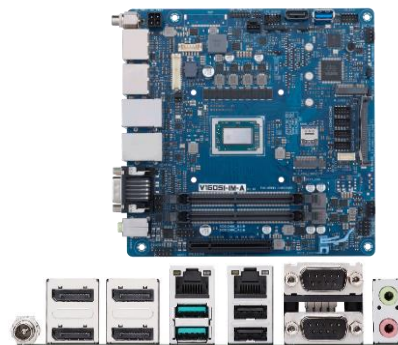


V1605I-IM-A & R1505I-IM-A

Mini-ITX, AMD Ryzen™ Embedded R-Series V1605/R1505 APU, 2 x SO-DIMM

Features

- Up to four 4K displays
- Up to 7-year longevity supply
- Wide temperature range endurance: 0~60°C



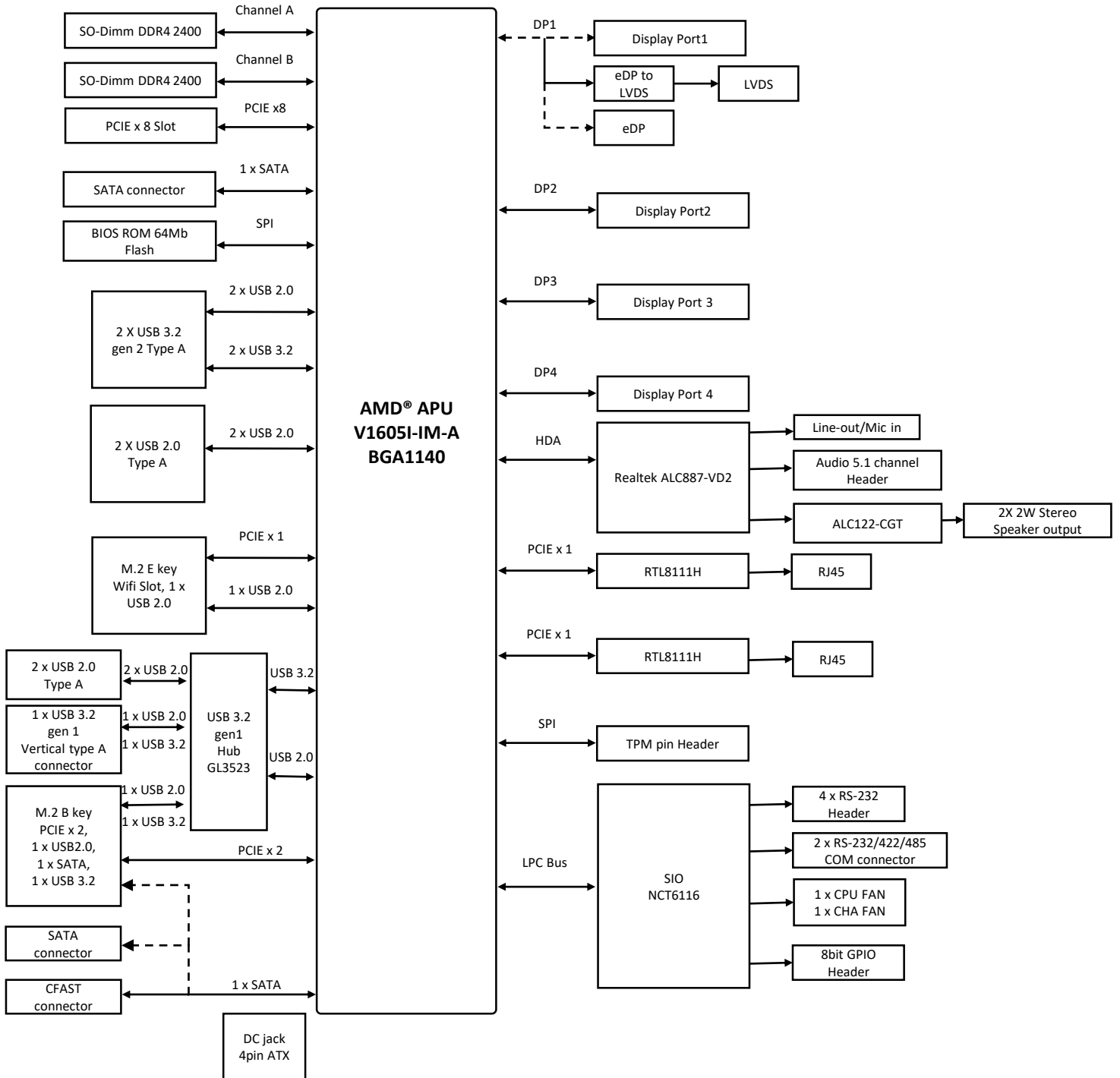
Specifications

| | | |
|-------------------------|---------------------------|--|
| Processor System | APU | AMD Ryzen™ Embedded V1605B/R1505G APUs |
| Memory | Technology | DDR4 2400MHz, ECC support |
| | Max. | 32GB |
| | Socket | 2 x SO-DIMM |
| Display | Display Port | 3/2, DP++ supports DisplayPort 1.4 with max. resolution 3840x2160 @60Hz (V1605I-IM-A/R1505I-IM-A) 1, DP++ DisplayPort 1.4 with max. resolution 3840x2160 @60Hz (Optional, shared with LVDS and eDP) |
| | LVDS (default option) | 1, LVDS supports LVDS with max. resolution 1920 x1200 @60Hz (Optional, shared with DisplayPort1 and eDP) |
| | eDP (optional) | 1, eDP supports eDP 1.4 with max. resolution 3840 x 2160 @ 60Hz (Optional, shared with DisplayPort1 and LVDS) |
| | Multi Display | 4DP/ 3DP+eDP/ 3DP+LVDS (V1605I-IM-A) , 3DP/ 2DP+eDP/ 2DP+LVDS (R1505I-IM-A) Multi-VGA output support: DP/ eDP/ LVDS ports Supports up to 4/3 displays simultaneous under OS (V1605I-IM-A/R1505I-IM-A) |
| Expansion Slot | PCIe | 1 x PCIe 3.0 x8 slot (PCIe x8 mode for V1605I-IM-A/ PCIe x4 mode for R1505I-IM-A) |
| | M.2 | 1 x M.2 (key B 2242/2260/2280) PCIe x2(NVME)/ SATA/ USB mode for storage / 3G / LTE cat6 (USB3.2 Gen1) (V1605I-IM-A) or 3G / LTE cat4 (USB2.0) (R1505I-IM-A) mechanical support for module sizes: - 3042 (width up to 30 mm) - 2260 (width up to 22 mm) - 2280 (width up to 22 mm) 1x M.2 E key for PCIe/USB2.0 support (V1605I-IM-A only) - 2230 (width up to 22 mm) |
| Ethernet | Speed | 10/100/1000Mbps |
| | Controller | 2 x Realtek® 8111H, supports WOL/PXE |
| | Connector | 2 x RJ-45 |
| Audio | Codec | Realtek® ALC887 codec |
| | Connector | 2 x Audio jacks (1 x Mic-in, 1 x Line-out) 2 x 2W Stereo Speaker output 1 x 5.1 channel (internal pin header) |
| Storage | | <u>Option 1 (Default):</u> 1 x SATA port Gen 3.0, up to 6Gb/s 1 x M.2 (Key B, 2242 / 2260 / 2280) PCIe x2 and SATA mode* 1 x CFAST* *If CFAST is enabled, M.2 SATA mode will be disabled, and vice versa. You may configure this setting in the BIOS. |
| | | <u>Option2 (per request)</u> 2 x SATA port Gen 3.0, up to 6Gb/s 1 x M.2 (Key B, 2242 / 2260 / 2280) PCIe x2 |
| Rear I/O | Display Port | <u>Default:</u> 3 x DP + 1 x LVDS (V1605I-IM-A), 2 x DP + 1 x LVDS (R1505I-IM-A) <u>Per request:</u> 4 x DP / 3 x DP + eDP (V1605I-IM-A) ,3 x DP / 2 x DP + eDP (R1505I-IM-A) |
| | USB 3.2 Gen2 Type-A ports | 2 x ports |
| | USB 2.0 Type-A ports | 2 x ports |
| | Ethernet | 2 x RJ45 ports |
| | Serial Port | 2 x COM connectors (support RS232/422/485) |
| | Audio jack | 1 x Mic in , 1 x Line out |
| | Power | 1 x DC jack (lockable) |

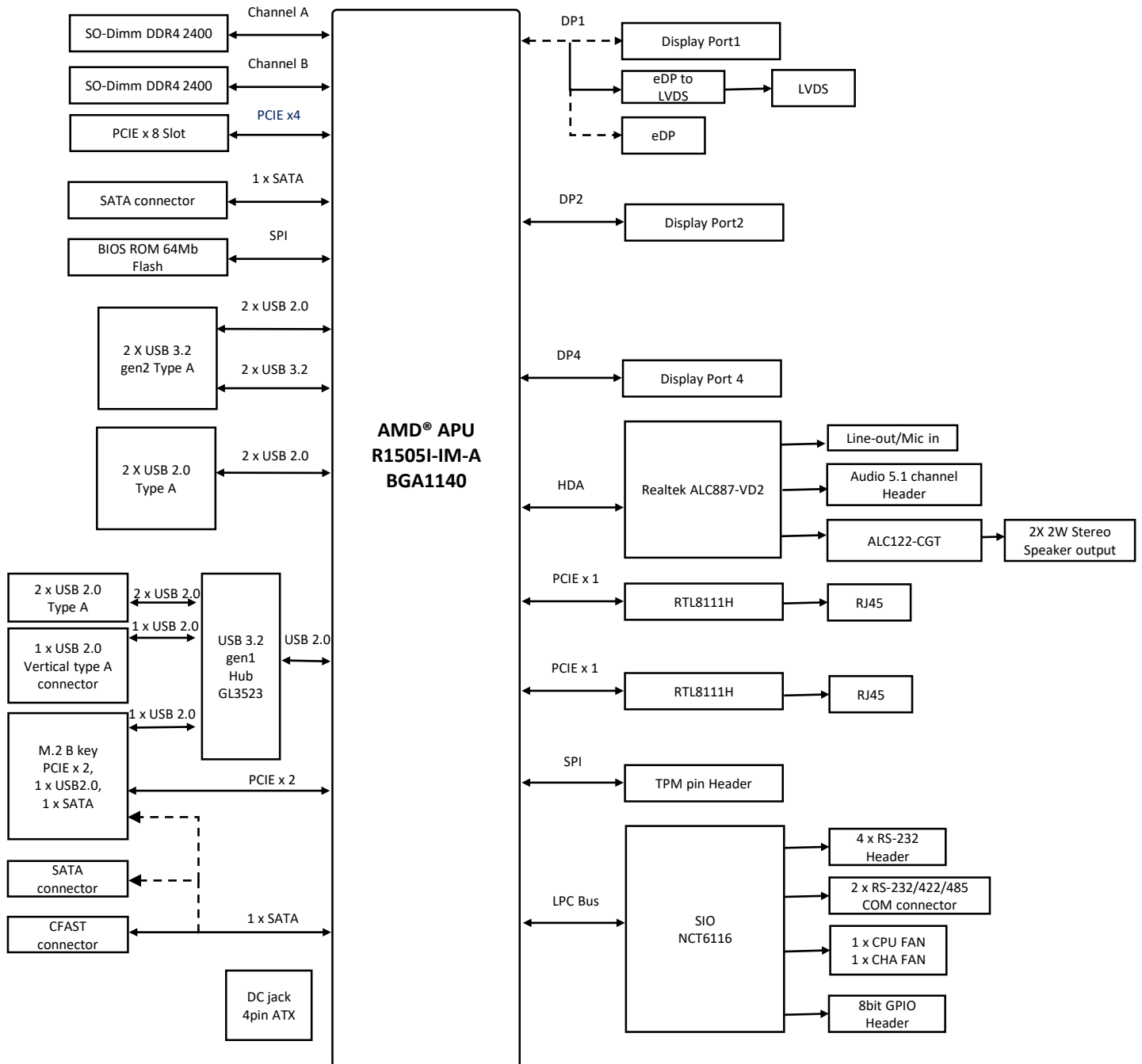
Specifications

| | | |
|---------------------------|---------------------------|--|
| Internal Connector | Serial Port | 4 x header (RS-232); COM3 colay CCtalk & COM4 colay TTL (BOM option) |
| | USB 3.2 Gen1 | 1 x Type A vertical connector (V1605I-IM-A) |
| | USB 2.0 | 1 x header support additional 2 x USB2.0 Connectors 1 x type A vertical connector (R1505I-IM-A) |
| | CPU Fan | 1 x header (PWM mode) |
| | Chassis Fan | 1 x header (PWM mode) |
| | Chassis Intrusion | 1 x header |
| | Front Panel Audio (AAFP) | 2 x headers |
| | System Panel Header | 1 x header |
| | Clear CMOS Jumper | 1 x header |
| | SATA power | 2 x header |
| | LPC Debug | 1 x header |
| | S/PDIF | 1 x header |
| | I ² C | 1 x header |
| | GPIO | 1 x header |
| | AT/ATX Select | 1 x header |
| Power Connector | 1 (4 pin) | |
| Watchdog Timer | H/W | Yes |
| Security | TPM | 1 x SPI TPM header |
| Power | Power Type | DC-in (ATX and AT mode supported) |
| | Voltage | DC-in 12V ~ 24V |
| Operating System | Microsoft Windows | Windows® 10 (64bit) / Win10 IoT Enterprise |
| | Linux | Ubuntu, RedHat Enterprise, Fedora Workstation, OpenSUSE |
| Environment | Operating Temperature | 0~60° C |
| | Non-Operating Temperature | -40~85° C |
| | Relative Humidity | 0%~85% |
| Dimension | Form Factor | Mini-ITX, 170 x 170 mm |
| Certification | Safety | CE, FCC |

Block Diagram



Block Diagram



Order Information

| Model name | Part number | Description |
|-------------|-------------|----------------------|
| V1605I-IM-A | 90ME01V0* | SOC, V1605, 3*DP, MB |
| R1505I-IM-A | 90ME01U0* | SOC, R1505, 2*DP, MB |

* The part number might vary for different regulations and package. Please consult the TPM in your region for exact 90PN.

Packing List

| Part number | Description | Quantity |
|-------------|-------------------|----------|
| 13020* | IO shield | 1 |
| 14013* | SATA 6G CABLE | 1 |
| 13020* | M.2 screw pack | 1 |
| 13071* | Fansink backplane | 1 |
| 13070* | Fansink | 1 |

* The part number might vary due to part number revision.