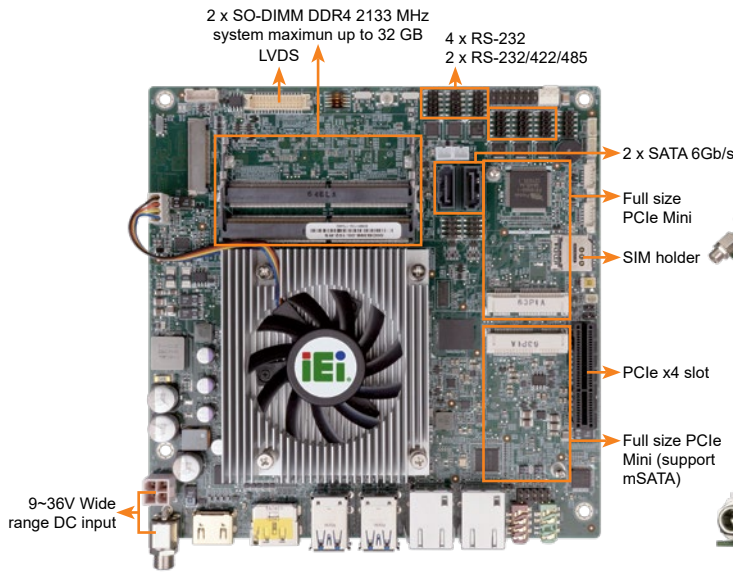
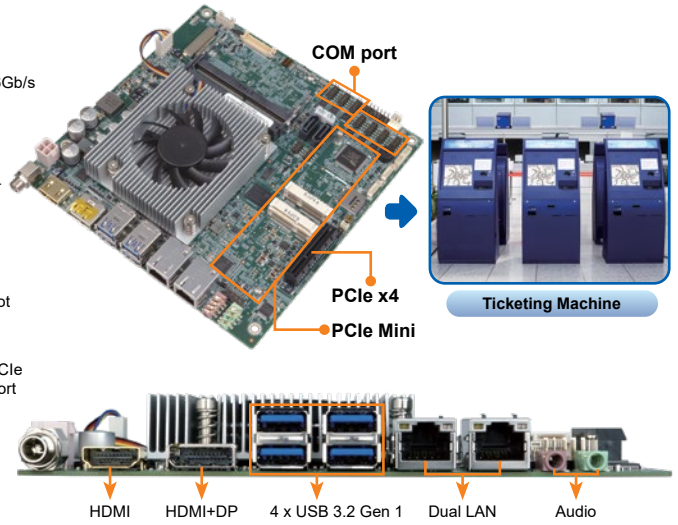


# tKINO-ULT3

Thin Mini-ITX SBC supports Intel® Skylake-U Processor, 9~36V DC input, Dual HDMI, LVDS, SATA 6Gb/s, Dual Intel® GbE, USB 3.2 Gen 1 (5Gb/s), PCIe Mini, eMMC 5.0, HD audio and RoHS



Multiple expansion with COM port, PCIe x4, and PCIe Mini.



## Specifications

- ◆ CPU
  - 6th generation Intel® mobile ULT on-board processor
  - Intel® Core™ i7-6600U (up to 3.4GHz, dual-core, 4M Cache, TDP=15W)
  - Intel® Core™ i5-6300U (up to 3.0GHz, dual-core, 3M Cache, TDP=15W)
  - Intel® Core™ i3-6100U (up to 2.3GHz, dual-core, 3M Cache, TDP=15W)
  - Intel® Celeron® 3955U (up to 2.0GHz, dual-core, 2M Cache, TDP=15W)
  - Intel® Celeron® 3855U (up to 1.6GHz, dual-core, 2M Cache, TDP=15W)
- ◆ BIOS
  - UEFI BIOS
- ◆ Memory
  - 2 x SO-DIMM DDR4 2133MHz, system maximum up to 32GB
- ◆ Graphics Engine
  - Intel® HD graphic
- ◆ Display Output
  - 1 x HDMI 1.4 (up to 4096x2160@24Hz)
  - 1 x HDMI/DP (up to 4096x2160@24Hz)
  - 1 x LVDS/eDP (select by switch)
- ◆ Ethernet
  - LAN1: Intel® I219LM (with Intel® AMT11.0 support)
  - LAN2: Intel® I211AT PCIe controller with NCSI support
- ◆ External I/O Interface
  - 4 x USB 3.2 Gen 1 (5Gb/s)
- ◆ Internal I/O Interface
  - 1 x eMMC 5.0 (optional, up to 32G)
  - 2 x RS-232/422/485 (2x5 pin, P=2.0)
  - 2 x SATA with 5V output (RAID 0/1 supported)
  - 4 x RS-232 (2x5 pin, P=2.0)
  - 4 x USB 2.0 (2x4 pin, P=2.0)
- ◆ Audio
  - Realtek ALC662 HD Audio Codec support 5.1 Channel
  - 2 x Audio jacks (line-out, mic-in) on rear IO
  - 1 x Front audio (2x5-pin)
- ◆ Front Panel
  - 1 x Front panel (2x7 pin, power LED, HDD LED, power button, reset button)
- ◆ LAN LED
  - 2 x LAN LED(1x2 pin)
- ◆ SMBUS: 1 x SMBus (1x4 pin)
- ◆ I<sup>2</sup>C: 1 x I<sup>2</sup>C (1x4 pin)
- ◆ Digital I/O: 8-bit digital I/O (2x5 pin)
- ◆ Expansion
  - 1 x PCIe x4 slot
  - 1 x Full-size PCIe Mini card slot (support mSATA, colay SATA2)
  - 1 x Full-size PCIe Mini card slot (with SIM holder)
  - \*3855U belongs to Skylake ULT Base series CPU, PCIe signal support only PCIe Gen 2*
- ◆ Watchdog Timer
  - Software programmable, supports 1~255 sec. system reset by Super I/O
- ◆ Power Supply
  - 9~36V DC input
  - 1 x Internal power connector (2x2 pin)
  - 1 x External DC power Jack (Ø5.5mm)
  - Support AT/ATX mode
- ◆ Fan Connector
  - 1 x CPU smart fan (1x4 pin)
  - 1 x System fan (1x3 pin)
- ◆ Chassis Intrusion Detection: 1 x Chassis intrusion connector (1x2 pin)
- ◆ Power Consumption
  - 12V@4.68A (Intel® Core™ i7-6600U up to 3.4GHz CPU with 16GB (8GB x 2) DDR4-2133 memory running in 3.2GHz)
- ◆ Operating Temperature: -20°C ~ 60°C
- ◆ Operating Humidity: 5% ~ 95%, non-condensing
- ◆ Dimensions: 170mm x 170 mm
- ◆ Weight: GW: 900g / NW: 375g
- ◆ CE/FCC compliant



## Features

- Mini ITX form factor with Intel® Skylake-U processor support DDR4-2133 memory
- Wide range 9~36V DC input
- Support dual HDMI (one HDMI/DP combo support), LVDS/eDP
- Intel® GbE LAN with Intel® AMT 11.0 supported
- SATA 6Gb/s, mSATA and eMMC 5.0 (option) supported
- High speed I/O for USB 3.2 Gen 1 (5Gb/s), PCIe x4, full-size PCIe Mini support

## Packing List

1 x tKINO-ULT3 single board computer with CPU cooler
2 x SATA cable
1 x I/O shielding
1 x QIG

## Ordering Information

Part No.	Description
tKINO-ULT3-i7-R10	Thin Mini-ITX SBC supports Intel® 6th Generation Mobile Core™ i7-6600U (15W) on-board Processor (ULT), 9~36V DC input, Dual HDMI, LVDS, eDP, SATA 6 Gb/s, Dual Intel® GbE, PCIe Mini, USB 3.2 Gen 1 (5Gb/s), eMMC 5.0, HD audio and RoHS
tKINO-ULT3-i5-R10	Thin Mini-ITX SBC supports Intel® 6th Generation Mobile Core™ i5-6300U (15W) on-board processor (ULT), 9~36V DC input, Dual HDMI, LVDS, eDP, SATA 6 Gb/s, Dual Intel® GbE, PCIe Mini, USB 3.2 Gen 1 (5Gb/s), eMMC 5.0, HD audio and RoHS
tKINO-ULT3-i3-R10	Thin Mini-ITX SBC supports Intel® 6th Generation Mobile Core™ i3-6100U (15W) on-board processor (ULT), 9~36V DC input, Dual HDMI, LVDS, eDP, SATA 6 Gb/s, Dual Intel® GbE, PCIe Mini, USB 3.2 Gen 1 (5Gb/s), eMMC 5.0, HD audio and RoHS
tKINO-ULT3-C-R10	Thin Mini-ITX SBC supports Intel® 6th Generation Mobile Celeron® 3955U (15W) on-board processor (ULT), 9~36V DC input, Dual HDMI, LVDS, eDP, SATA 6 Gb/s, Dual Intel® GbE, PCIe Mini, USB 3.2 Gen 1 (5Gb/s), eMMC 5.0, HD audio and RoHS
tKINO-ULT3-CE-R10	Thin Mini-ITX SBC supports Intel® 6th Generation Mobile Celeron® 3855U (15W) on-board processor (ULT), 9~36V DC input, Dual HDMI, LVDS, eDP, SATA 6 Gb/s, Dual Intel® GbE, PCIe Mini, USB 3.2 Gen 1 (5Gb/s), eMMC 5.0, HD audio and RoHS
32205-002700-200-RS	RS-232/422/485, 200mm, P=2.0
34000-000645-RS	Fanless heatsink module, 93.5 x 84 x 30mm