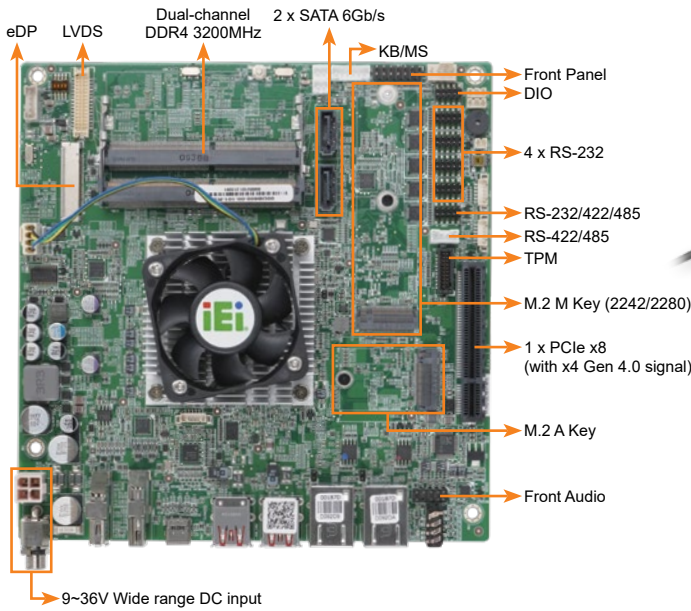


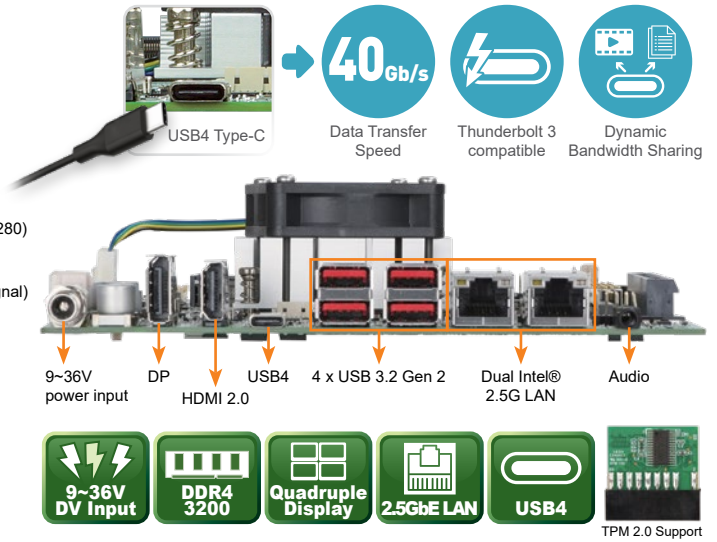
tKINO-ULT6

Thin Mini-ITX SBC supports Intel® Tiger Lake-UP3 Processor, 9~36V DC input, Quadruple Independent Display, HDMI, DP, eDP, SATA 6Gb/s, Dual Intel® 2.5GbE, USB4, M.2, HD audio and RoHS



USB4 higher transfer speeds, improved bandwidth & backward compatibility

Preliminary



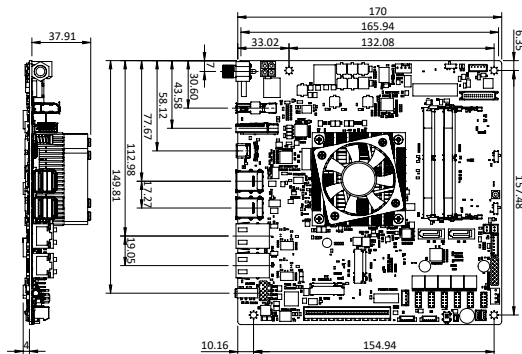
Specifications

- ◆ CPU
 - 11th Gen. Intel® mobile Tiger Lake-UP3 on-board processor
 - Intel® Core™ i7-1185G7E (up to 4.4GHz, quad-core, 12M Cache, TDP=28/15/12W)
 - Intel® Core™ i5-1145G7E (up to 4.1GHz, quad-core, 8M Cache, TDP=28/15/12W)
 - Intel® Core™ i3-1115G4E (up to 3.9GHz, dual-core, 6M Cache, TDP=28/15/12W)
 - Intel® Celeron® 6305E (up to 1.8GHz, dual-core, 4M Cache, TDP=15W)
- ◆ BIOS: AMI UEFI BIOS
- ◆ Memory: 2 x SO-DIMM DDR4 3200MHz, system maximum up to 64GB
- ◆ Graphics Engine
 - Intel® HD Graphics Gen 12 Gfx; Up to 96EU; 2VDbox; AI (INT8)
 - HDMI 2.0 integrated, 4 Display Pipes, 8k60210b
 - AV1 Codec, 12b support, E2E Compression, IPU6 FF
- ◆ Display Output
 - 4 x 4K Independent Display
 - 1 x DP 1.4a (up to 4096 x 2160 @60Hz)
 - 1 x LVDS/eDP (select by switch)
 - (LVDS) Single/Dual channel 18/24-bit LVDS (up to 1920x1200@60Hz)
 - (eDP) 4 lane eDP (up to 4096x2304@60Hz)
 - 1 x HDMI 2.0b (up to 4096 x 2160@60Hz)
 - 1 x Type-C DP (up to 4096 x 2304 @60Hz) with USB4
- ◆ Ethernet
 - LAN1: Intel® I225V 2.5GbE controller
 - LAN2: Intel® I225V 2.5GbE controller
- ◆ External I/O Interface
 - 4 x USB 3.2 Gen 2 x1 (10Gb/s)
 - 1 x USB4
- ◆ Internal I/O Interface
 - 1 x KB/MS (1x6 pin)
 - 1 x RS-232/422/485 (2x5 pin, P=2.0) (RS-485 support AFC)
 - 1 x RS-422/485 (1x4 pin, P=2.0) (RS-485 support AFC)
 - 2 x SATA 6Gb/s with 5V SATA power connector
 - 4 x RS-232 (2x5 pin, P=2.0)
- ◆ SMBus: 1 x SMBus (1x4 pin)
- ◆ I²C: 1 x I²C (1x4 pin)
- ◆ Audio
 - Realtek ALC888S HD Audio Codec
 - 1 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)
- ◆ Expansion
 - 1 x PCIe x8 Slot (x4 signal)
 - 1 x M.2 2230 A key (PCIe x1 & USB 2.0)
 - 1 x M.2 2242/2280 M key (PCIe x2/SATA)
- ◆ Digital I/O: 1 x 8-bit digital I/O (2x5 pin)
- ◆ TPM: 1 x TPM (2x10 pin)
- ◆ Fan Connector
 - 1 x CPU fan connector (1x4 pin)
 - 1 x System fan connector (1x4 pin)
- ◆ Power Supply
 - 9~36V DC input
 - 1 x Internal power connector (2x2 pin)
 - 1 x External DC power Jack (Ø5.5mm) ErP/EuP Compliant
- ◆ Watchdog Timer: Software Programmable support 1~255 sec. System reset
- ◆ Power Consumption
 - 12V@6.48A (Intel® Core™ i7-1185G7E up to 4.4GHz CPU with 16GB (8GB x 2) DDR4-3200 memory running in 2.8GHz)
- ◆ Operating Temperature: -20°C ~ 60°C
- ◆ Storage Temperature: -30°C ~ 70°C
- ◆ Operating Humidity: 5% ~95%, non-condensing
- ◆ Dimensions: 170 mm x 170 mm
- ◆ Weight: GW:900g / NW:400g
- ◆ CE/FCC compliant

Features

- Thin Mini-ITX form factor with Intel® Tiger Lake-UP3 processor support SO-DIMM DDR4-3200 memory
- Wide range 9~36V DC Input
- Support quadruple independent displays (HDMI, DP, eDP/LVDS, Type-C DP)
- Dual Intel® 2.5GbE LAN
- M.2 A key for WIFI+Bluetooth (PCIe x1/USB 2.0), M.2 M key for Storage (PCIe x2/SATA)
- PCIe x8 Gen 4.0 slot (x4 signal)

Dimensions (Unit: mm)



Packing List

1 x tKINO-ULT6 single board computer with CPU cooler	1 x I/O shielding
1 x SATA cable	1 x QIG

Ordering Information

Part No.	Description
tKINO-ULT6-i7-R10	Thin Mini-ITX SBC supports Intel® 11th Gen Tiger Lake-UP3 Mobile Core™ i7-1185G7E processor, 9~36V DC input, Quadruple Independent Display, HDMI, DP, eDP, SATA 6Gb/s, Dual Intel® 2.5GbE, USB4, M.2, HD audio and RoHS
tKINO-ULT6-i5-R10	Thin Mini-ITX SBC supports Intel® 11th Gen Tiger Lake-UP3 Mobile Core™ i5-1145G7E processor, 9~36V DC input, Quadruple Independent Display, HDMI, DP, eDP, SATA 6Gb/s, Dual Intel® 2.5GbE, USB4, M.2, HD audio and RoHS
tKINO-ULT6-i3-R10	Thin Mini-ITX SBC supports Intel® 11th Gen Tiger Lake-UP3 Mobile Core™ i3-1115G4E processor, 9~36V DC input, Quadruple Independent Display, HDMI, DP, eDP, SATA 6Gb/s, Dual Intel® 2.5GbE, USB4, M.2, HD audio and RoHS
tKINO-ULT6-C-R10	Thin Mini-ITX SBC supports Intel® 11th Gen Tiger Lake-UP3 Mobile Celeron® 6305E processor, 9~36V DC input, Quadruple Independent Display, HDMI, DP, eDP, SATA 6Gb/s, Dual Intel® 2.5GbE, USB4, M.2, HD audio and RoHS
19800-000075-RS	PS/2 KB/MS cable with bracket, 220mm, P=2.0
32205-002700-200-RS	RS-232/422/485, 200mm, P=2.0
TPM-IN03-R10	20-pin Infineon SPI TPM2.0 module, software mangement tool, firmware V7.63