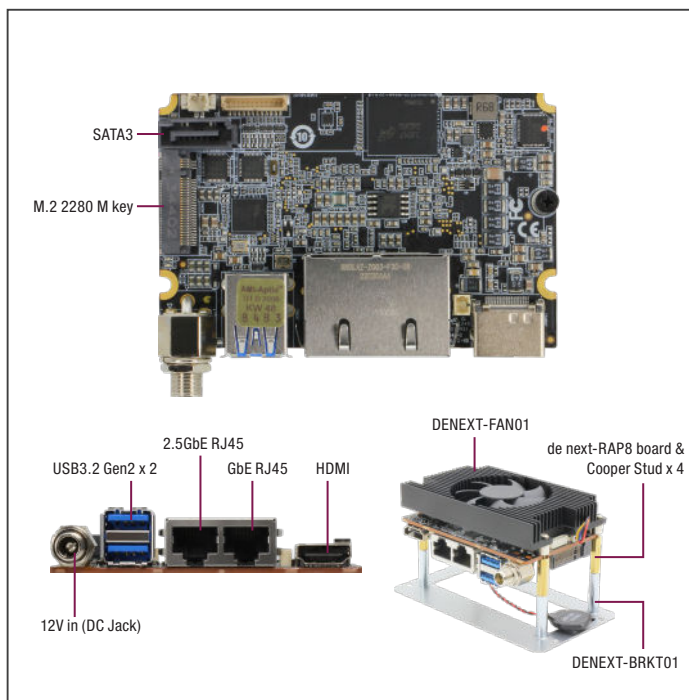


de next-RAP8

86mm x 55mm Single Board with 13th Generation Intel® Core™ i7/i5/i3 Processor



Specifications

System	
Form Factor	86mm x 55mm, Single board computer
CPU	13th Generation Intel® Core™ Processors: Intel® Core™ i7-1365UE (10C/12T, 1.70 GHz, up to 15W) Intel® Core™ i5-1335UE (10C/12T, 1.30 GHz, up to 15W) Intel® Core™ i3-1315UE (6C/8T, 1.20 GHz, up to 15W)
Chipset	Integrated with Intel® SoC
Memory Type	Onboard LPDDR5x, up to 16GB
BIOS	UEFI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Security	fTPM
RTC Battery	Lithium Battery 3V/240mAh
Dimensions	3.38" x 2.17" (86mm x 55mm)
OS Support	Windows 10 (64-bit) Ubuntu 22.04.3 (Kernel 6.2)
Power	
Power Requirement	+12V
Power Supply Type	AT/ATX (Default : AT mode)
Connector	DC Jack Connector
Power Consumption	Intel® Core™ i7-1365UE, LPDDR4x 16GB, 3.18A @12V, 38.16W (Typical) Intel® Core™ i7-1365UE, LPDDR4x 16GB, 3.36A @12V, 39.16W (Max)
Display	
Controller	Intel® Iris® Xe
LVDS/eDP	eDP 1.4 x 1, up to 3840 x 2160
Display Interface	HDMI 1.2a x 1, up to 1920 x 1080 @60Hz
Multiple Display	Up to Dual Displays
Audio	
Codec	—
Audio Interface	—
Speaker	—
External I/O	
Ethernet	Intel® Ethernet Connection I219-LM, GbE RJ-45 x 1 Intel® Ethernet Controller I226-LM, 2.5GbE x 1
USB	Rear I/O : USB3.2 Gen2 Type A x 2
Serial Port	—
Video	HDMI 1.4b x 1
Internal I/O	
USB	USB 2.0 x 4 (Pin Header)
Serial Port	RS-232/422/285 x 2 (Pin Header)

Features

- Onboard 13th Gen. Intel® Core™ Series Processor, TDP 15W
- Onboard LPDDR5x up to 16GB
- HDMI 1.4b x 1, eDP x 1
- 2.5GbE RJ45 x 1, GbE 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] via FPC x 1
- DC 12Vin

Video	eDP x 1
SATA	SATA 6Gb/s x 1 +5V SATA Power Connector x 1
Audio	—
DIO/GPIO	8-Bit
SMBus/I2C	Optional
Touch	—
Fan	4 Pin Smart Fan (with Cooler version only)
Sim	—
Front Panel	PowerLED, Power Button, Buzzer, Reset Button
Others	—
Expansion	
Mini PCIe/mSATA	—
M.2	M.2 2280 M-Key x 1 (PCIe [x2]) PCIe Gen 3 [x4] via FPC x 1
Others	—
Environment & Certification	
Operating Temp.	32°F ~ 140°F (0°C ~ 60°C)
Storage Temp.	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	1,679,950
EMC	CE/FCC Class A

Packing List

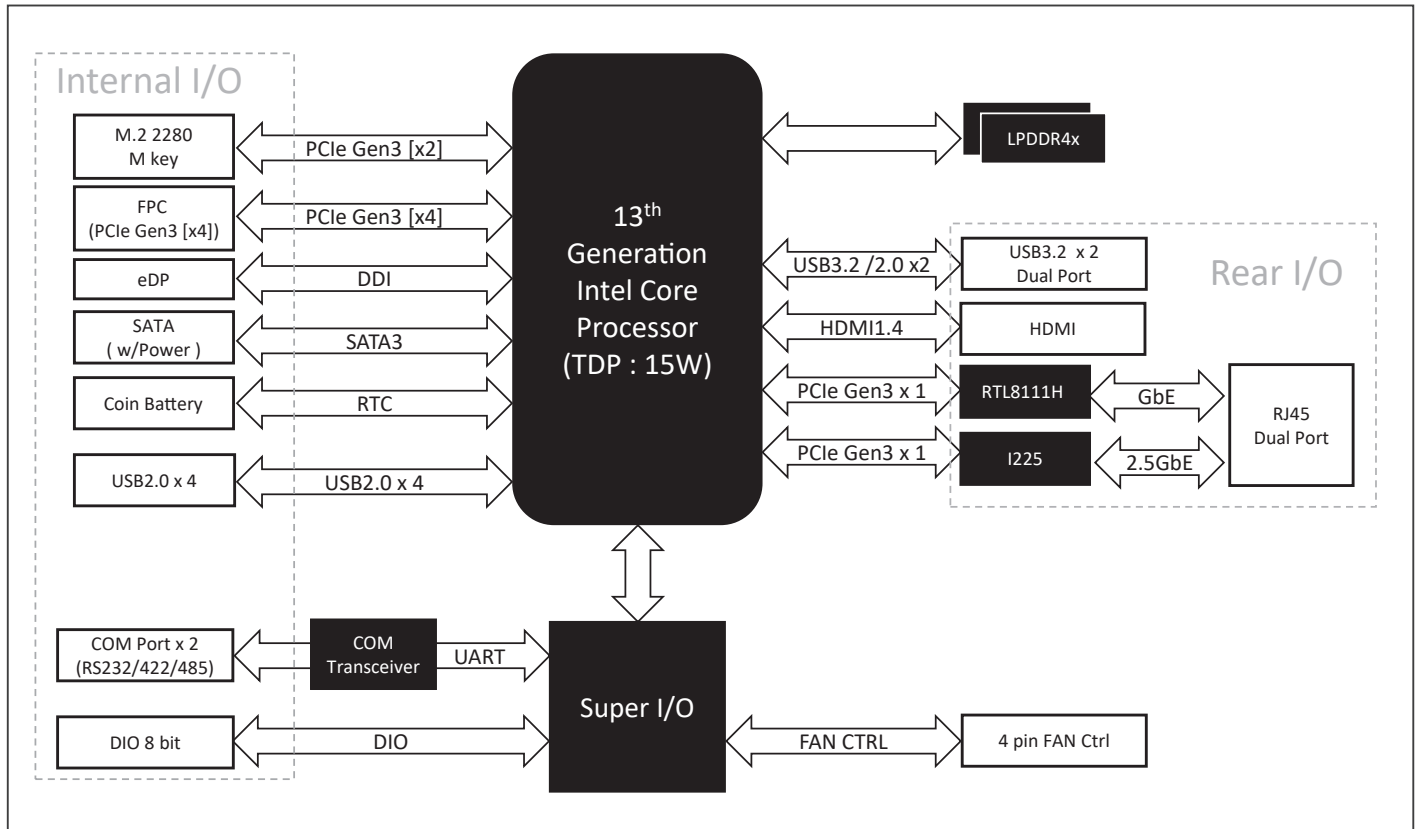
- de next-RAP8 x 1
- Copper stud.M2.5mm x 4

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

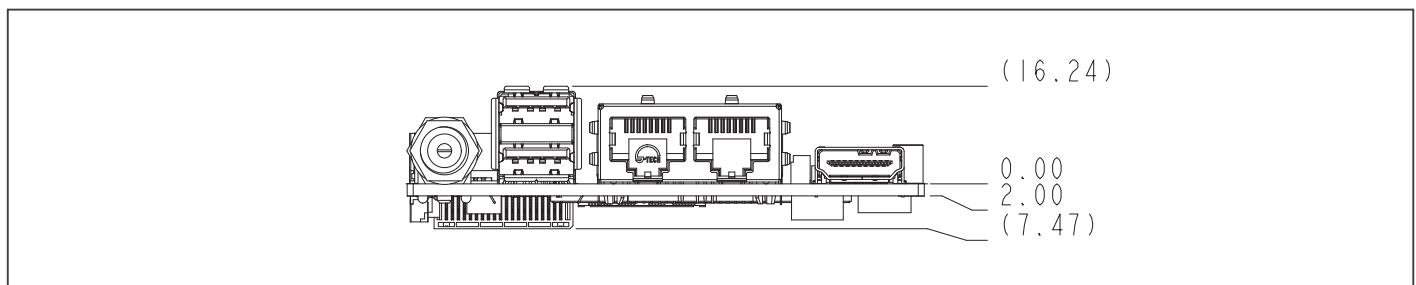


Block Diagram



Dimension

Unit: mm



Ordering Information

Part Number	CPU	Memory	Display	Storage	LAN	USB	COM Port	Expansion	TPM	Power	Operating Temperature	Others
DENEXT-RAP8-A10-0001	Intel® Core™ i7-1365UE	Onboard LPDDR5x 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-RAP8-A10-0002	Intel® Core™ i5-1335UE	Onboard LPDDR5x 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-RAP8-A10-0003	Intel® Core™ i3-1315UE	Onboard LPDDR5x 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