



PRODUCT BRIEF

# DE3815TYKHE

Intel® NUC Kit

# DE3815TYBE

Intel® NUC Board

**4 GB**  
STORAGE  
ON BOARD



**WATCHDOG  
TIMER**



**MULTIPLE  
OS OPTIONS**

INTERNAL **SPEAKER** SUPPORT



HD AUDIO

**GIGABIT LAN**

INTERNAL SUPPORT FOR  
**2.5" HDD OR SSD**

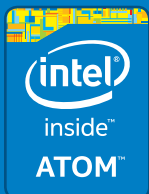
**FANLESS  
DESIGN**

**USB 3.0**

HDMI\* & VGA



**12V~24V DC  
WIDE-RANGE  
VOLTAGE**



The Shape that Fits the Future.



## Ideal for Digital Signage, Kiosks, Point-of-Sale, and Thin-Clients.

### Think you know what small can do? Think again.

From school and university computer labs to enterprise, government, and private organizations, the Intel® NUC is driving new models of computing in small spaces. The Intel® NUC DE3815TYKHE kit and DE3815TYBE board, built with an Intel® Atom™ processor for intelligent systems, is a pint-sized powerhouse for value-conscious businesses and organizations. This low-cost, low-power solution introduces many firsts to the Intel NUC form-factor: fanless thermal solution for the ultimate silence and reliability, onboard flash storage for small-footprint software solutions, internal

flat panel display connectivity for built-in screens, VGA port for monitor compatibility in legacy installations, serial ports for peripherals requiring the robustness of hardware handshaking, watchdog timer for resilient system availability, and also I2C and PWM signals for interfacing with sensors and other embedded devices enabling the Internet of Things. And with its three year supply availability, the Intel NUC DE3815TYKHE and DE3815TYBE will be around to support long development and production ramp cycles.

### Designed with thin-client computing in mind

With its vertical industrial design and support for Linux\* and Windows Embedded\* operating systems, this Intel NUC was designed as the essential building block to power the thin-client market. A fanless kit with flash storage built-in, USB3 and audio headset support, this Intel NUC fits right at home in schools, call centers, and other locations with a large installed base of VGA monitors. Connectivity to HDMI or DVI<sup>1</sup> displays is also supported, and a VESA mount is included for VESA-mounted All-in-One PC installation. The Intel NUC DE3815TYKHE exceeds at providing the right performance and connectivity for thin-client solutions at a price every school can afford.

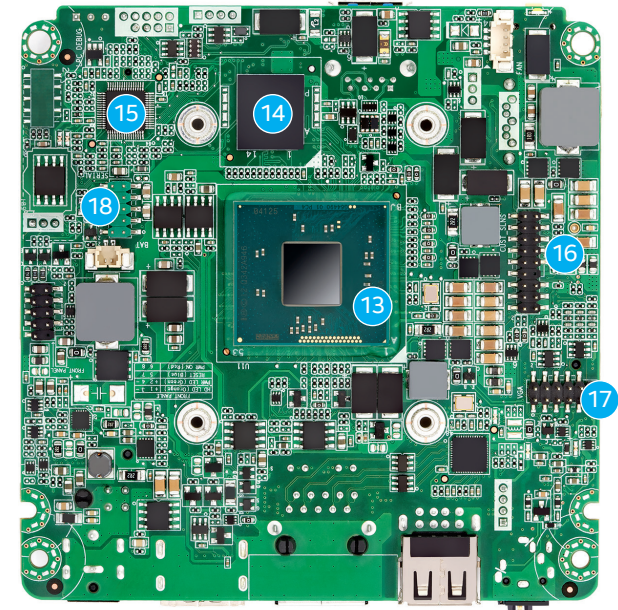
### Also ideal for embedded applications

The new Intel NUC board and kit are powered by the Intel® Atom™ processor E3815, providing an ideal combination of power consumption, performance, affordability, and software compatibility to drive light digital signage, point-of-sale, and kiosk solutions, along with other usages. With 4 GB of eMMC storage built-in, many embedded applications will benefit from a lower overall system-level BOM cost. Digital signage solutions displaying centralized content can now be more affordable than ever, with 2.5" SATA drive access always an option should local content be needed on low-cost, high-capacity storage. Inexpensive kiosks can now be built as highly compact and reliable systems with no moving parts, thanks to eDP touch-panel display support, a fanless thermal solution and built-in storage capabilities. Incidentally, high availability resilience can also be enabled for these and other unattended solutions via the built-in watchdog timer, providing priceless protection against costly and embarrassing downtimes. For retail checkout line solutions with serial barcode readers and weight scale support, small and low-cost point-of-sale terminals can now be assembled with the new Intel NUC board and chassis from the very innovative Intel NUC ecosystem. Last, but certainly not least, the Intel NUC DE3815TYKHE and DE3815TYBE provide a discrete Intel® Trusted Platform Module device onboard for hardware-based data encryption—a must-have for applications where confidential information is at stake. Embedded possibilities are endless with the Intel NUC kit DE3815TYKHE and Intel NUC board DE3815TYBE—just add RAM!

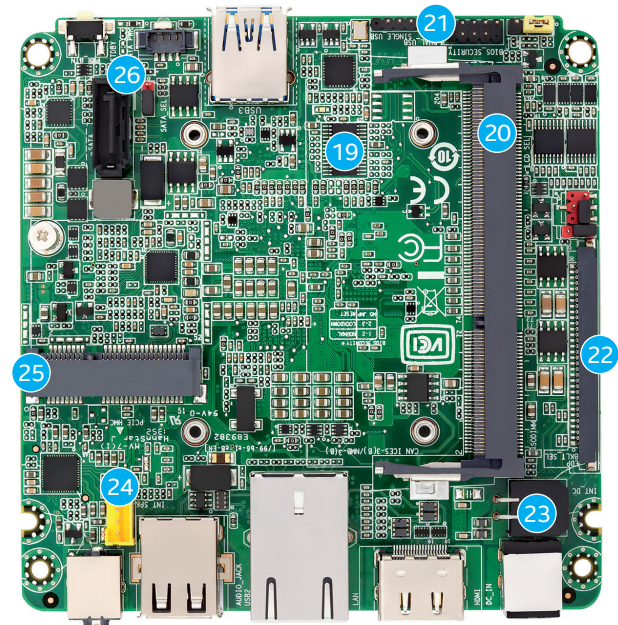
# Perfect for Thin-Client Computing

## HIGHLIGHTED FEATURES

- 1 Fanless design
- 2 Power button and LED
- 3 Front panel USB 3.0 port
- 4 Internal support for 2.5" HDD or SSD
- 5 Wireless antennas built-in
- 6 VGA port
- 7 Headphone/microphone jack
- 8 Dual back panel USB 2.0 ports
- 9 Gigabit Ethernet LAN
- 10 Kensington lock hole
- 11 HDMI\* port
- 12 12-19V DC back panel power connector
- 13 Intel® Atom™ Processor E3815
- 14 4 GB eMMC storage device
- 15 Watchdog timer
- 16 Custom solutions header
- 17 VGA header
- 18 Serial ports header



- 19 Trusted Platform Module
- 20 SO-DIMM slot (up to 8 GB)
- 21 Internal USB 2.0 headers
- 22 eDP connector
- 23 12-24V DC internal power header
- 24 Internal speakers header
- 25 Half-length PCIe\* mini-card slot
- 26 2.5 inch SATA drive connectivity



# Intel® NUC Kit DE3815TYKHE/Intel® NUC Board DE3815TYBE

## TECHNICAL SPECIFICATIONS

### PROCESSOR

- Intel® Atom™ Processor E3815 (1.46 GHz Single Core, 512 KB Cache, 5W TDP)
- Supports Intel® Virtualization Technology (VT-x)
- Supports Intel® 64 architecture<sup>2</sup>

### GRAPHICS

- Intel® HD Graphics (400 MHz)
- One HDMI\* 1.4a port
- One eDP 1.3 (2-lane with backlight and adjustable voltage/timings)
- One VGA port (board VGA header cabled out to chassis)

### SYSTEM MEMORY

- One DDR3L SO-DIMM slot for memory expandability up to 8 GB
- 1.35V, 1333/1600 MHz (downclocked to 1066 MHz)

### STORAGE CAPABILITIES

- One SATA port (3 Gb/s) with SATA DOM support and + 5V SATA power header
- Internal support for 2.5" HDD or SSD (up to 9.5mm thickness)
- 4 GB eMMC device built-in
- Trusted Platform Module device (TPM 1.2)

### PERIPHERAL CONNECTIVITY

- Integrated 10/100/1000Mbps Ethernet Network Connection
- One SuperSpeed USB 3.0 port (front panel)
- Two Hi-Speed USB 2.0 ports (back panel)
- Three USB 2.0 ports (internal header)
- Two serial ports (internal header)

### 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
- Optimized POST for almost instant-on access to PC from power on

### HARDWARE MANAGEMENT FEATURES

- Watchdog timer
- Fanless thermal solution
- Fan speed control header
- Voltage and temperature sensing
- Fan sensor inputs used to monitor fan activity
- ACPI-compliant power management control

### EXPANSION CAPABILITIES

- One PCI Express\* half-length mini-card connector<sup>3</sup> (antennas pre-assembled for wireless card support)
- One Custom Solutions header (DMIC, AppLaunch GPIO, HDMI\_CEC, SMBus, I2C[0:1], PWM[0:1] w/5V buffers, 1.8/3.3/5 Vstby)

### AUDIO

- Intel® HD Audio<sup>4</sup> via HDMI 1.4a, supporting multi-channel digital audio
- Intel® HD Audio via backpanel analog audio jack (headset, speakers, headphones, microphone)
- Intel® HD Audio via internal stereo speakers header

### MECHANICAL CHASSIS SIZE

- 7.48" x 4.56" x 1.57"
- 190 mm x 116 mm x 40 mm
- Vertical stand and VESA mount
- Kensington lock hole

### BASEBOARD POWER REQUIREMENTS

- 12-24V DC internal power header
- 12-19V DC back panel power connector
- 12V, 36W wall-mount AC-DC power adapter
- Multi-country AC adapter (IEC plug types A, C, G and I)

### ENVIRONMENT OPERATING

#### TEMPERATURE

- Kit: 0° C to +40° C
- Board: 0° C to +50° C

#### STORAGE TEMPERATURE

- Kit: -20° C to +60° C
- Board: -20° C to +70° C

### PRODUCT SAFETY REGULATIONS AND STANDARDS

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

### EMC REGULATIONS AND STANDARDS (CLASS B)

- CISPR 22
- FCC CFR Title 47, Chapter I, Part 15, Subparts A, B
- ICES-003
- EN 55022
- EN 55024
- VCCI V-3, V-4
- KN-22
- KN-24
- CNS 13438

### ENVIRONMENTAL REGULATIONS

- RoHS Directive 2011/65/EU
- WEEE Directive 2002/96/EC
- China RoHS MII Order #39

<sup>1</sup> Connectivity from DE3815TYKHE and DE3815TYBE to DVI monitor requires a passive HDMI to DVI-D cable or adapter, sold separately.

<sup>2</sup> Requires a system with a 64-bit enabled processor, chipset, BIOS and software. Performance will vary depending on the specific hardware and software you use. Consult your PC manufacturer for more information. For more information, visit <http://www.intel.com/info/em64>

<sup>3</sup> System resources and hardware (such as PCI and PCI Express\*) require physical memory address locations that can reduce available addressable system memory. This could result in a reduction of as much as 1 GB or more of physical addressable memory being available to the operating system and applications, depending on the system configuration and operating system.

<sup>4</sup> Requires an Intel® HD Audio enabled system. Consult your PC manufacturer for more information. Sound quality will depend on equipment and actual implementation. For more information about Intel HD Audio, refer to [www.intel.com/design/chipset/hdaudio.htm](http://www.intel.com/design/chipset/hdaudio.htm)

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



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