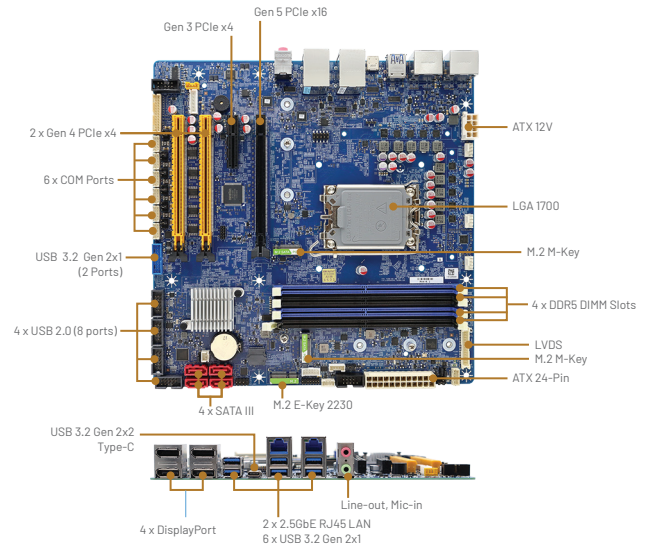


## Features

- 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 5600MHz 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
- I<sup>2</sup>C, SMBus, GPIO, PS/2, LPT
- Intel® AMT 16, Intel® ME 16
- TPM 2.0
- Supports Win 10/11, Linux

## Specifications

System	
<b>CPU</b>	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
<b>System Chipset</b>	Intel® R680E
<b>DMI</b>	x8 Gen4 DMI
<b>I/O Chip</b>	Nuvoton®
<b>System Memory</b>	4 x DIMM slots support Dual Channel DDR5 memory speed up to 5600MHz with UDIMM, up to 128GB, with ECC support
<b>BIOS</b>	Socket Type 256Mb SPI BIOS
<b>Expansion</b>	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)
<b>TPM</b>	TPM 2.0
<b>Watchdog Timer</b>	H/W Reset, 5~255 seconds/5~255 minutes
<b>H/W Status Monitor</b>	CPU temperature monitoring, Voltages monitoring, CPU fan speed control
<b>Supported OS</b>	Windows 10, Windows 11, Linux
Display	
<b>Graphics Engine</b>	Intel® Integrated UHD Graphic with Xe Architecture (CPU Dependent)
<b>Interfaces</b>	4 x Dual Mode DisplayPort 1.4a 4K@60Hz 18/24 bits Dual Channel LVDS, optional eDP
<b>Display</b>	Supports 4 Independent Displays
Audio	
<b>Codec</b>	Realtek HD Audio



Ethernet	
<b>LAN 1</b>	Intel® I225-LM/I226-LM 2.5 Gigabit Ethernet Controller
<b>LAN 2</b>	Intel® I225-LM/I226-LM 2.5 Gigabit Ethernet Controller
External I/O	
<b>Display</b>	4 x DP++
<b>USB</b>	6 x USB 3.2 Gen 2x1 1 x USB 3.2 Gen 2x2 Type C
<b>LAN</b>	2 x RJ45
<b>Audio</b>	Line-out, Mic-in
Internal I/O	
<b>LVDS/eDP</b>	1 x LVDS Header 1 x eDP Header (Optional)
<b>USB</b>	1 x USB 3.2 Gen 2x1 Header (2 Ports) 4 x USB 2.0 Headers (8 Ports)
<b>COM</b>	5 x RS-232 Headers with Voltage Selection 1 x RS-232/422/485 Header with Voltage Selection
<b>SATA</b>	4 x SATA III Headers
<b>GPIO</b>	1 x 8-bit GPIO Header
<b>I<sup>2</sup>C</b>	1 x I <sup>2</sup> C Header
<b>Other</b>	PS/2, LPT, SPC, SMBus, 3W Per Channel Amplifier

## Mechanical & Environment

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

## Ordering Info

<b>RX680R</b>	P/N: 71882 Intel® R680E Micro ATX Motherboard
<b>Included</b>	1 x I/O Shield
<b>18300000006</b>	2.00mm pitch 12" length serial cable
<b>182437200040</b>	2.54mm pitch 14" length dual port USB 2.0 cable w/ full height bracket
<b>182000000073</b>	2.00mm pitch 19.7" length dual port serial cable w/ full height bracket

\* All product specifications and images are subject to change without notice. Last update: 03/12/2024



**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