

# RX680R

12/13/14th Gen. Intel® Core™ i9/i7/i5/i3 Processor, LGA 1700  
Socket, Micro ATX Motherboard With Intel® R680E



## Features

- LGA 1700 Socket Supports 12/13/14th Gen. Intel® Core™ i9/i7/i5/i3 Processors, Intel® R680E Chipset
- 4 x 288 Pin DDR5 Dual Channel U-DIMM Socket, Support up to 128GB (ECC Memory Support by CPU)
- 4 x DP++, 1 x LVDS Header
- 1 x Gen 5 PCIe x16, 2 x Gen 4 PCIe x4, 1 x Gen 3 PCIe x4 Open Ended
- 2 x RJ45, Intel® I225-LM/I226-LM 2.5 Gigabit Ethernet Controller
- 1 x USB 3.2 Gen 2x2 Type C, 8 x USB 3.2 Gen 2, 8 x USB 2.0
- 2 x M.2 M-Key 2242/2280/22110 NVMe, 1 x M.2 E-Key 2230
- 1 x RS-232/422/485, 5 x RS-232
- ATX Power



DDR5 ECC



Gen 5 PCIe



USB TYPE-C



2.5GbE LAN



4 Independent  
Display

## Specifications

### System Information

|                         |                                                                                                      |
|-------------------------|------------------------------------------------------------------------------------------------------|
| Processor               | LGA 1700 Socket Supports 12/13/14th Generation Intel® Core™ i9/i7/i5/i3 Processors (Max. TDP at 65W) |
| Platform Controller Hub | Intel® R680E Chipset                                                                                 |
| System Memory           | 4 x 288 Pin DDR5 5600MHz Dual Channel U-DIMM Socket, Support up to 128GB (ECC Memory Support by CPU) |
| I/O Chipset             | nuvoton NCT6126D                                                                                     |
| Watchdog Timer          | H/W Reset, 5~255 Seconds/5~255 Minutes                                                               |
| BIOS                    | AMI uEFI BIOS, 256Mbit SPI Flash ROM                                                                 |
| H/W Status Monitor      | CPU Temperature Monitoring<br>Voltages Monitoring<br>CPU Fan Speed Control                           |
| TPM                     | infineon TPM 2.0                                                                                     |
| Board                   | Micro ATX                                                                                            |

### Expansion

|           |                                                                                                                                                                                                                                                                                             |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Expansion | 1 x Gen 5 PCIe x16<br>2 x Gen 4 PCIe x4 (x16 Physical Yellow)<br>1 x Gen 3 PCIe x4 Open Ended<br>1 x M.2 M-Key 2242/2280/22110 NVMe (Gen 4 PCIe x4 + SATA III)<br>1 x M.2 M-Key 2242/2280/22110 NVMe (Gen 3 PCIe x4 + SATA III)<br>1 x M.2 E-Key 2230 with CNVi Support (PCIe x1 + USB 2.0) |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Display

|                    |                                                                           |
|--------------------|---------------------------------------------------------------------------|
| Graphic Chipset    | Intel® 12/13/14th Generation CPU Integrated                               |
| Spec. & Resolution | 4 x DP(DP1.4a): Max: 7680 x 4320 @ 60Hz<br>(2 x DP++: 1920 x 1080 @ 60Hz) |
| Multiple Display   | Four Display                                                              |
| LVDS               | 1 x LVDS Header<br>1 x eDP Header (Optional)                              |

### Audio

|                 |                                              |
|-----------------|----------------------------------------------|
| Audio Codec     | Realtek ALC888S HD Audio Decoding Controller |
| Audio Interface | Line-out, Mic-in                             |
| Audio Amplifier | 2 x 3W 8Ω Amplifier                          |

### Ethernet

|             |                                               |
|-------------|-----------------------------------------------|
| LAN Chipset | 2 x Intel® I225LM/I226LM 2.5 Gigabit Ethernet |
| LAN Port    | 2 x RJ45                                      |

### Power Requirement

|            |                               |
|------------|-------------------------------|
| Power Mode | AT/ATX (Default Setting: ATX) |
|------------|-------------------------------|

### Software Support

|    |                               |
|----|-------------------------------|
| OS | Windows 10, Windows 11, Linux |
|----|-------------------------------|

### Certification

|                           |                                 |
|---------------------------|---------------------------------|
| Certification Information | CE, FCC Class B, RoHS Compliant |
|---------------------------|---------------------------------|

### I/O

|          |                                                                                                                  |
|----------|------------------------------------------------------------------------------------------------------------------|
| USB      | 1 x USB 3.2 Gen2x2 Type C<br>6 x USB 3.2 Gen2x1<br>2 x USB 3.2 Gen2x1 by pin header<br>8 x USB 2.0 by pin header |
| COM Port | 5 x RS-232 by pin header<br>1 x RS-232/422/485 by pin header                                                     |
| SATA     | 4 x SATA III                                                                                                     |
| RAID     | Support RAID 0, 1, 5, 10                                                                                         |
| DIO      | 1 x 8-bit GPIO                                                                                                   |
| MIO      | 1 x PS/2 Header<br>1 x LPT Header                                                                                |

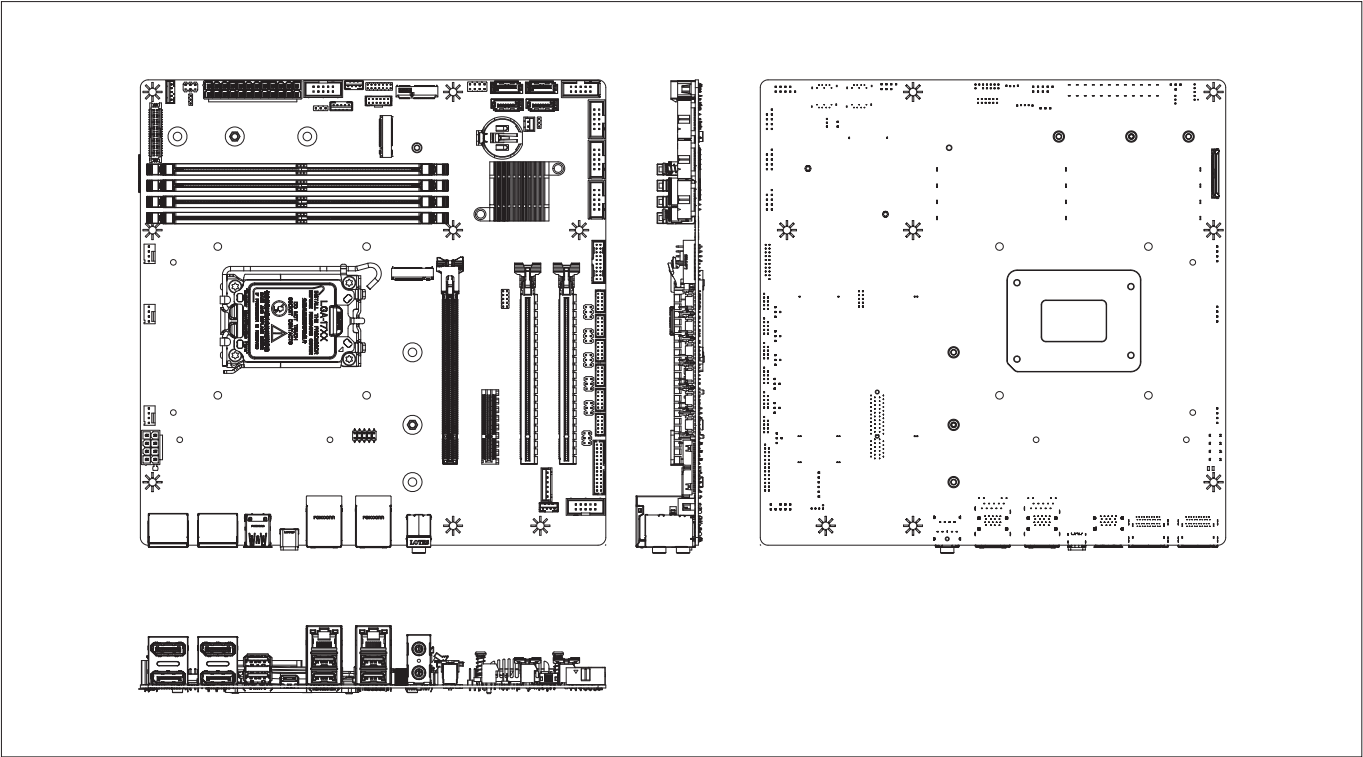
### Mechanical & Environmental

|                    |                                            |
|--------------------|--------------------------------------------|
| Operating Temp.    | 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 |
| Weight             | 1.45lbs (0.65kg)                           |
| Power Requirement  | +12V/+5V/5VSB/+3.3V/-12V                   |
| Power Mode         | AT/ATX (Default Setting: ATX)              |
| Dimension (L x W)  | 9.6" x 9.6" (244mm x 244mm)                |

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## Mechanical Drawing



## Ordering Information

| P/N               | Processor                                                                        | Chipset      | LAN | USB | COM | PCIe Slot | Power Input | Temp.                    |
|-------------------|----------------------------------------------------------------------------------|--------------|-----|-----|-----|-----------|-------------|--------------------------|
| 71882-1A (RX680R) | 12th/13th/14th Gen Intel® Core™ i9/i7/i5/i3 Processors, LGA 1700 Socket, 65W TDP | Intel® R680E | 2   | 17  | 6   | 4         | ATX Power   | 0°C ~ 60°C<br>(32~140°F) |

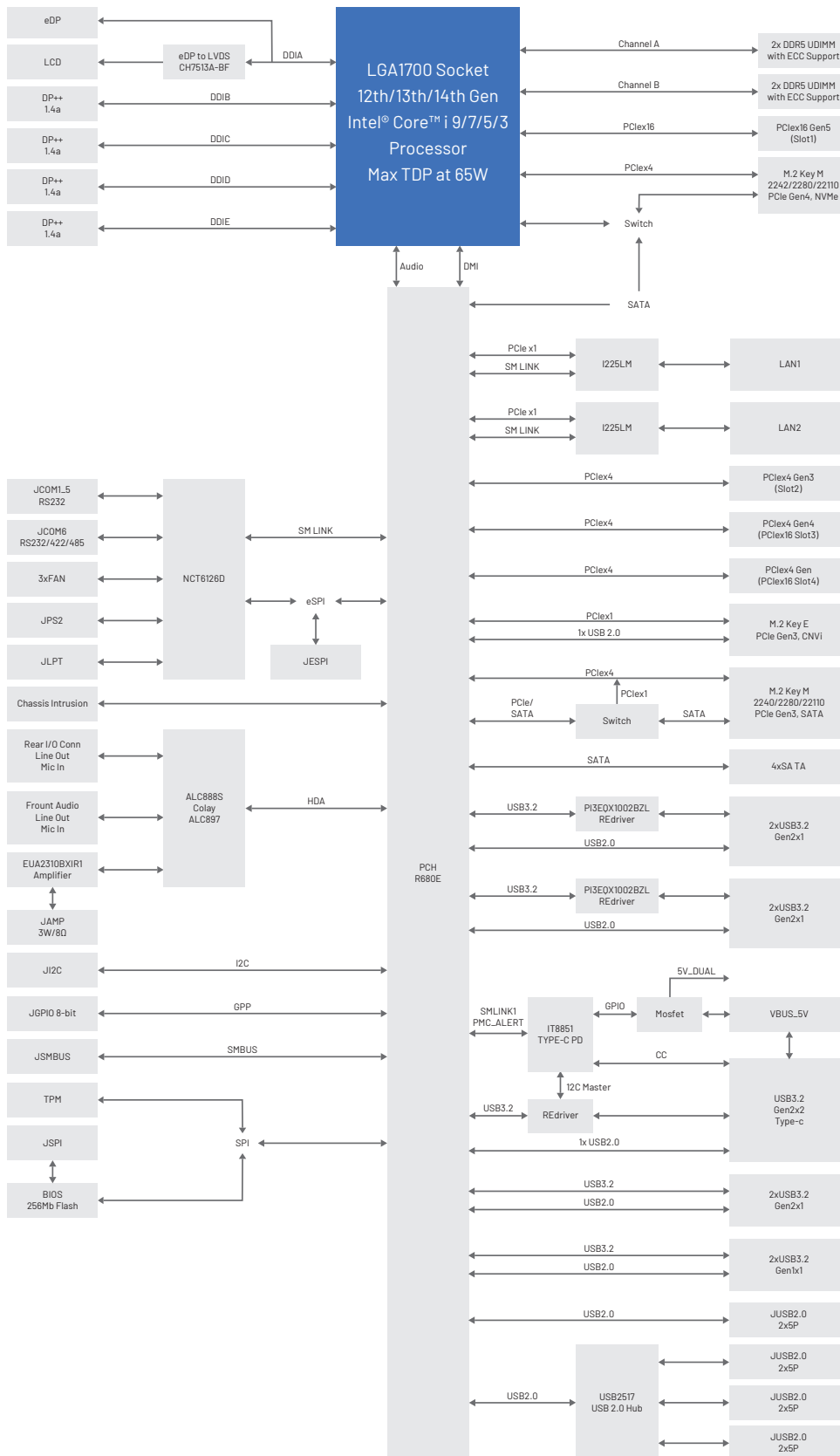
## Packing List

| Item      | P/N | Quantity |
|-----------|-----|----------|
| IO Shield | -   | 1        |

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## Block Diagram



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## I/O Overview

