

# KINO-TGL-U

Mini-ITX SBC supports Intel® Tiger Lake-UP3 Processor, 9~36V DC input, triple independent displays, HDMI, DP, iDPM, SATA 6Gb/s, dual Intel® 2.5GbE, USB 3.2, M.2 and RoHS

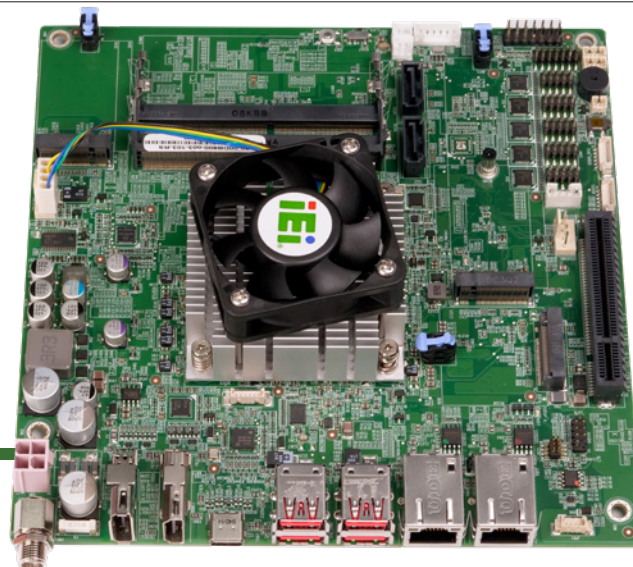
- Mini-ITX SBC supports Intel® Tiger Lake-UP3
- Wide range 9~36V DC power input
- Support Triple independent display via HDMI, DP, iDPM
- Dual Intel® 2.5GbE LAN
- Support one PCIe Gen4 x8 slot(x 4 signal), M.2 A key, M.2 M key expansions

**High Performance Capability  
with multi-tasking function**



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2 x 260-pin 3200MHz DDR4, system max. up to 64GB

iDPM Support eDP to eDP/LVDS/VGA Module

2 x SATA 6Gb/s

M.2 M key (2242/2280)

12-bit DIO

5 x RS-232

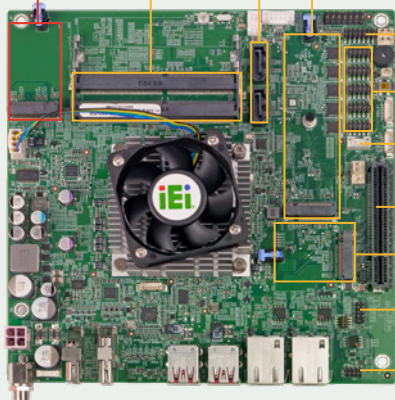
RS-422/485

PCIe Gen4 x8 slot (x 4 signal)

M.2 A key (2230)

IAUDIO

2 x USB 2.0



9~36V DC Input

4 x USB 3.2 Gen 2

DP HDMI

2 x 2.5GbE LAN



## Support Intel® Tiger Lake-UP3 Processors

Equipped with 11th Gen. Intel® Core™ i7/i5/i3, Celeron® UP3 processor, the KINO-TGL features high performance, and can handle multitasking efficiently.



## Support Intel® I225V 2.5GbE Network Controller

Two Gigabit RJ45 network ports are provided via Intel® I225V 2.5GbE network controller to achieve up to 2.5GbE network transmission rate.



## Abundant Expansion Slots

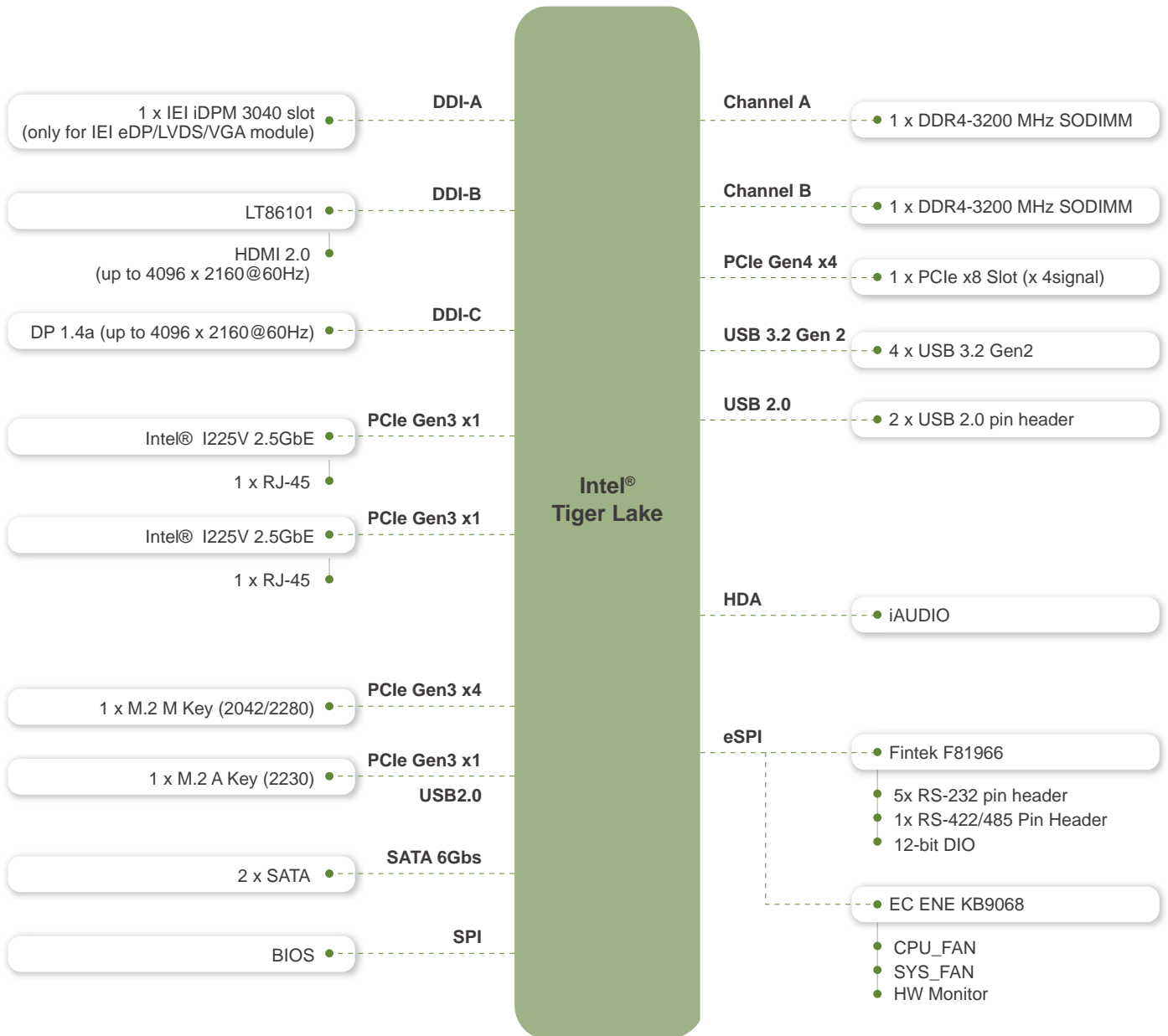
The KINO-TGL provides PCIe x8 (x 4 signal) for expansion, M.2 A key for Bluetooth and Wi-Fi modules, M.2 M key for NVME storage.



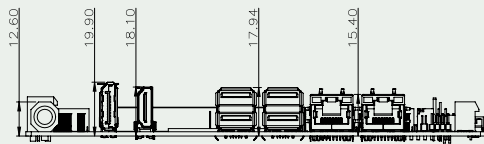
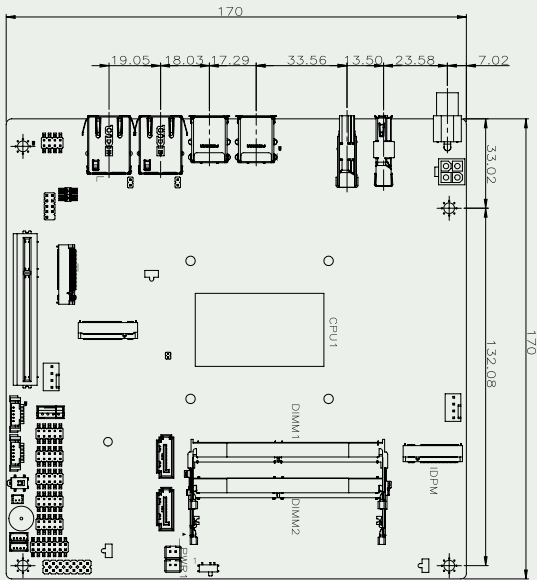
## IEI-specific iDPM Interface

IEI uniquely designs a iDPM interface that can connect to display modules, enabling users to add LVDS/eDP/VGA display interface upon requirements.

# KINO-TGL-U Block Diagram



### Dimensions



### Specifications

Model	KINO-TGL-U
CPU	11th Gen. Intel® mobile Tiger Lake-UP3 SoC Intel® Core™ i7-1185G7E (up to 4.8GHz, quad-core, 12M Cache, TDP=28/15/12W) Intel® Core™ i5-1145G7E (up to 4.4GHz, quad-core, 8M Cache, TDP=28/15/12W) Intel® Core™ i3-1115G4E (up to 4.1GHz, quad-core, 6M Cache, TDP=28/15/12W) Intel® Celeron® 6305 (up to 1.8GHz, dual-core, 4M Cache, TDP=15W)
BIOS	AMI UEFI BIOS
Memory	2 x 260-pin 3200MHz DDR4, system max. up to 64GB
Graphics Engine	Intel® Gen11 UHD Graphics for Core™ i3-1115G4E and Celeron® 6305E, Intel® Iris® Xe Graphics for i5-1145G7E and i7-1185G7E
Display Output	Triple independent display 1 x HDMI 1.4 (up to 4096 x 2160 @30Hz) 1 x DP 1.4 (up to 4096 x 2160 @60Hz) 1 x IEI iDPM 3040 slot (only for IEI eDP/LVDS/VGA module)
Ethernet	LAN1: Intel® I225V 2.5GbE (Colay with I225-LM) LAN2: Intel® I225V 2.5GbE controller
External I/O Interface	4 x USB 3.2 Gen 2 (10Gb/s)
Internal I/O Interface	2 x SATA 6Gb/s with 5V SATA power connector 1 x RS-422/485 (1x4 pin, P=2.0) (RS-485 support AFC) 2 x USB 2.0 (2x4 pin, P=2.0) 5 x RS-232 (2x5 pin, P=2.0)
SMBus	1 x SMBus (1x4 pin)
I²C	1 x I²C (1x4 pin)
Audio	1 x iAUDIO, support IEI AC-KIT-888S Audio Module (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, open-ended (PCIe Gen4 x4 signal) 1 x M.2 A key (2230) (PCIe Gen3 x1 & USB 2.0 signal) 1 x M.2 M key (2242/2280) (PCIe Gen3 x2 signal)
Digital I/O	1 x 12-bit digital I/O (2x7 pin, P=2.0)
TPM	Support Intel® PTT (TPM 2.0)
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	9V@9.19A, 12V@7.768A, 28V@3.119A, 36V@2.459A (Intel® Core™ i7-1185G7E CPU and one 8 GB 2933 MHz DDR4 SO-DIMM)
Operating Temperature	0°C ~ 50°C (i5/i7) 0°C ~ 60°C (i3/Celeron®)
Storage Temperature	-30°C ~ 70°C
Operating Humidity	5% ~95%, non-condensing
Dimension	170 mm x 170 mm
Weight	GW:900g / NW:400g
Certification	CE/FCC Compliant

### Optional accessories

<b>CB-USB02A-RS</b>	<b>AC-KIT-888S-R10</b>
<b>32102-000100-200-RS</b>	<b>32205-002700-200-RS</b>
<b>32205-003800-200-RS</b>	<b>iDPM-eDP-R10</b>
<b>iDPM-LVDS-R10</b>	

### Packing List

1 x KINO-TGL-U single board computer with Cooler Module	1 x SATA cable
1 x Power cable for P4	1 x QIG

### Ordering Information

KINO-TGL-U-C-R10	Mini-ITX SBC with Intel® Tiger Lake-UP3 Celeron® 6305 Processor,DDR4 SO-DIMM, 10~28V DC input, Quad Display, SATA,Dual Intel® 2.5GbE, USB3.2, M.2,SoC, 0°C~60°C, RoHS
KINO-TGL-U-i3-R10	Mini-ITX SBC with Intel® Tiger Lake-UP3 Core™ i3-1115G4E Processor, DDR4 SO-DIMM, 10~28V DC input, quad display, SATA, dual Intel® 2.5GbE, USB 3.2, M.2, SoC, 0°C~60°C, RoHS
KINO-TGL-U-i5-R10	Mini-ITX SBC with Intel® Tiger Lake-UP3 Core™ i5-1145G7E Processor, DDR4 SO-DIMM, 10~28V DC input, quad display, SATA, dual Intel® 2.5GbE, USB 3.2, M.2, SoC, 0°C~50°C, RoHS
KINO-TGL-U-i7-R10	Mini-ITX SBC with Intel® Tiger Lake-UP3 Core™ i7-1185G7E Processor, DDR4 SO-DIMM, 10~28V DC input, quad display, SATA, dual Intel® 2.5GbE, USB 3.2, M.2, SoC, 0°C~50°C, RoHS

### Optional Accessories

CB-USB02A-RS	Dual port USB cable with bracket, 300mm, P=2.00
AC-KIT-888S-R10	Realtek ALC888S 7.1 Channel HD Audio peripheral board,RoHS
32102-000100-200-RS	SATA power cable, MOLEX 5264-4P to SATA15P
32205-002700-200-RS	RS-232 cable, 230mm, P=2.54
32205-003800-200-RS	RS-232/422/485, 200mm, P=2.0
iDPM-eDP-R10	eDP to eDP converter board (for IEI iDPM connector)
iDPM-LVDS-R10	eDP to LVDS converter board (for IEI iDPM connector)