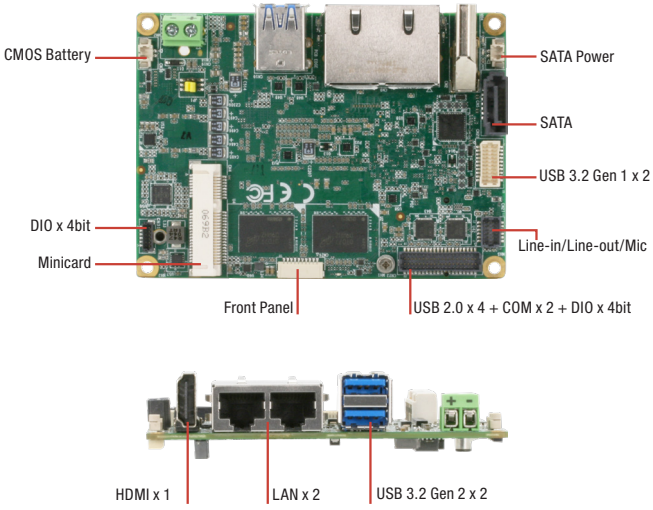
PICO-TGU4

Pico-ITX Board with 11th Generation Intel® Core™ i7/i5/i3/Celeron® U-Series Processor SoC



Features

- 11th Gen Intel® Core™ i7/i5/i3/Celeron Processor SoC
- LPDDR4x Onboard memory, Max. 32 GB
- 2.5GbE Intel i225 + 1GbE Intel i219
- HDMI2.0b x 1, 4Kx2K + eDP, up to HBR3 8K
- M.2 2280 M key(PCIE by4 GEN4/SATA) x 1
- SATA 6.0 Gb/s x 1
- Full size mPCIe/mSATA x 1
- USB 3.2 Gen 2 x 2, USB 3.2 Gen 1 x 2, USB 2.0 x 4
- RS-232/422/485 x 2
- Line-in/Line-out/MIC (Optional)
- DIO 8 bit

Gigo LAN · LPDDR4 · USB 2.0 · USB 3.2 Gen 2 · HDMI

Specifications

SYSTEM	
FORM FACTOR	PICO-ITX
CPU	Intel® 11th Generation Core™ / Celeron Processors: i7-1185G7E (4C/8T, 1.80GHz, 15W) i5-1145G7E (4C/8T, 1.5GHz, 15W) i3-1115G4E (2C/4T, 2.20GHz, 15W) 6305E (2C/2T, 1.80GHz, 15W)
CHIPSET	Integrated with Intel® SoC
MEMORY TYPE	Onboard LPDDR4x 3200, Dual Channel, In-Band ECC (select SKUs, Max.32GB)
BIOS	UEFI
WAKE ON LAN	Yes
WATCHDOG TIMER	255 Levels
SECURITY	TPM2.0 (Optional)
RTC Battery	Lithium Battery 3V/240mAh
DIMENSION	3.94" x 2.84" (100mm x 72mm)
Gross Weight	0.18 lbs (0.08 kg)
OS Support	Windows 10 (64bit) Linux Ubuntu 20.10.2/Kernel 5.8.0-33-generic
POWER	
POWER REQUIREMENT	+12V
POWER SUPPLY TYPE	AT/ATX
CONNECTOR	Phoenix 2-pin Connector (Default) Lockable DC Jack Connector (colay)
POWER CONSUMPTION	Intel® i7-1185G7E, LPDDR4x 32GB, 2.89A@ +12V (TYPICAL)
DISPLAY	
CONTROLLER	Intel® Iris® Xe (i5/i7 support) Intel® UHD Graphics (i3/Celeron support)
LVDS/eDP	eDP1.3 x 1, 3840 x 2160@60Hz
Display Interface	HDMI2.0 x 1, 3840 x 2160 @60Hz
Multiple Display	Up to 2 Simultaneous Displays
AUDIO	
CODEC	Realtek ALC269 (Optional)
AUDIO INTERFACE	Line-in/Line-out/MIC (Optional)
Speaker	—
EXTERNAL I/O	
ETHERNET	Intel® i225/226, 2.5GbE, RJ-45 x 1 Intel® i219, 1GbE, RJ-45 x 1
USB	USB3.2 Gen2 x 2
SERIAL PORT	—
VIDEO	HDMI2.0 x 1
INTERNAL I/O	
USB	USB3.2 Gen1 x 2 USB2.0 x 4
SERIAL PORT	COM1~2 (RS232/422/485, support 5V/12V/RI)
VIDEO	eDP x 1
SATA	SATA 6.0 Gb/s x 1, +5V SATA Power Connector x 1
AUDIO	Audio Header (Optional)
DIO/GPIO	GPIO 8-bit
SMBus/I2C	I2C/SMBus x1 (Default: SMBus)
FAN	4pins Smart Fan x1
Front Panel	HDD LED, PWR LED, Power Button, Buzzer, Reset
Others	—
EXPANSION	
Mini PCI-E/mSATA	Full-Size mSATA/mPCIe x 1 (Default: mPCIe, select with BIOS)
M.2	M.2 2280 M-Key x 1 (PCIe 4.0 [x4]/SATA, Default: PCIe [x4], select with HW BOM)
Others	—
ENVIRONMENT & CERTIFICATION	
OPERATING TEMP	32°F ~ 140°F (0°C ~ 60°C) WiTAS1 -4°F ~ 158°F (-20°C ~ 70°C)
STORAGE TEMP	-40°F ~ 185°F (-40°C ~ 85°C)
OPERATING HUMIDITY	0% ~ 90% relative humidity, non-condensing
MTBF (HOURS)	424,208
EMC	CE/FCC Class A

Packing List

- PICO-TGU4

Optional Accessories

Part Number	Description	Qty.
170X000285	USB3.2 Cable.2 port.120mm	1
170X000284	combo Cable.2ports.120mm.	1
170X000287	Front Panel Cable.100mm	1
170X000156	Audio Cable.250mm	1
1709070500	SATA CABLE.500mm	1
170X000322	SATA Power Cable.60mm	1
PICO-TGU4-FAN01	CPU Cooler.100*72*24mm.AL Fin+CU Block.3600rpm.Smart FAN	1
PICO-TGU4-HSP01	Heat Spreader.AL Fin+CU Block.100*72*10.7mm	1
PER-P30D-A10	120W, DC-DC Converter, 9~36V input, 12V output, Rev A1.0, 30 x 72mm	1

Note: All specifications are subject to change without notice.

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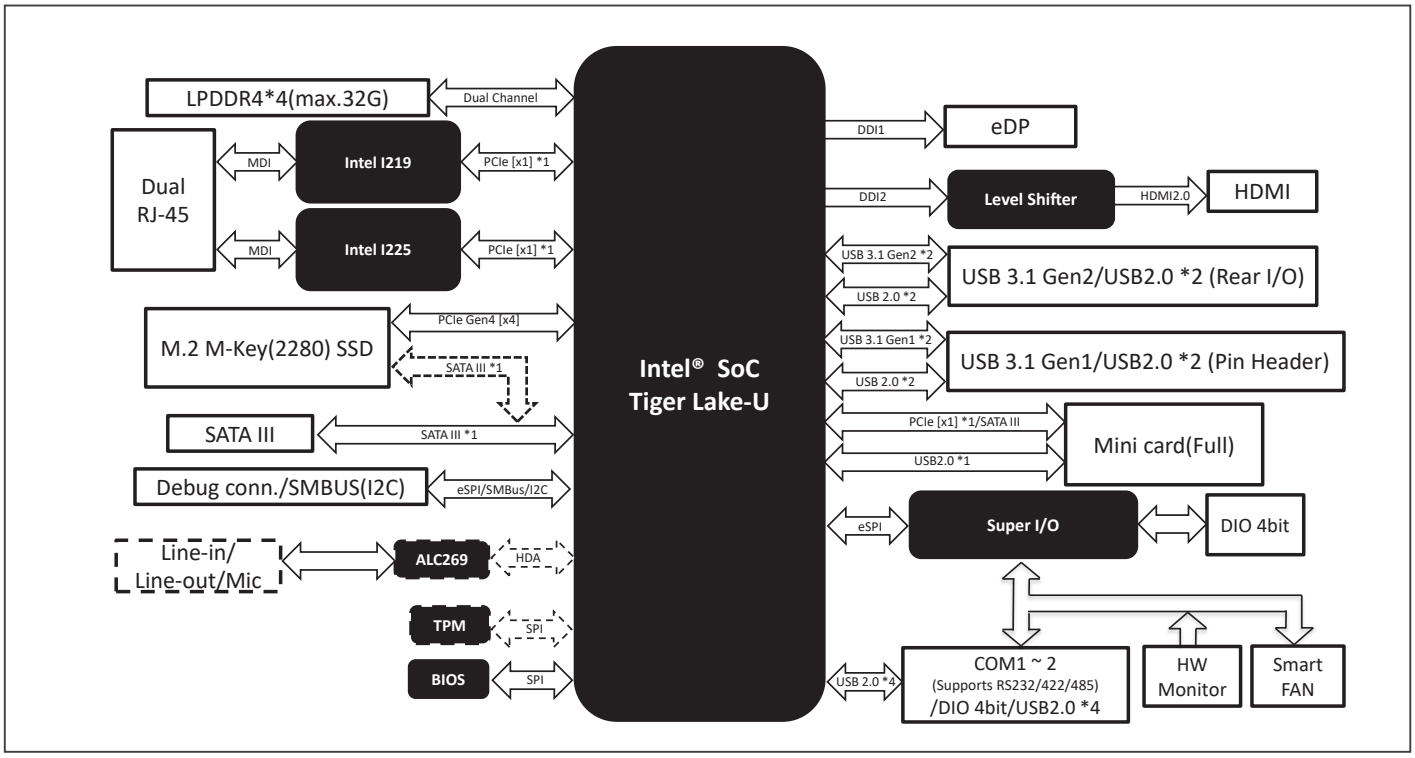
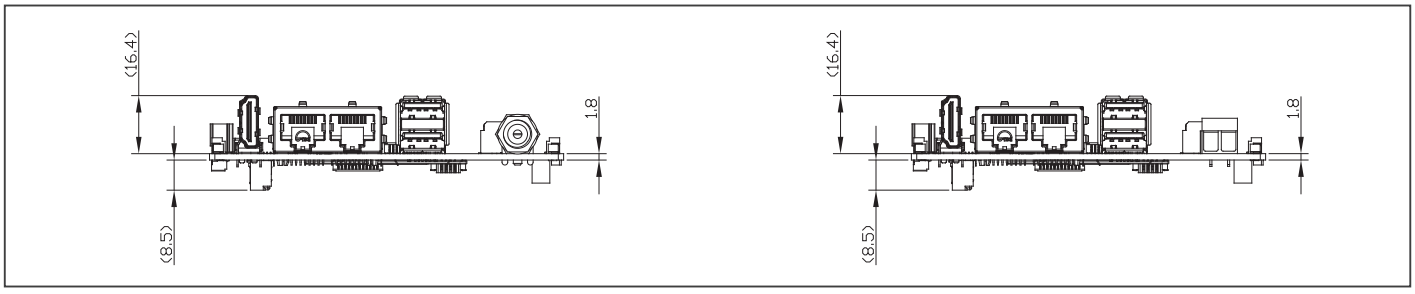
Block Diagram



Dimension

Unit: mm



Ordering Information

Part Number	CPU	Memory	Display	Storage	LAN	USB	RS-232/ 422/485	Expansion Slot	Power	Operating Temp	Audio	Others
PICO-TGU4-A10-0001	Celeron® 6305E	4G	HDMI x 1 eDP x 1	SATAIII x 1	2.5GbE x 1 GbE x 1	USB3.2 GEN2 x 2 (Rear) USB3.2 GEN1 x 2 (header) USB2.0 x 4 (header)	2	M.2 2280 M-key x 1 mini-PCIe(Full) x 1	+12V (Terminal block)	0°C ~ 60°C	—	DIO, SMBUS/eSPI x 1 (I2C optional)
PICO-TGU4-A10-0002	i3-1115G4E	4G	HDMI x 1 eDP x 1	SATAIII x 1	2.5GbE x 1 GbE x 1	USB3.2 GEN2 x 2 (Rear) USB3.2 GEN1 x 2 (header) USB2.0 x 4 (header)	2	M.2 2280 M-key x 1 mini-PCIe(Full) x 1	+12V (Terminal block)	0°C ~ 60°C	—	DIO, SMBUS/eSPI x 1 (I2C optional)
PICO-TGU4-A10-0003	i3-1115G4E	8G	HDMI x 1 eDP x 1	SATAIII x 1	2.5GbE x 1 GbE x 1	USB3.2 GEN2 x 2 (Rear) USB3.2 GEN1 x 2 (header) USB2.0 x 4 (header)	2	M.2 2280 M-key x 1 mini-PCIe(Full) x 1	+12V (Terminal block)	0°C ~ 60°C	—	DIO, SMBUS/eSPI x 1 (I2C optional)
PICO-TGU4-A10-0004	i5-1145G7E	8G	HDMI x 1 eDP x 1	SATAIII x 1	2.5GbE x 1 GbE x 1	USB3.2 GEN2 x 2 (Rear) USB3.2 GEN1 x 2 (header) USB2.0 x 4 (header)	2	M.2 2280 M-key x 1 mini-PCIe(Full) x 1	+12V (Terminal block)	0°C ~ 60°C	—	DIO, SMBUS/eSPI x 1 (I2C optional)
PICO-TGU4-A10-0005	i7-1185G7E	8G	HDMI x 1 eDP x 1	SATAIII x 1	2.5GbE x 1 GbE x 1	USB3.2 GEN2 x 2 (Rear) USB3.2 GEN1 x 2 (header) USB2.0 x 4 (header)	2	M.2 2280 M-key x 1 mini-PCIe(Full) x 1	+12V (Terminal block)	0°C ~ 60°C	—	DIO, SMBUS/eSPI x 1 (I2C optional)
PICO-TGU4-A10-0006	i7-1185G7E	32G	HDMI x 1 eDP x 1	SATAIII x 1	2.5GbE x 1 GbE x 1	USB3.2 GEN2 x 2 (Rear) USB3.2 GEN1 x 2 (header) USB2.0 x 4 (header)	2	M.2 2280 M-key x 1 mini-PCIe(Full) x 1	+12V (Terminal block)	0°C ~ 60°C	—	DIO, SMBUS/eSPI x 1 (I2C optional)
PICO-TGU4-A10-0007	i7-1185G7E	16G	HDMI x 1 eDP x 1	SATAIII x 1	2.5GbE x 1 GbE x 1	USB3.2 GEN2 x 2 (Rear) USB3.2 GEN1 x 2 (header) USB2.0 x 4 (header)	2	M.2 2280 M-key x 1 mini-PCIe(Full) x 1	+12V (Terminal block)	0°C ~ 60°C	—	DIO, SMBUS/eSPI x 1 (I2C optional)
PICO-TGU4-A10-0008	i5-1145G7E	16G	HDMI x 1 eDP x 1	SATAIII x 1	2.5GbE x 1 GbE x 1	USB3.2 GEN2 x 2 (Rear) USB3.2 GEN1 x 2 (header) USB2.0 x 4 (header)	2	M.2 2280 M-key x 1 mini-PCIe(Full) x 1	+12V (Terminal block)	0°C ~ 60°C	—	DIO, SMBUS/eSPI x 1 (I2C optional)
PICO-TGU4W1-A10-0005	i7-1185G7E	8G	HDMI x 1 eDP x 1	SATAIII x 1	2.5GbE x 1 GbE x 1	USB3.2 GEN2 x 2 (Rear) USB3.2 GEN1 x 2 (header) USB2.0 x 4 (header)	2	M.2 2280 M-key x 1 mini-PCIe(Full) x 1	+12V (Terminal block)	-20°C~70°C	—	DIO, SMBUS/eSPI x 1 (I2C optional)

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