

TECH4U-510-788

LGA1700 12th/13th/14th Generation Intel® Core™ i9/i7/i5/i3 ATX Motherboard with DP/HDMI/VGA, DDR5, USB 3.2, M.2



Features

- * Intel® 12th/13th/14th generation Core™ i9/i7/i5/i3 processor with Q670E/R680E chipset
- * Four DIMM sockets up to 192GB DDR5.
- * Triple display DP/HDMI/VGA and dual GbE LAN
- * M.2, SATA RAID 0, 1, 5, 10, USB 3.2 Gen 1
- * Dual PCIe x16 expansion slots
- * Seven PCIe slots or Dual M.2 M Key for NVMe RAID
- * Supports Single ATX power supply and redundant ATX power supplies.
- * Easy to install front-accessible drive bays to hold three 5.25" and one 3.5" disk drives.
- * Front-accessible USB interfaces.
- * Designed to withstand environmental extremes, such as shock, vibration and high temperature.
- * Front LEDs indicate power status, and HDD activity.
- * Lockable front door prevents unauthorized access.
- * Dual front-accessible filtered cooling fans provide optimized and streamlined airflow.
- * Supports Internal 5.25" DVD-RW.

Note 1: Legacy platform is not supported.

Note 2: dTPM 2.0 module is required to enable Intel vPro and TPM technologies.

Note 3: Intel® Platform Trust Technology (Intel® PTT) ready for Windows 11.



CE FCC

Specifications

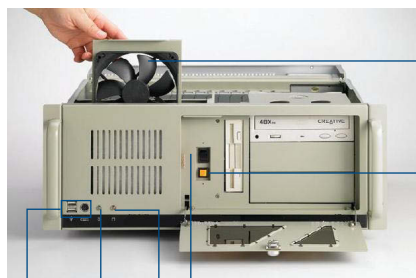
	CPU	i9-14900	i9-14900T	i7-14700	i7-14700T	i5-14500	i5-14500T	i5-14400	i5-14400T	i5-14400F	i3-14100	i3-14100T
14th Generation Processors	P-core Base Frequency	2.0 GHz	1.1 GHz	2.1 GHz	1.3GHz	2.6 GHz	1.7 GHz	2.5 GHz	1.5 GHz	2.5 GHz	3.5 GHz	2.7 GHz
	L3 Cache	36 MB	36 MB	33 MB	33 MB	24 MB	24 MB	20 MB	20 MB	20 MB	12 MB	12 MB
	Cores	24	24	20	20	14	14	10	10	10	4	4
	Processor Base Power	65 W	35 W	65 W	35 W	65 W	35 W	65 W	35 W	65 W	60 W	35 W
13th Generation Processors	CPU	i9-13900(E)	i9-13900TE	i7-13700K	i7-13700(E)	i7-13700T(E)	i5-13500(E)	i5-13500T(E)	i5-13400(E)	i3-13100(E)	i3-13100T(E)	
	P-core Base Frequency	2.0 GHz	1.1 GHz	3.4 GHz	2.1 GHz	1.4 GHz	2.5 GHz	1.6 GHz	2.5 GHz	3.4 GHz	2.5 GHz	
	L3 Cache	36 MB	36 MB	30 MB	30 MB	30 MB	24 MB	24 MB	20MB	12 MB	12 MB	
	Cores	24	24	16	16	16	14	14	10	4	4	
Processor Base Power	65 W	35 W	125 W	65 W	35 W	65 W	35 W	65W	60 W	35 W		
12th Generation Processors	CPU	i9-12900(E)	i9-12900TE	i7-12700(E)	i7-12700TE	i5-12500(E)	i5-12400	i5-12500TE	i3-12100(E)	i3-12100TE		
	P-core Base Frequency	2.4 GHz	1.1 GHz	2.1 GHz	1.4 GHz	3.0 GHz	2.5 GHz	1.9 GHz	3.3 GHz	2.1 GHz		
	L3 Cache	30 MB	30 MB	25 MB	25 MB	18 MB	18 MB	18 MB	12 MB	12 MB		
	Cores	16	16	12	12	6	6	6	4	4		
Processor Base Power	65 W	35 W	65 W	35 W	65 W	65 W	35 W	60 W	35 W			
Processor System	Socket	LGA 1700										
	Chipset	680E										
Expansion Slot	BIOS	AMI 256Mbit SPI Flash										
	PCIe x1	1 (Gen 4)										
	PCIe x4	2 (1 x Gen 4 x4 link, 1 x Gen 3 x4 link);										
	PCIe x8	2 (1 x Gen 4 x4 link, 1 x Gen 3 x4 link)										
Memory	PCIe x16*	2 (1 x Gen 5 x8 link, 1 x Gen 4 x8 link)										
	Technology	Dual Channel DDR5 ECC UDIMM										
	Capacity	32GB upgradable upto 192 GB										
Graphics	Sockets	4 x 288-pin DIMM										
	Controller	Chipset integrated Intel UHD Graphics										
Ethernet	External	4GB GT-730 D5 Graphics card with 1*VGA, 1*DVI & 1*HDMI Ports										
	Interface	10/100/1000 Mbps										
SATA	Controller	GbE LAN1: Intel I219-LM (PHY); GbE LAN2: Intel I210-AT										
	Connector	2 x RJ-45										
SATA	Channel	4 (used 1 for 2.5" SSD & 1for DVD Drive)										
	Storage	1*1TB 2.5" SSD & 1*256GB M.2 SSD for Win 11 Pro installation.										

Specifications (Cont.)

Rear I/O	VGA	1 (Resolution up to 1920 x 1200 @ 60Hz)				
	HDMI	1 (Resolution up to 3840 x 2160 @ 60Hz)				
	DisplayPort	1 (Resolution up to 4096 x 2304 @ 60Hz)				
	Ethernet	2				
	USB	8 (4 x USB 3.2 Gen 1, 4 x USB 2.0)				
	Audio	2 (Line-out, Mic-in) with External Speakers Set.				
	Serial	1 (RS-232)				
Watchdog Timer	Output	System reset				
	Interval	Programmable 1 – 255 sec				
Power Requirement	Power On	230 V AC, 500W Power Supply with Heat Load 1320BTU.				
	Voltage	+3.3 V	+5 V	+12 V	+5 Vsb	-12 V -5 V
	Current	1.54 A	1.96 A	0.07 A	0.08 A	0.04 A 0.01 A
Internal Connectors	USB	5 (2 x USB 3.2 Gen 1 via pin header, 2 x USB 2.0 via pin header, 1 x USB 2.0 type A connector)				
	Serial	5 (4 x RS-232, 1 x RS-232/422/485)				
	SATA	4				
	M.2	1 (PCIe x4 Gen 4 M-key 2280 type);				
	SPI	Support TPM 2.0				
GPIO	8-bit					
	Environment	Operating	Non-Operating			
Physical Characteristics	Temperature	-10 ~ 60 °C, depends on CPU loading and system thermal solution			-40 ~ 85 °C	
	Humidity	95% @ 40 °C, non-condensing			95% @ 60 °C, non-condensing	
Dimension (W x H x D)	481 x 175 x 446 mm (19" x 7" x 17.6")					

Ordering Information

Part number	Chipset	Memory	Display	USB 3.2 Gen 1	USB 2.0	COM	GbE LAN	AMT	M.2	SATA 3.0	SW RAID	iBMC
TECH4U-510-788	R680E	ECC UDIMM DDR5 up to 192 GB	VGA + HDMI + DP	6	7	6	2	Yes	1	4	Yes	Yes



HDD LED Power switch
USB & PS/2 Power LED

Easy-to-maintain cooling fan

System reset switch



One 3.5" drive bay

Three 5.25" drive bays

One internal 3.5" drive bay space



Motherboard can fit in 450 mm (17.7") depth

I/O View

