

Product Brief

INTEL® NUC KITS NUC8i5BEK AND NUC8i5BEH



- Intel® Optane™ Memory Ready^{1,2}
- Iris® Plus Graphics 655
- Thunderbolt™ 3



The Shape that Fits the Future.



INTEL® NUC: WHAT WILL YOU MAKE?

Get ready for spectacularly responsive performance from the Intel® NUC with 8th generation Intel® Core™ i5 processors. The latest generation of Intel NUC kits let you or your customers build the exact system they want. From choosing chassis size to memory options to picking the storage you want, the benefit of building up an Intel NUC kit is the ability to completely customize the kit for a specific usage. Whether editing photos, streaming media, or setting up a second PC, the Intel® NUC8i5BEK and NUC8i5BEH Mini PC kits deliver the features people want—in a size that fits easily into any lifestyle and any room in the house.

The first Intel NUC kit with a quad-core 8th generation Intel® Core™ i5 processor

The Intel NUC8i5BEK Mini PC kit with a true quad-core 8th generation Intel Core i5 processor delivers a big jump in performance compared to the previous generation Intel® NUC7i5BNH/BNK. Whether it's built to create content or look at photos with 4K UHD graphics for picture perfect entertainment, the Intel NUC8i5BEK Mini PC kit gives great visual immersion with Iris® Plus Graphics 655 and the unprecedented performance of Intel® Core™ processors.

The slightly taller Intel NUC8i5BEH has the same processor and graphics, but also has room for a 2.5" HDD and is Intel® Optane™ memory ready. By coupling a 2.5" HDD and Intel Optane memory, performance improves dramatically with up to 1.4x^{3,6} faster media loading, opening large media files 3x^{4,6} faster, and completing daily tasks up to 2x^{5,6} faster.

With Thunderbolt™ 3 plus USB 3.1 for fast data transfer

The Intel NUC Mini PC kits have chassis that are connectivity powerhouses. Both come with Thunderbolt™ 3 which supports up to 40 GBps of data transfer, and four USB 3.1 ports to bolster productivity for moving big media files around and providing room for peripherals. There's room in both kits for an M.2 SSD, and both come with two additional USB ports via 1x4 internal headers, an HDMI* 2.0a port for 4K displays, and DisplayPort* 1.2 via USB-C. With the ability to have triple displays all in 4K, photos, videos, and streaming media are all picture perfect.

Think you know what small can do? Think again.

In a footprint that's almost zero—especially when compared with a tower—the Intel Mini PC kits can be custom built to have the performance and features of a desktop PC in a device that fits in the palm of your hand. The small size means the Intel NUC can be positioned almost anywhere—from behind a display to tucked discretely in an entertainment center. And with improved cooling, fan noise is minimal—which means a quieter experience no matter where the Intel NUC is located.

The Intel® NUC: who says small isn't powerful?

POWER, CAPABILITIES, AND PERFORMANCE IN A NEAR-ZERO FOOTPRINT

Highlighted Features

- 1 8th generation Intel® Core™ i5-8259U processor
- 2 Iris® Plus Graphics 655
- 3 Two DDR4 SO-DIMM sockets (up to 32 GB, 2400 MHz)
- 4 1x SATA3 port for connection to 2.5" HDD or SSD (NUC8i5BEH)
- 5 M.2 slot with flexible support for a 42 or 80 mm M.2 SSD
- 6 Intel® Optane™ memory ready (up to 32 GB, NUC8i5BEH)
- 7 Intel® Dual Band Wireless-AC 9560 and Bluetooth® 5.0
- 8 Back panel DC power connector (12–19V)
- 9 HDMI* 2.0a display port supporting 8 channel audio (7.1 surround sound)
- 10 Intel® Gigabit LAN
- 11 Two USB 3.1 ports on the back panel
- 12 Thunderbolt™ 3 USB Type-C port providing DisplayPort* 1.2 or USB 3.1 gen 2
- 13 Kensington lock support
- 14 Support for user-replaceable third-party lids
- 15 Micro SD card slot
- 16 Consumer infrared sensor
- 17 Two USB 3.1 ports (including one charging port) on the front panel
- 18 Front panel headphone/microphone jack
- 19 Front panel power button
- 20 Dual-array front microphones



NUC8i5BEH



NUC8i5BEK



INTEL® NUC KITS NUC8i5BEK AND NUC8i5BEH

Technical Specifications

Processor

- Intel® Core™ i5-8259U processor (2.3 GHz - 3.8 GHz, Quad Core, 6 MB Cache, 28W TDP)

Graphics

- Iris® Plus Graphics 655
- HDMI* 2.0a port with 4K at 60 Hz
- USB Type-C port with DisplayPort* 1.2

System Memory

- Two DDR4 SO-DIMM sockets (up to 32 GB, 2400 MHz), 1.2V

Intel® Optane™ Memory

- Room for up to 32 GB in an M.2 slot (Intel NUC8i5BEH only)

Storage Capabilities

NUC8i5BEK

- Micro SDXC slot with UHS-I support on the side
- One M.2 connector supporting 22x42 or 22x80 M.2 SSD

NUC8i5BEH

- Micro SDXC slot with UHS-I support on the side
- One M.2 connector supporting 22x42 or 22x80 M.2 SSD
- One SATA3 port for connection to 2.5" HDD or SSD (up to 9.5 mm thickness)

Peripheral Connectivity

- Intel® Gigabit LAN
- Thunderbolt™ 3 with data transfer up to 40 Gbps
- Four USB 3.1 ports (two back panel ports and two front ports including one charging port)
- Two additional USB 2.0 ports via internal header
- Intel® Dual Band Wireless-AC 9560 (802.11ac), 2x2, up to 1.73 Gbps
- Dual Mode Bluetooth* 5.0

System Bios

- 64 Mb Flash EEPROM with Intel® Platform Innovation Framework for EFI Plug and Play
- Advanced configuration and power interface V3.0b, SMBIOS2.5
- Intel® Visual BIOS
- Intel® Express BIOS update support

Hardware Management Features

- Processor fan speed control
- Voltage and temperature sensing
- Fan sensor inputs used to monitor fan activity
- ACPI-compliant power management control

Expansion Capabilities

- Two Internal USB 2.0 ports via two 1x4 headers (for replaceable lid support)
- One Consumer Electronics Control header

Audio

- Up to 7.1 surround audio via HDMI
- Headphone/microphone jack on the front panel
- Dual-array microphones on the front panel

Front Panel Header

- Reset, HDD LED, Power LEDs, power on/off

Mechanical Chassis Size

NUC8i5BEK

- 4.60" x 4.40" x 1.41"
- 117 mm x 112 mm x 36 mm

NUC8i5BEH

- 4.60" x 4.40" x 2.01"
- 117 mm x 112 mm x 51 mm

Baseboard Power Requirements

- 19V, 90W power brick

Environment Operating Temperature

- 0° C to +40° C

Storage Temperature

- 20° C to +60° C

Product Safety Regulations and Standards

- IEC 60950-1
- UL 60950-1
- EN 60950-1
- CAN/CSA-C22.2 No. 60950-1

EMC/RF Regulations and Standards (Class B)

- CISPR 32
- FCC CFR Title 47, Chapter I, Part 15, Subparts B, C, E
- ICES-003
- EN 55032
- EN 55024
- ETSI EN 300 328
- ETSI EN 301 489-1
- ETSI EN 301 489-17
- ETSI EN 301 893
- EN 62311
- AS/NZS 2772.2
- AS/NZS 4268
- VCCI V-2, V-3, V-4
- KN-32
- KN-24
- CNS 13438

Environmental Regulations

- RoHS Directive 2011/65/EU
- WEEE Directive 2012/19/EU
- China RoHS - Management Methods for Restricted Use of Hazardous Substances in Electrical and Electronic Products

Look for Intel® NUC with Intel Inside® at www.intel.com/NUC

¹ Available on the Intel® NUC Kit NUC8i5BEH only.

² Intel technologies may require enabled hardware, specific software, or services activation. Performance varies depending on system configuration. Check with your system manufacturer or retailer or learn more at intel.com/optanememory

³ As measured by Media Project Load Workload comparing 8th Gen Intel® Core™ i7-8750H processor (32 GB Intel® Optane™ memory module) + 256 GB PCIe* SSD + 1 TB HDD vs. 8th Gen Intel Core i7-8750H processor + 256 GB PCIe SSD + 1 TB HDD.

⁴ As measured by Media Project Load Workload comparing Intel® Core™ i7-8750H processor + 1 TB HDD + 32 GB Intel® Optane™ memory vs. Intel Core i7-8750H processor + 1 TB HDD.

⁵ As measured by SYSmark™ 2014 SE Responsiveness comparing Intel® Core™ i7-8750H processor + 1 TB HDD + 32 GB Intel® Optane™ memory vs. Intel Core i7-8750H processor + 1 TB HDD.

⁶ Benchmark results were obtained prior to implementation of recent software patches and firmware updates intended to address exploits referred to as "Spectre" and "Meltdown". Implementation of these updates may make these results inapplicable to your device or system.

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Actual Intel® NUC kit may differ from the image shown.

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