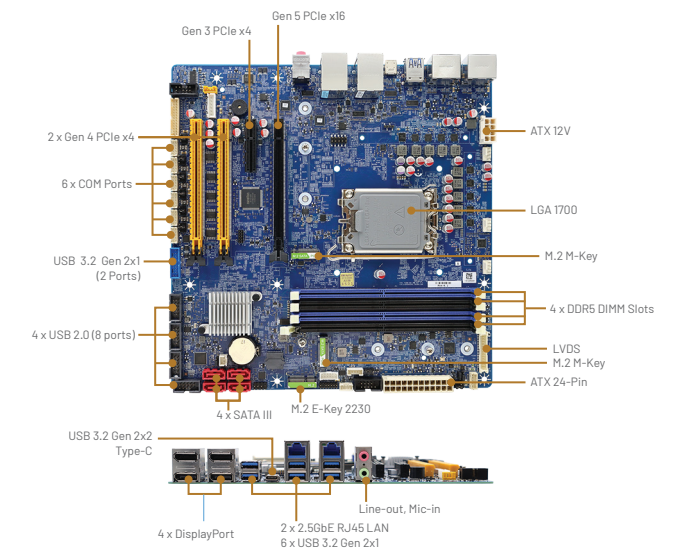# RX680R

Features

- LGA 1700 socket supports 12th/13th/14th Gen Intel® Core™ i 9/7/5/3 Processor, codenamed Alder Lake/Raptor Lake/Raptor Lake Refresh
- Intel® Integrated UHD Graphic with Xe Architecture (CPU Dependent)
- Intel® R680E PCH, x8 Gen4 DMI
- 4 x DIMM up to 128GB Dual Channel DDR5 4400MHz with ECC Support
- 4 x DP++ (1.4a 4k) onboard support 4 Independent Displays
- Gen 5/Gen 4/Gen 3 PCIe x16 and x4 slots, 3 x M.2 NVMe and CNVi
- 2 x Intel 2.5 GbE LAN onboard
- External USB: 6 x USB 3.2 Gen 2x1, 1 x USB 3.2 Gen 2x2 Type C
- Internal USB: 1 x USB 3.2 Gen 2x1 Header (2 Ports), 4 x USB 2.0 Headers (8 Ports)
- 4 x SATA III RAID 0, 1, 5, 10
- I²C, SMBus, GPIO, PS/2, LPT
- Intel® AMT 16, Intel® ME 16
- TPM 2.0
- Supports Win 10/11, Linux

Specifications

System

CPU	LGA 1700 socket supports 12th Gen Alder Lake/ 13th Gen Raptor Lake/ 14th Gen Raptor Lake Refresh Intel® Core™ i 9/7/5/3, Pentium®, Celeron® processors up to 16 Cores 24 Threads Hybrid. 125W Max TDP
System Chipset	Intel® R680E
DMI	x8 Gen4 DMI
I/O Chip	Nuvoton®
System Memory	4 x DIMM slots support Dual Channel DDR5 memory speed up to 4400MHz with UDIMM, up to 128GB, with ECC support
BIOS	Socket Type 256Mb SPI BIOS
Expansion	1 x Gen 5 PCIe x16 2 x Gen 4 PCIe x4 (x16 Physical Yellow) 1 x Gen 3 PCIe x4 Open Ended 1 x M.2 M-Key 2242/2280/22110 NVMe (Gen 4 PCIe x4 + SATA III) 1 x M.2 M-Key 2242/2280/22110 NVMe (Gen 3 PCIe x4 + SATA III) 1 x M.2 E-Key 2230 with CNVi Support (PCIe x 1 + USB 2.0)
TPM	TPM 2.0
Watchdog Timer	H/W Reset, 5~255 seconds/5~255 minutes
H/W Status Monitor	CPU temperature monitoring, Voltages monitoring, CPU fan speed control
Supported OS	Windows 10, Windows 11, Linux

Display

Graphics Engine	Intel® Integrated UHD Graphic with Xe Architecture (CPU Dependent)
Interfaces	4 x Dual Mode DisplayPort 1.4a 4K@60Hz 18/24 bits Dual Channel LVDS, optional eDP
Display	Supports 4 Independent Displays

Audio

Codec	Realtek HD Audio

Ethernet

Controller	2 x Intel® Ethernet Controller I225-LM (2.5 GbE)

External I/O

Display	4 x DP++
USB	6 x USB 3.2 Gen 2x1 1 x USB 3.2 Gen 2x2 Type C
LAN	2 x RJ45
Audio	Line-out, Mic-in

Internal I/O

LVDS/eDP	1 x LVDS Header 1 x eDP Header (Optional)
USB	1 x USB 3.2 Gen 2x1 Header (2 Ports) 4 x USB 2.0 Headers (8 Ports)
COM	5 x RS-232 Headers with Voltage Selection 1 x RS-232/422/485 Header with Voltage Selection
SATA	4 x SATA III Headers
GPIO	1 x 8-bit GPIO Header
I²C	1 x I²C Header
Other	PS/2, LPT, SPC, SMBus, 3W Per Channel Amplifier

Mechanical & Environment

Power Connector	1 x 24-pin ATX Connector 1 x 8-pin ATX 12 Connector 1 x 4-pin ATX 12 Connector
Operating Temperature	0°C ~ 60°C (32°F ~ 140°F)
Storage Temp	-20°C ~ 80°C (-4°F ~ 176°F)
Operating Humidity	5% ~ 90% Relative Humidity, Non-condensing
Form Factor	uATX (Micro ATX)
Certification Information	CE, FCC Class B
Dimensions	9.6" (L) x 9.6" (W) (244mm x 244mm)
Weight	1.45 lbs

Ordering Info

RX680R	P/N: 71882 Intel® R680E Micro ATX Motherboard
Included	1 x I/O Shield
183000000006	2.00mm pitch 12" length serial cable
182437200040	2.54mm pitch 14" length dual port USB 2.0 cable w/ full height bracket
182000000073	2.00mm pitch 19.7" length dual port serial cable w/ full height bracket

BCM Advanced Research
11 Chrysler, Irvine, CA 92618 USA
An Industry Leader in Industrial Motherboards &
Embedded Computing

www.bcmcom.com
BCMSales@bcmcom.com
(949) 470-1888

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