VT-MITX-TGL Single Board Computer
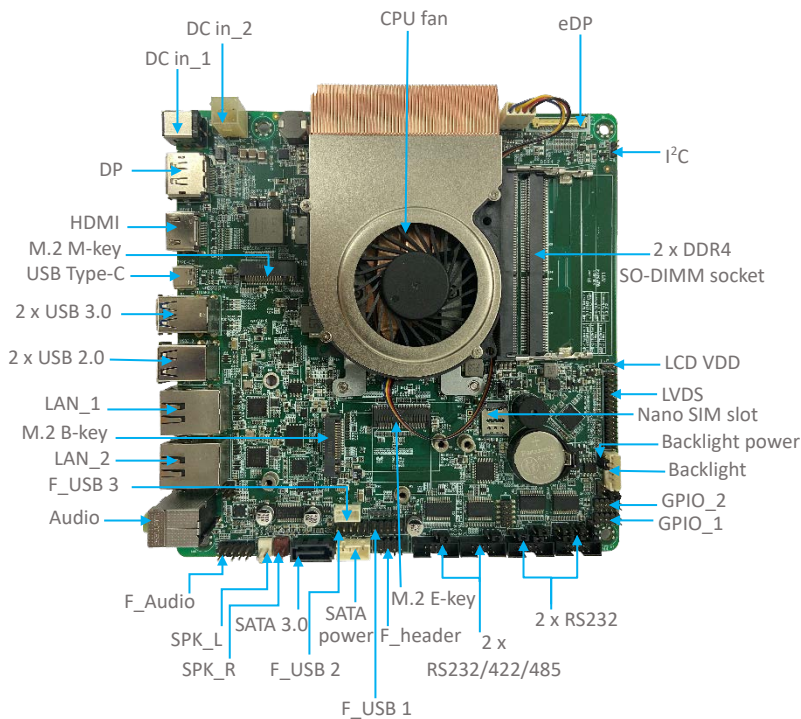
Product Brief

VT-MITX-TGL single board computer adheres to the international industry size standards with a 170mm x 170mm form factor. It is powered by the latest 11th Gen Intel® Core™ U series processor that combines best-in-class technologies to offer the best user experience. It supports high-definition audio encoding and decoding to provide outstanding clarity and fidelity. Better yet, it provides rich interfaces and customer expansion options to meet varying application scenarios including smart retail, self-service terminals, industrial automation, intelligent medical health, and digital media.

Featuring high flexibility and high performance, the board could work under extreme environments with extended temperatures ranging from -40℃ to +85℃, making it a reliable solution for industrial applications.

Exterior and Features

DC in_2   CPU fan   eDP

DC in_1

DP

HDMI I^2C

M.2 M-key

USB Type-C   2 x DDR4

2 x USB 3.0   SO-DIMM socket

2 x USB 2.0

LAN_1   LCD VDD

M.2 B-key   LVDS

LAN_2   Nano SIM slot

F_USB 3   Backlight power

Audio   Backlight

GPIO_2

GPIO_1

F_Audio

SPK_L   M.2 E-key   2 x RS232

SPK_R   SATA 3.0   SATA

F_USB 2   power   F_header

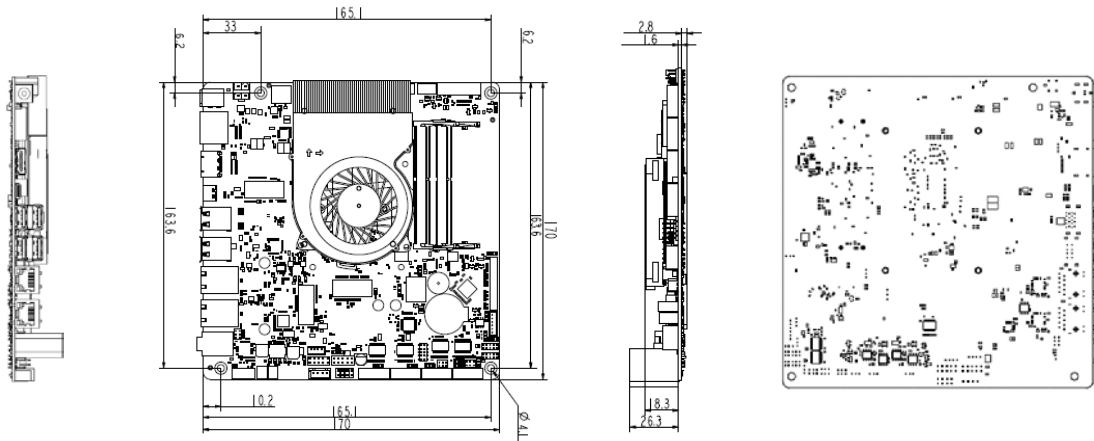F_USB 1   2 x

RS232/422/485

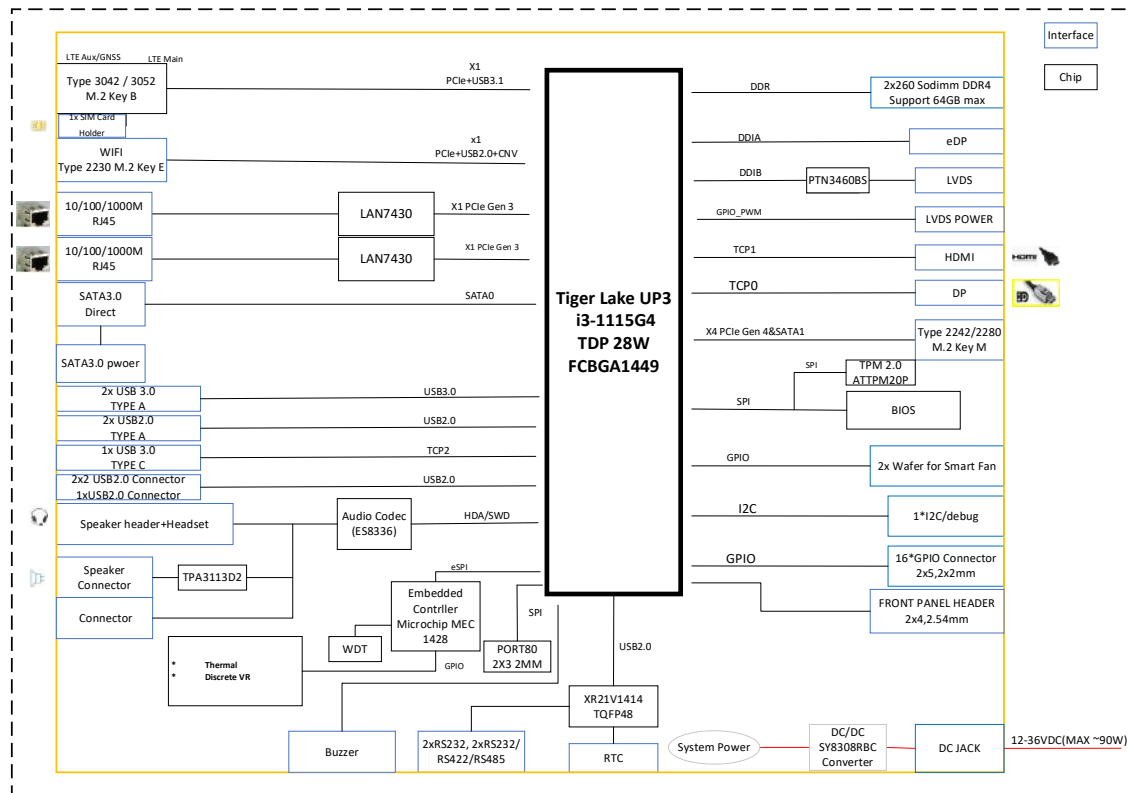| VT-MITX-TGL |
|---|
| 11th Gen Intel® Core™ U-Series processor |
| Windows 10/Linux operating system |
| 2 x DDR4 SO-DIMM, up to 64 GB |
| Rich interfaces, flexible expansion |
| High-definition audio CODEC |
| PoE optional |
| RTC + Watchdog |
| USB 3.0 & USB 2.0 |
| Wide temperature range supported |

VT-MITX-TGL Single Board Computer Datasheet

VT-MITX-TGL			
System	CPU	11th Gen Intel® Core™ U-Series i3-1115G4/ i5-1155G7/ i7-1195G7 processor	
	Memory	2 x DDR4 SO-DIMM socket, 3200MHz, up to 64GB	
	Storage	1 x SATA 3.0 (Expandable via M.2 M-Key)	
Communication	Ethernet	2 x RJ45, 10M/100M/1000M Base-T (2 x Microchip® 1Gbps PCIe controller)	
Media	Graphics	Intel® Iris® Xe Graphics	
	Display	1 x HDMI: Resolution up to 4096 x 2160 @24Hz 1 x DP: Resolution up to 4096 x 2160 @24Hz 1 x eDP: Resolution up to 4096 x 2160 @60Hz	1 x LVDS with backlight control: resolution up to 1920 x 1200 @60Hz
	Audio CODEC	Realtek® 5.1 channel HDA Codec	
	Audio interface	1 x Mic/Line-out 2 x Speaker connector	1 x Headphone jack 1 x Microphone jack
I/Os	Serial	2 x RS232	2 x RS232/RS422/RS485
	USB	2 x USB 2.0 Type-A 2 x USB 3.0 Type-A	1 x USB 3.1 Type-C 3 x Built-in USB 2.0
	GPIO	16 x GPIO	1 x GPIO power
	I^{2}C	1 x I^{2}C	
	SIM card holder	1 x Nano SIM card holder (connected to M.2 B-Key)	
Expansion	M.2	1 x M.2 B-Key (3042/3052, PCIe x1 / USB 3.1 for 4G/5G expansion) 1 x M.2 M-Key (2242/2280, PCIe x4 / SATA for SSD expansion) 1 x M.2 E-Key (2230, PCIe x1 / USB 2.0/CNVi for Wi-Fi & BT expansion)	
Firmware	BIOS	BYOSOFT (Optional: AMI, Insyde, Phoenix)	
	H/W monitor	Voltages & temperatures	
	RTC	Processor integrated RTC	
	Watchdog	Programmable WDT to generate system reset events	
	Security (optional)	TPM 2.0 supported (Infineon SLB 9670)	
System Control	FP header	1 x Front panel header (power button, reset button, LED power)	
Mechanical	Dimensions	170mm x 170mm	
	Heat dissipation	1 x System fan	1 x CPU fan connector
Power	Input	12V~36V DC (1 x 4-pin power header, 1 x Power jack)	
Software	Operating system	Windows 10, Linux	
	OTA tool	BlueSphere OTA (Optional)	
Environment Condition	Temperature	Operating: 0℃~+60℃ (Optional: -40℃~+85℃) Storage: -20℃~+75℃ (Optional: -55℃~+85℃)	
	Certification	CCC, UL, FCC (Part 15 class B), ESD (contact: ±8KV and air: ±12KV)	

Product Outlines

Block Diagram

Ordering Information

Ordering No.	CPU	Ethernet	Operating temperature	Cooling
VT-MITX-TGL- i3	Intel® Core™ i3-1115G4	2 x RJ45 (2 x 1 GbE controller)	0℃~+60℃	Fan
VT-MITX-TGL- i5	Intel® Core™ i5-1155G7	2 x RJ45 (2 x 1 GbE controller)	0℃~+60℃	Fan
VT-MITX-TGL- i7	Intel® Core™ i7-1195G7	2 x RJ45 (2 x 1 GbE controller)	0℃~+60℃	Fan

* More variants with cellular and Wi-Fi features are available, please contact the sales executive for details.

Packing list	
VT-MITX-TGL single board computer	1
19V DC power adapter	1
AC power cord (US)	1
Qualified certificate	1

Optional accessory	
SO-DIMM module	8GB
	16GB
	32GB
	64GB

Since its establishment in 2002 by two Silicon Valley entrepreneurs, Vantron Technology has been at the forefront of the connected IoT devices and IoT platform solutions. Today, Vantron boasts a global customer base that includes several Fortune 500 companies. Its product lines cover edge intelligent hardware, IoT communication devices, industrial displays and BlueSphere cloud device management platform.

With over 20 years of experience in R&D of embedded edge intelligent hardware, Vantron has provided users with diverse embedded solutions featuring ARM and X86 architectures. Its offerings range from Linux to Windows, from embedded to desktop level, and from gateways to servers. In addition, it provides users with system trimming, driver transplantation and other related services.