ASUS Z890 Motherboards

Brand/Series	ROG			ROG STRIX				ProArt	TUF GAMING		PRIME		
Model	ROG MAXIMUS Z890 EXTREME	ROG MAXIMUS Z890 APEX	ROG MAXIMUS Z890 HERO	ROG STRIX Z890-E GAMING WIFI	ROG STRIX Z890-F GAMING WIFI	ROG STRIX Z890-A GAMING WIFI	ROG STRIX Z890-I GAMING WIFI	ProArt Z890-CREATOR WIFI	TUF GAMING Z890-PRO WIFI	TUF GAMING Z890-PLUS WIFI	PRIME Z890-P WIFI	PRIME Z890-P	PRIME Z890M-PLUS WIFI
Photo													
CPU Socket	LGA1851	LGA1851	LGA1851	LGA1851	LGA1851	LGA1851	LGA1851	LGA1851	LGA1851	LGA1851	LGA1851	LGA1851	LGA1851
Chipset	Intel Z890	Intel Z890	Intel Z890	Intel Z890	Intel Z890	Intel Z890	Intel Z890	Intel Z890	Intel Z890	Intel Z890	Intel Z890	Intel Z890	Intel Z890
Form Factor	E-ATX	ATX	ATX	ATX	ATX	ATX	ITX	ATX	ATX	ATX	ATX	ATX	mATX
PCB Layer, OZ	8L, 3OZ	8L, 2OZ	8L, 2OZ	8L, 2OZ	8L, 1OZ	8L, 1OZ	10L, 2OZ	8L, 2OZ	8L, 1OZ	8L, 1OZ	6L, 2OZ	6L, 2OZ	8L, 2OZ
Power Architecture VCCCORE+VCCGT+VCCSA+VNNAON	24(110A)+1(90A)+2(90A)+2(80A)	22(110A)+1(90A)+2(90A)+2(80A)	22(110A)+1(90A)+2(90A)+2(80A)	18(110A)+1(90A)+2(90A)+2(80A)	16(110A)+1(90A)+2(90A)+2(80A)	16(110A)+1(90A)+2(90A)+2(80A)	10(110A)+1(90A)+2(90A)+1(80A)	16(90A)+1(90A)+2(90A)+2(80A)	16(90A)+1(90A)+2(90A)+2(80A)	16(110A)+1(90A)+2(80A)+1(80A)	14(80A)+1(90A)+2(80A)+1(80A)	14(80A)+1(80A)+2(80A)+1(80A)	10(80A)+1(80A)+2(80A)+1(80A)

Memory

	EXTREME	APEX	HERO	STRIX-E	STRIX-F	STRIX-A	STRIX-I	ProArt	TUF-PRO	TUF-PLUS	PRIME-P WIFI	PRIME-P	PRIME-M
# Slots, Maximum Capacity	4 x DIMM; Max. 192GB DDR5	2 x DIMM; Max. 96GB DDR5	4 x DIMM; Max. 192GB DDR5	4 x DIMM; Max. 192GB DDR5	4 x DIMM; Max. 192GB DDR5	4 x DIMM; Max. 192GB DDR5	2 x DIMM; Max. 96GB DDR5	4 x DIMM; Max. 192GB DDR5	4 x DIMM; Max. 192GB DDR5	4 x DIMM; Max. 192GB DDR5	4 x DIMM; Max. 192GB DDR5	4 x DIMM; Max. 192GB DDR5	4 x DIMM; Max. 192GB DDR5
NitroPath DRAM Technology	✓	-	✓	✓	-	-	-	-	-	-	-	-	-
DIMM Fit	✓	✓	✓	✓	-	✓	-	-	-	-	-	-	✓
DIMM Flex	✓	✓	✓	✓	-	✓	-	-	-	-	-	-	✓
AEMP	AEMP III	AEMP III	AEMP III	AEMP III	AEMP III	AEMP III	AEMP III	AEMP III	AEMP III	AEMP III	AEMP III	AEMP III	AEMP III

Expansion Slots

	EXTREME	APEX	HERO	STRIX-E	STRIX-F	STRIX-A	STRIX-I	ProArt	TUF-PRO	TUF-PLUS	PRIME-P WIFI	PRIME-P	PRIME-M
PCIe Slot Q-Release	Q-Release Slim	Q-Release Slim	Q-Release Slim	Q-Release Slim	Q-Release Slim	Q-Release Slim	Q-Release Slim	Q-Release Slim	Q-Release Slim	✓	✓	✓	✓
PCIe 5.0/4.0/3.0 x16	2 x PCIe 5.0 x16 Slots	2 x PCIe 5.0 x16 Slots	1 x PCIe 5.0 x16 Slot; 1 x PCIe 4.0 x16 Slot	1 x PCIe 5.0 x16 Slot; 1 x PCIe 4.0 x16 Slot	1 x PCIe 5.0 x16 Slot; 1 x PCIe 4.0 x16 Slot	1 x PCIe 5.0 x16 Slot; 1 x PCIe 4.0 x16 Slot	1 x PCIe 5.0 x16 Slot	1 x PCIe 5.0 x16 Slot; 1 x PCIe 4.0 x16 Slot	2 x PCIe 5.0 x16 Slots	1 x PCIe 5.0 x16; 1 x PCIe 4.0 x16	1 x PCIe 5.0x16; 1 x PCIe 4.0x16	1 x PCIe 4.0x16; 1 x PCIe 4.0x16	1 x PCIe 5.0x16; 1 x PCIe 4.0 x16
PCIe 4.0/3.0 x4	1 x PCIe 4.0	2 x PCIe 4.0	-	-	-	-	-	-	1 x PCIe 4.0	1 x PCIe 4.0	-	-	-
PCIe 4.0/3.0 x1	-	-	1 x PCIe 4.0	-	-	-	-	-	2 x PCIe 4.0	2 x PCIe 4.0	-	-	-

Thunderbolt™ 4 or 5

	EXTREME	APEX	HERO	STRIX-E	STRIX-F	STRIX-A	STRIX-I	ProArt	TUF-PRO	TUF-PLUS	PRIME-P WIFI	PRIME-P	PRIME-M
Thunderbolt™ 4 or 5	2 x Thunderbolt 5 ports	2 x Thunderbolt 4 ports	2 x Thunderbolt 4 port(s)	2 x Thunderbolt 4 port(s)	2 x Thunderbolt 4 port(s)	2 x Thunderbolt 4 port(s)	2 x Thunderbolt 4 ports	2 x Thunderbolt 5 ports+ 1 x Thunderbolt 4 port	2 x Thunderbolt 4 ports	1 x Thunderbolt 4 port	1 x Thunderbolt 4 port		
TBT header	N/A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Thunderbolt™ Share	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Storage

	EXTREME	APEX	HERO	STRIX-E	STRIX-F	STRIX-A	STRIX-I	ProArt	TUF-PRO	TUF-PLUS	PRIME-P WIFI	PRIME-P	PRIME-M
SATA 6Gb/s	4	4	4	4	4	4	2	4	4	4	4	4	6

Networking

	EXTREME	APEX	HERO	STRIX-E	STRIX-F	STRIX-A	STRIX-I	ProArt	TUF-PRO	TUF-PLUS	PRIME-P WIFI	PRIME-P	PRIME-M
Wireless	Wi-Fi 7	Wi-Fi 7	Wi-Fi 7	Wi-Fi 7	Wi-Fi 7	Wi-Fi 7	Wi-Fi 7	Wi-Fi 7	Wi-Fi 7	Wi-Fi 7	Wi-Fi 7		Wi-Fi 7
Ethernet	1 x Marvell 10G; 1 x Intel 2.5G	1 x Realtek 5G	1 x Realtek 5G; 1 x Intel 2.5G	1 x Realtek 5G	1 x Intel 2.5G	1 x Intel 2.5G	1 x Intel 2.5G	1 x Marvell 10G; 1 x Intel 2.5G	1 x Intel 2.5G	1 x Intel 2.5G	1 x Realtek 2.5G	1 x Realtek 2.5G	1 x Realtek 2.5G

Audio

	EXTREME	APEX	HERO	STRIX-E	STRIX-F	STRIX-A	STRIX-I	ProArt	TUF-PRO	TUF-PLUS	PRIME-P WIFI	PRIME-P	PRIME-M
Audio Jack + SPDIF	2 Jack + SPDIF	2 Jack + SPDIF	2 Jack + SPDIF	2 Jack + SPDIF	2 Jack + SPDIF	2 Jack + SPDIF	ROG STRIX HIVE II Jack	2 Jack	5+1 Jack	5+1 Jack	3 Jack	3 Jack	3 Jack
Audio Codec	ALC4082	ALC4080	ALCS4082	ALC 4080	ALC 4080	ALC 4080	ESS9280	ALCS1220P	ALCS1220P	ALCS1220P	ALC897	ALC897	ALC897
Impedance Sense	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	-	-	-
DAC/AMP	ESS ES9219 QUAD DAC	Savitech SV3H712 AMP	ESS ES9219 QUAD DAC	Savitech SV3H712 AMP	Savitech SV3H712 AMP	Savitech SV3H712 AMP	-	-	-	-	-	-	-
LED Illuminated Audio Jacks	✓	-	-	-	-	-	-	-	-	-	-	-	-
Audio Effects	Dolby Atmos	Dolby Atmos	Dolby Atmos	Dolby Atmos	Dolby Atmos	Dolby Atmos	Dolby Atmos	-	DTS Custom	DTS Custom	-	-	-

Cooling

	EXTREME	APEX	HERO	STRIX-E	STRIX-F	STRIX-A	STRIX-I	ProArt	TUF-PRO	TUF-PLUS	PRIME-P WIFI	PRIME-P	PRIME-M
Fan Headers	9	8	8	8	8	8	4	8	7	7	7	7	7
Heatsink/ed M.2	8	6	7	5	5	5	2	5	4	4	1	1	1
NPU Boost	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓*	✓*	✓*

Features

	EXTREME	APEX	HERO	STRIX-E	STRIX-F	STRIX-A	STRIX-I	ProArt	TUF-PRO	TUF-PLUS	PRIME-P WIFI	PRIME-P	PRIME-M
ASUS AI Advisor	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
AI Overclocking	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
AI Cooling II	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
AI Networking II	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
RGB Header	6 x ARGB(from ARGB Splitter Cables)	3 x ARGB	3 x ARGB	3 x ARGB	3 x ARGB	3 x ARGB	2 x ARGB	3 x ARGB	3 x ARGB	3 x ARGB	3 x ARGB + 1 x RGB	3 x ARGB + 1 x RGB	3 x ARGB + 1 x RGB
CPU power connector	8+8	8+8	8+8	8+8	8+8	8+8	8	8+8	8+8	8+8	8+8	8+8	8+4
ProCool / ProCool II	ProCool II	ProCool II	ProCool II	ProCool II	ProCool II	ProCool II	ProCool II	ProCool II	ProCool	ProCool	ProCool	ProCool	ProCool
COM port header	-	-	-	-	-	-	-	-	-	-	-	-	-
FW TPM / TPM header / TPM IC onboard	FW TPM	FW TPM	FW TPM	FW TPM	FW TPM	FW TPM	FW TPM	FW TPM	FW TPM	FW TPM	TPM header	TPM header	TPM header
BIOS Flash ROM (8+16/32MB)	2 x 32MB(2 x 256Mb)	2 x 32MB(2 x 256Mb)	32MB(256Mb)	32MB(256Mb)	32MB(256Mb)	32MB(256Mb)	32MB(256Mb)	32MB(256Mb)	32MB(256Mb)	32MB(256Mb)	2 x 16MB(256Mb)	2 x 16MB(256Mb)	2 X16MB(256Mb)
USB BIOS Flashback™	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓