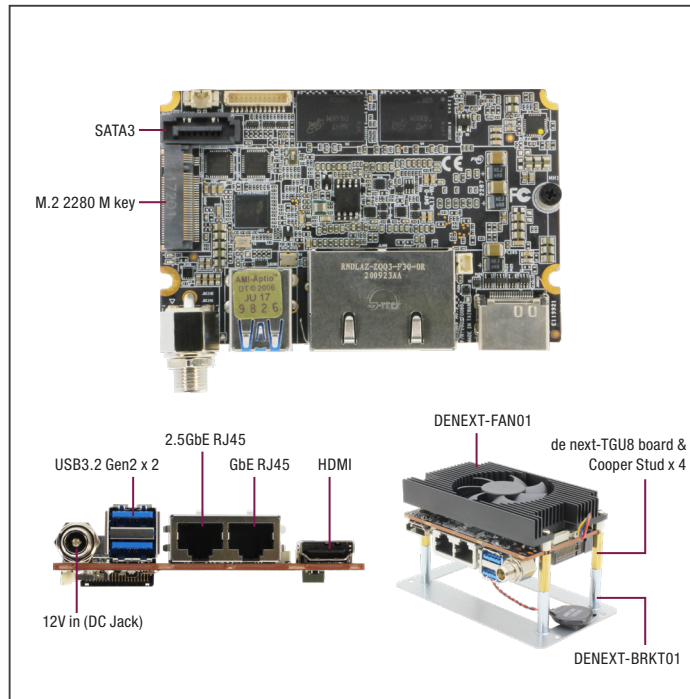


# de next-TGU8

86 x 55mm Single Board with 11th Generation Intel® Core™ i7/i5/i3 Processor



## Specifications

SYSTEM	
FORM FACTOR	86mm x 55mm, Single Board Computer
CPU	Onboard 11th Gen. Intel® Core™ Processor i7-1185G7E (4C/8T, 1.80GHz,15W) i5-1145G7E (4C/8T, 1.50GHz,15W) i3-1115G4E (2C/4T, 2.20GHz, 15W)
CHIPSET	Integrated with Intel® SoC
MEMORY TYPE	Onboard LPDDR4x 3733, up to 16GB
BIOS	UEFI
WAKE ON LAN	Yes
WATCHDOG TIMER	255 Levels
SECURITY	fTPM
RTC BATTERY	Lithium Battery 3V/240mAh
DIMENSION	3.38" x 2.17" (86mm x 55mm)
OS SUPPORT	Windows 10 (64bit) Ubuntu 20.04.4 (Kernel 5.13)
POWER	
POWER REQUIREMENT	+12V
POWER SUPPLY TYPE	AT/ATX
CONNECTOR	DC Jack Connector (Optional : Phoenix 2-Pin Connector)
POWER CONSUMPTION	i7-1185G7E, LPDDR4x 16GB, 4.58A@12V, 55W (TYPICAL) i7-1185G7E, LPDDR4x 16GB, 7A@12V, 84W (MAX)
DISPLAY	
CONTROLLER	Intel® UHD Graphics for 11th Gen Intel® Processors
LVDS/eDP	eDP 1.4 x 1 , up to 3840 x 2160
Display Interface	HDMI 1.4 x 1 , up to 3840 x 2160@30Hz
Multiple Display	2 Simultaneous Displays
AUDIO	
CODEC	---
AUDIO INTERFACE	---
Speaker	---
EXTERNAL I/O	
ETHERNET	Intel® i225, 2.5GbE RJ-45 x 1 Intel® i219, 1GbE RJ-45 x 1
USB	USB 3.2 Gen 2 x 2
SERIAL PORT	---
VIDEO	HDMI 1.4b x 1

## Features

- Onboard 11th Gen. Intel® Core™ Series Processor
- Onboard LPDDR4x 3733 up to 16GB
- HDMI 1.4b x 1, eDP x 1
- 2.5GbE RJ45 x 1, 1GbE RJ45 x 1
- USB 3.2 Gen 2 x 2, USB 2.0 x 4
- M.2 2280 M-Key x 1 (PCIe [x2]), PCIe Gen 3 [x4] x 1 (by FPC)
- COM Port x 2, GPIO 8-bit, SATA 6 Gb/s x 1
- 12V-in DC Jack/2 Pin Phoenix Connector

INTERNAL I/O	
USB	USB 2.0 x 4 Note : USB2.0 x 2 shared with adapter card PER-T642 / PER-T643
SERIAL PORT	COM1 , COM2 (RS232/422/485, support 5V/RI)
VIDEO	eDP 1.4 x 1
SATA	SATA 6.0 Gbps x 1 with +5V SATA Power Connector x 1
AUDIO	---
DIO/GPIO	GPIO 8 bits
SMBus/I2C	Optional
Touch	---
FAN	4 Pin Smart Fan
SIM	---
Front Panel	Power Button, Reset Button, Power LED, SATA LED, Buzzer
Others	---
EXPANSION	
Mini PCI-E/mSATA	---
M.2	M.2 2280 M-key x 1 (PCIe[x2] x 1 or PCIe[x1] x 2, selected by BIOS)
Others	FPC Connector x 1 (PCIe 3.0 [x4] x 1)
ENVIRONMENT & CERTIFICATION	
OPERATING TEMP	32°F ~ 140°F (0°C ~ 60°C), -40°F ~ 185°F (-40°C ~ 85°C) by sku support
STORAGE TEMP	-40°F ~ 185°F (-40°C ~ 85°C)
OPERATING HUMIDITY	0% ~ 90% relative humidity, non-condensing
MTBF (HOURS)	609,263
EMC	CE/FCC Class A

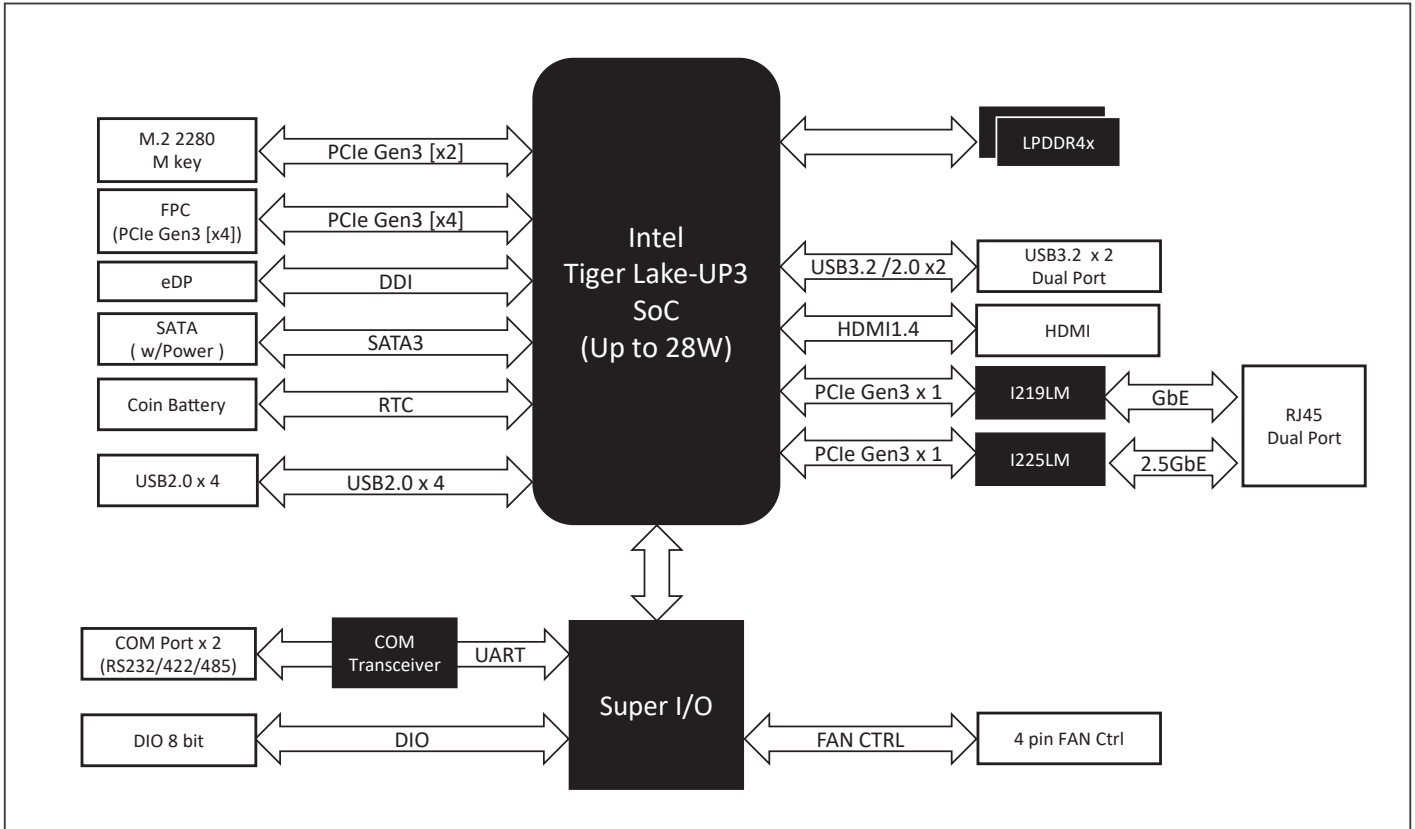
## Packing List

- de next-TGU8 x 1
- Copper stud.M2.5mm x 4

## Optional Accessories

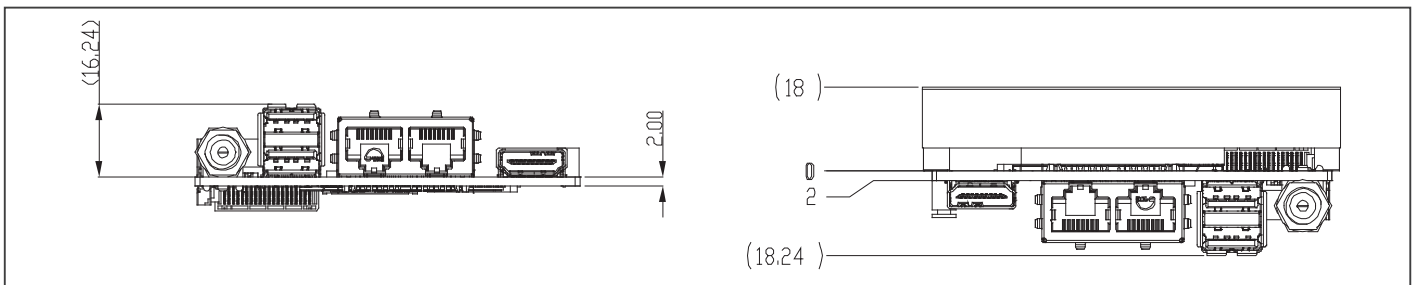
Part Number	Description	QTY
170X000512	de next cable for USB2.0 x 4, COM Port x 2, DIO 8 bit	1
170X000577	de next cable for USB 2.0 x 2, COM Port x 2, DIO 8 bit, adapter card connector	1
1709070200	SATA Cable,180D.Length 20cm	1
170X000322	SATA Power Cable.Length 6cm	1
DENEXT-FAN01	CPU cooler for de next-TGU8	1
DENEXT-BRKT01	Easy bracket for de next series use	1
DENEXT-HSP01	Heatspreader for de next-TGU8	1
PER-T642-A03-0001	M.2 M 2280 adaptor card to M.2 B key 2242 & M.2 E key 2230	1
PER-T643-A01-0001	M.2 M 2280 adaptor card to M.2 B key 2242 & M.2 B key 3052	1
PER-R41P-A02-0001	PCIe[x4] adapter card with FPC cable kit	1

## Block Diagram



## Dimension

Unit: mm



## Ordering Information

Part Number	CPU	Memory	Display	Storage	LAN	USB	COM Port	Expansion	TPM	Power	Operating Temperature	Others
DENEXT-TGU8-A10-0001	i7-1185G7E	Onboard LPDDR4x 16GB	eDP x 1, HDMI x 1	SATA 6.0 Gbps x 1	2.5GbE x 1, GbE x 1	USB 3.2 Gen 2 x 2, USB 2.0 x 4	RS232/422/485 x 2	M.2 2280 M-key x 1, FPC Connector x 1	fTPM	+12V in (DC Jack)	0°C ~ 60°C	GPIO 8 bits
DENEXT-TGU8-A10-0002	i5-1145G7E	Onboard LPDDR4x 16GB	eDP x 1, HDMI x 1	SATA 6.0 Gbps x 1	2.5GbE x 1, GbE x 1	USB 3.2 Gen 2 x 2, USB 2.0 x 4	RS232/422/485 x 2	M.2 2280 M-key x 1, FPC Connector x 1	fTPM	+12V in (DC Jack)	0°C ~ 60°C	GPIO 8 bits
DENEXT-TGU8-A10-0003	i3-1115G4E	Onboard LPDDR4x 16GB	eDP x 1, HDMI x 1	SATA 6.0 Gbps x 1	2.5GbE x 1, GbE x 1	USB 3.2 Gen 2 x 2, USB 2.0 x 4	RS232/422/485 x 2	M.2 2280 M-key x 1, FPC Connector x 1	fTPM	+12V in (DC Jack)	0°C ~ 60°C	GPIO 8 bits
DENEXT-TGU8-A10-0004	i7-1185G7E	Onboard LPDDR4x 16GB	eDP x 1, HDMI x 1	SATA 6.0 Gbps x 1	2.5GbE x 1, GbE x 1	USB 3.2 Gen 2 x 2, USB 2.0 x 4	RS232/422/485 x 2	M.2 2280 M-key x 1, FPC Connector x 1	fTPM	+12V in (2 Pin Phoenix Connector)	0°C ~ 60°C	GPIO 8 bits
DENEXT-TGU8-A10-0005	i3-1115G4E	Onboard LPDDR4x 16GB	eDP x 1, HDMI x 1	SATA 6.0 Gbps x 1	2.5GbE x 1, GbE x 1	USB 3.2 Gen 2 x 2, USB 2.0 x 4	RS232/422/485 x 2	M.2 2280 M-key x 1, FPC Connector x 1	fTPM	+12V in (2 Pin Phoenix Connector)	0°C ~ 60°C	GPIO 8 bits
DENEXT-TGU8W2-A10-0001	i7-1185G7E	Onboard LPDDR4x 16GB	eDP x 1, HDMI x 1	SATA 6.0 Gbps x 1	2.5GbE x 1, GbE x 1	USB 3.2 Gen 2 x 2, USB 2.0 x 4	RS232/422/485 x 2	M.2 2280 M-key x 1, FPC Connector x 1	fTPM	+12V in (DC Jack)	-40°C ~ 85°C	GPIO 8 bits