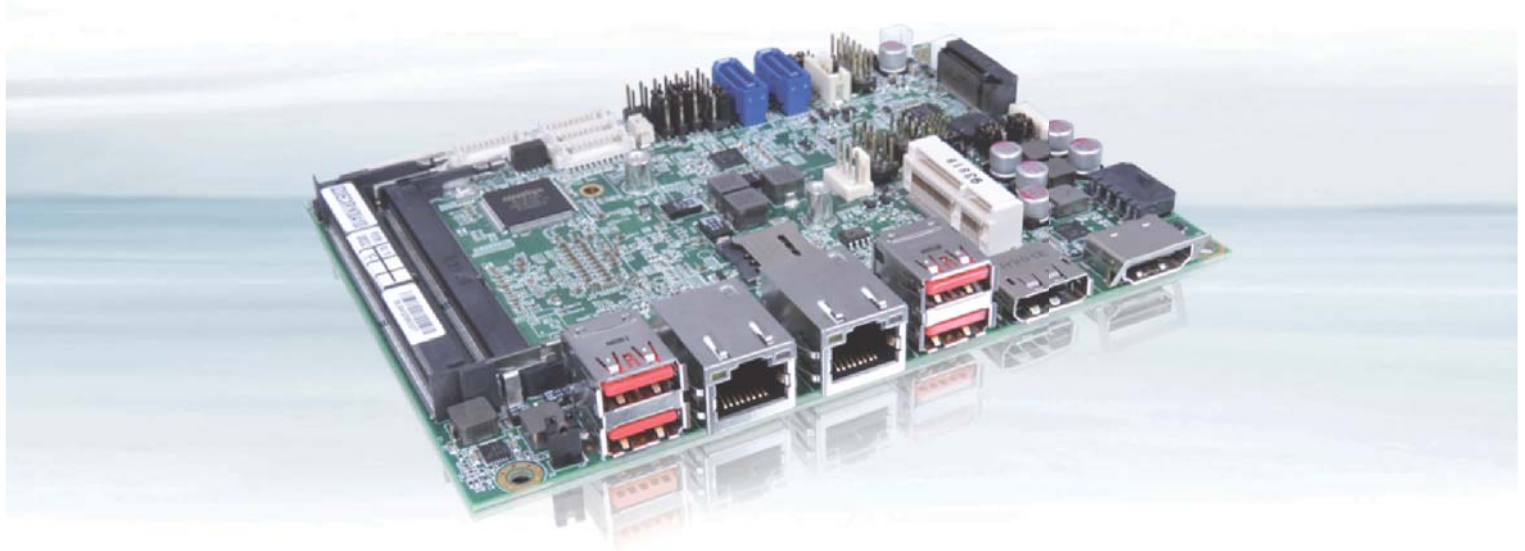


3.5"-SBC-VR1000

IDEAL FOR GRAPHICS INTENSIVE APPLICATIONS



3.5" SINGLE BOARD COMPUTER WITH AMD RYZEN™ V1000 / R1000 SERIES PROCESSORS

- ▶ 1x LVDS, 1x DP, 1x HDMI 2.0 for triple display support
- ▶ 2x GbE LAN for Ethernet
- ▶ Up to 4x USB 3.1, up to 6x USB 2.0, 2x RS232/422/485, 2x RS232 for peripherals
- ▶ 8-bit DIO for device / signal control
- ▶ 2x SATA 3.0, 1x mPCIe, 1x M.2 Key M for storage & expansion

POSSIBILITIES START HERE



3.5"-SBC-VR1000

3.5" SINGLE BOARD COMPUTER WITH AMD RYZEN™ V1000 / R1000 SERIES PROCESSORS

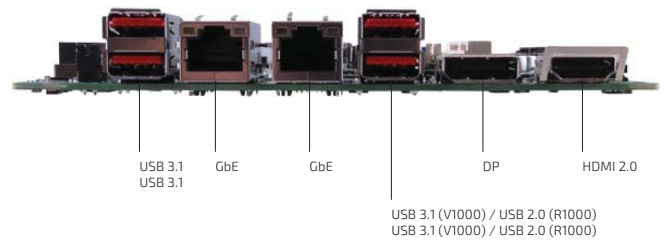
Kontron 3.5"-SBC-VR1000 is a 3.5" single board computer powered by AMD Ryzen™ V1000 / R1000 Series processors, which features excellent 4K playback under a fanless and low-power embedded design. It is a power efficient option for a wide range of compute-intensive graphics applications, such as digital signage, digital casino gaming, industrial control & automation, medical imaging,

networking and thin clients.

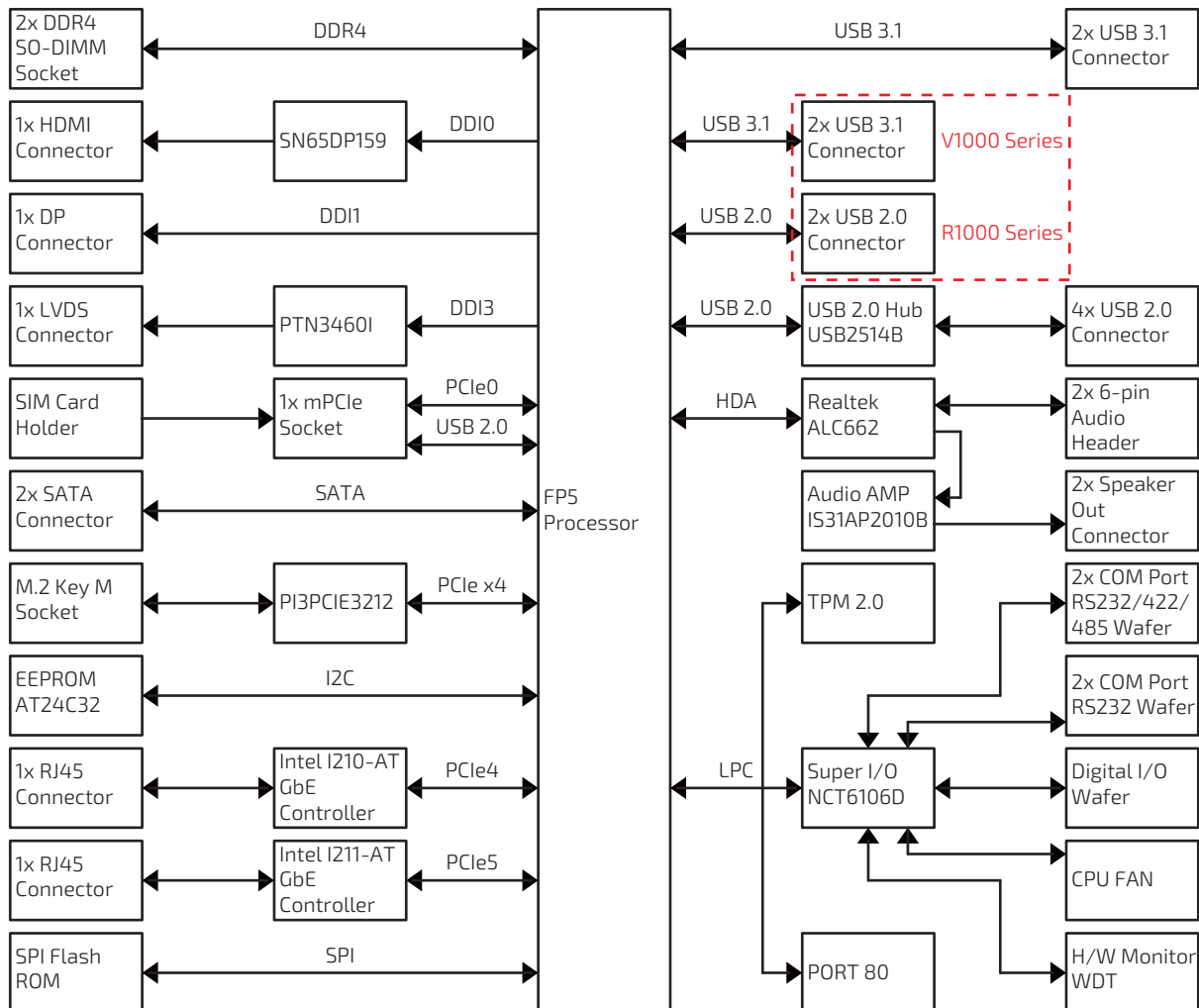
In addition, 3.5"-SBC-VR1000 supports TPM 2.0 security for data protection and M.2 NVMe SSD which features much lower latency, compact form factor and high reliability. It can help integrators to easily develop a securer and smaller edge computing device.

PRODUCT HIGHLIGHTS

- ▶ AMD Ryzen™ V1000 / R1000 Series Processors
- ▶ 2x DDR4 SO-DIMM memory socket
- ▶ 1x LVDS, 1x DP, 1x HDMI 2.0 for triple display support
- ▶ 2x GbE LAN for Ethernet
- ▶ 4x USB 3.1, 4x USB 2.0 for USB device connection (V1000 models)
- ▶ 2x USB 3.1, 6x USB 2.0 for USB device connection (R1000 models)
- ▶ 2x RS232/422/485, 2x RS232 for serial device connection
- ▶ 8-bit DIO for device / signal control
- ▶ 2x SATA 3.0 for storage device
- ▶ 1x mPCIe for WLAN / Bluetooth / WWAN expansion
- ▶ 1x M.2 Key M for NVMe SSD support
- ▶ TPM 2.0 support



BLOCK DIAGRAM



TECHNICAL INFORMATION

| | | |
|--|--|---|
| SYSTEM | PROCESSOR | AMD Ryzen™ V1605B (Quad Core, 4M Cache, up to 3.60 GHz, FP5, 15 W TDP) AMD Ryzen™ V1202B (Dual Core, 4M Cache, up to 3.20 GHz, FP5, 15 W TDP) AMD Ryzen™ R1606G (Dual Core, 4M Cache, up to 3.50 GHz, FP5, 15 W TDP) AMD Ryzen™ R1505G (Dual Core, 4M Cache, up to 3.30 GHz, FP5, 15 W TDP) 2x DDR4 2400 SO-DIMM up to 32 GByte (ECC support) |
| VIDEO | GRAPHICS DISPLAY INTERFACE MULTIPLE DISPLAY | AMD Radeon™ Vega 8 (V1605B) AMD Radeon™ Vega 3 (V1202B, R1606G & R1505G) 1x LVDS (18/24-bit, 2-ch, 1920 x 1200 @ 60 Hz) 1x DP (4096 x 2160 @ 60 Hz, on rear) 1x HDMI 2.0 (3840 x 2160 @ 60 Hz, on rear) Triple Display |
| AUDIO | AUDIO CODEC AUDIO INTERFACE | Realtek ALC662 2x Speaker-out (3 W, by header) 1x Line-in (by header) 1x Line-out (by header) 1x Mic-in (by header) |
| NETWORK CONNECTION | ETHERNET | 2x GbE LAN (RJ45 on rear, Intel® I210-AT, Intel® I211-AT) |
| PERIPHERAL CONNECTION | USB SERIAL PORT OTHER I/Os | 4x USB 3.1 (Type A on rear, for V1000 models) 2x USB 3.1 (Type A on rear, for R1000 models) 4x USB 2.0 (by header, for V1000 models) 6x USB 2.0 (2x Type A on rear, 4x by header, for R1000 models) 2x RS232/422/485 (by header) 2x RS232 (by header) 1x 8-bit DIO (by header) |
| STORAGE & EXPANSION | SATA mPCIe M.2 SIM CARD HOLDER | 2x SATA 3.0 1x mPCIe (half size, mixed w/ PCIe x1 / USB 2.0) 1x M.2 Key M (Type 2280, mixed w/ PCIe x4, NVMe support) 1x SIM Card Holder (Micro type, connected to mPCIe) |
| POWER | CONNECTOR INPUT VOLTAGE | 1x4-pin pitch 3.0 mm Wafer DC 12 V |
| FIRMWARE | BIOS WATCHDOG H/W MONITOR REAL TIME CLOCK TPM | AMI uEFI BIOS w/ 64 Mb SPI Flash Programmable WDT to generate system reset event Voltages, Temperatures Processor integrated RTC TPM 2.0 support (Infineon SLB 9665) |
| SYSTEM CONTROL & MONITORING | FP HEADER | 1x Header for Reset Button, HDD LED & External Speaker 1x Header for Power Button, Power LED & SM Bus 1x Header for mPCIe activity LED 1x Header for M.2 Key M activity LED |
| COOLING | FAN | 1x Wafer for CPU Smart Fan |
| SOFTWARE | OS SUPPORT | Windows 10 |
| MECHANICAL | DIMENSION (L x W) | ECX (146 mm x 105 mm / 5.75" x 4.13") |
| ENVIRONMENTAL | OPERATION TEMPERATURE STORAGE TEMPERATURE HUMIDITY | 0 °C ~ 60 °C / 32 °F ~ 140 °F -20 °C ~ 80 °C / -4 °F ~ 176 °F 0 % ~ 95 % |
| CERTIFICATION | EMC & SAFETY | CE Class A, FCC Class A |

▶ ORDERING INFORMATION

| ARTICLE | DESCRIPTION |
|------------------------|--|
| 3.5"-SBC-VR1000-V1605B | AMD Ryzen™ V1605B + Radeon™ Vega 8, 4x USB 3.1, 4x USB 2.0 |
| 3.5"-SBC-VR1000-V1202B | AMD Ryzen™ V1202B + Radeon™ Vega 3, 4x USB 3.1, 4x USB 2.0 |
| 3.5"-SBC-VR1000-R1606G | AMD Ryzen™ R1606G + Radeon™ Vega 3, 2x USB 3.1, 6x USB 2.0 |
| 3.5"-SBC-VR1000-R1505G | AMD Ryzen™ R1505G + Radeon™ Vega 3, 2x USB 3.1, 6x USB 2.0 |

ACCESSORIES

| ARTICLE | PART NO. | DESCRIPTION |
|---------------------|------------------|---|
| DC IN CABLE | OC5020000004220L | 2.5 mm DC Jack w/ 2 mm nut, 0.5 mm washer to H-300F-XX 1x4P 3.0 pitch, L = 300 mm |
| COM PORT CABLE* | OC5020000005130L | 10-pin pitch = 1.25 mm to DB9 connector, L = 350 mm |
| DIO CABLE* | OC5020000003360L | D-SUB-9P (Female) to MX51021-10P 1x10P 1.25 pitch, L = 200 mm |
| USB CABLE (2 PORT)* | OC5040000000110L | 2.54 mm 2x5P to 2x USB connectors, L = 340 mm |
| SATA POWER CABLE* | OC5020000004230L | PH 2.0 HSG 1x4P 2.0 mm pitch to SATA 1x15P Pitch: 1.27 mm, L = 460 mm |
| SATA CABLE* | OC5020000004240L | 1x7-pin connector with lock, pitch = 1.27 mm, L = 460 mm |
| AUDIO CABLE* | OC5020000002050L | WL6008H 2x6P 2.54 pitch to EAR phone jack x3 pitch: 3.5 mm, L = 350 mm |
| COOLER* | OH05XX000002370L | CPU Cooler with 22 mm x 14 mm x 0.15 mm Thermal PAD + 5800 RPM 7.0 CFM Fan |

(*: Optional)

▶ GLOBAL HEADQUARTERS

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