Core™ i7-1370PE processor Intel® Iris® X® Graphics, Intel vPro® Technology 14 Processor Cores (6P+8E), 20 threads, 24MB Intel® Smart Cache, 35W TDP P-Cores: Up to 4.80 GHz Turbo, E-Cores: Up to 3.70 GHz Turbo)				
Graphics	Intel® Iris® Xº Graph	iics 96 EU, 1.50 GHz	Intel® Iris® Xe Graphics 96EU, 1.40 GHz				
Memory	2x DDR4-3200 SODIMMs (up to 64GB)						
Storage	M.2 22x80 key M slot for PCIe x4 Gen4 NVMe SSD, M.2 22x42 key B slot for PCIe x1 Gen3, USB 3.2 Gen2 and SATA SSD expandability						
Thunderbolt™ Technology	2x Thunderbolt™ 4 ports (incl. DisplayPort 2.1 and USB4) via back panel type C connectors						
Other Technologies	Intel® i226-LM 10/100/1000/2500 Mbps RJ45 Ethernet port   Discrete TPM 2.0   2x front and 1x rear USB 3.2 Gen 2 type A ports 1x rear type A and 2x internal USB 2.0 headers   2x HDMI 2.1 TMDS Compatible (4K@60Hz), with built-in CEC per port. 3.5mm front stereo headset jack   Up to 7.1 multichannel (or 8-channel) digital audio on HDMI and DP type C ports						
Wireless		Not included					
AC Cord	US, EU, UK and	I no cord option	No	-			
Expansion Bay	n/a	Faceplate	n/a				
VESA Bracket		n/a					
OS Compatibility	Microsoft Windows 11 (logoʻd), Windo various Lir		Windows 10 IoT Enterprise, compatible with various Linux distros				
What's needed	Memory, Storage, and Operating System						
Availability	З у	ear					

## Built with 13th Generation Intel® Core™ i5 vPro® processors

## Intel<sup>®</sup> NUC 13 Pro Kits and Boards

Name	Intel® NUC	C13 Pro Kit	Intel® NUC 13 Pro Board	Intel® NUC 13 Pro Kit	Intel® NUC 13 Pro Board		
SKU	NUC13L3Kv5	NUC13L3Hv5	NUC13ANBv5	NUC13L5Kv5	NUC13L5Bv5		
Form Factor	Slim	Tall	Board	Slim	Board		
Processor	Intel® I 12 Processor Cores (4	Intel® Core™ i5-1350P processo ris® X® Graphics, Intel vPro® Tech P+8E), 16 threads, 12MB Intel® Sr 4.70 GHz Turbo, E-Cores: Up to 3	Intel® Core™ i5-1350PE processor Intel® Iris® X® Graphics, Intel vPro® Technology 12 Processor Cores (4P+8E), 16 threads, 12MB Intel® Smart Cache, 35W TDP P-Cores: Up to 4.60 GHz Turbo, E-Cores: Up to 3.40 GHz Turbo				
Graphics	Inte	el® Iris® Xº Graphics 80EU, 1.50 G	iHz	Intel® Iris® Xe Graphics 80EU, 1.40 GHz			
Memory	2x DDR4-3200 SODIMMs (up to 64GB)						
Storage	M.2 22x80 key M slot for PCIe x4 Gen4 NVMe SSD, M.2 22x42 key B slot for PCIe x1 Gen3, USB 3.2 Gen2 and SATA SSD expandability						
Thunderbolt™ Technology	2x Thunderbolt™ 4 ports (incl. DisplayPort 2.1 and USB4) via back panel type C connectors						
Other Technologies	Intel® i226-LM 10/100/1000/2500 Mbps RJ45 Ethernet port   Discrete TPM 2.0   2x front and 1x rear USB 3.2 Gen 2 type A ports 1x rear type A and 2x internal USB 2.0 headers   2x HDMI 2.1 TMDS Compatible (4K@60Hz), with built-in CEC per port. 3.5mm front stereo headset jack   Up to 7.1 multichannel (or 8-channel) digital audio on HDMI and DP type C ports						
Wireless	Intel® Wi-Fi Bluetoc		Not included	Intel® Wi-Fi 6E (Gig+), Bluetooth® 5.3	Not included		
AC Cord	US, EU, UK and no cord option		_	No	_		
Expansion Bay	n/a	Faceplate		n/a			
VESA Bracket	Ye	25	n/a	Yes n/a			
OS Compatibility	Microsoft Windows 11 (logo'd), V	Windows 10 IoT Enterprise, comp	Windows 10 IoT Enterprise, compatible with various Linux distros				
What's needed	Memory, Storage, and Operating System						
Availability		3 year	5 y	ear			

## Built with 13th Generation Intel® Core™ i7 processors

## Intel<sup>®</sup> NUC 13 Pro Mini PCs, Kits and Boards



Name	Intel® NUC 13 Pro Kit Intel® NUC 13 Pro Mini PC			Intel® NUC 13 Pro Board				
SKU	NUC13ANKi7	NUC13ANHi7	NUC13ANKi7	NUC13ANHi7	NUC13ANBi7			
Form Factor	Slim	Tall	Slim	Tall	Board			
Processor	<b>Intel® Core™ i7-1360P processor</b> Intel® Iris® Xª Graphics 12 Processor Cores (4P+8E), 16 threads, 18MB Intel® Smart Cache, 35W TDP P-Cores: Up to 5.0 GHz Turbo, E-Cores: Up to 3.70 GHz Turbo							
Graphics	Intel® Iris® Xº Graphics 96EU, 1.50 GHz							
Memory	2x DDR4-320 (up to 6			1emory 3200 SODIMMs)	2x DDR4-3200 SODIMMs (up to 64GB)			
Storage	M.2 22x80 key M slot for F M.2 22x42 key B slot for PCIe x1 SSD expa	Gen3, USB 3.2 Gen2 and SATA	512GB NV	M.2 22x80 key M slot for PCIe x4 Gen4 NVMe SSD, M.2 22x42 key B slot for PCIe x1 Gen3, USB 3.2 Gen2 and SATA SSD expandability				
Thunderbolt™ Technology	2x Thunderbolt™ 4 ports (incl. DisplayPort 2.1 and USB4) via back panel type C connectors							
Other Technologies	Intel® i226V 10/100/1000/2500 Mbps RJ45 Ethernet port   2x front and 1x rear USB 3.2 Gen 2 type A ports 1x rear type A and 2x internal USB 2.0 headers   2x HDMI 2.1 TMDS Compatible (4K@60Hz), with built-in CEC per port. 3.5mm front stereo headset jack   Up to 7.1 multichannel (or 8-channel) digital audio on HDMI and DP type C ports							
Wireless		Intel® Wi-Fi 6E (Gi	g+), Bluetooth® 5.3		Not included			
AC Cord	US, EU, UK and no cord option	EU, UK and no cord option US, EU, UK, CN and no cord US, EU, and UK CN		-				
Expansion Bay	n/a	Faceplate	n/a	Faceplate	n/a			
VESA Bracket		Yes		n/a				
OS Compatibility	Microsoft Windows 11 (logoʻd) compatible with va		Windows 11 Pro Standard included	Windows 11 Home Advanced included	Microsoft Windows 11 (logo'd), Windows 10 IoT Enterprise, compatible with various Linux distros			
What's needed	Memory, Storage, an	d Operating System		_	Memory, Storage, and Operating System			
Availability	3 year							

## Built with 13th Generation Intel® Core™ i5 processors

## Intel<sup>®</sup> NUC 13 Pro Mini PCs, Kits and Boards



Name	Intel® NUC 13 Pro Kit Pro Board Pro Mini PC					Intel® NUC 13 Pro Kit Pro Board			
SKU	NUC13ANKi5	NUC13ANHi5	NUC13ANBi5	NUC13ANKi5	NUC13ANHi5	NUC13L5Ki5	NUC13L5Bi5		
Form Factor	Slim	Tall	Board	Slim	Tall	Slim	Board		
Processor							Intel® Core™ i5-1340PE processor Intel® Iris® Xe Graphics 12 Processor Cores (4P+8E), 16 threads,12MB Intel® Smart Cache, 35W TDP P-Cores: Up to 4.50 GHz Turbo, E-Cores: Up to 3.30 GHz Turbo		
Graphics		Intel® Ir	is® Xº Graphics 80EU, 1.	45 GHz		Intel® Iris® Xª Graph	nics 80EU, 1.35 GHz		
Memory	2x DDR4-3200 SODIMMs (up to 64GB) 8GB Memory (2x 4GB DDR4-3200 SOD					2x DDR4-3200 SODIMMs (up to 64GB)			
Storage		y M slot for PCIe x4 Gen or PCIe x1 Gen3, USB 3.2 expandability		512GB NVMe x4 Gen4		M.2 22x80 key M slot for PCIe x4 Gen4 NVMe SSD, M.2 22x42 key B slot for PCIe x1 Gen3, USB 3.2 Gen2 and SATA SSD expandability			
Thunderbolt <sup>™</sup> Technology	2x Thunderbolt™ 4 ports (incl. DisplayPort 2.1 and USB4) via back panel type C connectors								
Other Technologies	Intel® i226V 10/100/1000/2500 Mbps RJ45 Ethernet port   2x front and 1x rear USB 3.2 Gen 2 type A ports 1x rear type A and 2x internal USB 2.0 headers   2x HDMI 2.1 TMDS Compatible (4K@60Hz), with built-in CEC per port. 3.5mm front stereo headset jack   Up to 7.1 multichannel (or 8-channel) digital audio on HDMI and DP type C ports								
Wireless	Intel® Wi-Fi 6E (Gig+), Bluetooth® 5.3 Not included			Intel®	Wi-Fi 6E (Gig+), Blueto	oth® 5.3	Not included		
AC Cord	US, EU, UK and no cord option	US, EU, UK, CN and no cord option	-	US, EU, and UK	CN	No	_		
Expansion Bay	n/a	Faceplate	n/a	n/a	Faceplate	n/a			
VESA Bracket	Yes		n/a	Yes	n/a	Yes	n/a		
OS Compatibility		ws 11 (logo'd), Windows atible with various Linux		Windows 11 Pro Standard included	Windows 11 Home Standard included				
What's needed	Memory, Storage, and Operating System –					Memory, Storage, and Operating System			
Availability	3 year					5 year			

## Built with 13th Generation Intel<sup>®</sup> Core<sup>™</sup> i3 processors

## Intel<sup>®</sup> NUC 13 Pro Mini PCs, Kits and Boards

Name	Intel® NUC 13 Pro Kit			Intel® NUC 13 Pro Board	Intel® NUC 13 Pro Mini PC		Intel® NUC 13 Pro Kit	Intel® NUC 13 Pro Board	
ѕки	NUC13ANKi3	NUC13L3Ki3	NUC13ANHi3	NUC13L3Hi3	NUC13ANBi3	NUC13ANKi3	NUC13ANHi3	NUC13L5Ki3	NUC13L5Bi3
Form Factor	SI	im	т	all	Board	Slim	Tall	Slim	Board
Processor	Intel® Core™ i3-1315U processor 6 Processor Cores (2P+4E), 8 threads, 10MB Intel® Smart Cache, 20W TDP P-Cores: Up to 4.50 GHz Turbo, E-Cores: Up to 3.30 GHz Turbo							Intel® Core™ i3-1315UE processor 6 Processor Cores (2P+4E), 8 threads, 10MB Intel® Smart Cache, 20W TDP P-Cores: Up to 4.50 GHz Turbo, E-Cores: Up to 3.30 GHz Turbo	
Graphics	Intel® UHD Graphics for 13th Gen Intel® Processors, 64EU, 1.25GHz							Intel® UHD Grap Intel® Processors	hics for 13th Gen s, 64EU, 1.20GHz
Memory		2x DDR4-3	3200 SODIMMs (u	p to 64GB)			1emory 3200 SODIMMs)	2x DDR4-3200 SODIMMs (up to 64GB)	
Storage	M.2 22x80 key M slot for PCIe x4 Gen4 NVMe SSD, M.2 22x42 key B slot for PCIe x1 Gen3, USB 3.2 Gen2 and SATA SSD expandability					512GB NVI	Me x4 Gen4	M.2 22x80 key M slot for PCIe x4 Gen4 NVMe SSD, M.2 22x42 key B slot for PCIe x1 Gen3, USB 3.2 Gen2 and SATA SSD expandability	
Thunderbolt™ Technology			2x Thunderbolt™	4 ports (incl. Displ	ayPort 2.1 and USE	34) via back panel t	type C connectors		
Other Technologies	Intel® i226V 10/100/1000/2500 Mbps RJ45 Ethernet port   2x front and 1x rear USB 3.2 Gen 2 type A ports 1x rear type A and 2x internal USB 2.0 headers   2x HDMI 2.1 TMDS Compatible (4K@60Hz), with built-in CEC per port. 3.5mm front stereo headset jack   Up to 7.1 multichannel (or 8-channel) digital audio on HDMI and DP type C ports								
Wireless	l	ntel® Wi-Fi 6E (Gi	g+), Bluetooth® 5.3	3	Not included	Intel® Wi-Fi 6E (Gig+), Bluetooth® 5.3 Not include			Not included
AC Cord	US, EU, no corc	UK and l option	US, EU, UK, CN and no cord option	US, EU, UK and no cord option	_	US, EU, and UK	CN	No	-
Expansion Bay	n,	la	Face	plate	n	n/a Faceplate		n/a	
VESA Bracket	Yes				n/a	Yes	No	Yes	n/a
OS Compatibility	Microsoft Windows 11 (logoʻd), Windows 10 IoT Enterprise, compatible with various Linux distros				Windows 11 Windows 11 Windows 10 lo Pro Standard Home Standard compatible with included included distri		h various Linux		
What's needed	Memory, Storage, and Operating System				_ Me		,, ,	Memory, Storage, and Operating System	
Availability	3 year				-		5 y	ear	

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## Intel<sup>®</sup> NUC 13 Pro

### Intel® NUC 13 Pro Mini PCs, Kits and Boards

#### Processor

- Intel® Core™ i7-1370P processor Intel® Iris® X<sup>e</sup> Graphics, Intel vPro® Technology 14 Processor Cores (6P+8E), 20 threads, 24MB Intel® Smart Cache, 35W TDP P-Cores: Up to 5.2GHz Turbo, E-Cores: Up to
- 3.9GHz Turbo) ■ Intel® Core™ i7-1370PE processor
- Intel® Iris® X<sup>e</sup> Graphics, Intel vPro®Technology 14 Processor Cores (6P+8E), 20 threads, 24MB Intel® Smart Cache, 35W TDP P-Cores: Up to 4.80 GHz Turbo, E-Cores: Up to 3.70 GHz Turbo)
- Intel® Core™ i7-1360P processor Intel® Iris® X<sup>e</sup> Graphics
   12 Processor Cores (4P+8E), 16 threads, 18MB Intel® Smart Cache, 35W TDP
   P-Cores: Up to 5.0 GHz Turbo, E-Cores: Up to 3.70 GHz Turbo
- Intel® Core™ i5-1350P processor Intel® Iris® Xe Graphics, Intel vPro®Technology 12 Processor Cores (4P+8E), 16 threads, 12MB Intel® Smart Cache, 35W TDP P-Cores: Up to 4.70 GHz Turbo, E-Cores: Up to 3.50 GHz Turbo
- Intel<sup>®</sup> Core<sup>™</sup> i5-1350PE processor Intel<sup>®</sup> Iris<sup>®</sup> X<sup>e</sup> Graphics, Intel vPro<sup>®</sup>Technology 12 Processor Cores (4P+8E), 16 threads, 12MB Intel<sup>®</sup> Smart Cache, 35W TDP P-Cores: Up to 4.60 GHz Turbo, E-Cores: Up to 3.40 GHz Turbo
- Intel<sup>®</sup> Core<sup>™</sup> i5-1340P processor Intel<sup>®</sup> Iris<sup>®</sup> X<sup>e</sup> Graphics
   12 Processor Cores (4P+8E), 16 threads,12MB Intel<sup>®</sup> Smart Cache, 35W TDP
   P-Cores: Up to 4.60 GHz Turbo, E-Cores: Up to 3.40 GHz Turbo
- Intel<sup>®</sup> Core<sup>™</sup> i5-1340PE processor Intel<sup>®</sup> Iris<sup>®</sup> X<sup>e</sup> Graphics
   12 Processor Cores (4P+8E), 16 threads,12MB Intel<sup>®</sup> Smart Cache, 35W TDP
   P-Cores: Up to 4.50 GHz Turbo, E-Cores: Up to 3.30 GHz Turbo
- Intel<sup>®</sup> Core<sup>™</sup> i3-1315U processor
   6 Processor Cores (2P+4E), 8 threads, 10MB Intel<sup>®</sup> Smart Cache, 20W TDP
   P-Cores: Up to 4.50 GHz Turbo, E-Cores: Up to 3.30 GHz Turbo

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- Intel<sup>®</sup> Core™ i3-1315UE processor 6 Processor Cores (2P+4E), 8 threads, 10MB Intel<sup>®</sup> Smart Cache, 20W TDP
- P-Cores: Up to 4.50 GHz Turbo, E-Cores: Up to 3.30 GHz Turbo

#### Graphics

- For i7-1370P, Intel<sup>®</sup> Iris<sup>®</sup> X<sup>e</sup> Graphics 96EU, 1.50 GHz
- For i7-1370PE, Intel<sup>®</sup> Iris<sup>®</sup> X<sup>e</sup> Graphics 96EU, 1.40 GHz
- For i7-1360P, Intel<sup>®</sup> Iris<sup>®</sup> X<sup>e</sup> Graphics 96EU, 1.50 GHz
- For i5-1350P, Intel<sup>®</sup> Iris<sup>®</sup> X<sup>e</sup> Graphics 80EU, 1.50 GHz
- For i5-1350PE, Intel<sup>®</sup> Iris<sup>®</sup> X<sup>e</sup> Graphics 80EU, 1.40 GHz
- For i5-1340P, Intel<sup>®</sup> Iris<sup>®</sup> X<sup>e</sup> Graphics 80EU, 1.45 GHz
- For i5-1340PE, Intel<sup>®</sup> Iris<sup>®</sup> X<sup>e</sup> Graphics 80EU, 1.35 GHz
- For i3-1315U Intel<sup>®</sup> UHD Graphics for 13th Gen Intel<sup>®</sup> Processors, 64EU, 1.25GHz
- For i3-1315UE, Intel<sup>®</sup> UHD Graphics for 13th Gen Intel<sup>®</sup> Processors, 64EU, 1.20GHz

#### **Storage Capabilities**

- M.2 22x80 key M slot for PCIe x4 Gen4 NVMe SSD
  M.2 22x42 key B slot for PCIe x1 Gen3, USB 3.2
- Gen2 and SATA SSD expandability

#### System Memory

• Dual-channel DDR4-3200 SODIMM slots, 1.2V, 64GB max

#### Connectivity

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- 2x Thunderbolt™ 4 ports (incl. DisplayPort 2.1 and USB4) via back panel type C connectors
- 2x HDMI 2.1 TMDS Compatible (4K@60Hz), with built-in CEC per port
- 2x front and 1x rear USB 3.2 Gen2 type A ports
- 1x rear type A and 2x internal USB 2.0 headers
- Front panel header (with Vcc5/1A, 5Vsby2A, 3.3Vsby/1A)
- All USB ports with individual USB power control
- Intel® i226 10/100/1000/2500 Mbps RJ45 Ethernet (i226-LM on vPro SKUs; i226-V on nonvPro SKUs) port
- Support for 2nd LAN (Intel® 2.5 GbE) and 2x additional USB 2.0 ports via internal expansion option (tall kits only)

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 Intel<sup>®</sup> Wi-Fi 6E AX211 or AX210 (Gig+) (vPro & non-vPro) on M.2 slot, supporting 802.11ax and Bluetooth<sup>®</sup> 5.3 w/internal antennas

intel.

vPRO

intel.

vPRO

intel.

CORE

**i7** 

3.5mm front stereo headset jack

#### System BIOS

- Intel<sup>®</sup> BIOS based on Intel<sup>®</sup> Platform Innovation Framework for EFI Plug and Play
- Advanced configuration and power interface V5.0b, SMBIOS2.5

#### Hardware Management Features

- TDP settings for Core i5/i7 CPUs down configurable to 20W
- Voltage and temperature sensing

#### Chassis Expansion and Robustness

- Tall kits only: 2.5" drive bay (15mm SATA) and internal expansion bay via backpanel
- Matte Textured Chassis
- Replaceable lid
- Kensington lock with base security
- Cable locking arm
- VESA mounting plate included (select SKUs only)

#### **Product Dimensions**

- Board: 104 x 102 mm
- "K" chassis: 117 x 112 x 37 mm
- "H" chassis: 117 x 112 x 54 mm

#### Audio

- 3.5mm front stereo headset jack
- Up to 7.1 multichannel (or 8-channel) digital audio on HDMI and DP type C ports

#### Advanced Features

- Qualified for 24x7 operation
- Delayed AC start; Auto CMOS reset; DC transient voltage suppression
- Display emulation (headless display, virtual display, persistent displays) via HDMI ports

#### **Operating System Compatibility**

- Microsoft Windows\* 11, Windows 10 (logo'd), Windows 10 IoT Enterprise
- Compatible with various Linux distros

#### **Power Requirements**

 12 – 20VDC ±5% DC input on rear jack, internal 2x2 power connector, with OVP/UVP

0421/BCP/HBD/PDF 345029-003US

 Power supply adapter (120W/20VDC for Core i7, i5; 90W/19VDC for Core i3) with geo-specific AC cord (IEC C5)

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intel

CORE

**i**3

#### **Environment Operating Temperature**

## 0 C to +35 C Up to 40degC external ambient operating

 Op to 40degC external ambient oper temperature tolerance

intel.

CORE

#### Storage Temperature

-20 C to +60 C

#### **Safety Regulations and Standards**

- IEC/EN 60950-1
- IEC/EN/UL 62368-1

#### EMC/RF Regulations and Standards

- FCC Part 15B/15C/15E
- CISPR/EN 55032/55024
- ICES-003
- VCCI32
- BSMICNS13438
- KN 32/35
- AS/NZS CISPR 32
- EN 300 328
- EN 301893
- EN 300 440
- EN 301 489-1/3/17
- EN 62311
   A 6 (N) 7 6 404
- AS/NZS 4268
- AS/NZS 2772.2
- ARPANSA

#### **Environmental Regulations**

- EU RoHS
- China RoHS

China CEL

- Taiwan BSMI RoHS
- REACH

EU ErP Directive

Australia GEMS

South Korea E-standby

Israel Energy Source

## Energy Efficiency Regulations for Mini PCs US Energy Star and CEC