BIOSTAR

THE NEW REALM

ABOUT
BIOSTAR

BIOSTAR, is a professional brand dedicated to the production of motherboards, gaming motherboards, SSD, graphics cards, industrial computing systems, IoT, crypto mining equipment, healthcare solutions and motor start battery. Since its establishment in 1986, BIOSTAR has become a major motherboard supplier in the IT industry. In order to pursue the best quality and aesthetic design, BIOSTAR has invested heavily in ID design, equipment, global marketing research as well as R&D. With a constant emphasis on quality, BIOSTAR always seeks to improve beyond better and race to the future.

Beyond Better

nnovative

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porty

rendy

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INTEL SERIES MOTHE

Break into the ultimate, Stand out in the game world

intel.

Supports 10th Gen Intel® Core™ Processors

Supports 11th Gen Intel® Core™ Processors

intel. CHIPSET B560

intel. CHIPSET H510

intel. CHIPSET Z590

intel. OPTANE MEMORY

VALKYRIE

VALKYRIE

RACING

Model Name	Z590 VALKYRIE	Z590I VALKYRIE	RACING Z590GTA	RACING B560GTQ	B560M-SILVER
Chipset	Z590	Z590	Z590	B560	B560
Form Factor	ATX 305*244 mm	Mini-ITX 170*170 mm	ATX 305*244 mm	Micro-ATX 244*244 mm	Micro-ATX 244*244 mm
VRD	22 Phases	10 Phases	14 Phases	12 Phases	12 Phases
Solid Cap	All	All	All	All	All
Memory	4 x DDR4 up to 5000+ (OC) Mhz	2 x DDR4 up to 5000+ (OC) Mhz	4 x DDR4 up to 5000+ (OC) Mhz	4 x DDR4 up to 5000+ (OC) Mhz	4 x DDR4 up to 5000+ (OC) Mhz
PCI-E x 16 Slot	3	1	2	2	2
PCI-E x 1 Slot	N	N	2	1	1
PCI Slot	N	N	N	N	N
(m)DP	Y	Y	Y	Y	Y
HDMI	Y	Y	Y	Y	Y
DVI-D	N	N	Y	Y	Y
VGA	N	N	N	N	N
M.2	"1 x M Key, support PCI-E 4.0 SSD (64Gb/s), 2 x M Key, support SATA 6Gb/s, PCI-E SSD (32Gb/s), supports Intel Optane 1 x E Key, supports type 2230 WiFi/BT module and Intel CNVi"	"1 x M Key, support PCI-E 4.0 SSD (64Gb/s), 1 x M Key, support SATA 6Gb/s, PCI-E SSD (32Gb/s), supports Intel Optane 1 x E Key, supports type 2230 WiFi/BT module and Intel CNVi"	"1 x M Key, support PCI-E 4.0 SSD (64Gb/s) 1 x M Key, support SATA 6Gb/s, PCI-E SSD (32Gb/s), supports Intel Optane 1 x M Key, support PCI-E SSD (32Gb/s), supports Intel Optane 1 x E Key, supports type 2230 WiFi/BT module and Intel CNVi"	"1 x M Key, support PCI-E 4.0 SSD (64Gb/s) 1 x M Key, support SATA 6Gb/s, PCI-E SSD (32Gb/s), supports Intel Optane 1 x E Key, supports type 2230 WiFi/BT module and Intel CNVi"	"1 x M Key, support PCI-E 4.0 SSD (64Gb/s) 1 x M Key, support SATA 6Gb/s, PCI-E SSD (32Gb/s), supports Intel Optane 1 x E Key, supports type 2230 WiFi/BT module and Intel CNVi"
SATA	6	4	6	6	6
USB (F/R)	"USB 3.2 Gen 2x2: 1+1 USB 3.2 Gen 2: 0+5 USB 3.2 Gen 1: 2+2 USB 2.0: 4+0"	"USB 3.2 Gen 2x2: 0+1 USB 3.2 Gen 2: 0+2 USB 3.2 Gen 1: 2+3 USB 2.0: 2+2"	"USB 3.2 Gen 2x2: 0+1 USB 3.2 Gen 2: 0+2 USB 3.2 Gen 1: 2+3 USB 2.0: 4+2"	"USB 3.2 Gen 2x2: 0+1 USB 3.2 Gen 2: 0+2 USB 3.2 Gen 1: 2+3 USB 2.0: 4+2"	"USB 3.2 Gen 2x2: 0+1 USB 3.2 Gen 2: 0+2 USB 3.2 Gen 1: 2+3 USB 2.0: 4+2"
PS2	1	1	1	1	1
AUDIO	ALC1220-7.1Ch (5 ports+SPDIF)	ALC1220-7.1Ch (3 ports)	ALC1220-7.1Ch (3 ports)	ALC1220-7.1Ch (3 ports)	ALC1220-7.1Ch (3 ports)
LAN	2.5GbE (RTL8125B)	2.5GbE (RTL8125B)	2.5GbE (RTL8125B)	2.5GbE (RTL8125B)	2.5GbE (RTL8125B)
Printer / COM	N/Y	N/N	N/Y	N/Y	N/Y
LED Header	3 (12V*1/5V*2)	2 (12V*1/5V*1)	3 (12V*1/5V*2)	3 (12V*1/5V*2)	3 (12V*1/5V*2)
Dual BIOS	Y	N	N	N	N

	B560MX-E PRO	B560MH-E PRO	H510MX/E 2.0	H510MH/E 2.0	H510MH 2.0	RACING Z490GTA EVO
	B560	B560	H510	H510	H510	Z490
	Micro-ATX 244*244 mm	Micro-ATX 244*244 mm	Micro-ATX 208*236 mm	Micro-ATX 208*236 mm	Micro-ATX 208*236 mm	ATX 305*244 mm
	10 Phases	10 Phases	8 Phases	8 Phases	8 Phases	16 Phases
	All	All	All	All	All	All
	4 x DDR4 up to 4000+ (OC) Mhz	4 x DDR4 up to 4000+ (OC) Mhz	2 x DDR4 up to 3200 Mhz	2 x DDR4 up to 3200 Mhz	2 x DDR4 up to 3200 Mhz	4 x DDR4 up to 4000+ (OC) Mhz
	2	2	1	1	1	2
	1	1	1	1	1	3
	N	N	N	N	N	N
	N	N	N	N	N	N
	Y	Y	Y	Y	Y	Y
	Y	N	Y	N	N	N
	Y	Y	Y	Y	Y	N
	"1 x M Key, support PCI-E 4.0 SSD (64Gb/s) 1 x M Key, support SATA 6Gb/s, PCI-E SSD (32Gb/s), supports Intel Optane 1 x E Key, supports type 2230 WiFi/BT module and Intel CNVi"	"1 x M Key, support PCI-E 4.0 SSD (64Gb/s) 1 x M Key, support SATA 6Gb/s, PCI-E SSD (32Gb/s), supports Intel Optane 1 x E Key, supports type 2230 WiFi/BT module and Intel CNVi"	"1 x M Key, support SATA 6Gb/s, PCI-E SSD (32Gb/s), supports Intel Optane 1 x E Key, supports type 2230 WiFi/BT module and Intel CNVi"	"1 x M Key, support SATA 6Gb/s, PCI-E SSD (32Gb/s), supports Intel Optane 1 x E Key, supports type 2230 WiFi/BT module and Intel CNVi"	"1 x M Key, support SATA 6Gb/s, PCI-E SSD (32Gb/s), supports Intel Optane"	"2 x M Key, support SATA 6Gb/s, PCI-E SSD (32Gb/s), supports Intel Optane 1 x E Key, supports type 2230 WiFi/BT module and Intel CNVi"
	4	4	4	4	4	6
	"USB 3.2 Gen 1: 2+4 USB 2.0: 4+2"	"USB 3.2 Gen 1: 2+4 USB 2.0: 4+2"	"USB 3.2 Gen 1: 2+2 USB 2.0: 4+4"	"USB 3.2 Gen 1: 2+2 USB 2.0: 4+4"	"USB 3.2 Gen 1: 2+2 USB 2.0: 4+4"	"USB 3.2 Gen 2: 0+2 (A+C) USB 3.2 Gen 1: 2+8 USB 2.0: 4+0"
	2	2	1	1	1	1
	ALC897-7.1Ch (3 ports)	ALC897-7.1Ch (3 ports)	ALC897-7.1Ch (3 ports)	ALC897-7.1Ch (3 ports)	ALC897-7.1Ch (3 ports)	ALC1150-7.1Ch (5 ports+SPDIF)
	GbE (i219V)	GbE (i219V)	GbE (i219V)	GbE (i219V)	GbE (i219V)	GbE (i211-AT)
	N/Y	N/Y	N/Y	N/Y	N/Y	N/Y
	N	N	N	N	N	3 (12V*1/5V*2)
	N	N	N	N	N	Y

Model Name	RACING Z490GTA	RACING Z490GTN	RACING B460GTA	RACING B460GTQ	Z490A-SILVER
Chipset	Z490	Z490	B460	B460	Z490
Form Factor	ATX 305*244 mm	Mini-ITX 170*170 mm	ATX 305*244 mm	Micro-ATX 244*244 mm	ATX 305*244 mm
VRD	14 Phases	9 Phases	8 Phases	8 Phases	14 Phases
Solid Cap	All	All	All	All	All
Memory	4 x DDR4 up to 4000+ (OC) Mhz	2 x DDR4 up to 4000+ (OC) Mhz	4 x DDR4 up to 2933 Mhz	4 x DDR4 up to 2933 Mhz	4 x DDR4 up to 4000+ (OC) Mhz
PCI-E x 16 Slot	2	1	2	1	2
PCI-E x 1 Slot	3	N	3	2	3
PCI Slot	N	N	N	N	N
(m)DP	Y	N	Y	Y	Y
HDMI	Y	Y	Y	Y	Y
DVI-D	N	N	Y	Y	N
VGA	Y	Y	N	N	Y
M.2	"2 x M Key, support SATA 6Gb/s, PCI-E SSD (32Gb/s), supports Intel Optane 1 x E Key, supports type 2230 WiFi/BT module and Intel CNVi"	"1 x M Key, supports SATA 6Gb/s, PCI-E SSD (32Gb/s), supports Intel Optane 1 x E Key, supports type 2230 WiFi/BT module and Intel CNVi"	"1 x M Key, supports SATA 6Gb/s, PCI-E SSD (32Gb/s) 1 x M Key, supports PCI-E SSD (32Gb/s), supports Intel Optane"	"1 x M Key, supports SATA 6Gb/s, PCI-E SSD (32Gb/s) 1 x M Key, supports PCI-E SSD (32Gb/s), supports Intel Optane"	"2 x M Key, support SATA 6Gb/s, PCI-E SSD (32Gb/s), supports Intel Optane 1 x E Key, supports type 2230 WiFi/BT module and Intel CNVi"
SATA	6	4	6	6	6
USB (F/R)	"USB 3.2 Gen 1: 2+4 USB 2.0: 4+2"	"USB 3.2 Gen 1: 2+4 USB 2.0: 2+2"	"USB 3.2 Gen 1: 4+4 USB 2.0: 4+2"	"USB 3.2 Gen 1: 2+4 USB 2.0: 4+2"	"USB 3.2 Gen 1: 2+4 USB 2.0: 4+2"
PS2	2	1	2	2	2
AUDIO	ALC1150-7.1Ch (3 ports)	ALC892-7.1Ch (3 ports)	ALC1150-7.1Ch (3 ports)	ALC1150-7.1Ch (3 ports)	ALC1150-7.1Ch (3 ports)
LAN	GbE (i219V)	GbE (i219V)	GbE (i219V)	GbE (i219V)	GbE (i219V)
Printer / COM	N/Y	N/N	N/Y	N/Y	N/Y
LED Header	3 (12V*1/5V*2)	2 (12V*1/5V*1)	3 (12V*1/5V*2)	3 (12V*1/5V*2)	3 (12V*1/5V*2)
Dual BIOS	N	N	N	N	

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Z490T-SILVER	H410MH	H410MHG	RACING B365GTA	RACING B365GTQ	RACING B360GT3S
Z490	H410	H410	B365	B365	B360
Mini-ITX 170*170 mm	Micro-ATX 226*179 mm	Micro-ATX 191*244 mm	ATX 305*244 mm	Micro-ATX 230*236 mm	Micro-ATX 244*230 mm
9 Phases	5 Phases	5 Phases	6 Phases	5 Phases	7 Phases
All	All	All	All	All	All
2 x DDR4 up to 4000+ (OC) Mhz	2 x DDR4 up to 2933 Mhz	2 x DDR4 up to 2933 Mhz	4 x DDR4 up to 2666 Mhz	4 x DDR4 up to 2666 Mhz	4 x DDR4 up to 2666 Mhz
1	1	1	2	1	2 (x16, x4 from SB)
N	2	2	3	2	1
N	N	1	N	N	N
N	N	N	N	N	N
Y	Y	Y	Y	Y	Y
N	N	Y	N	N	Y
Y	Y	Y	Y	Y	Y
"1 x M Key, supports SATA 6Gb/s, PCI-E SSD (32Gb/s), supports Intel Optane 1 x E Key, supports type 2230 WiFi/BT module and Intel CNVi"	1 x M Key, supports SATA 6Gb/s, PCI-E SSD (10Gb/s), supports Intel Optane	1 x M Key, supports SATA 6Gb/s, PCI-E SSD (10Gb/s), supports Intel Optane	"1 x M Key, supports SATA 6Gb/s, PCI-E SSD (32Gb/s), supports Intel Optane 1 x M Key, supports PCI-E SSD (32Gb/s), supports Intel Optane"	1 x M Key, supports SATA 6Gb/s, PCI-E SSD (32Gb/s), supports Intel Optane	"1 x M Key, supports SATA, PCI-E SSD (16Gb/s) 1 x M Key, supports PCI-E SSD (32Gb/s), supports Intel Optane"
4	4	4	6	4	6
"USB 3.2 Gen 1: 2+4 USB 2.0: 2+2"	"USB 3.2 Gen 1: 2+2 USB 2.0: 2+4"	"USB 3.2 Gen 1: 2+2 USB 2.0: 2+4"	"USB 3.2 Gen 1: 4+4 USB 2.0: 4+2"	"USB 3.2 Gen 1: 2+4 USB 2.0: 4+2"	"USB 3.2 Gen 2: 0+2 (1C) USB 3.2 Gen 1: 2+2 USB 2.0: 4+2"
1	2	2	2	1	1
ALC892-7.1Ch (3 ports)	ALC887-7.1Ch (3 ports)	ALC887-7.1Ch (3 ports)	ALC887-7.1Ch (3 ports)	ALC887-7.1Ch (3 ports)	ALC1150-7.1Ch (6 ports)
GbE (i219V)	GbE (RTL8111H)	GbE (RTL8111H)	GbE (i219V)	GbE (RTL8111H)	GbE (i219V)
N/N	N/Y	Y/Y	N/Y	N/Y	N/N
2 (12V*1/5V*1)	N	N	2 (12V*1/5V*1)	2 (12V*1/5V*1)	2 (12V)
	N	N	N	N	Y

Model Name	B365MHC	B360TH	H310MHC	H310MHC2	H310MHD3
Chipset	B365	B360	H310	H310	H310
Form Factor	Micro-ATX 228*177 mm	Micro-ATX 193*170 mm	Micro-ATX 226*171 mm	Micro-ATX 226*171 mm	Micro-ATX 226*171 mm
VRD	4 Phases	5 Phases	4 Phases	4 Phases	4 Phases
Solid Cap	All	All	All	All	All
Memory	2 x DDR4 up to 2666 Mhz	2 x DDR4 up to 2666 Mhz	2 x DDR4 up to 2666 Mhz	2 x DDR4 up to 2666 Mhz	2 x DDR3L up to 2400 Mhz
PCI-E x 16 Slot	1	1	1	1	1
PCI-E x 1 Slot	2	N	2	2	2
PCI Slot	N	N	N	N	N
(m)DP	N	N	N	N	N
HDMI	Y	Y	Y	Y	Y
DVI-D	N	N	N	N	N
VGA	Y	N	Y	Y	Y
M.2	1 x M Key, supports SATA 6Gb/s, PCI-E SSD (32Gb/s), supports Intel Optane	"1 x M Key, supports PCI-E SSD (32Gb/s), supports Intel Optane 1 x E Key, supports type 2230 WiFi/BT module and Intel CNVi"	N	N	N
SATA	4	1	4	4	4
USB (F/R)	"USB 3.2 Gen 1: 2+4 USB 2.0: 4+2"	"USB 3.2 Gen 1: 2+2 USB 2.0: 3+2"	"USB 3.2 Gen 1: 2+2 USB 2.0: 4+2"	"USB 3.2 Gen 1: 2+2 USB 2.0: 4+2"	"USB 3.2 Gen 1: 2+2 USB 2.0: 4+2"
PS2	2	N	2	2	2
AUDIO	ALC887-7.1Ch (3 ports)	ALC1150 + ALC105 (2 ports)	ALC887-7.1Ch (3 ports)	ALC887-7.1Ch (3 ports)	ALC887-7.1Ch (3 ports)
LAN	GbE (RTL8111H)	GbE (i219V)	GbE (RTL8111H)	GbE (RTL8111H)	GbE (RTL8111H)
Printer / COM	N/Y	N/N	N/Y	N/Y	N/Y
LED Header	N	2 (12V)	N	N	N
Dual BIOS	N	N	N	N	N

H310MHG	H310MHP	H310MHP 3.0	B250MHC	H110MHV3	H110MDE
H310	H310	H310	B250	H110	H110
Micro-ATX 244*188 mm	Micro-ATX 226*171 mm	Micro-ATX 226*171 mm	Micro-ATX 226*171 mm	Micro-ATX 190*170 mm	Micro-ATX 215*170 mm
4 Phases	5 Phases	5 Phases	4 Phases	4 Phases	4 Phases
All	All	All	All	All	All
2 x DDR4 up to 2666 Mhz	2 x DDR4 up to 2666 Mhz	2 x DDR4 up to 2666 Mhz	2 x DDR4 up to 2400Mhz	2 x DDR3 up to 1600 Mhz	2 x DDR4 up to 2400 Mhz
1	1	1	1	1	1
2	2	2	2	1	1
1	N	N	N	N	N
N	N	N	N	N	N
Y	Y	Y	Y	Y	N
Y	N	N	N	N	Y
Y	Y	Y	Y	Y	Y
1 x M Key, supports SATA 6Gb/s, PCI-E SSD (10Gb/s), supports Intel Optane	N	N	N	N	N
4	4	4	4	4	4
"USB 3.2 Gen 1: 2+2 USB 2.0: 2+4"	"USB 3.2 Gen 1: 2+2 USB 2.0: 2+4"	"USB 3.2 Gen 1: 2+2 USB 2.0: 2+4"	"USB 3.2 Gen 1: 2+4 USB 2.0: 4+2"	"USB 3.2 Gen 1: 2+2 USB 2.0: 4+2"	"USB 3.2 Gen 1: 2+2 USB 2.0: 4+2"
2	2	2	2	2	2
ALC887-7.1Ch (3 ports)	ALC887-7.1Ch (3 ports)	ALC897-7.1Ch (3 ports)	ALC887-7.1Ch (3 ports)	ALC887-7.1Ch (3 ports)	ALC662-5.1Ch (3 ports)
GbE (RTL8111H)	GbE (RTL8111H)	GbE (RTL8111H)	GbE (RTL8111H)	GbE (RTL8111H)	GbE (RTL8111H)
Y/Y	N/Y	N/Y	N/Y	N/N	N/N
N	N	N	N	N	N
N	N	N	N	N	N

Model Name	H110MHC	H311MHC	TB360-BTC PRO	TB360-BTC D+	TB250-BTC D+
Chipset	H110	H110	B360	B360	B250
Form Factor	Micro-ATX 226*171 mm	Micro-ATX 226*171 mm	ATX 305*210 mm	485*235 mm	485*195 mm
VRD	4 Phases	4 Phases	7 Phases	7 Phases	7 Phases
Solid Cap	All	All	All	All	All
Memory	2 x DDR4 up to 2400 Mhz	2 x DDR4 up to 2400 Mhz	2 x DDR4 up to 2666 Mhz	1 x DDR4 up to 2666 Mhz (SO-DIMM)	1 x DDR4 up to 2400 Mhz
PCI-E x 16 Slot	1	1	1	8 (x16*1, x1*7)	8 (x16*1, x1*7)
PCI-E x 1 Slot	2	2	11	N	N
PCI Slot	N	N	N	N	N
(m)DP	N	N	N	N	N
HDMI	Y	Y	Y	Y	Y
DVI-D	N	N	N	N	N
VGA	Y	Y	Y	N	N
M.2	N	N	1 x M Key, supports SATA3,	1 x M Key, supports SATA, PCI-E SSD (16Gb/s)	1 x M Key, supports SATA, PCI-E SSD (16Gb/s)
SATA	4	4	4	1	1
USB (F/R)	"USB 3.2 Gen 1: 2+2 USB 2.0: 4+2"	"USB 3.2 Gen 1: 2+2 USB 2.0: 4+2"	"USB 3.2 Gen 1: 2+4 USB 2.0: 4+2"	USB 2.0: 2+4	USB 2.0: 2+4
PS2	2	2	2	N	N
AUDIO	ALC887-7.1Ch (3 ports)	ALC887-7.1Ch (3 ports)	ALC887-7.1Ch (3 ports)	N	N
LAN	GbE (RTL8111H)	GbE (RTL8111H)	GbE (RTL8111H)	GbE (RTL8111H)	GbE (RTL8111H)
Printer / COM	N/Y	N/Y	N/Y	N/N	N/N
LED Header	N	N	N	N	N
Dual BIOS	N	N	N	N	N

H81MHV3	H81MHV3 2.0	H61MHV2	H61MHV3
H81	H81	H61	H61
Micro-ATX 190*170 mm	Micro-ATX 190*170 mm	Micro-ATX 190*170 mm	Micro-ATX 190*170 mm
3 Phases	3 Phases	2 Phases	2 Phases
All	All	All	All
2 x DDR3 up to 1600 Mhz	2 x DDR3 up to 1600 Mhz	2 x DDR3 up to 1600 Mhz	2 x DDR3 up to 1600 Mhz
1	1	1	1
1	1	1	1
N	N	N	N
N	N	N	N
Y	Y	Y	Y
N	N	N	N
Y	Y	Y	Y
N	N	N	N
4	4	4	4
"USB 3.2 Gen 1: 0+2 USB 2.0: 4+2"	"USB 3.2 Gen 1: 0+2 USB 2.0: 4+2"	USB 2.0: 4+4	USB 2.0: 4+4
2	2	1	1
ALC662-5.1Ch (3 ports)	ALC897-7.1Ch (3 ports)	ALC662-5.1Ch (3 ports)	ALC897-7.1Ch (3 ports)
GbE (RTL8111G)	GbE (RTL8111H)	GbE (RTL8111G)	GbE (RTL8111G)
N/Y	N/Y	N/Y	N/Y
N	N	N	N
N	N	N	N

INTEL SOC SERIES MOTHERBOARDS

Feature dual-core, Provide impactful computing

intel

intel CELERON
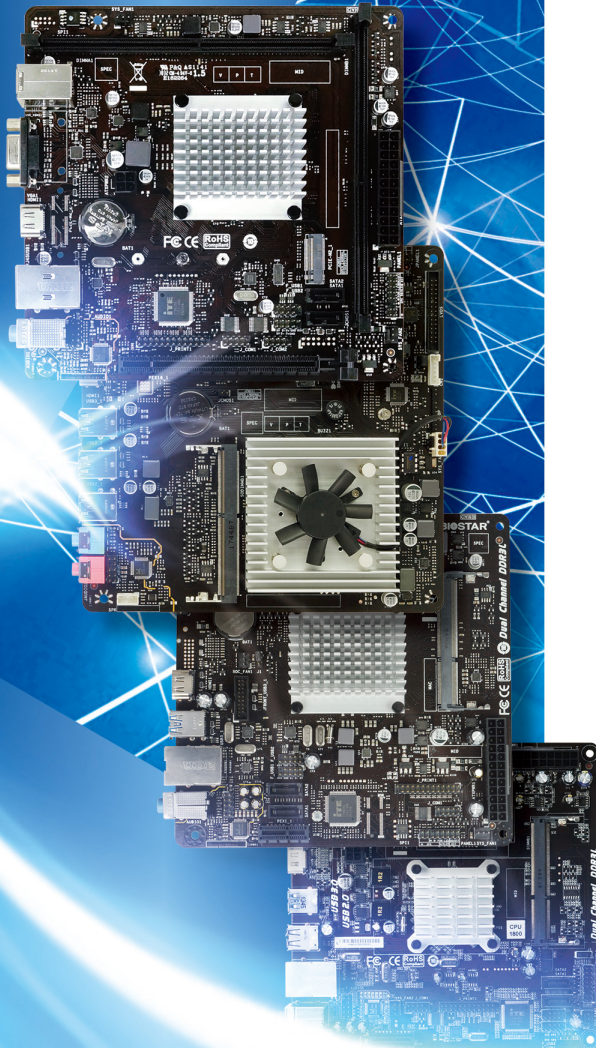
Model Name	J4125NHU	J4125TH
Chipset	J4125	J4125
Form Factor	Mini-ITX 170*170 mm	Mini-ITX 170*170 mm
VRD	1 Phase	1 Phase
Solid Cap	All	All
Memory	2 x DDR4 up to 2400 Mhz	1 x DDR4 up to 2400 Mhz
PCI-E x 16 Slot	1	N
PCI-E x 1 Slot	N	N
PCI Slot	N	N
(m)DP	N	N
HDMI	Y	Y
DVI-D	N	N
VGA	Y	N
M.2	"1 x M Key, supports SATA 6Gb/s, PCI-E SSD (10Gb/s)"	"1 x M Key, supports PCI-E SSD (10Gb/s) 1 x E Key, supports type 2230 WiFi/BT module and Intel CNVi"
SATA	2	1
USB (F/R)	"USB 3.2 Gen 1: 0+2 USB 2.0: 4+2"	"USB 3.2 Gen 1: 0+4 USB 2.0: 1+2"
PS2	1	N
AUDIO	ALC887-2Ch (3 ports)	ALC887-2Ch (2 ports)
LAN	GbE (RTL8111H)	GbE (RTL8111H)
Printer / COM	Y/Y	N/N
LED Header	N	2 (12V)
Dual BIOS	N	N

J4105NHU	J4105TH	J4025NHU	J3060NH	J1800NH3	J1800MH2
J4105	J4105	J4025	J3060	J1800	J1800
Mini-ITX 170*170 mm	Mini-ITX 170*170 mm	Mini-ITX 170*170 mm	Mini-ITX 170*170 mm	Mini-ITX 170*170 mm	Micro-ATX 226*188 mm
1 Phase	1 Phase	1 Phase	2 Phases	1 Phase	2 Phases
All	All	All	All	All	All
2 x DDR4 up to 2400 Mhz	1 x DDR4 up to 2400 Mhz	2 x DDR4 up to 2400 Mhz	2 x DDR3/L up to 1600 Mhz	2 x DDR3/L up to 1333 Mhz	2 x DDR3/L up to 1333 Mhz
1 (x1)	N	1	N	N	1 (x1)
N	N	N	1	1	2
N	N	N	N	N	N
N	N	N	N	N	N
Y	Y	Y	Y	Y	Y
N	N	N	N	N	N
Y	N	Y	Y	Y	Y
"1 x M Key, supports SATA 6Gb/s, PCI-E SSD (10Gb/s)"	"1 x M Key, supports PCI-E SSD (10Gb/s) 1 x E Key, supports type 2230 WiFi/BT module and Intel CNVi"	"1 x M Key, supports SATA 6Gb/s, PCI-E SSD (10Gb/s)"	N	N	N
2	1	2	2	2	2
"USB 3.2 Gen 1: 0+2 USB 2.0: 4+2"	"USB 3.2 Gen 1: 0+4 USB 2.0: 1+2"	"USB 3.2 Gen 1: 0+2 USB 2.0: 4+2"	"USB 3.2 Gen 1: 2+2 USB 2.0: 4+2"	"USB 3.2 Gen 1: 0+1 USB 2.0: 4+4"	"USB 3.2 Gen 1: 0+1 USB 2.0: 4+2"
1	N	1	2	2	2
ALC887-8Ch (3 ports)	ALC887-2Ch (2 ports)	ALC887-2Ch (3 ports)	ALC662-6Ch (3 ports)	ALC662-6Ch (3 ports)	ALC662-6Ch (3 ports)
GbE (RTL8111H)	GbE (RTL8111H)	GbE (RTL8111H)	GbE (RTL8111H)	GbE (RTL8111G)	GbE (RTL8111G)
Y/Y	N/N	Y/Y	Y/ Y	Y/ Y	Y/ Y
N	2 (12V)	N	N	N	N
N	N	N	N	N	N

Go mainstream, Push boundaries

AMD

AMD
SOCKET
AM4 **B550**
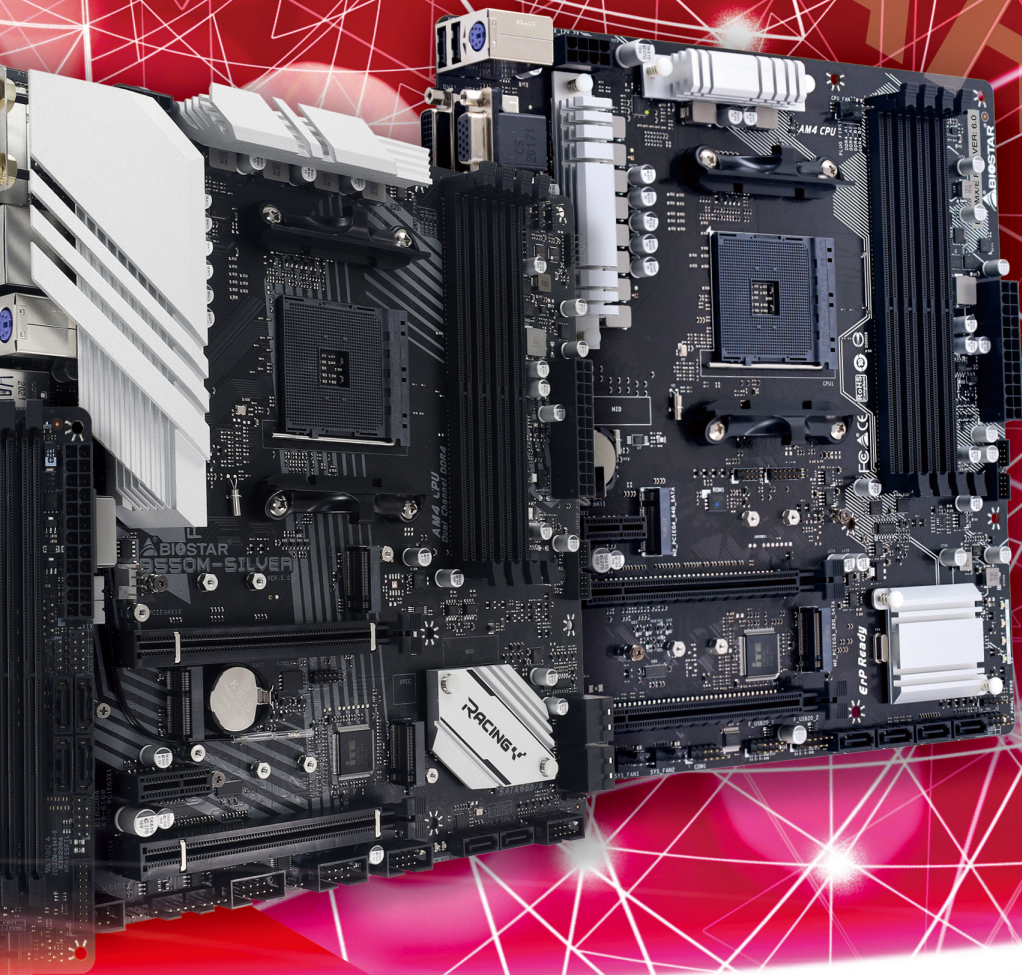
Model Name	RACING X570GT8	RACING X570GTA	RACING X570GT	RACING B550GTA	RACING B550GTQ
Chipset	X570	X570	X570	B550	B550
Form Factor	ATX 305*244 mm	ATX 305*243 mm	Micro-ATX 244*235 mm	ATX 305*244 mm	Micro-ATX 244*244 mm
VRD	12 Phases	10 Phases	7 Phases	10 Phases	10 Phases
Solid Cap	All	All	All	All	All
Memory	4 x DDR4 up to 4400+ (OC) MHz	4 x DDR4 up to 4000+ (OC) MHz	4 x DDR4 up to 4000+ (OC) MHz	4 x DDR4 up to 4933+ (OC) MHz	4 x DDR4 up to 4933+ (OC) MHz
PCI-E x 16 Slot	3 (x16, x8, x4-SB)	2 (x16, x4-SB)	1	2 (x16, x4-SB)	2 (x16, x4-SB)
PCI-E x 1 Slot	3	2	2	3	2
PCI Slot	N	N	N	1	N
(m)DP	Y	N	N	Y	Y
HDMI	Y	Y	Y	Y	Y
DVI-D	Y	N	N	Y	Y
VGA	N	Y	Y	N	N
M.2	"1 x M Key 22110, supports PCIe 4.0 x 4 (64Gb/s) / 3.0 x 4 (32Gb/s), SATA 6Gb/s 2 x M Key 2280, support PCIe 4.0 x 4 (64Gb/s) / 3.0 x 4 (32Gb/s), SATA 6Gb/s *PCIe 4.0 supports Ryzen Gen 3rd Matisse and 4th Vermeer"	"1 x M Key, supports PCIe 4.0 x 4 (64Gb/s) / 3.0 x 4 (32Gb/s), SATA 6Gb/s *PCIe 4.0 supports Ryzen Gen 3rd Matisse and 4th Vermeer"	"1 x M Key, supports PCIe 4.0 x 4 (64Gb/s) / 3.0 x 4 (32Gb/s), SATA 6Gb/s *PCIe 4.0 supports Ryzen Gen 3rd Matisse and 4th Vermeer "	"2 x M Key, support PCIe 4.0 x 4 (64Gb/s) / 3.0 x 4 (32Gb/s), SATA 6Gb/s *PCIe 4.0 supports Ryzen Gen 3rd Matisse and 4th Vermeer "	"2 x M Key, support PCIe 4.0 x 4 (64Gb/s) / 3.0 x 4 (32Gb/s), SATA 6Gb/s *PCIe 4.0 supports Ryzen Gen 3rd Matisse and 4th Vermeer "
SATA	6	6	4	6	6
USB (F/R)	"USB 3.2 Gen 2: 0+2 (A+C) USB 3.2 Gen 1: 4+4 USB 2.0: 4+0"	"USB 3.2 Gen 1: 4+4 USB 2.0: 4+2"	"USB 3.2 Gen 1: 2+4 USB 2.0: 4+2"	"USB 3.2 Gen 2: 0+2 (A+C) USB 3.2 Gen 1: 2+4 USB 2.0: 4+2"	"USB 3.2 Gen 2: 0+2 (A+C) USB 3.2 Gen 1: 2+4 USB 2.0: 4+2"
PS2	1	1	1	1	1
AUDIO	ALC1220-8Ch (5 ports+SPDIF), supports Double Hi-Fi	ALC887-8Ch (3 ports)	ALC887-8Ch (3 ports), supports Front Hi-Fi	ALC1150-8Ch (3 ports), supports Front Hi-Fi	ALC1150-8Ch (3 ports), supports Front Hi-Fi
LAN	GbE (i211AT)	GbE (RTL8111H)	GbE (RTL8111H)	2.5GbE (RTL8125B)	GbE (RTL8118AS)
Printer / COM	N/N	N/Y	N/Y	N/Y	N/Y
LED Header	2 (12V*1/5V*1)	2 (12V*1/5V*1)	2 (12V*1/5V*1)	3 (12V*1/5V*2)	3 (12V*1/5V*2)
Dual BIOS	Y	N	N	N	N

B550M-SILVER	B550T-SILVER	B550MX/E PRO	B550MH/E PRO	B550MH	A520MH
B550	B550	B550	B550	B550	A520
Micro-ATX 244*244 mm	Mini-ITX 170*170mm	Micro-ATX 244*244 mm	Micro-ATX 244*244 mm	Micro-ATX 244*208 mm	Micro-ATX 244*208 mm
10 Phases	8 Phases	10 Phases	10 Phases	8 Phases	7 Phases
All	All	All	All	All	All
4 x DDR4 up to 4933+(OC) MHz	2 x DDR4 up to 4933+(OC) MHz	4 x DDR4 up to 4933+(OC) MHz	4 x DDR4 up to 4933+(OC) MHz	2 x DDR4 up to 4933+(OC) MHz	2 x DDR4 up to 4933+(OC) MHz
2 (x16, x4-SB)	1	2 (x16, x4-SB)	2 (x16, x4-SB)	1	1
1	N	1	1	2	2
N	N	N	N	N	N
Y	Y	N	N	N	N
Y	Y	Y	Y	Y	Y
Y	N	Y	N	N	N
N	N	Y	Y	Y	Y
"2 x M Key, support PCIe 4.0 x 4 (64Gb/s) / 3.0 x 4 (32Gb/s), SATA 6Gb/s *PCIe 4.0 supports Ryzen Gen 3rd Matisse and 4th Vermeer 1 x E Key, supports 2230 type Wi-Fi & Bluetooth module *Wi-Fi card is not provided"	"1 x M Key, support PCIe 4.0 x 4 (64Gb/s) / 3.0 x 4 (32Gb/s), SATA 6Gb/s *PCIe 4.0 supports Ryzen Gen 3rd Matisse and 4th Vermeer 1 x E Key, supports 2230 type Wi-Fi & Bluetooth module *Wi-Fi card is not provided"	"2 x M Key, support PCIe 4.0 x 4 (64Gb/s) / 3.0 x 4 (32Gb/s), SATA 6Gb/s *PCIe 4.0 supports Ryzen Gen 3rd Matisse and 4th Vermeer 1 x E Key, supports 2230 type Wi-Fi & Bluetooth module *Wi-Fi card is not provided"	"2 x M Key, support PCIe 4.0 x 4 (64Gb/s) / 3.0 x 4 (32Gb/s), SATA 6Gb/s *PCIe 4.0 supports Ryzen Gen 3rd Matisse and 4th Vermeer 1 x E Key, supports 2230 type Wi-Fi & Bluetooth module *Wi-Fi card is not provided"	"1 x M Key, support PCIe 4.0 x 4 (64Gb/s) / 3.0 x 4 (32Gb/s), SATA 6Gb/s *PCIe 4.0 supports Ryzen Gen 3rd Matisse and 4th Vermeer "	1 x M Key, support PCIe 3.0 x 4 (32Gb/s), SATA 6Gb/s
6	4	4	4	4	4
"USB 3.2 Gen 2: 0+2 (A+C) USB 3.2 Gen 1: 2+4 USB 2.0: 4+2"	"USB 3.2 Gen 2: 0+2 (A+C) USB 3.2 Gen 1: 2+4 USB 2.0: 2+0"	"USB 3.2 Gen 1: 2+4 USB 2.0: 4+2"	"USB 3.2 Gen 1: 2+4 USB 2.0: 4+2"	"USB 3.2 Gen 1: 4+4 USB 2.0: 4+2"	"USB 3.2 Gen 1: 2+4 USB 2.0: 4+2"
1	1	1	1	2	2
ALC1150-8Ch (3 ports), supports Front Hi-Fi	ALC897-8Ch (3 ports)	ALC897-8Ch (3 ports)	ALC897-8Ch (3 ports)	ALC887-8Ch (3 ports)	ALC887-8Ch (3 ports)
2.5GbE (RTL8125B)	2.5GbE (RTL8125B)	GbE (RTL8111H)	GbE (RTL8111H)	GbE (RTL8111H)	GbE (RTL8111H)
N/Y	N/N	N/Y	N/Y	N/Y	N/Y
3 (12V*1/5V*2)	2 (12V*1/5V*1)	N	N	N	N
N	N	N	N	N	N

Model Name	RACING X470GT8	RACING X470GTA	RACING X470GTQ	RACING X470GTN	X470MH
Chipset	X470	X470	X470	X470	X470
Form Factor	ATX 305*244 mm	ATX 305*244 mm	Micro-ATX 244*238 mm	Mini-ITX 170*170 mm	Micro-ATX 198*244 mm
VRD	12 Phases	7 Phases	7 Phases	7 Phases	6 Phases
Solid Cap	All	All	All	All	All
Memory	4 x DDR4 up to 3200+ (OC) MHz	4 x DDR4 up to 3200 (OC) MHz	4 x DDR4 up to 3200 (OC) MHz	4 x DDR4 up to 3200+ (OC) MHz	2 x DDR4 up to 3200+(OC) MHz
PCI-E x 16 Slot	3 (x16, x8, x4-SB)	2 (x16, x1-SB)	2 (x16, x1-SB)	1	1
PCI-E x 1 Slot	3	2	2	N	2
PCI Slot	N	2	N	N	N
(m)DP	Y	N	N	N	N
HDMI	Y	Y	Y	Y	Y
DVI-D	Y	Y	Y	Y	N
VGA	N	N	N	N	Y
M.2	1 x M Key, support PCIe 3.0 x 4 (32Gb/s), SATA 6Gb/s	1 x M Key, support PCIe 3.0 x 4 (32Gb/s), SATA 6Gb/s	1 x M Key, support PCIe 3.0 x 4 (32Gb/s), SATA 6Gb/s	1 x M Key, support PCIe 3.0 x 4 (32Gb/s), SATA 6Gb/s	1 x M Key, support PCIe 3.0 x 4 (32Gb/s), SATA 6Gb/s
SATA	6	6	4	4	4
USB (F/R)	"USB 3.2 Gen 2: 0+2 (A+C) USB 3.2 Gen 1: 4+4 USB 2.0: 4+0"	"USB 3.2 Gen 2: 0+2 (A+C) USB 3.2 Gen 1: 4+4 USB 2.0: 4+0"	"USB 3.2 Gen 2: 0+2 USB 3.2 Gen 1: 2+4 USB 2.0: 4+0"	"USB 3.2 Gen 2: 0+2 (A+C) USB 3.2 Gen 1: 2+4 USB 2.0: 2+0"	"USB 3.2 Gen 1: 2+4 USB 2.0: 4+2"
PS2	1	1	1	1	1
AUDIO	"ALC1220-8Ch (5 ports+SPDIF), supports Double Hi-Fi"	ALC892-8Ch (6 ports), supports Double Hi-Fi	ALC887-8Ch (3 ports), supports Front Hi-Fi	ALC892-8Ch (5 ports+SPDIF), supports Front Hi-Fi	ALC887-8Ch (3 ports)
LAN	GbE (i211AT)	GbE (RTL8118AS)	GbE (RTL8118AS)	GbE (RTL8118AS)	GbE (RTL8111H)
Printer / COM	N/N	N/Y	N/Y	N/N	N/Y
LED Header	2 (12V)	2 (12V)	2 (12V)	2 (12V)	N
Dual BIOS	Y	N	N	N	N

	X470NH	RACING B450GT3	RACING B450GT	B450MX	B450MX-S	B450MH
	X470	B450	B450	B450	B450	B450
	Mini-ITX 170*170 mm	Micro-ATX 244*244 mm	Micro-ATX 244*244 mm	Micro-ATX 244*244 mm	Micro-ATX 244*244 mm	Micro-ATX 198*244 mm
	7 Phases	6 Phases	10 Phases	10 Phases	10 Phases	6 Phases
	All	All	All	All	All	All
	2 x DDR4 up to 4000+(OC) MHz	4 x DDR4 up to 3200+(OC) MHz	4 x DDR4 up to 3200 (OC) MHz	4 x DDR4 up to 4333+ (OC) MHz	4 x DDR4 up to 4333+ (OC) MHz	2 x DDR4 up to 3200 (OC) MHz
	1	2 (x16, x4-SB)	2 (x16, x4-SB)	2 (x16, x4-SB)	2 (x16, x4-SB)	1
	N	2	1	1	1	2
	N	N	N	N	N	N
	N	N	N	N	N	N
	Y	Y	Y	Y	Y	Y
	N	Y	Y	Y	N	N
	Y	Y	Y	Y	N	Y
	1 x M Key, support PCIe 3.0 x 4 (32Gb/s), SATA 6Gb/s	1 x M Key, support PCIe 3.0 x 4 (32Gb/s), SATA 6Gb/s	2 x M Key, support PCIe 3.0 x 4 (32Gb/s), SATA 6Gb/s	1 x M Key, support PCIe 3.0 x 4 (32Gb/s), SATA 6Gb/s	1 x M Key, support PCIe 3.0 x 4 (32Gb/s), SATA 6Gb/s	1 x M Key, supports PCIe 3.0 x 4 (32Gb/s), SATA 6Gb/s
	4	6	4	4	4	4
	"USB 3.2 Gen 1: 2+4 USB 2.0: 2+2"	"USB 3.2 Gen 2: 0+2 (A+C) USB 3.2 Gen 1: 2+2 USB 2.0: 4+2"	"USB 3.2 Gen 1: 2+4 USB 2.0: 4+2"	"USB 3.2 Gen 1: 2+4 USB 2.0: 4+2"	"USB 3.2 Gen 1: 2+4 USB 2.0: 4+2"	"USB 3.2 Gen 1: 2+4 USB 2.0: 4+2"
	1	6	1	1	1	1
	ALC887-8Ch (3 ports)	ALC1150-8Ch (5 ports+SPDIF), supports Front Hi-Fi	ALC887-8Ch (3 ports), supports Front Hi-Fi	ALC887-8Ch (3 ports), supports Front Hi-Fi	ALC887-8Ch (3 ports), supports Front Hi-Fi	ALC887-8Ch (3 ports)
	GbE (RTL8111H)	GbE (RTL8118AS)	GbE (RTL8111H)	GbE (RTL8111H)	GbE (RTL8111H)	GbE (RTL8111H)
	N/Y	N/Y	N/Y	N/Y	N/Y	N/Y
	N	2 (12V)	3 (12V*1/5V*2)	N	N	N
	N	N	N	N	N	N

Model Name	B450MHC	B450NH	B45M2	A320MH	A32M2
Chipset	B450	B450	B350	A320	A320
Form Factor	Micro-ATX 198*244 mm	Mini-ITX 170*170 mm	Micro-ATX 198*244 mm	Micro-ATX 226*174 mm	Micro-ATX 198*244 mm
VRD	6 Phases	7 Phases	6 Phases	5 Phases	6 Phases
Solid Cap	All	All	All	All	All
Memory	2 x DDR4 up to 3200 (OC) MHz	2 x DDR4 up to 4000 (OC) MHz	2 x DDR4 up to 3200 (OC) MHz	2 x DDR4 up to 2933 MHz	2 x DDR4 up to 3200 (OC) MHz
PCI-E x 16 Slot	1	1	1	1	1
PCI-E x 1 Slot	2	N	2	2	2
PCI Slot	N	N	N	N	N
(m)DP	N	N	N	N	N
HDMI	Y	Y	Y	Y	Y
DVI-D	N	N	N	N	N
VGA	Y	Y	Y	Y	Y
M.2	N	1 x M Key, support PCIe 3.0 x 4 (32Gb/s), SATA 6Gb/s	"1 x M Key, supports PCIe 3.0 x 4 (32Gb/s), SATA 6Gb/s *(Bristol only supports SATA 6Gb/s)"	N	"1 x M Key, support PCIe 3.0 x 4 (32Gb/s), SATA 6Gb/s *(Bristol only supports SATA 6Gb/s)"
SATA	4	4	4	4	4
USB (F/R)	"USB 3.2 Gen 1: 2+4 USB 2.0: 4+2"	"USB 3.2 Gen 1: 2+4 USB 2.0: 2+2"	"USB 3.2 Gen 1: 2+4 USB 2.0: 4+2"	"USB 3.2 Gen 1: 2+2 USB 2.0: 4+4"	"USB 3.2 Gen 1: 0+4 USB 2.0: 4+2"
PS2	1	1	2	1	2
AUDIO	ALC887-8Ch (3 ports)	ALC887-8Ch (3 ports)	ALC887-8Ch (3 ports)	ALC887-8Ch (3 ports)	ALC887-8Ch (3 ports)
LAN	GbE (RTL8111H)	GbE (RTL8111H)	GbE (RTL8111H)	GbE (RTL8111H)	GbE (RTL8111H)
Printer / COM	N/Y	N/Y	N/Y	N/Y	N/Y
LED Header	N	N	N	N	N
Dual BIOS	N	N	N	N	N

BIOSTAR

Hi-Fi A68U3P	A68MHE	A960D+V3
A68H	A68H	760G+SB710
Micro-ATX 235*178 mm	Micro-ATX 215*170 mm	Micro-ATX 235*190 mm
5 Phases	5 Phases	4 Phases
All	All	All
2 x DDR3 up to 2600 (OC) MHz	2 x DDR3 up to 2600 (OC) MHz	2 x DDR3 up to 1866 (OC) MHz
1	1	1
1	1	1
1	N	1
N	N	N
Y	Y	N
N	N	Y
Y	Y	Y
N	N	N
4	4	4
"USB 3.2 Gen 1: 0+2 USB 2.0: 4+2"	"USB 3.2 Gen 1: 0+2 USB 2.0: 4+2"	USB 2.0: 4+4
2	2	2
ALC662-6Ch (3 ports)	ALC662-6Ch (3 ports)	ALC662-6Ch (3 ports)
GbE (RTL8111G)	GbE (RTL8111H)	GbE (RTL8111H)
N/Y	N/N	N/N
N	N	N
N	N	N

AMD SOC SERIES MOTHERBOARDS

Feature quad-core, Advanced graphics performance
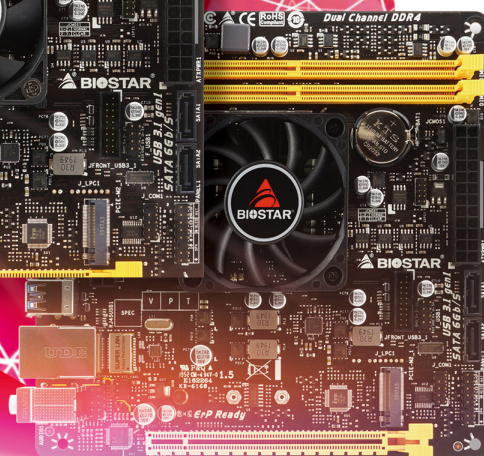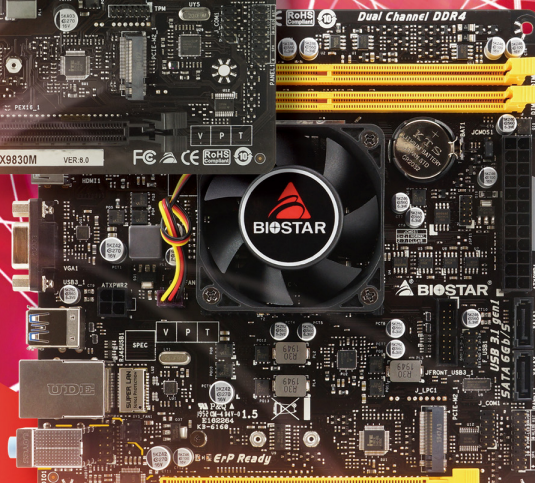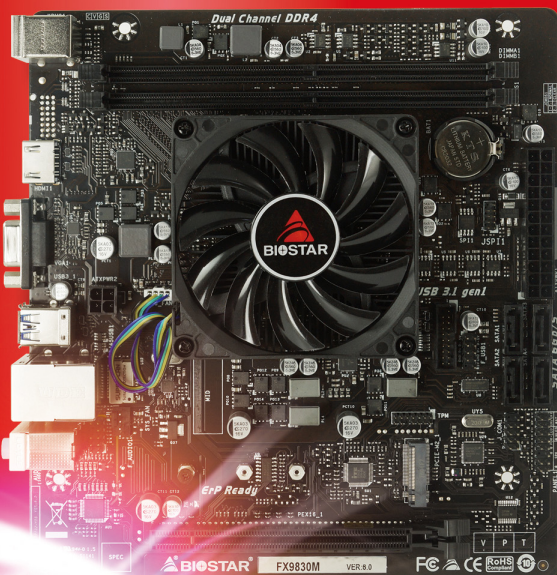
Model Name	FX9830M	A10N-9830E	A10N-9630E	A68N-5600E	A68N-2100K
Chipset	FX-9830P	FX-9830P	A10-9630P	PRO A4-3350B	E1-6010
Form Factor	Micro-ATX 183*200 mm	Mini-ITX 170*170 mm	Mini-ITX 170*170 mm	Mini-ITX 170*170mm	Mini-ITX 170*170 mm
VRD	2 Phases	2 Phases	2 Phases	2 Phases	2 Phases
Solid Cap	All	All	All	All	All
Memory	2 x DDR4 up to 2400 MHz	2 x DDR4 up to 2400 MHz	2 x DDR4 up to 2400 MHz	2 x DDR3/L up to 1600/1333 MHz	2 x DDR3L up to 1333 MHz
PCI-E x 16 Slot	1	1	1	1 (x4)	1 (x4)
PCI-E x 1 Slot	N	N	N	N	N
PCI Slot	N	N	N	N	N
(m)DP	N	N	N	N	N
HDMI	Y	Y	Y	Y	Y
DVI-D	N	N	N	N	N
VGA	Y	Y	Y	Y	Y
M.2	1 x M Key, supports SATA, PCI-E SSD (16Gb/s)	1 x M Key, supports SATA, PCI-E SSD (16Gb/s)	1 x M Key, supports SATA, PCI-E SSD (16Gb/s)	N	N
SATA	4	2	2	2	2
USB (F/R)	"USB 3.2 Gen 1: 2+2 USB 2.0: 2+2"	"USB 3.2 Gen 1: 2+2 USB 2.0: 2+2"	"USB 3.2 Gen 1: 2+2 USB 2.0: 2+2"	"USB 3.2 Gen 1: 0+2 USB 2.0: 4+2"	"USB 3.2 Gen 1: 0+2 USB 2.0: 4+2"
PS2	2	2	2	2	2
AUDIO	ALC887-8Ch (3 ports)	ALC887-8Ch (3 ports)	ALC887-8Ch (3 ports)	ALC887-8Ch (3 ports)	ALC887-8Ch (3 ports)
LAN	GbE (RTL8111H)	GbE (RTL8111H)	GbE (RTL8111H)	GbE (RTL8111H)	GbE (RTL8111H)
Printer / COM	N/Y	N/Y	N/Y	Y/ Y	Y/Y
LED Header	N	N	N	N	N
Dual BIOS	N	N	N	N	N

AMD RADEON SERIES GRAPHICS CARDS

A Truly Immersive Gaming Experience

AMD

MODEL NAME
GPU
GAME/BOOST CLK
MEM CLK
MEM
MEM BUS
OUTPUT

MODEL NAME
GPU
GAME/BOOST CLK
MEM CLK
MEM
MEM BUS
OUTPUT

VA69T6TEP2	VA68T6TEP2	VA6806LEP2	VA67S6TEL9	VA67T6TEL9	VA57T6XM82
RADEON RX6900XT	RADEON RX6800XT	RADEON RX6800	RADEON RX6700XT OC	RADEON RX6700XT	RADEON RX5700XT
2015/2250Mhz	1717/1845Mhz	1815/1700Mhz	2433/2330Mhz	2424/2321Mhz	1605/1755/1905Mhz
16Gbps	16Gbps	16Gbps	16Gbps	16Gbps	14Gbps
16GB GDDR6	16GB GDDR6	16GB GDDR6	12GB GDDR6	12GB GDDR6	8GB GDDR6
256bit	256bit	256bit	192bit	192bit	256bit
2DP+HDMI+USB-C	2DP+HDMI+USB-C	2DP + HDMI + USB-C	3DP+HDMI	3DP+HDMI	3DP + HDMI

VA5805RV82	VA5705RV82	VA5615RF41	VA5515RF41	VA5515RF21
RADEON RX580	RADEON RX570	RADEON RX560	RADEON RX550	RADEON RX550
2015/2250Mhz	1168/1244Mhz	1176Mhz	1183Mhz	1183Mhz
7Gbps	7Gbps	6Gbps	6Gbps	6Gbps
16GB GDDR6	8GB/4GB GDDR5	12GB GDDR6	4GB/2GB GDDR5	2GB GDDR5
256bit	256bit	128bit	128bit	128bit
2DP+HDMI+USB-C	DVI+DP+HDMI	DVI+DP+HDMI	DVI + DP + HDMI	DVI + DP + HDMI

NVIDIA SERIES GRAPHICS CARDS

An Enhanced Gaming Experience

MODEL NAME	
GPU	
GAME/BOOST CLK	
MEM CLK	
MEM	
MEM BUS	
OUTPUT	

MODEL NAME	
GPU	
GAME/BOOST CLK	
MEM CLK	
MEM	
MEM BUS	
OUTPUT	

VN1655XF41	VN1055TF41	VN1035TBX6	VN1034TB46	VN7313TH41
GeForce GTX1650	GeForce GTX1050Ti	GeForce GT1030	GeForce GT1030	GeForce GT730
1485/1665Mhz	1291/1392Mhz	1228/1468Mhz	1152Mhz	700Mhz
8Gbps	7Gbps	6000Mhz	2100Mhz	1333Mhz
4GB GDDR5	4GB GDDR5	2GB DDR5	4GB DDR4	4GB DDR3
128bit	128bit	64bit	64bit	128bit
DVI + DP + HDMI	DVI + DP + HDMI	DVI + HDMI	DVI + HDMI	DVI+VGA+HDMI

VN7313THX1	VN7313THX6	VN7103THX6	VN6103THX6	VN2103NHG6
GeForce GT730	GeForce GT730	GeForce GT710	GeForce GT610	GeForce GT210
700Mhz	902Mhz	954Mhz	700Mhz	589Mhz
1333Mhz	1300Mhz	1300Mhz	1000Mhz	1000Mhz
2GB DDR3	2GB DDR3	2GB DDR3	2GB DDR3	1GB DDR3
128bit	64bit	64bit	64bit	64bit
DVI + VGA + HDMI	DVI + VGA + HDMI	DVI + VGA + HDMI	DVI + VGA + HDMI	DVI + VGA + HDMI

EASIER TO CARRY

P550 Portable Series SSD with

RGB Lighting

PCI EXPRESS®

nvm EXPRESS

RGB Smart

P500-512GB
P500-1TB
P500-2TB (Coming soon)

Smart Dual ch. RGB LED indicator
45 degree Smart ON/OFF Switch
USB3.2 Gen2/ 10Gbps with Type C interface
Support USB On-The-Go
EMI/ESD protection certification
Aluminum base with slim and sleek design
Dimension: 115*42*13 (mm)
Weight: 100 g
Available in 512GB to 1TB

MODEL NAME	P500 1TB (RGB)	P500 512GB (RGB)
CAPACITY	1TB	512GB
FLASH	TLC	TLC
MAX. READ	1000MB/s	1000MB/s
MAX. WRITE	900MB/s	900MB/s
INTERFACE	USB 3.2 Gen 2	USB 3.2 Gen 2

LIVING BEYOND LIMITS

PCI EXPRESS®

nvm EXPRESS

MODEL NAME	M700 1TB	M700 512GB	M700 256GB
CAPACITY	1TB	512GB	256GB
CACHE	N/A	N/A	N/A
FLASH	TLC	TLC	TLC
MAX. READ	2000MB/s	1700MB/s	1850MB/s
MAX. WRITE	1650MB/s	1450MB/s	950MB/s
INTERFACE	PCI-E Gen 3x4	PCI-E Gen 3x4	PCI-E Gen 3x4

MODEL NAME	M500 1TB	M500 512GB	M500 256GB	M500 128GB
CAPACITY	1TB	512GB	256GB	128GB
CACHE	1024MB	512MB	256MB	256MB
FLASH	TLC	TLC	TLC	TLC
MAX. READ	1700MB/s	1700MB/s	1600MB/s	1500MB/s
MAX. WRITE	1100MB/s	1100MB/s	900MB/s	550MB/s
INTERFACE	PCI-E Gen 3x2	PCI-E Gen 3x2	PCI-E Gen 3x2	PCI-E Gen 3x2
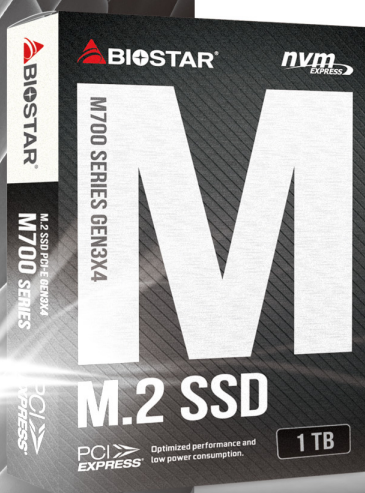
FASTER STORAGE FOR YOUR PC

SATA 3 6Gb/s

BIOSTAR® SOLID STATE DRIVE

MODEL NAME

CAPACITY

FLASH

MAX. READ

MAX. WRITE

INTERFACE

MODEL NAME

CAPACITY

FLASH

MAX. READ

MAX. WRITE

INTERFACE

MODEL NAME

CAPACITY

FLASH

MAX. READ

MAX. WRITE

INTERFACE

MODEL NAME

CAPACITY

FLASH

MAX. READ

MAX. WRITE

INTERFACE

S100 480GB	S100 240GB	S100 120GB
480GB	240GB	120GB
TLC	TLC	TLC
540MB/s	530MB/s	530MB/s
460MB/s	410MB/s	380MB/s
SATA3	SATA3	SATA3

S120 1TB	S120 512GB	S120 256GB	S120 128GB	S120 120GB
1TB	512GB	256GB	128GB	120GB
TLC	TLC	TLC	TLC	QLC
550MB/s	550MB/s	550MB/s	550MB/s	550MB/s
525MB/s	525MB/s	510MB/s	500MB/s	440MB/s
SATA3	SATA3	SATA3	SATA3	SATA3

S120L 480GB	S120L 250GB	S120L 240GB	S120M 480GB	S120M 240GB
480GB	250GB	240GB	480GB	240GB
QLC	QLC	QLC	QLC	QLC
550MB/s	550MB/s	560MB/s	560MB/s	550MB/s
510MB/s	445MB/s	480MB/s	480MB/s	445MB/s
SATA3	SATA3	SATA3	SATA3	SATA3

| S160 512GB	S160 256GB	S160 128GB
512GB	256GB	128GB
TLC	TLC	TLC
550MB/s	550MB/s	550MB/s
510MB/s	500MB/s	430MB/s
SATA3	SATA3	SATA3

ENJOY BLAZING FAST SPEEDS

BIOSTAR's latest RGB Gaming X series DDR4

RGB DDR4 GAMING X

RGB DDR4 GAMING X 3600 / 3200 MHZ

Biostar's exclusive design of RGB DDR4 GAMING X has greatly improved performance and style, with a minimum speed of 3600 / 3200 MHz and support for dual channels. The RGB lighting system brings eye-catching visual effects to users, and can be set through software to show personal aesthetic style. The memory capacity is 8GB/16GB respectively, supporting Intel and AMD motherboards. Through carefully selected high-quality ICs, it provides memory with excellent quality, excellent performance, stability and compatibility.
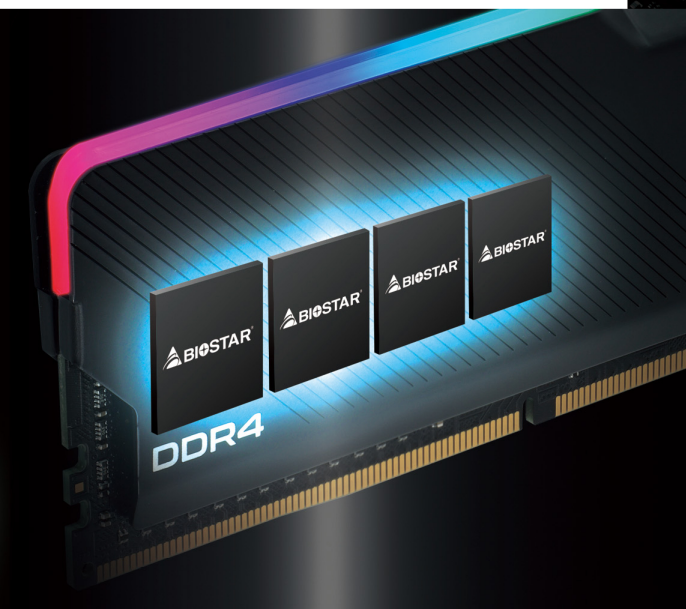
SELECTED IC-STABLE AND DURABLE

BIOSTAR RGB DDR4 GAMING X memory uses BIOSTAR-Selected memory particles that have been tested for complete compatibility and reliability. It can provide players with DDR4 memory with excellent quality, outstanding performance, stability and compatibility.

Highly optimized for gaming and content creation, the new DDR4 modules are the best in business with extreme performance and reliability.

MEMORY	DDR4
SPEC	UDIMM
CAPACITY	8/16GB
SPEED	3600 / 3200 MHz
CHANNEL	Single/Dual
HEATSINK	RGB
VOLTAGE	1.35V
CAS LATENCY	18-22-22-42

SMART HOME DEVICE

Fanless, low power, slim design, wide voltage

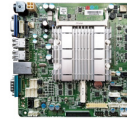| Model Name	MARS 8"	POSEIDON 10.1"
CPU	"Intel Cherry Trail-T3 (Z8350) 4 Cores 1.92 Ghz"	"Intel Cherry Trail-T3 (Z8350) 4 Cores 1.92 Ghz"
RAM	2G DDR3L	2G DDR3L
ROM	eMMC 32GB on-board	eMMC 32GB on-board
Storage	1 x Micro SD push type slot, memory size up to 2T	1 x Micro SD push type slot, memory size up to 2T
Display	8" 16:10 800 x 1280 TFT LCD Panel	10.1" 16:10 800 x 1280 TFT LCD Panel
Touch	Supports CTP touch	Supports CTP touch
Audio	"Build in 1 x internal Microphone Build in 2 x 1 w 8 Ohm speaker"	"Build in 1 x internal Microphone Build in 2 x 1 w 8 Ohm speaker"
Button	"Reset button Volume up/down Power button"	"Reset button Volume up/down Power button"
Front Camera	Supports 8M front camera, Auto focus	Supports 8M front camera, Auto focus
I/O	"1 x Micro USB 3.0 1 x Micro SD slot 2 x USB 2.0 1 x LAN 1 x DC IN JACK"	"1 x Micro USB 3.0 1 x Micro SD slot 2 x USB 2.0 1 x LAN 1 x DC IN JACK"
Power	DC-IN 12V~24V	DC-IN 12V~24V
OS	Windows 10, Android 5.1	Windows 10, Android 5.1
Environment	"Operation Temp.: 0~50°C Storage Temp.: -20~75°C Ambient Relative Humidity: 10%~90% Non-condensing"	"Operation Temp.: 0~50°C Storage Temp.: -20~75°C Ambient Relative Humidity: 10%~90% Non-condensing"
Weight	440g (264 (L) x 191 (W) x 11.8 / 25 (H) mm)	500g (274 (L) x 175 (W) x 11.5 / 25.9 (H) mm)

INDUSTRIAL MOTHERBOARDS
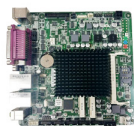
The best industrial applications

Model Name		BIQ37-SHD	RAPL-D3LA
Processor Options		Intel Coffee Lake S CPU (Max TDP: 95W)	Intel Atom x5-E3950 (MAX TDP: 12W)
Chipset		Intel Q370 Express Chipset	None
BIOS		AMI 128Mbit SPI Flash ROM BIOS	AMI 64Mbit SPI Flash ROM BIOS
Form factor		188*170 mm	146*120 mm
System Memory	Sockets	2 x DDR4 2133 MHz SO-DIMM	1 x DDR3L 1866 MHz SO-DIMM
	Max. Capacity	Up to 32G	Up to 8G
USB 2.0	USB 2.0 Internal	4 x USB2.0	2 x USB2.0
	USB 2.0 External	None	None
USB 3.0	USB 3.0 Internal	None	None
	USB 3.0 External	4 x USB3.0	4 x USB3.0
Expansion Slot		"1 x MXM slot (Type B plus) 1 x M.2 (key M, 2242/2260/2280) with PCI-E x4 and SATA for NVME 1 x M.2 (key E, 2230) with PCI-E and USB for wireless 1 x M.2 (key B, 2280), supports PCI-E and USB for 3/4G module or Intel Movidius module"	1 x Full-size MiniPCIE, supports PCI-E and USB2.0 for wireless
Storage	Expansion	2 x SATAIII	2 x SATAIII
Networking	LAN	5 x GbE, RJ45 connectors	2 x GbE, RJ45 connectors
	Controller	"4 x Intel I211 (colay I210) 1 x I219 LM"	2 x Realtek RTL8111H
Audio	Codec	Realtek ALC897/ALC888S	Realtek ALC897/ALC888S
	IO connector	"1 x 1*4 pin 2.0 pitch wafer box pin header for speaker 2 x Audio Jack (Line-out, Mic-in)"	1 x Audio header, supports Line In/out, Mic In
Serial Interface	Serial Standard	"2 x COM: 2 x 2*5 pins headers, support RS232"	"4 x COM: 2 x 2*10 pins headers, support RS232"
Others IO	Others IO (internal)	"3 x 1*4 (2.54) pins CPU/GPU/System fan headers 1 x 1*2 pin (2.0) clear CMOS header 1 x 2*5 pins front panel header 1 x Buzzer"	"1 x 1*3 pin CPU Fan header 1 x 1*2 pin clear CMOS header 2 x HDD/Power LEDs"
Digital I/O		8 bit	None
Display	Interface	"1 x LVDS 2 x DP"	"1 x LVDS 1 x HDMI"
TPM	Support / Not	Supports TPM 2.0 module	None
Power supply	DC power	1 x 19V 4P DC Jack	1 x 12V DC Jack
	ATX power	None	None
Edge IO		"1 x DC 19V Jack 5 x RJ45 4 x DP connectors 4 x USB3.0 2 x Audio Jack"	"2 x RJ45 1 x HDMI 4 x USB3.0 2 x LEDs 1 x DC 12V Jack"
OS Support		Windows 10 64bit	Windows 10 64bit

Model Name		BIH11-IHP	BIH17AHA	EICHT-SNR	BICTA-PBA
Processor Options		Intel Skylake and Kabylake CPU (Max TDP: 65W)	Intel Skylake and Kabylake CPU (MAX TDP: 65W)	Intel CherryTrail Z8350 on-board CPU	Intel Atom QC X5-Z8350 Processor
Chipset		Intel H110/Q170 Express Chipset	Intel H110/Q170/H170 Express Chipset	None	None
BIOS		AMI 64Mbit/128M (Q170) SPI Flash ROM BIOS	AMI 64Mbit SPI Flash ROM BIOS	AMI 64Mbit SPI Flash ROM BIOS	AMI 64Mbit SPI Flash ROM BIOS
Form factor		170*170 mm	305*220 mm	145*102 mm	146*105 mm
System Memory	Sockets	2 x DDR4 2133 Mhz SO-DIMM	4 x DDR4 2133 Mhz LONG-DIMM	DDR3L on-board Memory	DDR3L on-board Memory
	Max. Capacity	Up to 32G	Up to 32G	2G/4G	2GB/4GB
USB 2.0	USB 2.0 Internal	3 x USB 2.0	2 x USB 2.0	None	2 x USB2.0
	USB 2.0 External	2 x USB 2.0	4 x USB 2.0	4 x USB2.0	3 x USB2.0
USB 3.0	USB 3.0 Internal	2 x USB 3.0	2 x USB 3.0	None	None
	USB 3.0 External	2 x USB 3.0	2 x USB 3.0	1 x USB3.0	1 x USB3.0 OTG
Expansion Slot		"1 x PCI-E x16 slot 1 x half size miniPCIE connector, supports wireless module 1 x Full size miniPCIE connector, supports mSATA"	"1 x PCI-E x16 slot 1 x PCI-E x4 slot (H170/Q170 support, H110 only supports PCI-E x1) 1 x PCI-E x1 slot 1 x M.2 M KEY socket, supports SATA SSD"	1 x Full size mini PCI-E connector, supports mSATA	"1 x M.2 KEY E socket, supports WIFI/ BT module 1 x M.2 KEY B socket, supports 3G/4G module"
Storage	Expansion	3 x SATAIII	5 x SATAIII (H110 only supports 3 x SATAIII)	"eMMC 32/64G on-board Memory 1 x MicroSD slot 1 x SATAIII"	"eMMC 32/64G on-board Memory 1 x MicroSD slot"
Networking	LAN	2 x GbE, RJ45 connectors	2 x GbE, RJ45 connectors	1 x 10/100M, RJ45 connector	1 x 10/100M, RJ45 connector
	Controller	2 x Realtek RTL8111H-CG	"1 x Intel I211-AT 1 x Intel I219-V"	Realtek RTL8152B-VB-CG	RTL8152B-VB-CG
Audio	Codec	Realtek ALC897/ALC888S	Realtek ALC897/ALC888S	Realtek ALC897/ALC888S	Realtek ALC897/ALC888S
	IO connector	"1 x Audio Jack 3in1 (Line-in, Line-out, Mic-in jack) 2 x 1*2 pin 2.0 pitch wafer box pin headers for speakers"	"1 x Audio Jack 3in1 (Line-in, Line-out, Mic-in jack) 1 x 2*5 pins audio header (Line-out, Mic-in)"	"1 x 3.5'' Earphone Jack 1 x 1*2 pin header for 2.5W speaker"	"2 x Audio Jack (Line-out, Mic-in) 2 x 1*2 pin wafer for 2.5W speakers "
Serial Interface	Serial Standard	"6 x COM: 1 x DB9 (RS232/RS422/RS485 5 x 2*5 pins headers, support RS232 (5 x COM)"	"6 x COM: 1 x DB9, supports RS232 1 x DB9, supports RS232/RS422/RS485 4 x 2*5 pins headers, support RS232 (4 x COM)"	"4 x COM: 1 x 2*5 pins header, supports RS232/422/485 3 x 2*5 pins headers, support RS232 (3 x COM)"	"4 x COM: 1 x 2*5 pins header, supports RS232/422/485 3 x 2*5 pins headers, support RS232 (3 x COM)"
Others IO	Others IO (internal)	"2 x PS/2 2 x 1*4 pin (2.54) CPU/System fan (Smart Fan) headers 1 x 2*7 pins TPM module header 1 x 1* 3 pin (2.0) clear CMOS header 1 x 2*5 pins front panel header"	"1 x PS/2 1 x 2*10 pins TPM 1.2 box header 1 x 2*5 pins front panel header 1 x 2*13 pins Parallel port box header 1 x 1*4 pin CPU PWM Smart Fan header 2 x 1*3 pin system DC Fan headers 1 x Buzzer"	"1 x Power button 1 x 1*6 pin, supports I2C Interface Touch Panel (3.3V) 1 x 1*3 pin, Clear CMOS Jumper setting"	"1 x Power button 1 x SIM connector 1 x 1*3 pin header, Clear CMOS Jumper 1 x 1*2 pin header, Power button header"
Digital I/O		8 bit	8 bit	None	None
Display	Interface	"1 x VGA 1 x DVI 1 x HDMI 1 x 40P LVDS"	"1 x VGA 1 x DVI"	"1 x VGA 1 x 40P LVDS"	"1 x DVI 1 x HDMI"
TPM	Support / Not	Supports TPM 2.0 module	Supports TPM 1.2 module	None	None
Power supply	DC power	None	None	1 x 12V DC Jack (2.5)	1 x 12V DC Jack (3.5)
	ATX power	"Supports 1 x ATX power 20 pin header 1 x 12V ATX 4P connector"	"Supports 1 x ATX power 24 pin header 1 x 12V ATX 4P connector"	None	None
Edge IO		"2 x PS/2 (keyboard, mouse) 1 x DB9 (RS232/422/485) 1 x HDMI 1 x VGA 1 x DVI 2 x RJ45 (GbE) 2 x USB2.0 2 x USB3.0 1 x 3 in 1 Audio Jack"	"1 x PS/2 (keyboard, mouse) 4 x USB2.0 2 x USB3.0 1 x VGA 1 x DVI 2 x DB9 (1 x RS232, 1 x RS232/422/485) 2 x RJ45 (GbE) 1 x 3 in 1 Audo Jack"	Front: 2 x USB2.0 / 1 x Audio Jack / 1 x Power button / 1 x Micro SD slot Rear: 1 x DC 12V Jack / 1 x VGA (D-SUB) / 1 x USB3.0 / 2 x USB2.0 / 1 x RJ45 (10/100M)	Front: 1 x USB 3.0 / 1 x USB 2.0 / 2 x Audio Jack (Line-out, Mic-in) / 1 x Power Button (colay header) Rear: 1 x DC12V Jack connector / 1 x DVI-I / 1 x HDMI / 2 x USB 2.0 / 1 x 10/100 RJ45 LAN connector / 1 x micro SD connector"
OS Support		Windows 10, Windows 8.1, Windows 7	Windows 10, Windows 8.1, Windows 7	Windows 10 64bit	Windows 10 64bit, Ubuntu 16.04

BICHT-PBA	BIBSW-PBA	BIBDA-SBP	EIBD-IAS	BIBD-ICP
Intel CherryTrail Z8350 on-board CPU	Braswell Celeron N3160 on-board CPU	Intel Baytrail-D J1900 on-board CPU	Intel Baytrail-D J1900 on-board CPU	Intel Baytrail-D J1900 on-board CPU
None	None	None	None	None
AMI 64Mbit SPI Flash ROM BIOS	AMI 64Mbit SPI Flash ROM BIOS	AMI 64Mbit SPI Flash ROM BIOS	AMI 64Mbit SPI Flash ROM BIOS	AMI 64Mbit SPI Flash ROM BIOS
146*105 mm	156*105 mm	207*159 mm	170*170 mm	170*170 mm
DDR3L on-board Memory	1 x DDR3L 1600 Mhz SO-DIMM	1 x DDR3L 1333 MHz SO-DIMM	2 x DDR3 1333 MHz SO-DIMM	2 x DDR3 1333 MHz SO-DIMM
2G/4G	Up to 8G	Up to 8G	Up to 8G	Up to 8G
2 x USB 2.0	None	4 x USB2.0	4 x USB2.0	2 x USB2.0
3 x USB 2.0	4 x USB2.0	4 x USB2.0	4 x USB2.0	3 x USB2.0
None	None	None	1 x USB3.0	None
1 x USB 3.0	2 x USB3.0	None	None	1 x USB3.0
"1 x M.2 KEY E socket, supports WIFI/BT module 1 x M.2 KEY B socket, supports 3G/4G module 1 x SIM slot"	1 x M.2 KEY E socket, supports WIFI/BT module	1 x M.2 M key slot (supports mSATA and SATAII) for 2260/2280	"1 x Full-size Mini PCI-E slot, supports mSATA+PCI-E (WIFI)+USB (3G) 1 x SIM slot 1 x PCI-E x1 (option)"	"1 x Full-size Mini PCI-E socket, supports mSATA+PCI-E (WIFI) 1 x Half-size Mini PCI-E socket, supports WIFI (PCI-E only) 1 x SIM slot"
"eMMC 32/64G on-board Memory 1 x MicroSD slot"	1 x SATAIII	1 x SATAII	2 x SATAII (One port share with Mini PCI-E slot)	1 x SATAII
1 x 10/100M, RJ45 connector	1 x GbE, RJ45 connector	1 x GbE, RJ45 connector	1 x GbE, RJ45 connector	1 x GbE, RJ45 connector
Realtek RTL8152B-VB-CG	Realtek RTL8111H-CG	Realtek RTL8111G-CG	Realtek RTL 8111G	Realtek RTL 8111G
Realtek ALC897/ALC888S	Realtek ALC897/ALC888S	Realtek ALC897/ALC888S	Realtek ALC897/ALC888S	Realtek ALC897/ALC888S
"2 x Audio Jack (Line-out, Mic-in jack) 2 x 1*2 pin wafer for 2.5W Speaker "	"Audio Jack 2in1 (Line-out, Mic-in jack) 2 x 1*2 pin wafer for 2W speaker"	"1 x Line out Jack 1 x 1*4pin header, supports 2ch with 3W speaker "	"1 x Line out Jack 2 x 2*2 pins wafer, support 2ch with 3W speaker"	"1 x 2in1 Audio Jack (Mic-In, Line-out) 1 x 2*2 pins wafer, support 2ch with 3W speaker"
"4 x COM: 4 x 2*5 pins headers, support RS232 (4 x COM)"	"*1 x COM: 1 x DB9, supports RS232/422/485"	"*4 x COM: 2 x RJ50, support RS232, with 5/12/RI 2 x 2*5pins headers, support RS232"	"*6 x COM: 1 x DB9 connector colay with 2*5 pins header, supoorts RS232 5 x 2*5 pins headers, support RS232 All COM port support RI/5/12V"	"*6 x COM: 1 x DB9, supports RS232/422/485 2 x DB9, support RS232 3 x 2*5 pins headers, support RS232 All COM port support RI/5/12V"
"1 x 1*2 pin Power header 1 x SIM connector 1 x 1*3 pin header, Clear CMOS Jumper 1 x Antenna connector"	"1 x 1*3 Smart Fan 1 x 1*4 pin, HDD Power Connector (5V/12V) 1 x 1*3 pin, Clear CMOS Jumper Setting 1 x Buzzer 1 x 1*2 Power Switch Wafer"	"1 x 2*5 pins front panel wafer, supports power button, LED1, LED2 1*3 pin for System FAN 1 x Buzzer"	"*1 x Buzzer 1 x 1*3 pin DC-Fan header 1 x 2*5 pins front panel header, supports power/reset/LED 1 x 1*6 pin PS/2 pin header 1 x 2*6 pins MSR (with USB/PS2 pin define) 1 x 2*13 pins parallel header for printer 1 x 1*3 pin, RJ11 cash drawer 12/24V switch"	"*1 x Buzzer 1 x 2*13 pins parallel port header 1 x 1*3 pin system fan header 1 x 1*3 pin CPU smart fan header 1 x 2*5 pins front panel header, supports power/reset/LED 1 x 1*6 pin MSR header 1 x 1*3 pin, RJ11 cash drawer 12/24V switch"
None	None	None	8 bit	8 bit
"1 x DVI 1 x HDMI"	1 x 40P LVDS	"1 x VGA, D-sub connector 1 x 40P LVDS or EDP (either one) *"	"*1 x VGA, D-Sub 15P connector (colay 1 x 2*8pins header) 1 x 40P LVDS"	"1 x VGA, D-sub connector 1 x 40P LVDS, or 20P EDP (either one, default is LVDS)"
None	None	None	None	None
1 x 12V DC Jack (5.5)	1 x 12V DC Jack (2.5)	1 x 12V 4P DC Jack with Green color (DIN-422)	"*1 x 12V 4P DC Jack 1 x 2*2 pins 12V DC power (ATX connector)"	"*1 x 12V 4P DC Jack 1 x 2*2 pins 12V DC power (ATX connector)"
None	None	None	None	None
Front: 1 x USB 3.0 / 1 x USB 2.0 / 2 x Audio Jack (Line-out, Mic-in) / 1 x Power Button (colay header) / 1 x 25 pin FPC connector Integrated MIPI CSI 8M CAMERA connector Rear: 1 x DC12V Jack connector / 1 x DVI-I connector (Digital signal only) / 1 x HDMI / 2 x USB 2.0 / 1 x RJ45 LAN (10/100 Mb/s) / 1 x micro SD"	"*1 x DC-12V Jack (2.5) 1 x DB9 (RS232/422/485) 2 x HDMI 2 x USB3.0 4 x USB2.0 1 x RJ45 (GbE) 1 x 2in1 Audio Jack (Mic in, Line out) 1 x Power switch"	"*1 x DC 12V Jack 1 x DC Jack for DC 12V ouput 1 x D-Sub 15 pin VGA 2 x RJ50 (COM1~2) 2 x USB 2.0 Dual stack connectors 1 x RJ45 (Gigabit LAN) 1 x Line-out"	"*1 x 12V 4P DC Jack 1 x D-Sub 15P (VGA) 4 x USB2.0 1 x RJ45 (GbE) 1 x DB9 (RS232) 1 x Audio Jack (Line out)"	"*1 x 12V 4P DC Jack 1 x RJ11 1 x D-Sub 15P (VGA) 1 x DB9 (RS232/422/485) 2 x DB9 (RS232) 1 x PS/2 (keyboard, mouse) 3 x USB2.0 1 x USB3.0 1 x RJ45 (GbE) 1 x 2in1 Audio Jack (Mic-In, Line out)"
Windows 10	Windows 7, Windows 10	Windows 7, Windows 8.1, Windows 10, POS Ready 7	Windows 7, Windows 10	Windows 7, Window 8, POS Ready

Model Name		BIMX-100	EIBDA-NCE	EIBD-NCE	EIH81-IHP
Processor Options		Intel Baytrail-D J1900 on-board CPU	Intel Baytrail-D J1900 on-board CPU	Intel Baytrail-D J1900 onboard CPU	Intel 4th Gen LGA1150, Haswell CPU
Chipset		None	None	None	Intel H81 Express Chipset
BIOS		AMI 64Mbit SPI Flash ROM BIOS	AMI 64Mbit SPI Flash ROM BIOS	AMI 64Mbit SPI Flash ROM BIOS	AMI 64Mbit SPI Flash ROM BIOS
Form factor		170*170 mm	170*170 mm	170*170 mm	170*170 mm
System Memory	Sockets	1 x DDR3L 1333/1066 MHz SO-DIMM	1 x DDR3L 1333 MHz SO-DIMM	1 x DDR3L 1333 MHz SO-DIMM	1 x DDR3L 1333/1600 MHz SO-DIMM
	Max. Capacity	Up to 8G	Up to 8G	Up to 8G	Up to 16G
USB 2.0	USB 2.0 Internal	2 x USB2.0	4 x USB2.0 (1 x for FPC con, 1 x for RJ45)	2 x USB2.0	4 x USB2.0
	USB 2.0 External	4 x USB2.0	4 x USB2.0	4 x USB2.0	2 x USB2.0
USB 3.0	USB 3.0 Internal	None	None	None	None
	USB 3.0 External	None	None	2 x USB3.0	2 x USB3.0
Expansion Slot		*1 x Full-size Mini PCI-E socket, supports mSATA+USB 1 x Half-size Mini PCI-E socket, supports WIFI (PCI-E only) 1 x SIM slot*	1 x M.2 M key slot (supports SATAII) for 2260/2280	None	*1 x half size Mini PCI-E connector, supports WIFI/BT module 1 x Full size Mini PCI-E connector, supports 3G module*
Storage	Expansion	1 x SATAII	1 x SATAII	1 x SATAII	2 x SATAIII
Networking	LAN	1 x GbE, RJ45 connector	1 x GbE, RJ45 connector	1 x GbE, RJ45 connector	1 x GbE, RJ45 connector
	Controller	Realtek RTL8111H-CG	Realtek RTL 8111G	Realtek RTL 8111G	Realtek RTL 8111G
Audio	Codec	Realtek ALC897/ALC888S	Realtek ALC897/ALC888S	Realtek ALC897/ALC888S	Realtek ALC897/ALC888S
	IO connector	*1 x 2in1 Audio Jack (Mic-In, Line-out) 2 x 1*2 pin wafer, support 2ch with 3W speaker*	*1 x Line out Jack (edge IO) 1 x 1*4 pin header, supports 2ch with 3W speaker *	1 x Line out (edge IO)	*2 x 1*2 pin wafer, support 2ch with 2W speaker 1 x 1*4 pin wafer for Line out 1 x 1*3 pin wafer for Mic-In*
Serial Interface	Serial Standard	*6 x COM: 1 x DB9, supports RS232/422/485 5 x 2*5 pin headers, support RS232 (5 x COM)*	*6 x COM: 4 x RJ45, supports RS232 with 5/12/RI 1 x right angle female header, supports RS232 + SATA(COM5) with RI/5V/12V 1 x 2*5 pins header, supports RS232 *	*5 x COM: 1 x DB9, supports RS232/422/485 with 5/12/RI 2 x DB9, supports RS232 with 5/12/RI 1 x 2*5 pins header, supports RS232 with 5/12/RI 1 x 2*5 pins header, supports RS232*	*4 x COM: 1 x RJ50, supports RS232 with 5/12/RI 3 x internal headers, support RS232 with 5/12V*
Others IO	Others IO (internal)	1 x Buzzer 1 x 2*13 pins parallel header for printer 1 x 1*3 pin system fan header 1 x 1*4 pin CPU fan header 1 x 2*5 pins front panel header, supports power/reset/LED	1 x right angle female header, supports RS232 + SATA (COM5) 1 x RJ45 internal connector, suuports COM6 + USB2.0 1 x Power Button with Power LED 1 x Buzzer	1 x 2*6 pins front panel header, supports power button, LED1, LED2	*1 x 2*13 pins parallel port header 1 x front panel header 1 x 1*4 pin CPU Fan header 2 x 1*3 pin system fan headers 1 x 1*6 pin PS/2 KB/MS header 1 x 1*3 pin RJ11 12/24V header*
Digital I/O		8bit	None	8 bit	8 bit
Display	Interface	*1 x VGA, D-sub connector 1 x 30P LVDS*	*1 x VGA, D-sub connector 1 x 40P LVDS *	*1 x VGA, D-sub connector (1920x1200) 1 x LVDS (1920x1200)*	*1 x VGA, D-sub connector (1920x1200) with 2*8 pins internal header 1 x LVDS (1920x1200)*
TPM	Support / Not	None	None	None	None
Power supply	DC power	1 x DC12V, 4P ATX connector	1 x 12V 4P DC Jack with Green color (DIN-422)	*1 x 12V 4P DC Jack 1 x 12V 2P DC Jack ouput (2.5"*)*	1 x 12V 4P DC Jack colay with 2*2 pins DC Jack
	ATX power	None	None	None	None
Edge IO		*2 x PS/2 (keyboard, mouse) 1 x DB9 (RS232/422/485) 1 x D-Sub 15 pin (VGA) 1 x D-Sub 25 pin (Printer Port) 1 x RJ45 (GbE) 4 x USB2.0 1 x 2in1 Audio Jack*	*1 x DC 12V Jack 1 x DC Jack for DC 12V ouput 1 x D-Sub 15 pin VGA 4 x RJ45 (COM1~4) 2 x USB 2.0 Dual stack connectors 1 x RJ45 (Gigabit LAN) 1 x Line-out*	*1 x 12V 4P DC Jack 1 x 12V 2P DC Jack ouput (2.5") 1 x D-Sub (VGA) 1 x PS/2 (keyboard, mouse) 1 x RJ45 (GbE) 2 x USB2.0 2 x USB3.0 1 x Audio Jack (Line out) 1 x DB9 (RS232/422/485) 1 x DB9 (RS232)*	*1 x 4 pin DC Jack 1 x RJ11 (Cash drawer, supports 12/24V) 1 x VGA (D-Sub 15 pin) 2 x USB3.0 2 x USB2.0 1 x RJ45 (GbE) 1 x RJ50 (COM Port, RS232)*
OS Support		Windows 7, Windows 8.1, Windows 10	Windows 7, Windows 8.1, Windows 10, POS Ready 7	Windows 7, POS Ready 7 32/64 bits, POS Ready 8	POS Ready 7 64bits, Windows 7 Embedded, Windows 8.1, Windows 10

BICMA-IHP	BIALA-PBS	BIWLA-IHT
Intel Comet Lake CPU (Max TDP: 65W)	Intel Apollo Lake CPU (Max TDP: 6~12W)	Intel Whiskey Lake U CPU (TDP: 15W)
Intel Q470E/H420E Express Chipset	None	None
AMI 256Mbit SPI Flash ROM BIOS	AMI 64Mbit SPI Flash ROM BIOS	AMI 128Mbit SPI Flash ROM BIOS
170*170 mm	150*130 mm	170*170 mm
2 x DDR4 2666 MHz SO-DIMM	1 x DDR3L 1866 MHz SO-DIMM	2 x DDR4 2400 MHz SO-DIMM
Up to 64G	Up to 8G	Up to 64G
None	4 x USB2.0	4 x USB2.0
4 x USB2.0	None	None
None	None	None
4 x USB3.0	2 x USB3.0	4 x USB3.0
"1 x PCI-E x4 slot 1 x M.2 (key M, 2242/2260/2280) with PCI-E x4 and SATA for NVME 1 x M.2 key E type 2230 with PCI-E x1 and USB2.0 for Intel CNVI support"	"1 x full size Mini PCI-E, supports PCI-E and USB2.0 1 x M.2 2280 (key B, 2280), supports PCI-E and USB for 3/4G module or Intel Movidius module 1 x Micro SIM slot"	"1 x M.2 (key M, 2242/2260/2280) with PCI-E x4 and SATA for NVME 1 x M.2 (key B, 3042), supports PCI-E and USB for 3/4G 1 x Micro SIM socket, connected to M.2 key B 1 x M.2 key E type 2230 with PCI-E x1 and USB2.0 for wireless and Intel CNVI support"
2 x SATAIII	2 x SATAIII	2 x SATAIII
2 x GbE, RJ45 connectors	"1 x GbE, RJ45 connector 4 x POE+GbE, RJ45 connectors"	2 x GbE, RJ45 connectors
"1 x I211-AT 1 x I219-LM"	5 x I211-AT colay I210 GbE	"1 x Intel I211 (colay I210) 1 x Intel I219-LM "
Realtek ALC897/ALC888S	Realtek ALC897/ALC888S	Realtek ALC897/ALC888S
"2 x Audio Jack, support Line out/Mic in 1 x 1*4 pin 2.0 pitch wafer box for 2 x 2W/4ohm speakers"	"2 x Audio Jack, support Line out/Mic 1 x 1*4 pin 2.0 pitch wafer box for 2 x 2W/4ohm speakers"	"1 x 1*4 pin 2.0 pitch wafer box pin header for speaker 2 x Audio Jack (Line-out and Mic-In)"
"4 x COM: 1 x 2*5 pins header, supports RS232/RS422/RS485 3 x 2*5 pins headers, support RS232"	"4 x COM: 2 x DB9, support RS232/RS422/RS485 2 x 2*5 pins headers, support RS232"	"6 x COM: 2 x 2*5 pins headers, support RS232/422/485 4 x 2*5 pins headers, support RS232"
"1 x 1*4pin (2.54) CPU fan header 1 x 2*7pins TPM module header 1 x 1*3pin (2.0) clear CMOS header 1 x 2*5 pins front panel header 1 x Buzzer"	"1 x Power button 1 x Reset button 2 x HDD/Power LEDs 1 x 1*4 (2.54) pin Smart Fan header 1 x1*3 pin (2.0) clear CMOS header 1 x 2*5 pins front panel header 1 x Buzzer"	"1 x 1*4 pin CPU Fan header 1 x 2*13 pins, supports parallel port 1 x 1*6 pin header for PS/2 1 x 1*2 pin clear CMOS header 1 x 2* 5 pins front panel header 1 x Buzzer"
8bit	8bit	8 bit
"1 x DP 1 x 40P LVDS/eDP 1 x HDMI"	"1 x DP 1 x 30P eDP 1 x HDMI"	"1 x LVDS 1 x HDMI 1 x DP 1 x VGA"
Supports TPM 2.0 module	Supports TPM 2.0 module	Supports TPM 2.0 module
"1 x 12V DC Jack (2.5) 1 x 2*2 pins 12V DC power (ATX connector)"	"1 x Therminal block, supports DC-IN 12~24V 1 x 2*2 pins 12V DC power (ATX connector)"	"1 x 12~28V DC Jack (2.5) 1 x 2*2 pin 12V DC power (ATX connector)"
None	None	None
"2 x RJ45 (GbE) 1 x HDMI 1 x DP 4 x USB3.0 1 x DC 12V Jack 2 x Audio Jack"	"Front: 5 x RJ45 (GbE/PoE) / 1 x HDMI / 1 x Power button / 1 x Reset button / 2 x USB3.0 / 2 x HDD Leds Rear: 2 x DB9 / 1 x Micro SIM slot / 1 x DP connector / 1 x Therminal block / 1 x Digital IO connector / 2 x Audio Jack"	"1 x 12~28V DC Jack (2.5) 2 x RJ45 1 x HDMI 1 x DP 4 x USB3.0 2 x Audio Jack"
Windows 10 64bit	Windows 10 64bit, Ubuntu 16.04	Windows 10, Ubuntu 16.04

i-Kare

PARTNER YOUR

IBP-130

NONINVASIVE CARDIOVASCULAR MONITOR

MCU	STM32L
Functions	Hemodynamic measuring, Fingerprint identification, Blood pressure monitoring
Measuring	Oscillometric system
Waterproof	Yes
Data transmission	Bluetooth

Presently processing clinical trial in the following well-known hospitals:
Heart Failure Center in Chiayi City / Dialysis Center in Taipei City

HEALTH

At BIOSTAR, we ensure that we meet our users' physical and sychological needs for the betterment of their health and happiness.

CMI-100

- Microprocessor: Intel® Quark™ SE C1000 @32MHz
- Memory: 90KB RAM
- Wireless connection: Bluetooth 4.0 (4G available in China)
- Battery: 750 mAh Lithium-ion
- Conform with IEC-60601-2-47
- Sample rate 1000 Hz

宇鈦動能™

LITHIUM-ION BATTERY

Technology comparison:

	Lead-acid batteries	Lithium-ion battery
Weight	Heavy	< 50% (Lead-acid batteries)
C-rate (Charging)	Low (0.2C)	High (1~4C)
Instantaneous discharge C-Rate	10C	40C
Self discharge	10~15%	< 2%
Voltage stability	Normal	Excellent
Memory effect	Yes	No
Cycle life (times)	1,000 @ 50% DoD	1,500 @ 80% DoD

宇鈦動能™

機車鋰鐵啟動電池

⚠ 警 告

環保!安全!節能!

● 型號：1203A 7號A
● 型號：1203B 7號B
● 型號：1205 9號

電芯通過UL認證

UN38.3

● 1203A/B適用原廠125cc以下機車使用，1205適用原廠250cc以下機車使用；
● 禁止以任何形式拆開電池，本電池僅供機車啟動使用，請勿做它用；
● 勿在極熱或火源附近存放或使用電池，也勿將電池投入水中或將其弄濕；
● 使用中，電壓值低于12.5V或高于14.5時，請檢查機車回充系統；
● 紅線為正極，黑線為負極，禁止電池正負極反接；
● 全新電池，安裝前"無需再充電"；
● 請勿連續多次啟動，無法發動請"暫停30秒後"再次嘗試啟動；
● 請使用"鋰鐵電池專用充電器"，若低于10V請送回原廠檢查；
● 若未遵守以上規範恕不保固；

本產品已投保一億元產品責任險（責任限額依保單內容爲依據）

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Product specification

Model name	1203A	1203B	1205
Compatible model (lead-acid batteries)	GTX7A-BS, YTX7A-BS	GT7B-BS, YT7B-BS	GTX9-BS, YTX9-BS
Output Voltage (V)	12V	12V	12V
Capacity (Ah)	2.5	2.5	5
Size (mm)	145(L) x 80(W) x 90(H)	145(L) x 63(W) x 90(H)	145(L) x 80(W) x 102(H)
Weight (kg)	0.57	0.54	0.94

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