











# GIGABYTE™ Z690 Series Motherboards

Series		AORUS																
Model		Z690 AORUS TACHYON	Z690 AORUS XTREME WATERFORCE	Z690 AORUS XTREME	Z690 AORUS MASTER	Z690 AORUS ULTRA	Z690 AORUS PRO	Z690 AORUS PRO DDR4	Z690 AORUS ELITE AX	Z690 AORUS ELITE	Z690 AORUS ELITE AX DDR4	Z690 AORUS ELITE DDR4	Z690M AORUS ELITE AX DDR4	Z690M AORUS ELITE DDR4	Z690I AORUS ULTRA	Z690I AORUS ULTRA DDR4		
Form Factor		E-ATX 305 x 270	E-ATX 305 x 285	E-ATX 305 x 285	E-ATX 305 x 259	ATX 305 x 244	ATX 305 x 244	ATX 305 x 244	ATX 305 x 244	ATX 305 x 244	ATX 305 x 244	ATX 305 x 244	ATX 305 x 244	ATX 305 x 244	mATX 244 x 244	mATX 244 x 244	Mini-ITX 170 x 170	Mini-ITX 170 x 170
Power		15+1+2 Digital (SPS 105A)	20+1+2 Digital (SPS 105A)	20+1+2 Digital (SPS 105A)	19+1+2 Digital (SPS 105A)	16+1+2 Digital (SPS 105A)	16+1+2 Digital (SPS 90A)	16+1+2 Digital (SPS 90A)	16+1+2 Twin Hybrid (DrMOS 60A)	16+1+2 Twin Hybrid (DrMOS 60A)	16+1+2 Digital (SPS 70A)	16+1+2 Digital (SPS 70A)	12+1+2 Digital (SPS 60A)	12+1+2 Digital (SPS 60A)	10+1+2 Digital (SPS 105A)	10+1+2 Digital (SPS 105A)		
Memory	DDR5 / DDR4	DDR5	DDR5	DDR5	DDR5	DDR5	DDR5	DDR5	DDR4	DDR5	DDR5	DDR4	DDR4	DDR4	DDR4	DDR5	DDR4	
	Slots	2 x DIMMs	4 x DIMMs	4 x DIMMs	4 x DIMMs	4 x DIMMs	4 x DIMMs	4 x DIMMs	4 x DIMMs	4 x DIMMs	4 x DIMMs	4 x DIMMs	4 x DIMMs	4 x DIMMs	2 x DIMMs	2 x DIMMs		
	Speed (MHz)	8300 (LN2 OC)	6600 (OC)	6600 (OC)	6400 (OC)	6200 (OC)	6200 (OC)	5600 (OC)	6000 (OC)	6000 (OC)	5333 (OC)	5333 (OC)	5333 (OC)	5333 (OC)	6200 (OC)	5333 (OC)		
	DDR5 SMD Armor	V	V	V	V	V	V	-	V	V	-	-	-	-	V	-		
	Shielded Memory Routing	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	
Expansion Slots	PCIe Gen5	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	
	PCIe SMD Armor	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	
	Slots	1 x PCIe 5.0 x16 / 1 x PCIe 5.0 x8 / 1 x PCIe 3.0 x4	1 x PCIe 5.0 x16 / 1 x PCIe 5.0 x8 / 1 x PCIe 3.0 x4	1 x PCIe 5.0 x16 / 1 x PCIe 5.0 x8 / 1 x PCIe 3.0 x4	1 x PCIe 5.0 x16 / 2 x PCIe 3.0 x4	1 x PCIe 5.0 x16 / 2 x PCIe 3.0 x4	1 x PCIe 5.0 x16 / 2 x PCIe 3.0 x4	1 x PCIe 5.0 x16 / 2 x PCIe 3.0 x4	1 x PCIe 5.0 x16 / 2 x PCIe 3.0 x4	1 x PCIe 5.0 x16 / 2 x PCIe 3.0 x4	1 x PCIe 5.0 x16 / 2 x PCIe 3.0 x4	1 x PCIe 5.0 x16 / 2 x PCIe 3.0 x4	1 x PCIe 5.0 x16 / 2 x PCIe 3.0 x4	1 x PCIe 5.0 x16 / 1 x PCIe 3.0 x4	1 x PCIe 5.0 x16 / 1 x PCIe 3.0 x4	1x PCIe 5.0 x16	1x PCIe 5.0 x16	
Storage	M.2 Slot	4 x Gen 4	4 x Gen 4	4 x Gen 4	4 x Gen 4 + 1 x Gen 3	4 x Gen 4	4 x Gen 4	4 x Gen 4	4 x Gen 4	4 x Gen 4	4 x Gen 4	4 x Gen 4	4 x Gen 4	4 x Gen 4	3 x Gen 4	3 x Gen 4	2 x Gen 4	2 x Gen 4
	SATA	6 x SATA3	4 x SATA3	4 x SATA3	6 x SATA3	6 x SATA3	6 x SATA3	6 x SATA3	6 x SATA3	6 x SATA3	6 x SATA3	6 x SATA3	6 x SATA3	6 x SATA3	6 x SATA3	6 x SATA3	2 x SATA3	4 x SATA3
Thermal	M.2 Heatsink	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	1	1	ALL	ALL
	M.2 Backplate	ALL	ALL	ALL	ALL	ALL	ALL	ALL	1	1	1	1	-	-	1	1		
	Fan Headers	8	10	10	10	8	8	8	6	6	6	6	6	6	4	4		
	Temp Sensor	9	9	9	9	9	9	9	6	6	6	6	6	6	4	4		
Networking	LAN	Intel® 2.5GbE LAN	AQUANTIA 10GbE LAN + Intel® 2.5GbE LAN	AQUANTIA 10GbE LAN + Intel® 2.5GbE LAN	AQUANTIA 10GbE LAN	Intel® 2.5GbE LAN	Intel® 2.5GbE LAN	Intel® 2.5GbE LAN	2.5GbE LAN	2.5GbE LAN	2.5GbE LAN	2.5GbE LAN	2.5GbE LAN	2.5GbE LAN	Intel® 2.5GbE LAN	Intel® 2.5GbE LAN	Intel® 2.5GbE LAN	Intel® 2.5GbE LAN
	WiFi	Intel® WiFi 6E 2x2 802.11ax	Intel® WiFi 6E 2x2 802.11ax	Intel® WiFi 6E 2x2 802.11ax	Intel® WiFi 6E 2x2 802.11ax	WiFi6 802.11ax	WiFi6 802.11ax	WiFi6 802.11ax	WiFi6 802.11ax	WiFi6 802.11ax	-	WiFi6 802.11ax	-	WiFi6 802.11ax	-	WiFi6 802.11ax	WiFi6 802.11ax	
Audio		ALC1220	ESS9280 + 2 x ESS 9080	ESS9280 + 2 x ESS 9080	ALC1220 + SABRE9118EQ	ALC4080	ALC4080	ALC4080	ALC1220	ALC1220	ALC1220	ALC1220	ALC1220	ALC1220	8-ch HD Audio	8-ch HD Audio	ALC4080	ALC4080
USB	Thunderbolt	Header	2(R)	2(R)	Header	Header	Header	Header	Header	Header	Header	Header	Header	Header	-	-		
	VisionLINK TB(Thunderbolt+PD)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	VisionLINK(USB-C DP-Alt mode+PD)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	USB 3.2 Gen 2x2 Type-C(20Gbps)	2(1F1R)	1(F)	1(F)	2(1F1R)	2(1F1R)	2(1F1R)	2(1F1R)	2(1F1R)	1(R)	1(R)	1(R)	1(R)	1(R)	1(R)	1(R)	1(R)	
	USB 3.2 Gen 2 Type-C	-	-	-	1(R)	-	-	-	-	1(F)	1(F)	1(F)	1(F)	1(F)	1(F)	1(F)	1(F)	
USB port		16	21	21	20	20	20	20	17	17	17	17	17	17	17	15	15	
BIOS		Dual BIOS / Q-Flash+	Single Bios / Q-Flash+	Single Bios / Q-Flash+	Single Bios / Q-Flash+	Single Bios / Q-Flash+	Single Bios / Q-Flash+	Single Bios / Q-Flash+	Single Bios / Q-Flash+	Single Bios / Q-Flash+	Single Bios / Q-Flash+	Single Bios / Q-Flash+	Single Bios / Q-Flash+	Single Bios / Q-Flash+	Single Bios / Q-Flash+	Single Bios / Q-Flash+	Single Bios / Q-Flash+	
Onboard Display		HDMI 2.1	2 x Thunderbolt	2 x Thunderbolt	DisplayPort	DisplayPort	DisplayPort	DisplayPort	HDMI 2.1, DisplayPort	HDMI 2.1, DisplayPort	HDMI 2.1, DisplayPort	HDMI 2.1, DisplayPort	HDMI 2.1, DisplayPort	HDMI 2.1, DisplayPort	HDMI 2.1, DisplayPort	HDMI 2.1, DisplayPort	HDMI 2.1, DisplayPort	
RGB Headers		RGB x 2 / Digital x 2	RGB x 2 / Digital x 2	RGB x 2 / Digital x 2	RGB x 2 / Digital x 2	RGB x 2 / Digital x 2	RGB x 2 / Digital x 2	RGB x 2 / Digital x 2	RGB x 2 / Digital x 2	RGB x 2 / Digital x 2	RGB x 2 / Digital x 2	RGB x 2 / Digital x 2	RGB x 2 / Digital x 2	RGB x 2 / Digital x 2	RGB x 2 / Digital x 2	RGB x 2 / Digital x 2	RGB x 1 / Digital x 1	RGB x 1 / Digital x 1

\*The specification and pictures are subject to change without notice.

# GIGABYTE™ Z690 Series Motherboards

Series		AERO			GIGABYTE Gaming		Ultra Durable™				
Model		Z690 AERO D	Z690 AERO G	Z690 AERO G DDR4	Z690 GAMING X	Z690 GAMING X DDR4	Z690 UD AX	Z690 UD AC	Z690 UD AX DDR4	Z690 UD	Z690 UD DDR4
											
Form Factor		E-ATX 305 x 259	ATX 305 x 244	ATX 305 x 244	ATX 305 x 244	ATX 305 x 244	ATX 305 x 244	ATX 305 x 244	ATX 305 x 244	ATX 305 x 244	ATX 305 x 244
Power		16+1+2 Digital (SPS 90A)	16+1+2 Digital (SPS 70A)	16+1+2 Digital (SPS 70A)	16+1+2 Twin Hybrid (DrMOS 60A)	16+1+2 Digital (SPS 60A)	16+1+2 Digital (SPS 60A)	16+1+2 Digital (SPS 60A)	16+1+2 Digital (SPS 60A)	16+1+2 Digital (SPS 60A)	16+1+2 Digital (SPS 60A)
Memory	DDR5 / DDR4	DDR5	DDR5	DDR4	DDR5	DDR4	DDR5	DDR5	DDR4	DDR5	DDR4
	Slots	4 x DIMMs	4 x DIMMs	4 x DIMMs	4 x DIMMs	4 x DIMMs	4 x DIMMs	4 x DIMMs	4 x DIMMs	4 x DIMMs	4 x DIMMs
	Speed (MHz)	6400 (OC)	6000 (OC)	5333 (OC)	6000 (OC)	5333 (OC)	6000 (OC)	6000 (OC)	5333 (OC)	6000 (OC)	5333 (OC)
	DDR5 SMD Armor	V	-	-	-	-	-	-	-	-	-
	Shielded Memory Routing	V	V	V	V	V	V	V	V	V	V
Expansion Slots	PCIe Gen5	V	V	V	V	V	V	V	V	V	V
	PCIe SMD Armor	V	V	V	V	V	V	V	V	V	V
	Slots	1 x PCIe 5.0 x16 / 1 x PCIe 5.0 x8 / 1 x PCIe 3.0 x4	1 x PCIe 5.0 x16 / 2 x PCIe 3.0 x4	1 x PCIe 5.0 x16 / 2 x PCIe 3.0 x4	1 x PCIe 5.0 x16 / 2 x PCIe 3.0 x4	1 x PCIe 5.0 x16 / 2 x PCIe 3.0 x4	1 x PCIe 5.0 x16 / 1 x PCIe 3.0 x4 / 3 x PCIe 3.0 x1	1 x PCIe 5.0 x16 / 1 x PCIe 3.0 x4 / 4 x PCIe 3.0 x1	1 x PCIe 5.0 x16 / 1 x PCIe 3.0 x4 / 3 x PCIe 3.0 x1	1 x PCIe 5.0 x16 / 1 x PCIe 3.0 x4 / 3 x PCIe 3.0 x1	1 x PCIe 5.0 x16 / 1 x PCIe 3.0 x4 / 3 x PCIe 3.0 x1
Storage	M.2 Slot	4 x Gen 4	4 x Gen 4	4 x Gen 4	4 x Gen 4	4 x Gen 4	3 x Gen 4	3 x Gen 4	3 x Gen 4	3 x Gen 4	3 x Gen 4
	SATA	6 x SATA3	6 x SATA3	6 x SATA3	6 x SATA3	6 x SATA3	6 x SATA3	6 x SATA3	6 x SATA3	6 x SATA3	6 x SATA3
Thermal	M.2 Heatsink	ALL	ALL	ALL	ALL	ALL	1	1	1	1	1
	M.2 Backplate	ALL	-	-	-	-	-	-	-	-	-
	Fan Headers	8	8	8	6	6	6	6	6	6	6
	Temp Sensor	9	9	9	6	6	6	6	6	6	6
Networking	LAN	AQUANTIA 10GbE LAN + Intel® 2.5GbE LAN	Intel® 2.5GbE LAN	Intel® 2.5GbE LAN	2.5GbE LAN	2.5GbE LAN	2.5GbE LAN	2.5GbE LAN	2.5GbE LAN	2.5GbE LAN	2.5GbE LAN
	WIFI	Intel® WIFI 6E 2x2 802.11ax	WIFI6 802.11ax	WIFI6 802.11ax	-	-	WIFI6 802.11ax	WIFI 802.11ac	WIFI6 802.11ax	-	-
Audio	ALC4080	ALC4080	ALC4080	ALC1220	ALC1220	8-ch HD Audio	8-ch HD Audio	8-ch HD Audio	8-ch HD Audio	8-ch HD Audio	8-ch HD Audio
USB	Thunderbolt	2(R)	Header	Header	Header	Header	Header	Header	Header	Header	Header
	VisionLINK TB(Thunderbolt+PD)	Y	-	-	-	-	-	-	-	-	-
	VisionLINK(USB-C DP-Alt mode+PD)	-	USB 3.2 Gen 1 (Rear Type-C)	USB 3.2 Gen 1 (Rear Type-C)	-	-	-	-	-	-	-
	USB 3.2 Gen 2x2 Type-C(20Gbps)	1(F)	2(1F1R)	2(1F1R)	1(R)	1(R)	1(R)	1(R)	1(R)	1(R)	1(R)
	USB 3.2 Gen 2 Type-C	-	-	-	1(F)	1(F)	-	-	-	-	-
	USB port	19	17	17	17	17	17	17	17	17	17
BIOS	Single Bios / Q-Flash+	Single Bios / Q-Flash+	Single Bios / Q-Flash+	Single Bios / Q-Flash+	Single Bios / Q-Flash+	Single Bios / Q-Flash+	Single Bios / Q-Flash+	Single Bios / Q-Flash+	Single Bios / Q-Flash+	Single Bios / Q-Flash+	Single Bios / Q-Flash+
Onboard Display	2 x Thunderbolt, HDMI 1.4, DP_In	HDMI 1.4, USB-C, DP_In	HDMI 1.4, USB-C, DP_In	HDMI 2.1, DisplayPort	HDMI 2.1, DisplayPort	HDMI 2.1, DisplayPort	HDMI 2.1, DisplayPort	HDMI 2.1, DisplayPort	HDMI 2.1, DisplayPort	HDMI 2.1, DisplayPort	HDMI 2.1, DisplayPort
RGB Headers	RGB x 2 / Digital x 2	RGB x 2 / Digital x 2	RGB x 2 / Digital x 2	RGB x 2 / Digital x 2	RGB x 2 / Digital x 2	RGB x 2 / Digital x 2	RGB x 2 / Digital x 2	RGB x 2 / Digital x 2	RGB x 2 / Digital x 2	RGB x 2 / Digital x 2	RGB x 2 / Digital x 2

\*The specification and pictures are subject to change without notice.