

# V1605I-IM-B & R1505I-IM-B

Mini-ITX, AMD Ryzen™ Embedded V/R1000-Series V1605/R1505G APU, 2 x SO-DIMM



## Features

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

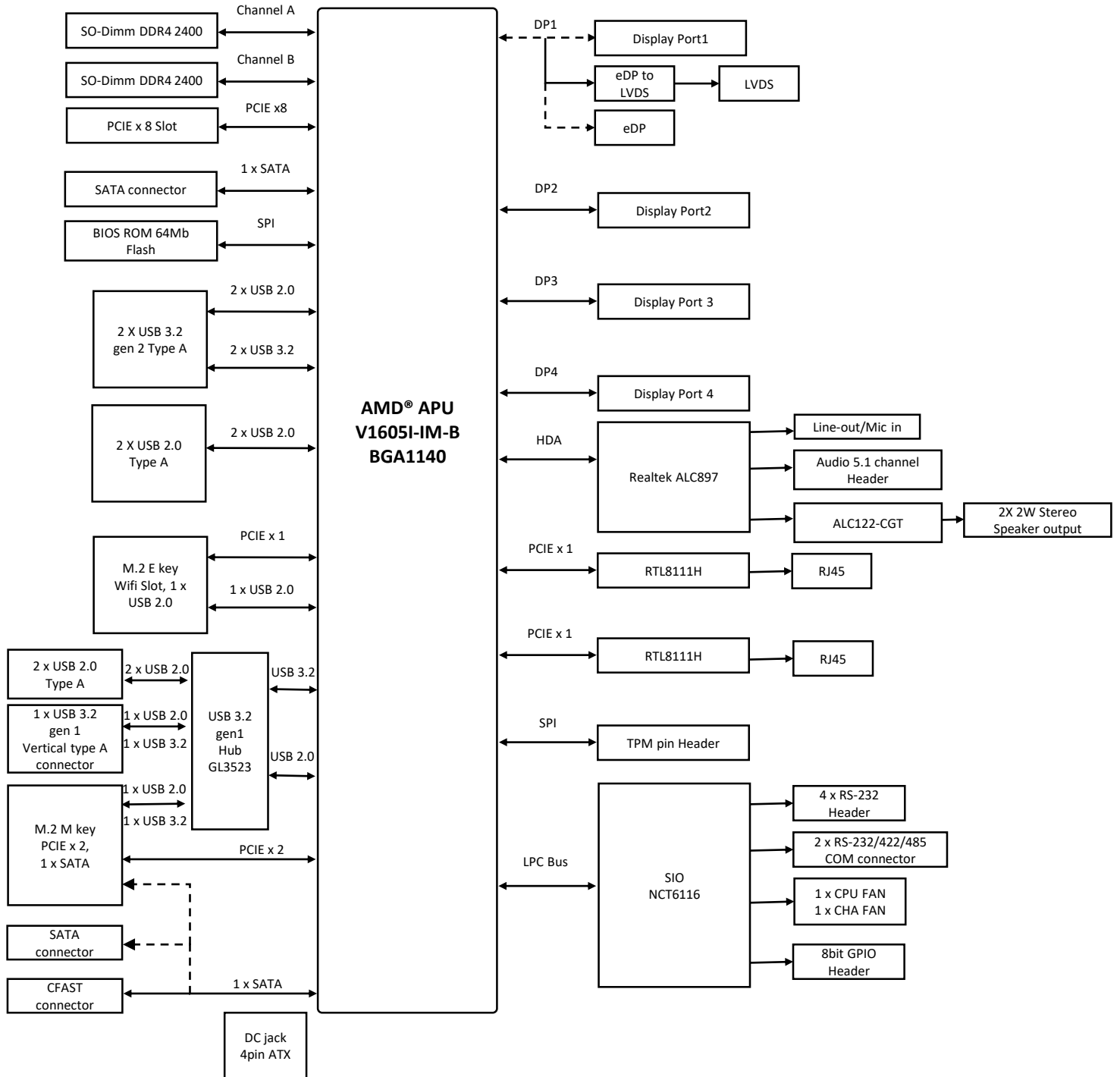
## Specifications

<b>Processor System</b>	APU	AMD Ryzen™ Embedded V1605B/R1505G APUs
<b>Memory</b>	Technology	DDR4 2400MHz, ECC support
	Max.	32GB
	Socket	2 x SO-DIMM
<b>Display</b>	Display Port	3/2, DP++ supports DisplayPort 1.4 with max. resolution 3840x2160 @60Hz (V1605I-IM-B/R1505I-IM-B) 1, DP++ DisplayPort 1.4 with max. resolution 3840x2160 @60Hz (Optional, shared with LVDS and eDP)
	LVDS (default)	1, LVDS supports LVDS with max. resolution 1920 x1200 @60Hz (Optional, shared with DisplayPort1 and eDP)
	eDP (optional)	1, eDP supports eDP 1.3 with max. resolution 3840 x 2160 @ 60Hz (Optional, shared with DisplayPort1 and LVDS)
	Multi Display	<ul style="list-style-type: none"> <li>• Default: 3DP+LVDS (V1605I-IM-B) / 2DP+LVDS (R1505I-IM-B)</li> <li>• Optional: 4DP or 3DP+LVDS (V1605I-IM-B) / 3DP or 2DP+eDP (R1505I-IM-B)</li> </ul> Supports up to 4/3 displays simultaneous under OS (V1605I-IM-B/R1505I-IM-B)
<b>Expansion Slot</b>	PCIe	1x PCIe 3.0 x8 slot (x8 mode for V1605I-IM-B/ x4 mode for R1505I-IM-B)
	M.2	1 x M.2 Socket 1 with E key, type 2230 (PCIe x1, USB 2.0) (V1605I-IM-B only) 1 x M.2 Socket 3 with M key, type 2242/2260/2280 (PCIe x2, SATA)
<b>Ethernet</b>	Speed	10/100/1000Mbps
	Controller	2 x Realtek® 8111H, support WOL/PXE
	Connector	2 x RJ-45
<b>Audio</b>	Codec	Realtek® ALC 897 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)
<b>Storage</b>	Default	1 x SATA port Gen 3.0, up to 6Gb/s 1 x M.2 (Key M, 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.
	Per request	2 x SATA port Gen 3.0, up to 6Gb/s 1 x M.2 (Key M, 2242 / 2260 / 2280) PCIe x2
<b>Rear I/O</b>	Display Port	<ul style="list-style-type: none"> <li>• Default: 3DP+LVDS (V1605I-IM-B) / 2DP+LVDS (R1505I-IM-B)</li> <li>• Optional: 4DP or 3DP+LVDS (V1605I-IM-B) / 3DP or 2DP+eDP (R1505I-IM-B)</li> </ul>
	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)

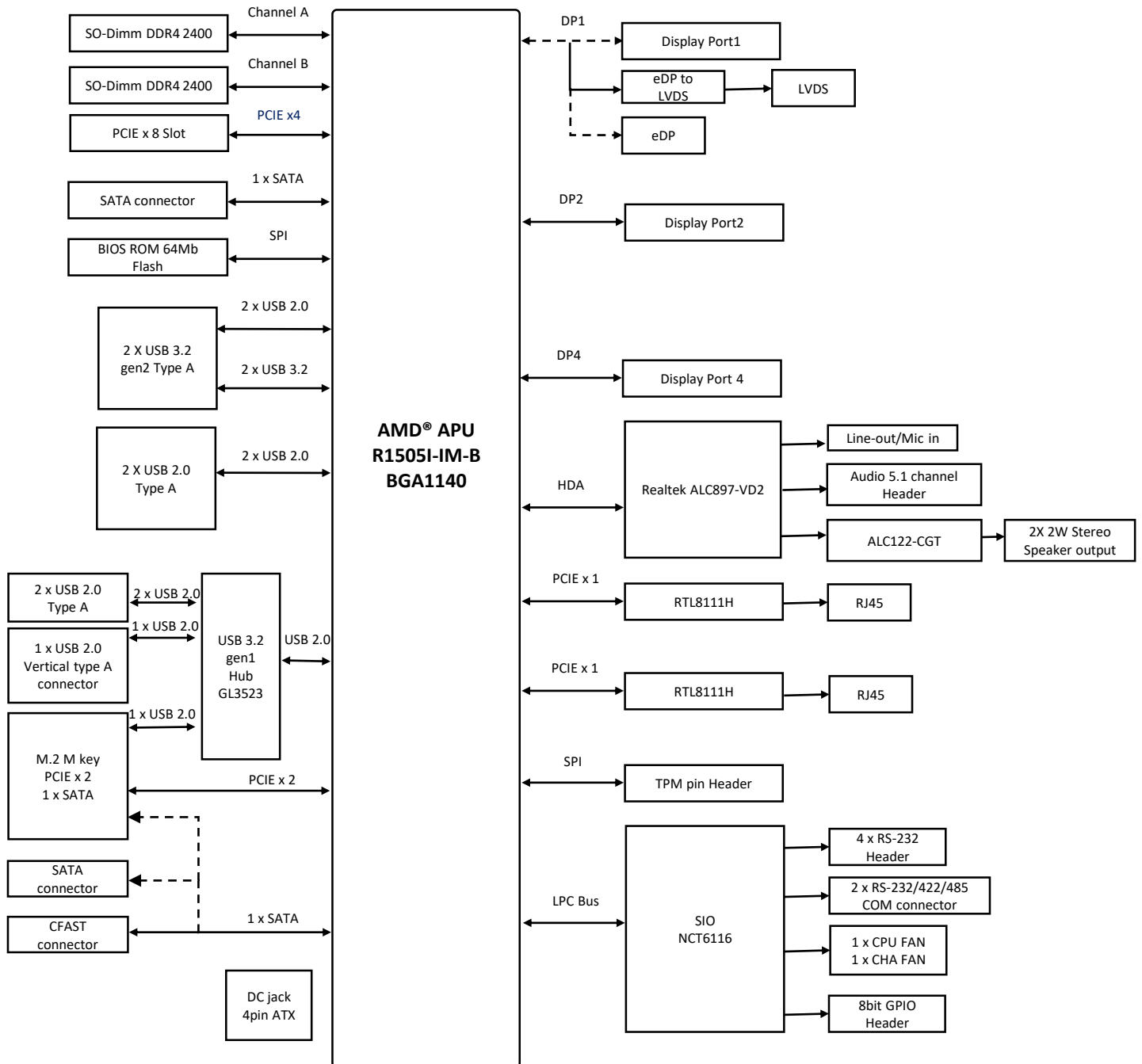
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<b>Internal Connector</b>	Serial Port	4 x header (RS-232); COM3 colay CCtalk & COM4 colay TTL (BOM option)
	USB 3.2 Gen1	1 x Type A vertical connector (V1605I-IM-B)
	USB 2.0	1 x header support additional 2 x USB2.0 Connectors 1 x type A vertical connector (R1505I-IM-B)
	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 <sup>2</sup> C	1 x header
	GPIO	1 x header
	AT/ATX Select	1 x header
	Power Connector	1 (4 pin)
<b>Watchdog Timer</b>	H/W	Yes
<b>Security</b>	TPM	1 x SPI TPM header
<b>Power</b>	Power Type	DC-in (ATX and AT mode supported)
	Voltage	DC-in 12V ~ 24V
<b>Operating System</b>	Microsoft Windows	Windows® 10 (64bit) / Win10 IoT Enterprise
	Linux	Ubuntu, RedHat Enterprise, Fedora Workstation, OpenSUSE
<b>Environment</b>	Operating Temperature	0~60° C
	Non-Operating Temperature	-40~85° C
	Relative Humidity	0%~85%
<b>Dimension</b>	Form Factor	Mini-ITX, 170 x 170 mm
<b>Certification</b>	Safety	CE, FCC

# Block Diagram



# Block Diagram



## Order Information

Model name	Part number	Description
V1605I-IM-B	90ME02V0*	SOC, V1605, 3*DP, LVDS, MB
R1505I-IM-B	90ME02W0*	SOC, R1505, 2*DP, LVDS, 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.