# Single Board Computer

***Industrial Motherboard***

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**tKINO-ULT3**

2 x SO-DIMM DDR4 2133 MHz

***Thin Mini-ITX SBC supports Intel® Skylake-U Proccessor, 9~36V DC input, Dual HDMI, LVDS, SATA 6Gb/s, Dual Intel® GbE, USB 3.1 Gen 1 (5Gb/s), PCIe Mini, eMMC 5.0, HD audio and RoHS***

## Multiple expansion with COM port,

system maximun up to 32 GB LVDS

4 x RS-232

2 x RS-232/422/485

## PCIe x4, and PCIe Mini.

2 x SATA 6Gb/s

### COM port

Full size PCIe Mini

SIM holder

9~36V Wide range DC input

PCIe x4 slot

Full size PCIe Mini (support mSATA)


### PCIe x4 PCIe Mini

**Ticketing Machine**

tKINO-ULT3-2019-V10

# *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 maximun 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 3.1 Gen 1 (5Gb/s)

Intelnal I/O Interface

1. x eMMC 5.0 (optional, up to 32G) 4 x RS-232 (2x5 pin, P=2.0) 2 x RS-232/422/485 (2x5 pin, P=2.0) 4 x USB 2.0 (2x4 pin, P=2.0)
2. x SATA with 5V output 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) I²C: 1 x I²C (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 Jackc (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 to3.4GHz 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

HDMI HDMI+DP 4 x USB 3.1 Gen 1 Dual LAN Audio



Thin Type

DDR4

2133

DV Input

9~36V

Display

Triple

Expansion

PCIe Mini

# *Features*

* Mini ITX form fator 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 3.1 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***

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| --- | --- |
| 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 3.1 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 3.1 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 3.1 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 3.1 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 3.1 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 |