DE3815TYKHE
Intel® NUC Kit

DE3815TYBE
Intel® NUC Board

The Shape that Fits the Future.
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 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, 1.46 GHz
- 512 KB Cache, 5W TDP
- Supports Intel® Virtualization Technology (VT-x)
- Supports Intel® 64 architecture

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 (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 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
- 0° C to +50° C

STORAGE TEMPERATURE
- -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

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Look for Intel® NUC Kit or board may differ from the image shown.

1 Connectivity from DE3815TYKHE and DE3815TYBE to DVI monitor requires a system with a 64-bit enabled processor, chipset, BIOS and software.
2 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/chipsets/hdaudio.htm
3 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/design/chipsets
4 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.