

## 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® H610E PCH, x4 Gen4 DMI
- 2 x DIMM slots support Dual Channel DDR5 memory speed up to 5600MHz with UDIMM, up to 64GB
- Intel® I225-LM 2.5GbE
- 1 x Gen 5 PCIe x16, 1 x Gen 3 PCIe x1, 2 x Gen 3 PCIe x1
- 1 x M.2 NVMe M-Key, 1 x M.2 E-Key Supports CNVi
- TPM 2.0
- Supports 3 Independent Display: 1 x HDMI, 2 x DP++
- 6 x COM, 4 x SATA III
- 6 x USB 3.2 Gen 1, 6 x USB 2.0
- I²C, SMBus, PS/2, LPT, 8-bit GPIO
- Supports Win 10, Win 11, Linux

## Specifications

### System

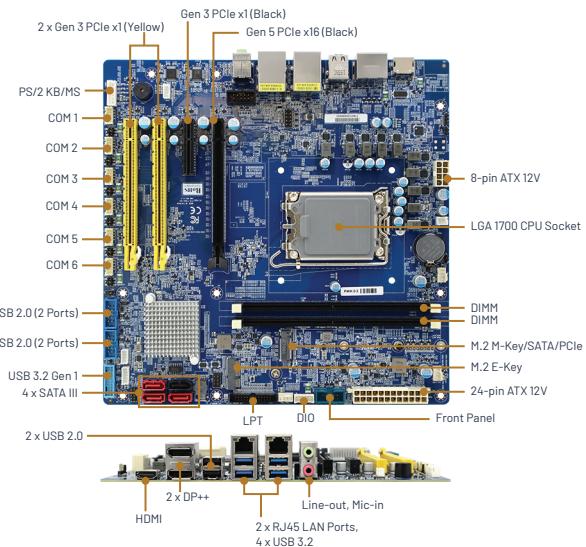
CPU	LGA 1700 Socket supports 12th Gen Alder Lake/ 13th Gen Raptor Lake/ 14th Gen Raptor Lake Refresh Intel® Core™ i 9/7/5/3, Pentium, Celeron Processor up to 16 Cores 24 Threads Hybrid
Chipset	Intel® H610E PCH
System Memory	2 x DIMM slots support Dual Channel DDR5 5600MHz up to 64GB <ul style="list-style-type: none"> <li>• 12th Gen i3/i5/i7/i9: up to DDR5 4800 MT/s</li> <li>• 13th Gen i3/i5: up to DDR5 4800 MT/s (CPU dependent)</li> <li>• 13th Gen i7/i9: up to DDR5 5600 MT/s (CPU dependent)</li> <li>• 14th Gen i3/i5: up to DDR5 4800 MT/s (CPU dependent)</li> <li>• 14th Gen i7/i9: up to DDR5 5600 MT/s (CPU dependent)</li> </ul> Note: BIOS update required. Please consult with BCM Tech Support for more information
BIOS	Socket Type 256Mb SPI BIOS
DMI	x4 Gen4 DMI
Expansion	1 x Gen 5 PCIe x16 (x16 Physical Black) (Slot 1) 1 x Gen 3 PCIe x1 (x4 Physical Open Ended) (Slot 2) 2 x Gen 3 PCIe x1 (x16 Physical Yellow) (Slot 3 & 4) 1 x M.2 M-Key 2242/2280/22110 NVMe (PCIe x4 + SATA III) 1 x M.2 E-Key 2230 with CNVi Support (PCIe x 1 share with slot4 + USB 2.0)
TPM	Infineon® 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

Chipset	Intel® Integrated UHD Graphic with Xe Architecture (CPU Dependent)
Multi-Display	Supports 3 Independent Display

### Audio

Audio Codec	Realtek HD Audio Codec
Amplifier	6W Per Channel Amplifier



### Ethernet

LAN 1	Intel® Ethernet Controller I219-V
LAN 2	Intel® Ethernet Controller I225-LM (2.5GbE)

### External I/O

Display	1 x HDMI 2 x DP++
USB	2 x USB 2.0 Type A 4 x USB 3.2 Type A
LAN	2 x RJ45
Audio	Line-out, Mic-in

### Internal I/O

USB	2 x USB 2.0 Headers (4 Ports) 1 x USB 3.2 Gen 1 Header (2 Ports)
COM	5 x RS-232 1 x RS-232/422/485
SATA	3 x SATA III (Red) 1 x SATA III (Black) shared with M.2
I²C	1 x I²C Header
SMBus	1 x SMBus Header
PS/2	1 x PS/2 Header
Other	1 x SPI, 1 x Amplifier, Front Audio, Front Panel, 8-bit GPIO, LPT, CPU Fan, Chassis Fan, 1 x 2400Hz buzzer

## Mechanical & Environment

<b>Power Connector</b>	1 x 24-pin ATX Connector 1 x 8-pin ATX 12 Connector
<b>Power Type</b>	AT/ATX (Default ATX)
<b>Operating Temp.</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>Storage Humidity</b>	5% ~ 90% Relative Humidity, Non-condensing
<b>Dimensions</b>	9.6" x 9.6" (244mm x 244mm)
<b>Certification Information</b>	RoHS Compliant, CE, FCC Class B
<b>Weight</b>	1.45 lbs (0.66 KG)

## Ordering Info

<b>RX610H</b>	Intel® H610E based Micro ATX Motherboard
<b>Included</b>	1 x I/O Shield
<b>183000000006</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: 07/22/2024



## BCM Advanced Research

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

[www.bcmcom.com](http://www.bcmcom.com)

BCMSales@bcmcom.com  
(949) 470-1888

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[BCM Advanced Research:](#)

[RX610H](#)