



## Z690D4U-2L2T/G5

- Micro-ATX (9.6" x 9.6")
- Supports 12th & 13th Gen Intel® Core™, Pentium® and Celeron® series processors
- 4 DIMM slots (2DPC), supports DDR5 non-ECC UDIMM
- 1 PCIe5.0 x16, 1 PCIe4.0 x4, 1 PCIe3.0 x1
- 3 OCuLink (PCIe4.0 x4), 1 OCuLink (PCIe4.0 x4 or 4 SATA 6Gb/s)
- Supports 1 M.2 (PCIe3.0 x4)
- 2 RJ45 (10GbE) by Intel® X710
- 2 RJ45 (1GbE) by Intel® i210
- Up to 8 SATA 6Gb/s
- 1 VGA, 1 HDMI, 1 DisplayPort
- Remote Management (IPMI)

### HDMI™ (High-Definition Multimedia Interface)



This motherboard supports HDMI™ (High-Definition Multimedia Interface) which is an interface standard for transferring uncompressed video data and delivering multi-channel audio through a single cable. Both video and audio data signals transferred through the HDMI™ interface are digital without being converted into analog, therefore it delivers the richest pictures and the most realistic sounds.

## Specifications

Physical Status	
Form Factor	Micro-ATX
Dimensions	9.6" x 9.6" (244 mm x 244 mm)
Processor System	
CPU	Supports 12th & 13th Gen Intel® Core™, Pentium® and Celeron® series processors
Socket	Single Socket LGA 1700
Thermal Design Power	125W
Chipset	Intel® Z690
System Memory	
Supported DIMM Quantity	4 DIMM slots (2DPC)
Supported Type	DDR5 288-pin non-ECC UDIMM
Max. Capacity per DIMM	32GB
Max. DIMM Frequency	4400MT/s (2DPC-1DIMM) / 4000MT/s (2DPC-2DIMM 1R) / 3600MT/s (2DPC-2DIMM 2R)
Voltage	1.1V
PCIe Expansion Slots (SLOT7 close to CPU)	
PCIe x 16	SLOT6: PCIe5.0 x16 [CPU]
PCIe x 4	SLOT7: PCIe4.0 x4 [CPU]
PCIe x 1	SLOT4: PCIe3.0 x1 [PCH]
Other PCIe Expansion Connectors	
M.2 slot	1 M-key (PCIe3.0 x4) [PCH]; support 2280/2260/2242/2230 form factor
OCuLink	1 OCuLink (PCIe4.0 x4)* [CPU] 1 OCuLink (PCIe4.0 x4 or 4 SATA 6Gb/s) [PCH] 2 OCuLink (PCIe4.0 x4) [PCH] *OCuLink4 shares lanes with SLOT7 and will be disabled when SLOT7 is populated.
SATA/SAS Storage	
PCH Built-in Storage	Intel Z690 (up to 8 SATA 6Gb/s; RAID 0/1/5/10): 4 SATA 7-pin, 1 OCuLink for 4 SATA
Ethernet	
Additional GbE Controller	2 RJ45 (10GbE) by Intel® X710 2 RJ45 (1GbE) by Intel® i210
Server Management	

BMC Controller	ASPEED AST2600: iKVM, vMedia support
IPMI Dedicated GLAN	1 RJ45 Dedicated IPMI LAN port by Realtek RTL8211F
<b>Graphics</b>	
Controller	ASPEED AST2600: 1 DB15 (VGA)  Intel® Integrated Processor Graphics: 1 HDMI, 1 DisplayPort
<b>Rear I/O</b>	
UID Button/LED	1 button w/ LED
VGA Port	1 DB15 (VGA), 1 HDMI, 1 DisplayPort
Serial Port	1 DB9 (COM)
USB 3.2 Gen1 Port	2 Type A (USB3.2 Gen1)
RJ45	2 RJ45(10GbE), 2 RJ45(1GbE), 1 dedicated IPMI
<b>Internal Connector/Headers</b>	
Power Connector	1 (24-pin, ATX main power), 2 (8-pin, ATX 12V)
Auxiliary Panel Header	1 (18-pin): chassis intrusion, system fault LED, LAN1/LAN2 activity LED, locate, SMBus
System Panel	1 (9-pin): power switch, reset switch, system power LED, HDD activity LED
VGA header	1
Speaker Header	1 (4-pin)
Buzzer	1
Fan Header	7 (4-pin)
Thermal Sensor Header	1
TPM Header	1 (13-pin, SPI)
SGPIO Header	1
SMBus header	1
PMBus header	1
IPMB Header	1
Clear CMOS	1 (contact pads)
Others	1 (4-pin, LAN3/LAN4 LED)
ME/SPS Recovery	1
USB 3.2 (Gen1) Header	1 (19-pin, 2 USB3.2 Gen1)
USB 2.0 Header	1 (9-pin, 2 USB2.0)
NMI Header	1
<b>LED Indicators</b>	
Standby PWR LED 5vsb	1
80 Debug Port LED	1
Fan Fail LED	7
BMC heartbeat LED	1
<b>System BIOS</b>	
BIOS Type	AMI 256 Mb SPI Flash ROM
BIOS Features	Plug and Play (PnP), ACPI 6.4 and above compliance wake up events, SMBIOS 2.8 and above, ASRock Rack Instant Flash
<b>Hardware Monitor</b>	
Temperature	CPU, MB, Card side, VR, M.2, X710, TR Temperature sensing
Fan	Fan Tachometer CPU Quiet Fan (Allow Chassis Fan Speed Auto-Adjust by CPU Temperature) Fan Multi-Speed Control
Voltage	3VSB, 5VSB, CPU_VCORE, VCCIN_AUX, VDD2, 1.05V_PCH, 0V82SB_PCH, VCCGT, 1V8SB, VCCSA, BAT, 3V, 5V, 12V
<b>Supported OS</b>	
OS	Windows® 10 (64 bit) Windows® 11 (64 bit)
<b>Environment</b>	
Temperature	Operation temperature: 10°C ~ 35°C / Non operation temperature: -40°C ~ 70°C
Humidity	Non operation humidity: 20% ~ 90% ( Non condensing)

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